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THE GOVERNMENT OF KENYA
MINISTRY OF WATER AND IRRIGATION
STATE DEPARTMENT OF WATER
WATER AND SANITATION DEVELOPMENT PROGRAM

ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK (ESMF)

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GLOSSARY OF TERMS

Cumulative impacts/effects: The total effects on the same aspect of the environment resulting from a number of activities or projects.

Developer/Proponent/Sponsor: the entity – person/ company/agency – proposing to develop/implement/install a new project/sub- project or expand an existing project under the WSDP

Direct impacts: An effect on the environment brought about directly by the WSDP

Disclosure: Information availability to all stakeholders at all stages of the development of projects.

Environment: physical, biological and social components and processes that define our surroundings.

Environmental and Social Impact Assessment (ESIA): A comprehensive analysis of the project and its effects (positive and negative) on the environment and a description of the mitigative actions that will be carried out in order to avoid or minimize these effects.

Environmental Monitoring: The process of examining a project on a regular basis to ensure that it is in compliance with an Environmental Management Plan (EMP), or the Government of Kenya (GoK) Environmental Impact Assessment (EIA) certification of approval conditions and / or environmental prescriptions.

Impact: A positive or negative effect that a project has on an aspect of the environment.

Indirect impact: A positive or negative effect that a project indirectly has on an aspect of the environment.

Involuntary resettlement: The forceful loss of land resources that requires individuals, families and / or groups to move and resettle elsewhere.

Lead Agency: The agency with primary responsibility for the protection of the environment. For instance, the lead agency for environment matters in Kenya is the National Environment Management Authority (NEMA).

Mitigation measures: The actions identified in an EIA to negate or minimize the negative environmental impact that a project may have on the environment.

Project and sub-project: a set of planned activities designed to achieve specific objectives within a given area and time frame.

Project Brief: The initial submitted document to NEMA to initiate the process that will lead to the issuance of the EIA certificate of approval.

Scoping: The initial stage in an environmental assessment that determines the likely major environmental parameters that will be affected and the aspects of the project that will bring upon these effects

Screening: An initial step when a project is being considered for environmental assessment. The screening is the determination of the level of assessment that will be conducted. In the case of GoK, screening will place project into one of three environmental categories (I, II or III).

Significant effect: An important impact on an aspect of the environment

Potential environmental and social impacts are defined as follows:-

Positive Impact: A change which improves the quality of the environment (for example by increasing species diversity; or improving the reproductive capacity of an ecosystem; or removing nuisances; or improving amenities)

Neutral Impact: A change which does not affect the quality of the environment

Negative Impact: A change which reduces the quality of the environment (for example, lessening species diversity or diminishing the reproductive capacity of an ecosystem, or damaging health or property or by causing nuisance). The potential adverse impacts of the project fall under two broad categories of bio-physical (natural) and socio-economic environments

Stakeholder: Any person or group that has an interest in the project, and the environmental effects that the project may bring about

ACRONYMS & ABBREVIATIONS

AMSL	Above Mean Sea Level
APL	Adaptable Program Loan
ASAL	Arid or Semi-Arid Lands
AWSB	Athi Water Services Board
CBA	Cost Benefit Analysis
CDA	Coast Development Authority
CoK	Constitution of Kenya
CPS	Country Partnership Strategy
CSO	Civil Society Organizations
CAADP	Comprehensive Africa Agriculture Development Program
CWSB	Coast Water Services Board
DCS	Data Collection System
DEM	Digital Elevation Model
DOHS	Directorate of Occupational Health and Safety
DSS	Decision Support System
EAs	Environmental Assessments
EHS	Environmental, Health and Safety
EIA	Environmental Impact Assessment
EIRR	Economic Internal Rate of Return
EMCA	Environmental Management and Coordination Act
EMP	Environmental Management Plan
ERP	Emergency Response Plan
ESIA	Environmental and Social Impact Assessment
ESMF	Environment and Social Management Framework
ESMP	Environmental and Social Management Plan
FM	Financial Management
FS	Feasibility Study
GDP	Gross Domestic Product
GIS	Geographic Information System
GIZ	German Agency for International
GOK	Government of Kenya
Ha	Hectares
HIV/AIDS	Human Immuno Deficiency Syndrome
IBRD	International Bank for Reconstruction and Development
ICT	Information and Communication Technologies
IE	Impact Evaluation
IF	Investment Framework
IMOC	Inter-Ministerial Oversight Committee
IPMP	Integrated Pest Management Plan
ISC	Implementation Support Consultant
ISP	Implementation Support Plan
KFS	Kenya Forest Service
KfW	German Reconstruction Credit Institute (Kreditanstalt für Wiederaufbau)
KIHBS	Kenya Integrated Household Budget Survey
KMP	Kenya Municipal Project
KISIP	Kenya Informal Settlements Improvement Project
KMD	Kenya Metropolitan Department

Ksh	Kenyan Shilling
KWS	Kenya Wildlife Service
KWSIP	Kenya Water Sector Investment Program
LIRSSU	Legal and Institutional Reforms Support Sub-Unit
M&E	Monitoring and Evaluation
MCM	Million Cubic Meters
MDGs	Millennium Development Goals
MENR	Ministry of Environment and Natural Resources
MOF	Ministry of Finance
MoFW	Ministry of Forestry and Wildlife
MoWI	Ministry of Water and Irrigation
MSDS	Materials Safety Data Sheets
MW	Megawatt
NEMA	National Environment Management Authority
NET	National Environmental Tribunal
NGO	Non-Governmental Organization
NMK	National Museums of Kenya
NRM	Natural Resources Management Project
O&M	Operations and Maintenance
OP/BP	Operational Policy/Bank Policy
OSHA	Occupational Safety and Health Act
PAD	Project Appraisal Document
PCC	Public Complaints Committee
PCR	Physical and Cultural Resources Plan,
PDO	Project Development Objective
PFS	Pre-feasibility Study
PMU	Project Management Unit
PPA	Project Preparation Advance
PPE	Personal Protective Equipment
RAP	Resettlement Action Plan
RBM	River Basin Management
RPF	Resettlement Policy Framework
SEA	Strategic Environmental Assessment
SERC	Standards and Enforcement Review Committee
SSIP	Strategic Sector Investment Plan
TA	Technical Assistance
TAC	Technical Advisory Committee
TOR	Terms of Reference
US\$	United States Dollars
VOC	Volatile Organic Compounds
WASREB	Water Services Regulatory Board
WB	World Bank
WIS	Water Information System
WRMA	Water Resources Management Authority
WRUA	Water Resources Users Association
WSB	Water Services Board
WSCR	Water Security and Climate Resilience Program
WSP	Water Services Provider
WSTF	Water Services Trust Fund

EXECUTIVE SUMMARY

Kenya is classified as a chronically ‘water scarce’ country in absolute and relative terms. The country’s annual freshwater availability of 526 cubic meters per capita places it in the bottom 8 percent of countries globally. Over 80 percent of the country is comprised of arid or semi-arid lands. A further complicating factor is that approximately 54 percent of Kenya’s water resources are shared with neighbouring countries. Severe degradation of the country’s key water catchment areas, due primarily to deforestation and unsuitable agricultural practices, has exacerbated the situation. At the subnational level the spatial mismatch between water availability and rising demands is in many cases even more extreme, with areas around the major cities of Nairobi, Mombasa, and some western Kenya urban centers most critically water stressed.

Government of Kenya (GoK) has requested the World Bank’s support to prioritize, prepare, and finance water and sanitation opportunities in the country. The Water and Sanitation Improvement Project WSDP responds to this request.

The proposed Water and Sanitation Development Project (WSDP) will also leverage development impacts of ongoing World Bank programs and projects. It will ensure that the Coastal Region Water Security and Climate Resilience Project (CRWSCR) meets its development objectives. It will also build on the achievements of WaSSIP in improving performance of the water institutions in a devolved context.

Brief Program Description

The Project Development Objective (PDO) is to improve water supply and sanitation services, focusing on the coastal region and priority areas, along with strengthening institutional capacity for achieving sector goals. This will be achieved by investing in water distribution networks in urban centers in coastal counties and in water and sanitation services in two counties in Kenya’s dry northeast region.

The proposed **Water and Sanitation Development Project** will finance investments in water supply and sanitation facilities, focusing on the Coastal and North Eastern region, along with strengthening sector institutions to deliver improved services. The project seeks to harness the momentum created under the Coast Region Water Security and Climate Resilience Project (KWSCR-2) and WaSSIP 1, and will deepen and expand their development impacts through the completion of the distribution infrastructure in the coastal region.

It will also support provision of priority water and sanitation infrastructure in other areas, and reinforce sector reforms. The proposed infrastructure investments will be coupled with institutional interventions to strengthen regulatory capacity, to improve utility operations, and to increase capacity of counties to fulfil their mandates to deliver water and sanitation services.

The primary beneficiaries of WSDP will primarily be the residents of the coastal and north eastern counties that will receive most of the investments in infrastructure under the project. The residents of the coastal counties will benefit from the much more regular supply of water and from improved wastewater collection and treatment services. People living in the communities surrounding the Dadaab refugee camp in Garissa county will benefit from supply of higher quality water and from more regular services. Residents of Wajir county will benefit from expanded wastewater collection and treatment. People living in towns with WSPs that strengthen their capacity to deliver services will benefit in the medium to long terms from more reliable and efficient water supply and sanitation services.

The proposed project comprises four components. These are: (1) expansion of water supply and sanitation services in the coastal region, (2) expansion of water supply and sanitation services in marginalized north eastern counties of Kenya, (3) national performance-based financing, and (4) project management.

Component 1, 2 and 3 will involve civil works in the development of the infrastructure and thus trigger the environmental assessment policy (OP.4.01). The potential adverse impacts will range from small scale and site specific to medium scale infrastructure investments associated with Environmental Assessment *Category B or C* projects of the World Bank. WSDP has been categorised as a Category B.

Justification for ESMF

As many specific project investments in the WSDP have not been clearly identified at this stage, hence an ESMF provides a general impact identification framework to assist project implementers to screen the projects and institute measures to address adverse environmental and social impacts. This ESMF thus applies to all sub projects to be financed under WSDP. Specific information on country- wide project locations, land requirements, bio- physical features etc. when known at a later stage will trigger the preparation of Environmental and Social Impact Assessment (ESIA) reports.

Policy, Legal and Institutional Issues

The following legal instruments among others were reviewed in view of the fact that they provide guidance and regulations when implementing water related programs or projects. These are principally the GoK legislations that apply to this project and a comparative analysis has been made between some certain relevant regulations of the GoK and the bank safeguards.

- Constitution of Kenya 2010
- Environmental Management and Coordination Act (1999) and amendment (2015)
- Water Act
- Energy Act
- Land Acquisition Act
- Occupational Health and Safety Act
- Public Health Act
- Wildlife Conservation Act

- Forest Act

GOK has through the Ministry of Water and Irrigation (MoWI) prepared this ESMF as the instrument which all the WSDP investments related environmental and social impacts will be identified, assessed, evaluated and appropriate mitigation, management and monitoring measures, designed and incorporated within the proposed investment itself.

There is one other safeguard instrument that will compliment this ESMF and they are: Resettlement Policy Framework (RPF) already prepared and provides standards and procedures for compensation for any land acquisition, assets, or restriction of access to resources that this project and associated investment may require, in accordance with World Bank OP 4.12 – Involuntary Resettlement.

Environmental and Social Requirements

In order to reduce, minimise and mitigate adverse impacts and undue harm of its development projects to the environment, all World Bank-financed projects are guided by environmental and social policies and procedures commonly referred to as safeguards instruments. A number of World Banks' safeguard policies¹ have been triggered as a result of this project and they include:

1. OP 4.01 (Environmental Assessment),
2. OP 4.04 (Natural Habitats)
3. OP 4.12 (Involuntary Resettlement),
4. OP.4.11 (Physical Cultural Resources),
5. OP.4.37 (Safety of Dams)² and,
6. OP.7.50 (Projects on International Waterways)

All safeguard policies of the World Bank require that, before a sub project is appraised, an Environmental and Social Impact Assessment (ESIA) containing an Environmental and Social Management Plan (ESMP), or just an Environmental Management Plan (EMP), and if the project requires it, a Resettlement Action Plan (RAP). Physical and Cultural Resources Plan be made available for public review at a place accessible to local people in a form, manner, and language they can understand.

All necessary safeguard documents that will be locally disclosed at the MoWI's website and will also be forwarded to the Bank for disclosure at the Bank's external website.

¹ The World Bank Safeguard Operational Policies (OPs) are OP4.01 – Environmental Assessment; OP4.04 – Natural Habitats; OP4.09 – Pest Management; OP4.10 Indigenous Peoples; OP4.11 – Physical Cultural Resources; OP4.12 – Involuntary Resettlement; OP4.36 – Forests; OP4.37 Safety of Dams; OP7.50 – Projects on International Waterways; and OP7.60 – Projects in Disputed Areas. See www.worldbank.org/safeguards for more information.

Environmental and Social Impacts

Beneficial Impacts

The residents of the coastal counties will benefit from the much more regular supply of water and from improved wastewater collection and treatment services. People living in the communities surrounding the Daadab refugee camp in Garissa county will benefit from supply of higher quality water and from more regular services. Residents of Wajir county will benefit from expanded wastewater collection and treatment. People living in towns with WSPs that strengthen their capacity to deliver services will benefit in the medium to long terms from more reliable and efficient water supply and sanitation services. Sanitation related investments including sewerage treatment works will positively impact target communities by ensuring that there is efficient sanitation disposal infrastructures in targeted areas. Poor sanitation is a trigger of water and sanitation diseases and a burden to the health and other related sectors. Lack of sanitation infrastructure is also an environmental hazard with likelihood of disposal of sewerage wastes into the external environment without treatment, hence the sanitation efforts under this project will not only reduce disease burden (public health) but also protect the environment from sewerage pollution.

- Construction and rehabilitation of water facilities will have significant positive impacts on the health of the communities and populations in the targeted project areas by reducing public health diseases normally associated with poor sanitation and lack of water. Water borne diseases are associated with lack of water or access to poor water quality and contamination of water bodies from sewerage waste. This will go a long way towards attaining the Millennium Development Goals (MDGs);
- The water supply projects will make safe water fully available to the populations as well as their assets emanating from projects in livestock watering points and associated animal tracks (reducing or eliminating prevailing agriculturalist/pastoralist conflicts) and small scale agricultural activities and essentially improve their quality of life;

The WSDP proposed sub project investments may have significant negative impacts on the environment from a sub project specific perspective and cumulatively.

Potential Adverse Impacts

This ESMF has been designed to anticipate and address potential impacts at the planning stage of existing and new investments and related activities. **Table 1** below summarise the proposed mitigation measures that should be considered during preparation of sub project ESIA's.

Environmental Impacts

1. Loss of vegetation

2. Change in Hydrology
3. Loss of Fauna and fauna
4. Noise and Vibration
5. Soil Erosion
6. Solid and Effluent Waste
7. Decreased Water Quality
8. Downstream Impacts of Water Abstraction Projects
9. Borrow Pits and Quarry Sites
10. Impacts on Ecosystems
11. Greenhouse Gas Emission
12. Decreased Air Quality
13. Dam safety (flooding)

Social Impacts

1. Diseases Spread-Public Health
2. Traffic impacts
3. Loss of Land
4. Impact on social fabric and community relations
5. Gender Issues and Impacts
6. Occupational Health and Safety (workers and community)
7. Increased crime and in-migration
8. Visual Intrusion
9. Employment Issues
10. Risk of drowning
11. Labor Influx Impacts

Table 1: Summary of Adverse Impacts and Mitigation Measures

Impacts	Description of mitigation measures
Physical Environment	
Solid and Effluent Waste	<p><u>Solid nontoxic waste</u> Adequate waste receptacles and facilities should be provided at project sites/camp sites</p> <p>Training and awareness on Safe Waste Disposal in construction camps for all workers</p> <p>Final disposal should be at dumpsites approved by the NEMA</p> <p><u>Waste oil /fuel</u> Spent or waste oil from vehicles and equipment should be collected and temporarily stored in drums or containers at site Waste oil should be disposed of by oil marketing companies or agents approved or recognized and have the capacity to undertake oil disposal</p> <p>Prepare Waste Disposal Plan for every construction site Install waste disposal receptacles and signs in strategic places within the construction camps Provide training and awareness on need to avoid littering Ensure the construction camps have toilets and connected to the sewer system</p>
Decreased Air Quality	<p>Proposed investments should require that construction contractors operate only well maintained engines, vehicles, trucks and equipment. A routine maintenance program for all equipment, vehicles, trucks and power generating engines should be in place.</p> <p>The project should ensure the use of good quality fuel and lubricants only</p> <p>If dust generation at the project/construction site becomes a problem, limited wetting of sites and or unloading and reloading points should be done to reduce dust raising</p> <p>Construction traffic speed control measures should be enforced on unpaved roads (speed limits through communities should be $\leq 50\text{km/hr}$ on unpaved roads and near or at project site should be $\leq 30\text{ km/hr}$).</p> <p>Engines of vehicles/trucks and earth-moving equipment should be switched off when not in use.</p>
Noise and vibration	<p>Proposed investments should require contractors to use equipment and vehicles that are in good working order, well maintained, and that have some noise suppression equipment (e.g. mufflers, noise baffles) intact and in working order.</p> <p>This will be achieved by making it a component of contractual agreements with the construction contractors.</p> <p>Contractors will be required to implement best driving practices when approaching and leaving the site (speed limit of $\leq 30\text{ km/hr}$) to minimize noise generation created through activities such as unnecessary acceleration and breaking squeal.</p> <p>Engines of vehicles/trucks and earth-moving equipment should be switched off when not in use.</p>
Visual Impacts	Landscaping of facilities after construction and restoration of disturbed areas e.g. borrow pits
Impact on traffic and public safety	Only road worthy vehicles and trucks should be used to avoid frequent breakdowns on the roads

	<p>Only experienced drivers should be employed</p> <p>Contractors must provide training for drivers; Establish speed limits; Enforce safe driving and take disciplinary action against repeat offenders</p>
Water Abstraction	Obtain water abstraction permits from the Water Resources Management Authority (WRMA)
Decreased Water Quality	<p>No garbage/refuse, oily wastes, fuels/waste oils should be discharged into drains or onto site grounds</p> <p>Fuel storage tanks/sites should be properly secured to contain any spillage</p> <p>Maintenance and cleaning of vehicles, trucks and equipment should take place offsite especially where project sites are close to water bodies.</p> <p>Toilet facilities should be provided for construction workers to avoid indiscriminate defecation in nearby bush or local water bodies</p>
Soil Erosion	<p>Minimize land clearing areas as much as possible to avoid unnecessary exposure of bare ground to the elements of the weather</p> <p>Re-vegetate cleared areas as early as possible using native plant species</p> <p>As much as possible, avoid construction work in the rainy season</p>
Impact on fauna and habitat	<p>Avoid unnecessary exposure and access to sensitive habitat areas</p> <p>For identified or suspected sensitive habitats (swamps/ wetlands), regular inspection or monitoring should be carried out in the area prior to start and during work.</p> <p>If sensitive habitats are encountered, Project activities should cease and the Project should consult KWS to determine the appropriate course of action.</p> <p>If the project site is discovered as a sensitive habitat area, the Project should engage the KWS to develop a suitable plan.</p> <p>Prohibition on hunting and consumption of bush meat by workforces</p> <p>Proposed investments should require that contractors implement a hazardous materials management plan that includes specification for proper storage and handling of fuels, oil, wastes, and other potentially hazardous materials as well as a plan for containment and clean-up of accidental spills into the aquatic environment.</p> <p>During pre-installation and installation of project facilities, spotting of sensitive aquatic mammals should form part of the project activities. Should these species be observed in the vicinity of the work area, the project should execute measures to avoid destruction or disturbance.</p> <p>Ensure provision for water flow reserves and appropriate reservoir filling schedules</p> <p>Project staff must report sightings of any injured or dead aquatic life (fishes)/ mammals immediately, regardless of whether the injury or death is caused by a Project activity. The report should include the date and location of the animal/strike, and the species identification or a description of the animal. The report should be made to the NEMA or KWS.</p> <p>The Project workforce and local communities should be educated to ensure that the importance of environmental protection and nature conservation are effectively communicated and that wider appreciation of environmental issues and construction best practice are fostered.</p>

Dam safety impacts ³	Ensure dam is designed by specialists; Institute a dam safety panel and develop a dam safety plan for all dams. Emergency plans and procedures will have to be developed to handle such an incidence. Although its occurrence may have far reaching consequences, the impact is mitigable and the probability of its occurrence will be minimized through dam safety plans, inspection procedures and disaster management procedures and thus the magnitude of this impact is expected to be medium negative.
Downstream Impacts of dams, dykes and weirs and other water infrastructure e.g., bulk water supply, dams etc. ⁴	Maintain environmental flow reserves for the river, Do into retain water in reservoir during drought, ensure that water retention in dam is controlled to ensure that adequate reserve is left to flow downstream for users. In mitigating the impacts related to environmental flows when projects on riverine ecosystems are developed, the project will refer to recognised international guidelines on ensuring flows including among others the WB guidelines on how to assess and mitigate such potential impacts, such as WB's Environmental Flows in Water Resources Policies, Plans, and Projects.
Quarry Site Impacts	Identify borrow and quarry sites away from sensitive environments and develop quarry management and rehabilitation plans.
Hydrology Impacts/Changes	Maintain environmental flow reserves for the river, Do into retain water in reservoir during drought, ensure that water retention in dam is controlled to ensure that adequate reserve is left to flow downstream for users
Social Environment	
Physical displacement	All affected persons to be given relocation assistance (cash or kind) by the Project to enable them move their properties to new locations, i.e. in accordance with the Resettlement Policy Framework (RPF) Resettlement Plans will be required. If a site is acquired, the State may relocate persons and their families as well as community facilities to be affected. The affected families should not be made to incur any cost during the relocation period. A resettlement plan should be prepared for this area with the RPF as a guide.
Loss of employment and livelihoods	Those whose livelihood is affected should be assisted to ensure they will not be worse off as a result of the project. This can include livelihood assistance, provision of new jobs immediately without any loss of income. The social assessments and socio-economic surveys, which will be undertaken for the preparation of individual investments/subprojects as well as the resettlement action plans, should assess these issues and provide measures in accordance with the Resettlement Policy Framework (RPF). Contractors should use local labor as much as possible and where available. As much as possible, all unskilled labor should be contracted or obtained from the local community.
Loss of land and other assets	Due process should be followed to establish the true owner of any land, be it family or communal land. Once established, the project should acquire the site by paying appropriate compensation in accordance with the resettlement policy framework (RPF), which would be the replacement cost of the assets lost.
Loss of structures/properties	For a project site to be used, irrespective of the land ownership, appropriate compensation should be paid for any structures/ properties which are permanent structures at the site as well as investment made for any development on the land. Depreciation should not be factored during valuation of these properties. The

³ The project will finance distribution network infrastructure that in the future will take drinking water from the Mwache Dam which is under design. The construction will be financed through another project – Kenya Coastal Region Water Security and Climate Resilient Project (PP145559) - financed by the World Bank. Thus, WSDP will rely on the performance (storage and operation) of a potential Dam under Construction (DUC). Relevant safeguard reports on the Mwache Dam have been prepared by the Borrower, consulted upon, and disclosed in-country and at the Bank's InfoShop.

⁴ idem

	<p>compensation process should satisfy the RPF developed for the project.</p> <p>Appropriate compensation should be paid for any damaged or destroyed propriety that belongs to affected persons. No depreciation during valuation of these properties.</p>
Impact on access among communities living in the project areas	Measures will be considered in the projects' design to ensure that communities are not divided and if they are as a result of a project appropriate measures are taken to mitigate this impact.
Impacts on recreation and public areas	Appropriate notices and warning signs will be erected around working areas and public areas to warn prospective trespassers of any danger or risk
Impacts on human health/ traffic safety and sanitation	<p>Trucks carrying construction materials such as sand, quarry dust, laterite etc. will have the buckets covered with tarpaulin or appropriate polythene material from or to project site</p> <p>Only road worthy vehicles/trucks should be used</p> <p>Only experienced drivers/operators should be employed</p> <p>Except for areas secured by fencing, all active construction areas will be marked with high-visibility tape to reduce the risk accidents involving pedestrians and vehicles.</p> <p>All open trenches and excavated areas will be backfilled as soon as possible after construction has been completed. Access to open trenches and excavated areas will be secured to prevent pedestrians or vehicles from falling in.</p> <p>Adequate sanitary facilities will be available for workers and open range defecation will not be countenanced.</p> <p>Construction workers will be provided with and educated to wear suitable Personal Protective Equipment (PPE) including hard hats, overalls, high-visibility vests, safety boots, earplugs, gloves etc.</p> <p>Enforce use of PPEs at all times for all staff and labourers and ensure supervision of the same to minimise accidents</p> <p>Construction workers should be educated to adhere to basic rules with regard to protection of public health, including most importantly hygiene and disease (HIV/AIDS) prevention.</p>
Impacts on cultural heritage / archaeological interest / existing ecologically sensitive areas	<p>The pre-construction surveys should identify cultural heritage resources and existing ecologically sensitive areas that the project should avoid and by-pass these resources.</p> <p>The Project should implement a chance find procedure and reporting system to be used by contractors in the event that a cultural heritage feature or ecologically sensitive item/issue is encountered.</p>
Impacts on human health and public safety	<p>The Project will require all contractors to implement an Environmental, Health and Safety (EHS) plan which will outline procedures for avoiding health and safety incidents and for emergency medical treatment. This will be achieved by making it a component of contractual agreement.</p> <p>Contractors will be required to wear suitable Personal Protective Equipment (PPE) including hard hats, high-visibility vests, safety boots and gloves and life vests as appropriate in accordance with the EHS plan.</p> <p>Enforce use of PPEs at all times for all staff and labourers and ensure supervision of the same to minimise accidents</p> <p>All construction and other workers will be sufficiently trained in the safe methods pertaining to their area of work to avoid injuries.</p>
Labor Influx Management	Develop site-specific measures before the contractor starts work, and update

	<p>them as necessary to reflect project developments. Overall, adequate monitoring and adaptive management of the potential impacts from labor influx are key to properly addressing them and mitigating risks. Recruit as many local workers from the areas as possible. Provide training for the local communities to acquire skills needed for work opportunities if there is reasonable time especially on monitoring and maintenance.</p> <p>Develop a Labour Influx Management Plan and Workers Camp Management Plan for all projects. Outline the contractors responsibilities on influx management in contracts.</p>
Impact on gender access to water for household use and household plots as well as impact on pastoralists and fisheries.	The project will take into consideration the different needs for water and types of access which will be affected for each of these groups and provide relevant mitigation measures which will be decided with those affected. Some mitigation measures could include water points for household use and livestock; livelihood assistance to those whose whole or partial livelihood will be affected as a result of some of the possible investments such as dams. Specific impact and relevant measures will be covered by project specific social assessment.
HIV/AIDS Spread and other related public health diseases – Water borne diseases etc.	<p>Design HIV/AIDS awareness, sensitisation and prevention program for each project that extends to the communities as a whole;</p> <p>Design programs for reducing the spread of water borne diseases like Malaria, Bilharzia etc. in collaboration with the Ministry of Health</p>
Labour and employment related impacts	<p>Ensure that the local communities are given priority in relation to employment and provided with training (skilled) to provide future labour in the project e.g. operation and maintenance. Ensure that workers are provided satisfactory working conditions and work environment including pay in accordance with the laws of the country</p> <p>Ensure that child labour is not tolerated in the project;</p> <p>The project to prepare redundancy plans and packages to be discussed with affected workers which will include re- training and re- tooling of affected workers and aim to avoid labor strife</p>
Drowning ⁵	Establish dam safety measures by securing the dam areas to minimise drowning related risks.

Safeguard Screening Procedures

The WSDP has been rated **Category B** under the World Bank Operational Policy on Environmental Assessment (OP4.01). This ESMF has been designed to include tools that will be used to screen each proposed sub project investment prior to implementation and contains recommendation on the mitigation measures that need to be adhered to in order to reduce the adverse impacts.

Through the screening process a determination on the safeguards policies triggered by a particular proposed investment will be made and the mitigation measures to put in place outlined. Further the screening and review process will also ensure that sub project investments are adequately categorized and subjected to ESIA/ESMP development.

⁵ idem

If identified as a requirement of the sub project through the screening process, a Resettlement Action Plan (RAP) will be prepared alongside or as an integrated part of the ESMP or ESIA.

Procedure for Screening and Development of ESIA

Using this ESMF which is in essence a guide, the development of sub project investment specific Environmental and Social Impact Assessment (ESIAs) will be required for each proposed sub project investment once the nature, scope and location among others of the investments are known in order to ensure compliance with the World Bank safeguards policies. All sub project investments will be screened using the screening forms (*See section 7.1*) and a determination will be made using the forms whether an ESIA report is required or otherwise by the Bank. The screening for all sub project investments will be undertaken by the executing agencies of WSDP.

In order to ensure compliance with the Government of Kenya (GoK) environmental regulatory requirements during the feasibility study stage of each investment, project reports will be prepared for each sub project investment by the executing agency and submitted to NEMA for determination as to whether an ESIA is required or not. If National Environment Management Authority (NEMA) makes a determination that an ESIA is required based on the project report submitted, then NEMA will assist in the development of Terms of References (ToRs) for follow-up ESIA and Resettlement Action Plan (RAP) which will have to be prepared and submitted to NEMA and World Bank for approval before construction works commence. Where there are divergence in determining the triggering of a policy and what safeguards instrument is to be prepared, the World Bank Policy on Safeguards will have precedence over the domestic safeguard policies, in particular if the Bank's safeguards policies are the more stringent.

All the ESIAs or ESMPs prepared by the client/proponent will be reviewed and approved by the WSDP executing agencies and forwarded to the MoWI/PCT who will submit to NEMA and the World Bank for further their review and approval.

Institutional Implementation Arrangements and Reporting Requirements

The proposed WSDP will be implemented using existing organizational structures in line with the constitution, and incorporating lessons learned and experience gained in the implementation of relevant Bank supported operations such as Kenya Informal Settlement Services Improvement Project (KISIP), Kenya Municipal Program (KMP), the KWSCRIP and WaSSIP 1. Thus, counties will implement county-specific activities, and Water Services Boards (or their legal successors), which are owned by the central government, will implement activities that involve more than one county.

The Department for Water Supply and Sanitation in the Ministry of Water and Irrigation (MWI) is the implementing agency for WSDP. It will be responsible for overall project management, and for monitoring and reporting. However, given that all participating entities are procuring, implementing, and monitoring their own project activities, the

ministry's project management team is expected to be very lean and integrated into existing structures at the Ministry.

Counties and their WSPs will be the main implementing agencies, because according to the Water Act 2016, they are responsible for all county water supply and sanitation infrastructure and services. Water Services Boards will in future only be responsible to implement inter-county activities.

Therefore, CWSB will be the implementing agency for the bulk water sub-component under component 1, because the bulk water system runs across four Counties. The WSPs will do the bulk of the procurement, because they will be in charge of all procurements for county wide water supply and sanitation infrastructure and for any Technical Assistance (TA) for the WSPs. Counties will procure contracts to support County functions which are not delegated to the WSPs, such as enforcing construction codes for septic tanks. Counties will therefore do only small contracts (mostly TA) up to a threshold in accordance with the findings of the procurement capacity assessment for counties. The MoWI and WASREB will do any procurement needed to carry out their responsibilities under the project. The table below gives an overview about the implementing agencies:

Table 2. Implementing Agencies

Component	Implementing Agencies
Component 1.1	<ul style="list-style-type: none"> • Mombasa County and MoWASCO • Kwale County and Kwale Water and Sewerage Company (KAWASCO) • Taita Taveta county and Taita Taveta Water and Sewerage Company (TAVEVO) • Kilifi County and Kilifi and Malindi Water and Sewerage Companies
Component 1.2	Coast Water Services Board
Component 2	<ul style="list-style-type: none"> • Wajir County and Wajir Water and Sewerage Company • Garissa County and Garissa Water and Sewerage Company
Component 3	<ul style="list-style-type: none"> • Various counties and their WSPs. The Counties and their WSPs will only be known when WASREB has selected the investments. The selection will be done for annual programs, so the participating Counties and WSPs will change during the project implementation period. WSBs can also apply to WASREB for financing inter county infrastructure. Therefore, it is also possible that a WSB might become an implementing agency under this component. • WaSREB will be an implementing activities related to the development and implementation of the program, but will not be engaged in any implementation of infrastructure.
Component 4	<ul style="list-style-type: none"> • MoWI

The implementing/executing agencies will prepare project (through consultants) specific ESIAs/ESMPs and Resettlement Action Plans (RAPs) for identified investments during the feasibility study phase of the project following detailed screening. These reports will be submitted to the MoWI/PCT for review before submission to the World Bank.

ESMF Public Consultations

The draft ESMF was consulted upon in several parts of the country with the objective of capturing and documenting the views of the public on the proposed project. Consultations were held in Wajir County (5th January 2017), Garissa County (6th January 2017), Kwale County (9th January 2017), Mombasa County (10th January 2017), Kilifi County (11th January 2017) and Taita Taveta County (12th January 2017). Annexes A and B contain summary of the consultations held and list of participants.

I INTRODUCTION

Although Kenya has experienced strong economic growth in recent years, poverty remains high. Growth of gross domestic product (GDP) averaged 5.3 percent during 2004–14. In 2014, the rebasing of Kenya’s national accounts resulted in an upward revision of the GDP per capita and reclassification of Kenya as a lower-middle-income country. In 2015, GDP grew by 5.6 percent, driven primarily by public investment in infrastructure, higher private-sector investment, and strong consumer demand. Kenya’s GDP is projected to grow by 6 percent in 2016 and 2017. Despite positive growth, poverty rates remain high. Some 42 percent of the population lives below the national poverty line, with many in this group lacking access to water, sanitation and other basic services. Within urban areas there is considerable inequity, with residents of informal settlements—where most of the poor live—having much lower access to basic infrastructure and services than residents of formal areas. In Nairobi, only about 36 percent of households living in informal settlements have access to piped water in the house or compound, while 84 percent of households in formal areas do.

Economic growth has been accompanied by rapid urbanization, leading to growing gaps in service provision. In 2011 about 30 percent of the Kenyan population was residing in urban areas and the total urban population was estimated to be about 15.2 million people.⁶ It is forecast that in 2030 the population of Kenya will have reached about 61 million people, of which 30 million will reside in cities. But urban services are not keeping pace with urban population growth, with demand for services far outstripping supply in most urban areas. For instance, current water demand in Nairobi exceeds supply by more than 150,000 cubic meters per day, and in Mombasa by 100,000 cubic meters per day. Authorities are unable to keep pace with the growing demand for services because of inadequate financing for capital investments; insufficient capacity for planning, operating, and maintaining urban infrastructure and services; and institutional fragmentation.

Economic growth and urbanization are placing increasing pressure on Kenya’s limited water resources. Kenya is classified as a chronically ‘water scarce’ country in absolute and relative terms. The country’s annual freshwater availability of 526 cubic meters per capita places it in the bottom 8 percent of countries globally. Over 80 percent of the country is comprised of arid or semi-arid lands. A further complicating factor is that approximately 54 percent of Kenya’s water resources are shared with neighboring countries. Severe degradation of the country’s key water catchment areas, due primarily to deforestation and unsuitable agricultural practices, has exacerbated the situation. At the subnational level the spatial mismatch between water availability and rising demands is in many cases even more extreme, with areas around the major cities of Nairobi, Mombasa, and some western Kenya urban centers most critically water stressed.

⁶ Kenya National Bureau of Statistics. 2010. “2009 Population and Housing Census Results.”

1.1 Purpose of the ESMF

This ESMF seeks to establish a process of environmental and social screening which will permit the institutions in charge of the implementation of the sub projects to identify, assess and mitigate the environmental and social impacts of sub project investments. The ESMF also determines the institutional measures to be taken during the program implementation, including those relating to capacity building.

1.2 Rationale for the ESMF

As many specific project investments in the WSDP have not been clearly identified at this stage, hence an ESMF provides a general impact identification framework to assist project implementers to screen the projects and institute measures to address adverse environmental and social impacts. This ESMF thus applies to all sub projects to be financed under WSDP. Specific information on country-wide project locations, land requirements, bio- physical features, etc. when known at a later stage may trigger the preparation of site-specific instruments such as Environmental and Social Impact Assessment (ESIA) and Resettlement Action Plan reports as well as Vulnerable and Marginalized Groups Plans (VMGP).

1.3 Program Description

1.3.1 *Country and sector context*

Kenya has limited freshwater endowments and is projected to face rapid increases in water demand, driven by growth and urbanization. The country faces the additional challenge of high inter-annual and intra-annual rainfall variability that results in frequent and severe droughts and floods and could be exacerbated under a changing climate. Kenya has yet to adequately manage its ‘difficult’ hydrology, as evidenced in decades-long underinvestment in water storage that has not kept pace with growing needs or reigned in water’s most destructive forces. GoK is planning a large scale water investment program to address these challenges, as well as new reforms to align the sector to the 2010 Constitution of Kenya. GoK has requested the World Bank’s support to prioritize, prepare, and finance these water resources development opportunities.

1.4 Sectoral and Institutional Context

The 2002 Kenya Water Act introduced important reforms in the sector. It separated the functions of water resource management, asset ownership, water service delivery, policy, regulation, and financing; provided for the ring-fencing of revenues within the sector; and established a framework for utilities and other service providers to move toward cost-reflective tariffs. It established eight water services boards (WSBs)—owned by the national government—to create assets in their respective regions. It created commercially-oriented water services providers (WSPs) to be responsible for service delivery under a contract with its WSB. The 2002 Water Act also established an independent Water Services Regulatory Board (WASREB) tasked with reviewing and approving tariff applications and with monitoring and reporting on sector performance.

The 2010 constitution brought a need for new water legislation. Counties are now responsible for providing water and sanitation services, protecting the environment, creating county-specific public works, including for storm water management. The draft 2014 water bill, intended to bring the water legislation in line with the constitution and clarify the roles of the two levels of government and the water institutions, was approved in September 2016 by the national parliament. There is also a need to develop a new water policy to reflect the changes introduced by the constitution.

Provision of urban water and sanitation services has not kept pace with Kenya's high urbanization rates. The urban population rose from about 4 million in 1990 to over 15 million in 2011. Over the same period, the proportion of the urban population with access to improved water sources declined from 92 percent to 82 percent, while the proportion with access to improved sanitation (excluding shared sanitation) increased by only 5 percentage points from 26 percent to 31 percent. Today, only about 18 percent of the urban population is served by a sewerage system. Existing wastewater treatment facilities operate at very low efficiencies (about 16 percent of design capacity for 15 plants assessed in 2010), leading to discharge of untreated effluents. Thus, achieving the SDG of universal access to water and sanitation will require strong institutions, huge investments, tapping different sources of financing including commercial financing, much improved operational efficiencies, and innovative technologies.

Achieving universal access to improved water and sanitation requires significant capital expenditure. The National Water Master Plan 2030 estimates that about US\$14 billion in investment in water supply and US\$5.4 billion in urban sewerage infrastructure are needed over the next 15 years. However, it also points to shortfalls of 57 percent for investment in water supplies and 94 percent for urban sewerage. Given that development partners now contribute more than half of financing, a sharp increase in mobilizing new sources of financing, including commercial financing for commercially-viable investments, will be required.

1.4.1 Relationship to Country Partnership Strategy

The proposed project is aligned with the World Bank's Kenya Country Partnership Strategy (CPS) 2014–2018. The CPS for Kenya, discussed by the World Bank's Board of Directors on June 4, 2014, has three strategic results areas: (a) competitiveness and sustainability—growth to eradicate poverty, (b) protection and potential—delivering shared prosperity, and (c) consistency and equity—delivering a devolution dividend. The proposed WSDP supports all three strategic results areas. It helps to enhance the competitiveness of one of Kenya's most important city, Mombasa, by eliminating water shortages and addressing the problems with the discharge of untreated sewage, both of which discourage investment and tourism. It will also improve the competitive of other cities by helping them meet their needs for adequate water supplies. It assists in bringing water supply and sanitation services to people, especially women and residents of informal settlements. It helps to foster consistency and equity by helping counties develop the capacity to manage their new responsibilities for delivering water and sanitation services. In summary, in line with the objectives of the CPS, the proposed project seeks to support the ongoing sector reforms and increase the equitable access and sustainability of water supply and sanitation services.

The proposed WSDP will also leverage development impacts of ongoing World Bank programs and projects. It will ensure that the CRWSCRCP meets its development objectives. It will also build on the achievements of WaSSIP in improving performance of the water institutions in a devolved context. Finally, it will help to further develop and support implementation of social connection programs for informal settlements and other low income areas in selected urban centers in Kenya.

1.5 Objectives of the WSDP

The proposed WSDP will contribute to the goals of the government's Vision 2030 and its Second Medium-Term Plan (MTP2). The government's Kenya Vision 2030 and its MTP2 2013–2017 focus on promoting inclusive economic growth and achieving the United Nation's Sustainable Development Goals (SDGs). Aligned to Vision 2030, the MTP2 identifies key policy actions, reforms, and programs that will enable Kenya to achieve accelerated and inclusive economic growth. As a priority the government aims to increase access to clean water and sanitation services in the major urban centers and their suburbs, expanding access to the poor in under-served areas including informal settlements, and strengthening sector institutions. The MTP2 also supports activities to ensure that devolution is a success, including helping counties develop their capacity to deliver infrastructure and services and improving coordination between the two levels of government.

The proposed WSDP will also leverage development impacts of ongoing World Bank programs and projects. It will ensure that the CRWSCRCP meets its development objectives. It will also build on the achievements of WSDP in improving performance of the water institutions in a devolved context. Finally, it will help to further develop and support implementation of social connection programs for informal settlements and other low income areas in selected urban centers in Kenya.

1.5.1 Project Development Objectives

The Project Development Objective (PDO) is to improve water supply and sanitation services, focusing on the coastal region and priority areas, along with strengthening institutional capacity for achieving sector goals.

The proposed WSDP will finance investments in water supply and sanitation facilities, focusing on the coastal region, along with strengthening sector institutions to deliver improved services.

The project seeks to harness the momentum created under the KISSIP, KMP, CRWSCRCP and WaSSIP 1, and will deepen and expand their development impacts through the completion of the distribution infrastructure in the coastal region. It will also support provision of other priority infrastructure in other areas, and reinforce sector reforms. The proposed infrastructure investments will be coupled with institutional interventions to strengthen regulatory capacity, to improve utility operations, and to increase capacity of counties to fulfil their mandates to deliver water and sanitation services.

1.6 Project Components

The proposed project has four inter-related components: (1) expansion of water supply and sanitation services in the coastal region, (2) expansion of water supply and sanitation services in other priority areas, including marginalized northeast counties of Kenya, (3) water supply and sanitation sector reforms, and (4) project management.

1.6.1 Component 1: Rehabilitation and Expansion of water supply and sanitation services in the coastal region

Subcomponent 1.1: Support to the coastal counties

This sub-component will finance the construction and rehabilitation of water distribution systems in the coastal region to ensure that they can deliver the additional water supply that Mwache dam will provide. In addition, WSDP will finance investments in sanitation infrastructure so that the additional water supplied will not increase the contamination of coastal waters, the cleanliness of which is vital for the tourist industry. These will include rehabilitation and construction of wastewater treatment plants, sewer systems, and septic sludge treatment facilities. The wastewater in the coastal area is often discharged through inadequate storm water systems, resulting in septic water and sludge spilling into the environment, creating a health hazard for the residents and a threat to the coastal environment. Therefore, this component will also finance limited investments in storm water systems. In addition, this component will finance institutional strengthening and capacity building activities for the WSPs and county governments. Many counties need to align their water and sanitation regulations in line with their new responsibilities and to strengthen capacity for enforcement of the regulations. Counties also need to embark on integrated urban water management (IUWM) activities to improve the sustainability and climate resilience of services.

1.6.2 Subcomponent 1.2: Support to the Coast Bulk Water Services System

This sub-component will finance the rehabilitation and extension of parts of the bulk water system. It will finance the continuation of the service contract or a new management contract for the bulk water operation.

The Mombasa Water Company (MOWASCO) is currently undertaking a feasibility study and field work to explore ways of increasing the yield of the Tiwi wellfield which serves both Mombasa and Kwale County. This would be an additional small water source which could bridge the production gap before Mwache dam becomes operational and would increase the climate resilience of the system. Should the feasibility study recommend some investment in Tiwi, this component could finance further investigations, designs, and investments.

1.6.3 Component 2: Expansion of water supply and sanitation services in North and Northeastern Counties.

This component will finance investments to increase access to water and sanitation in underserved areas in selected areas in Garissa and Wajir counties. The government has

requested the Bank to support infrastructure development—particularly in energy, transport and water supply and sanitation—in these counties to improve living conditions and to promote their development.

This Component will primarily benefit residents in two locations: 1) host communities surrounding Dabaab Camp and 2) Wajir town residents. In Garissa County, it is proposed that activities focus on improving sanitation coverage for those in the host community surrounding Dabaab Camp. The host community surrounding the camp consists of approximately 250,000 living in Dabaab and Fafi sub-counties. The entire Dabaab sub-county consists of 84 villages and Fafi sub-county consists of 94 villages. However, this Project will work with only those villages closest to Dabaab Camp. While sanitation and stunting statistics do not exist for the host community only, in the larger county, 48 percent of the population open defecates, 14 percent share sanitation between multiple households and 21 percent use unimproved sanitation. Only 17 percent of the county currently has improved sanitation. As a result of the poor sanitation and other nutritional and environmental factors, in 2014, 51 percent of children in the larger county were stunted. It is expected that the percentages might be similar among the target population of this Project.

In Wajir County, activities will only occur in Wajir town. Approximately 60,000 live in Wajir town. A report in 2009 noted that, “About 5% of the population depends on septic tank, 75% on open defecation (Cat style) and about 20% who mainly reside in the Central Business District (Township) depend on bucket latrine.”

Sanitation: Besides the areas in Wajir Town which will be served by the sewer system to be financed under the project, the remainder of the population in Wajir town relies on on-site sanitation. The project will assist the County in establishing a proper system for septic sludge collection, treatment and discharge, including the construction and operation of a septic sludge handling facility. The project will also support the implementation of the successful national household sanitation model in the project area, where no cash or hardware subsidies are provided to build household (HH) toilets. The project will also finance institutional toilets in health posts, schools, orphanages and markets. To support sanitation activities, beyond the sewerage component, the project will provide some funds to each County Health Office to manage and oversee sanitation activities.

The sanitation grant to the County Health Office may be used to hire firms, non-profits, or consultants for the following activities:

- i. Develop County Sanitation Strategic & Investment Plans
- ii. Create a sanitation behavior change campaign (or adaptation of existing campaigns) for the Dabaab Host community and Wajir town
- iii. Conduct Community Led Total Sanitation (CLTS) training for county Public Health Officers (PHOs) and Community Health volunteers (CHV's) working with the Dabaab host community and Wajir
- iv. Create opportunities for the private sector through workshops linking MFIs, fundis (handy men), manufacturers & county government

- v. Facilitate linking needy households with local financing groups such as women's savings and credit, microcredit organizations, etc.
- vi. Establish 3rd party Open Defecation Free (ODF) certification teams.
- vii. Conduct training and follow-on mentoring to roll-out the national sanitation Monitoring and Evaluation Tool
- viii. Create a knowledge strategy and conduct knowledge exchanges for public health officers and CHV's working with the Dabaab host community and in Wajir town to learn from other successful sanitation programs in Kenya.

Some funds will also be used directly by each county to recruit consultants and purchase goods to create "sanitation hubs" to:

- i. Formulate county legislation based on the Environmental Sanitation & Hygiene Prototype Bill
- ii. Procure transportation, computers and phones for PHOs in Dabaab and Fafi sub-county and Wajir town and for the county to support the Project
- iii. Support Monitoring, Evaluation, and Supervision of Project activities

Funds for institutional sanitation will be monitored by local government authorities responsible for other civil works and may be used for the identification of partners and creation of institutional toilet maintenance plans.

1.6.4 Component 3: National Performance-based Financing.

This subcomponent will provide performance-based financial support, which can be availed by the WSPs and the counties, on achievement of specific results. The performance-based financial support will target improvements in operational and financial performance of the WSPs, based on an agreed set of performance measures (for example, expansion in water and sanitation services, improvements in billing and collection, recovery of operations and maintenance costs, reduction of non-revenue water, proportion of debt repaid, etc.). In addition, the performance-based financing will target design and implementation of programs and policies by the counties (for example promoting IUWM programs, including rainwater catchment, wastewater recycling, demand-side management, and the like).

All WSPs and counties will be eligible to participate in the performance-based financing. The criteria for accessing these funds along with the verification protocol, will be defined during project preparation. The possibility of leveraging funds from other sources, including the National Treasury, other development partners, and commercial financing will also be explored. This subcomponent will comprise the following subcomponents:

3.1: Support for water and sanitation infrastructure investments.

This subcomponent will finance construction of new facilities or rehabilitation of existing facilities for the WSPs. In addition, counties can use the performance-based financing for investments in infrastructure related to IUWM and other county projects.

3.2: Technical assistance for performance-based financing.

This subcomponent will finance technical assistance and training on issues such as reduction of non-revenue water, strengthening of billing and collection, strengthening of procurement and financial management, identification of high-return IUWM investments, etc.

1.6.5 Component 4: Project Management

This component will finance the management activities associated with project implementation, including establishing and implementing a comprehensive monitoring and evaluation (M&E) system and training of the implementing entities on applying the World Bank's safeguard policies. This component will also provide funds for studies identified and agreed during implementation.

1.7 Project Institutional and Implementation Arrangements

The proposed WSDP will be implemented using existing organizational structures in line with the constitution, and incorporating lessons learned and experience gained in the implementation of the KISIP, KMP, KWSCRIP and WaSSIP 1. Thus, counties will implement county-specific activities, and Water Services Boards (or their legal successors), which are owned by the central government, will implement activities that involve more than one county.

The Department for Water Supply and Sanitation in the Ministry of Water and Irrigation (MoWI) is the lead implementing agency for WSDP. It will be responsible for overall project management, and for monitoring and. However, given that all participating entities are procuring, implementing, and monitoring their own project activities, the ministry's project management team is expected to be very lean and integrated with existing structures.

Counties and their WSPs will be the main implementing agencies, because according to the Water Act 2016, they are responsible for all county water supply and sanitation infrastructure and services. Water Services Boards will in future only be responsible to implement inter-county activities.

Therefore, CWSB will be the implementing agency for the bulk water sub-component under component 1, because the bulk water system runs across four Counties. The WSPs will do the bulk of the procurement, because they will be in charge of all procurements for county wide water supply and sanitation infrastructure and for ant TA for the WSPs.

Counties will procure contracts to support County functions which are not delegated to the WSPs, such as enforcing construction codes for septic tanks etc. Counties will therefore do only small contracts (mostly TA) up to a threshold in accordance with the findings of the procurement capacity assessment for counties. The MoWI and WASREB will do any procurement needed to carry out their responsibilities under the project. The table below gives an overview about the implementing agencies:

Component	Implementing Agencies
Component 1.1	<ul style="list-style-type: none"> • Mombasa County and MoWASCO • Kwale County and Kwale Water and Sewerage Company (KWAWASCO) • Taita Taveta County and Taita Taveta Water and Sewerage Company (TAVEVO) • Kilifi County and Kilifi and Malindi Water and Sewerage Companies
Component 1.2	Coast Water Services Board
Component 2	<ul style="list-style-type: none"> • Wajir County and Wajir Water and Sewerage Company • Garissa County and Garissa Water and Sewerage Company
Component 3	<ul style="list-style-type: none"> • Various counties and their WSPs. The Counties and their WSPs will only be known when WASREB has selected the investments. The selection will be done for annual programs, so the participating Counties and WSPs will change during the project implementation period. including • WSBs can also apply to WASREB for financing inter county infrastructure. Therefore, it is also possible that a WSB might become an implementing agency under this component. • WaSREB will be an implementing activities related to the development and implementation of the program, but will not be engaged in any implementation of infrastructure.
Component 4	<ul style="list-style-type: none"> • MoWI

The implementing agencies will prepare project (through consultants) specific ESIA's and Resettlement Action Plans (RAPs) and all other safeguards instruments for identified investments during the feasibility study phase of the project following detailed screening. These reports, which will be consulted upon, will be submitted to NEMA and the World Bank for review and clearance prior to disclosure in-country and at the World Bank's InfoShop.

Capacity Building and Training

Capacity development and strengthening remains a crucial component in this ESMF and will be integrated all through the project implementation phase. Capacity building will be in the form of training seminars/workshops and short courses for project implementing partner staff from the various implementing agencies to be able to successfully implement environmental and social aspects of the WSDP. The proposed training modules will cover among others:

- a) *World Bank Safeguards Policies and NEMA Environmental Regulations, specifically covering including the ESMF/ESMP, RPF/RAP, SA/VMGF/VMGP;*
- b) *Non-social Safeguards Issues such as Gender, Labor influx, Community empowerment, etc.;*
- c) *Subproject Screening Checklist (Environment and Social);*
- d) *Environmental and Social Performance Monitoring & Reporting*
- e) *Development of Terms of Reference for Safeguards Instruments such as ESIA's/ESMPs, RAPs and VMGPs;*
- f) *Grievance Redress Mechanisms & Alternative Dispute Resolution*
- g) *Environmental and Social Clauses in Contractors' Contract and Bidding Documents.*

2 METHODOLOGY AND CONSULTATION

2.1 Detailed & In-depth Literature Review

Review on the existing baseline information and literature material was undertaken and helped in gaining a further and deeper understanding of the proposed project. A desk review of the Kenyan legal framework and policies was also conducted in order to the relevant legislations and policy documents that should be considered during project implementation. Among the documents that were reviewed in order to familiarise and further understand the project included:

World Bank Related Documents

- Aide Memoire
- World Bank Safeguards Policies
- Draft Project Appraisal Document and other supporting documents

Kenyan Legislative Documents

- Constitution of Kenya
- Environmental Management and Coordination Act (1999, and as amended in 2015)
- Water Act
- Energy Act
- Land Act
- Public Health Act
- Wildlife Act
- Forest Act

2.2 Interactive Discussions

Stakeholder consultation formed part of the methodology in preparing this ESMF where the project interested and affected stakeholders who could be identified at this early stage were consulted. The issues raised and concerns expressed including possible mechanisms of addressing these issues and concerns are appended as **Annex B** of this document. The stakeholder consultation was significant to the preparation of this ESMF and formed the basis for the determination of potential project impacts and design of viable mitigation measures.

2.3 Preparation of ESMF

Preparation of the ESMF included the following stages:

- Collation of baseline data on the environmental conditions of the country in general;
- Identification of positive and negative environmental and social impacts of sub projects investments;
- Identification of environmental and social mitigation measures;
- Preparation of screening procedures to be used for sub project proposals;
- Formulation of environmental and social monitoring plans.

3 BASELINE DATA

This section describes the overall baseline condition of Kenya in terms of bio-physical environment, as well as the socio-economic.

3.1 Location and Size

Kenya (**Figure 4**) is located in the eastern part of the African continent approximately between latitudes 4° 21' N and 4° 28' S and between longitudes 34° and 42° E. Kenya is bordered by Uganda to the west, Ethiopia and South Sudan to the north, Tanzania to the south and Somalia and the Indian Ocean to the east. Kenya covers an area of approx. 587,000 km², of which 11,000 km² consists of water bodies. Kenya's landscape is grouped into geographical zones including; the Savannah Lands covering most of the arid and semi- arid areas, the Coastal Margin, the Rift Valley, the Highlands and the Lake Victoria Basin.

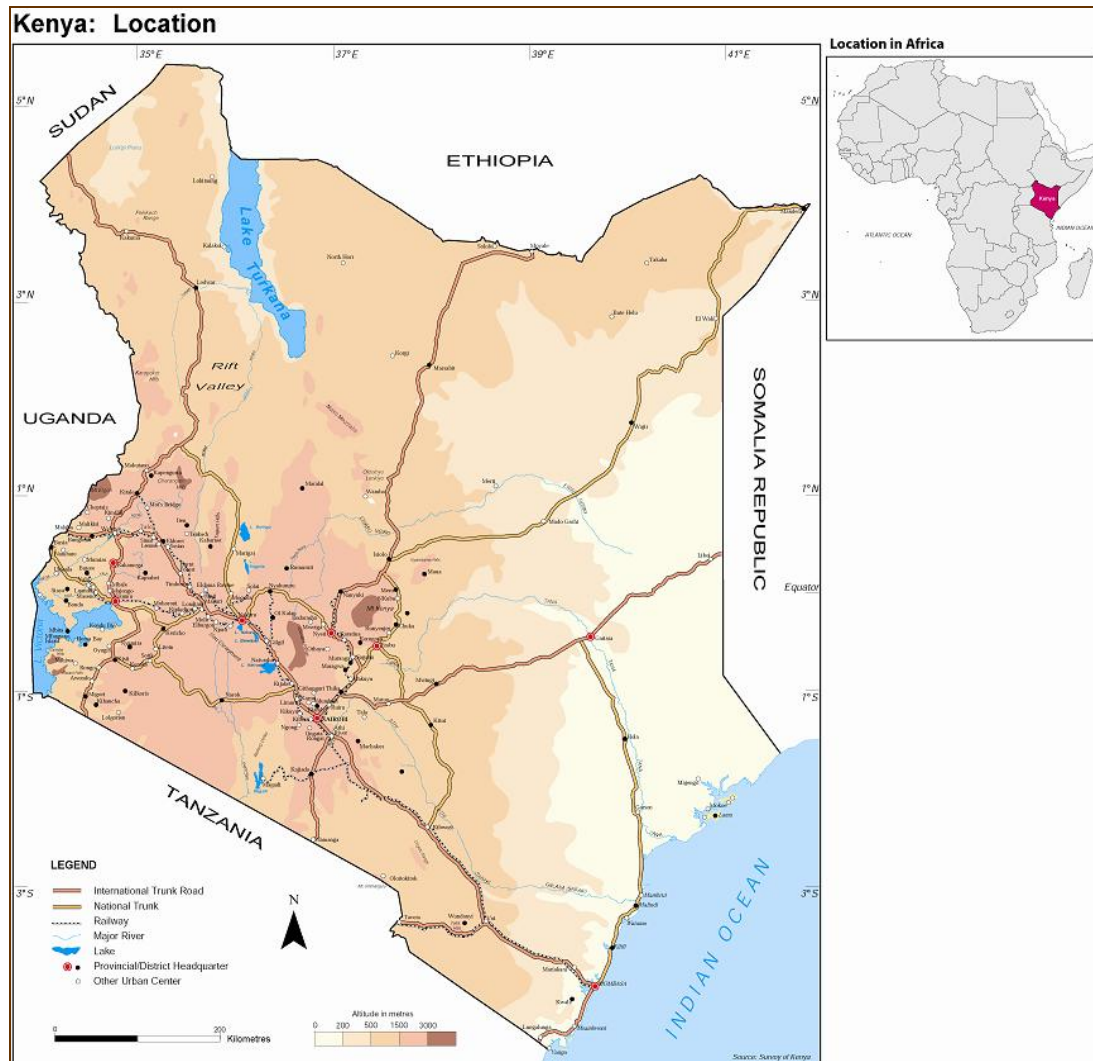


Figure 4: Map of Kenya

Kenya sits on the Equator in East Africa. It is bordered by the Indian Ocean to the east, Somalia and Ethiopia to the north, South Sudan to the Northwest, Tanzania to the South, and in the West, by Uganda. Kenya is Africa's tenth most populated country and ranks 22nd in terms of its size (Source: Survey of Kenya 2003)

Kenya lies along the equator in East Africa. Most of the country consists of high plateau areas and mountain ranges that rise up to 3,000 m and more. The plateau area is dissected by the Eastern Rift Valley, which is 40-50 km wide and up to 1,000 m lower than the flanking plateaux. The narrow coastal strip along the Indian Ocean is backed by a zone of thorn bush-land. Some areas in central Kenya, at the flanks of the Rift Valley, and in western Kenya, close to Lake Victoria, are very densely populated.

The land stretches from the sea level (Indian Ocean) in the east through a diversity of landforms. From the coast, the altitude changes gradually through the coastal belt and plains (below 152 metres above sea level), the dry intermediate low belt to what is known as the Kenya Highlands (over 900 metres above sea level). The country is split by the Great Rift Valley into the Western part, which slopes into Lake Victoria from the Mau ranges and Mount Elgon (4,300m) and the Eastern part dominated by Mt. Kenya and the Aberdare Ranges which rise to 5,200m and 4,000m respectively.

3.2 Physical Environment

3.2.1 Climate

Kenya enjoys a tropical climate. It is hot and humid at the coast, temperate inland and very dry in the north and northeast parts of the country. The average annual temperature for the coastal town of Mombasa (altitude 17 metres) is 30.30 Celsius maximum and 22.40 Celsius minimum, the capital city, Nairobi (altitude 1,661 metres) 25.20 Celsius maximum and 13.60 Celsius minimum, Eldoret (altitude 3,085) 23.60 Celsius maximum and 9.50 Celsius minimum, Lodwar (altitude) 506 metres) and the drier north plain lands 34.80 Celsius maximum and 23.70 Celsius minimum.

The long rains occur from April to June and short rains from October to December. The rainfall is sometimes heavy and when it does come it often falls in the afternoons and evenings. The hottest period is from February to March and coldest in July to August.

3.3 Topography and Drainage

The Republic of Kenya has an area of approximately 582,646 sq. km. Only 20% of the land area can be classified as medium to high potential agricultural land and the rest of the land is mainly arid or semiarid. This water surface comprise of a number of small lakes with fluctuating limits as well as part of Lake Victoria and most of Lake Turkana. Only 3,831 km² of Lake Victoria is in Kenya while most of Lake Turkana lies in Kenya. Kenya's coastal line extends approximately 402 km along the Indian Ocean.

Topographically, the country may be divided into 4 distinct geographical and ecological regions or zones with different patterns of land use, namely; the coastal plain, the arid low plateau, the highlands, and the Lake Victoria basin. The rainfall patterns are extremely varied but generally follow those regions, with the Lake Victoria basin receiving the heaviest and most consistent rainfall.

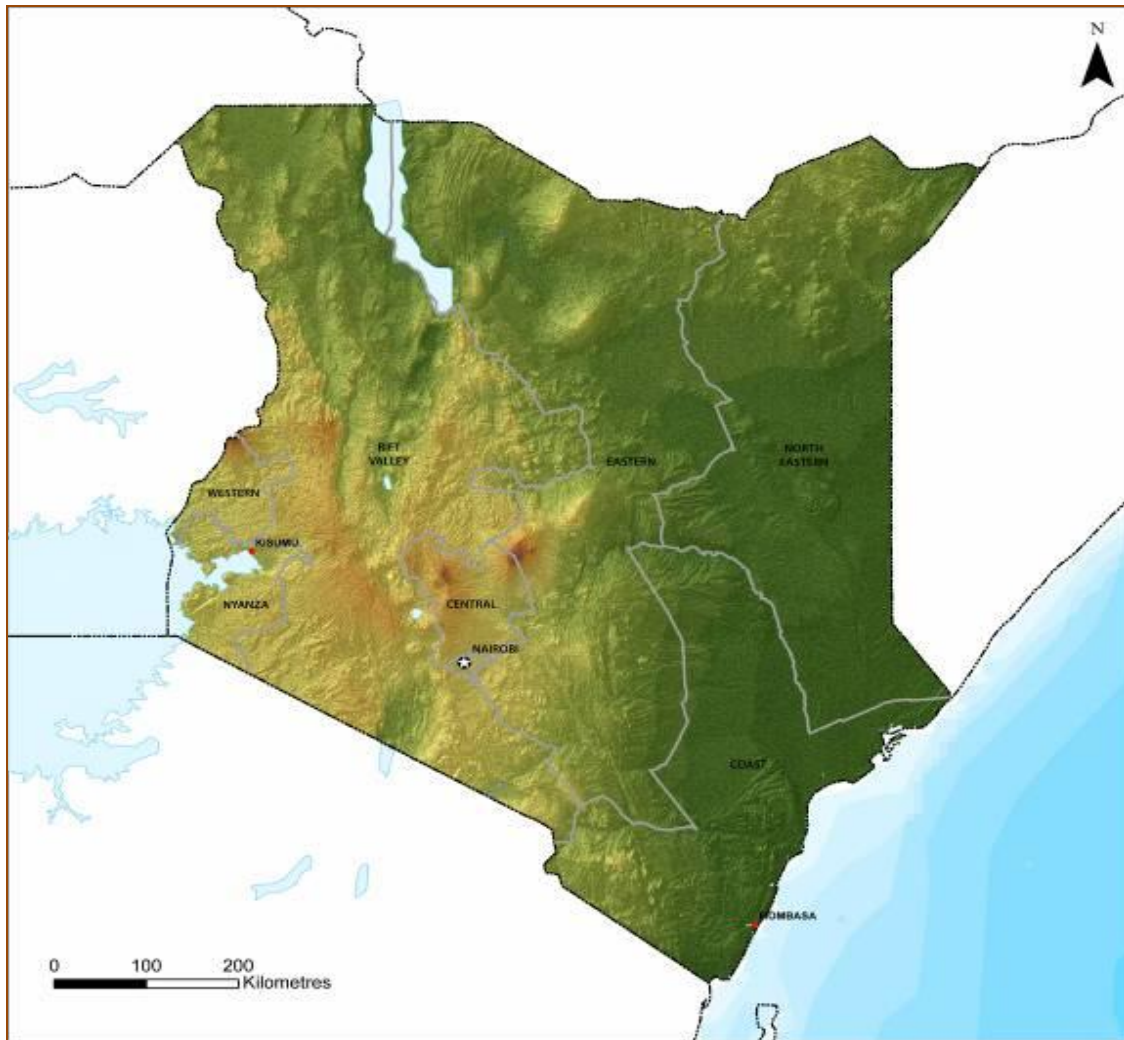


Figure 5; Relief Map of Kenya

Kenya's relief can be roughly divided into six major regions: the lowlands of the coastal belt and plains; the Buruma-Wajir lowland belt; the Foreland Plateau; the Highlands (East and West); the Nyanza Low Plateau (part of the Lake Victoria Basin); and the Northern Plainlands (Survey of Kenya 2003).

The drainage is determined primarily by the Rift Valley, which roughly bisects the highland zone from North to South. Within the Rift Valley, drainage is into a chain of lakes, which have no surface outlet. West of the Rift Valley rivers drain into Lake Victoria and to the East, rivers follow a southeasterly course into the Indian Ocean.

In some areas, topography and rainfall - runoff regime have created many semi-closed, poorly drained or overflow areas that retain a substantial amounts of runoff which originate on the upslope areas. On groundwater, the country is divided into three broad areas. These are volcanic rocks, pre-cambrian metamorphic basement rocks and pre-cambrian intrusive rocks and sedimentary rocks.

The volcanic rocks cover 26% of the country, more commonly in the western half of Kenya. Groundwater sources occur in old land surfaces, which are weathered zones between successive lava flows that signify periods of quiescence. Fractures, faults,

fissures and joints are also useful. Water is mainly of bicarbonate type with low total dissolved solids. Local pockets of high fluoride are believed to be of volcanic and fumarolic origin.

The pre-cambrian rocks cover an area which is approximately 17% of the country and are widely distributed in the central, western and north western parts of Kenya. Water in these areas occurs in deep horizons of faults, and fractures. Aquifers are generally unconfined and yields and water levels vary within rocks. The sedimentary rocks cover 55% of the country, predominantly in the eastern parts. These areas have loose and permeable sediments. The aquifers are shallow and unconfined and most of them are generally saline. The salinity results from accumulation of solute evaporite minerals within the sediments.

3.3.1 Hydrology

Kenya's four largest inland water bodies (Lake Victoria, Lake Turkana, Lake Naivasha, and Lake Baringo) account for about 1.9 per cent of the land area. The majority of Kenya's lakes, including both saline and freshwater, and closed and open basin systems, are located within the Great East African Rift Valley. Kenya's major permanent rivers originate in the highlands. The Nzoia, Yala, Sondu Miriu, and Migori Rivers drain into Lake Victoria. The Ewaso Ngiro River is found in the northeastern part of the country and the Tana and Athi rivers flow in the southeastern part. The rivers draining into Lake Victoria (covering over 8 per cent of Kenya's land area) provide about 65 per cent of Kenya's internal renewable surface water supply. The Athi River drainage area (11 per cent of Kenya's land area) provides 7 per cent, the lowest share among Kenya's major drainage areas (Survey of Kenya 2008 and MoWI).

3.3.2 Soils and Geology

The geology of Kenya is characterized by Archean granite/greenstone terrain in western Kenya along Lake Victoria, the Neoproterozoic 'Pan-African' Mozambique Belt, which underlies the central part of the country and Mesozoic to Recent sediments underlying the eastern coastal areas. The Eastern Rift Valley crosses Kenya from north to south and the volcanics associated with rift formation largely obliterate the generally north-south striking Neoproterozoic Mozambique Belt (Schlueter 1997). Rift Valley volcanogenic sediments and lacustrine and alluvial sediments cover large parts of the Eastern Rift.

About 59 per cent of Kenya's soils have moderate to high fertility, meaning they are theoretically suitable for growing crops. Fertility levels, however, depend on the amount of rainfall. Given the distribution and variability of rainfall in Kenya, only about 17 per cent of the land area has medium to high potential for crops, while the remaining 83 per cent is classified as arid and semi-arid and so of low crop growing potential (Survey of Kenya 2003). Drylands, however, provide essential habitat for about half the country's livestock and 70 per cent of Kenya's wildlife (UNCCD 2002).

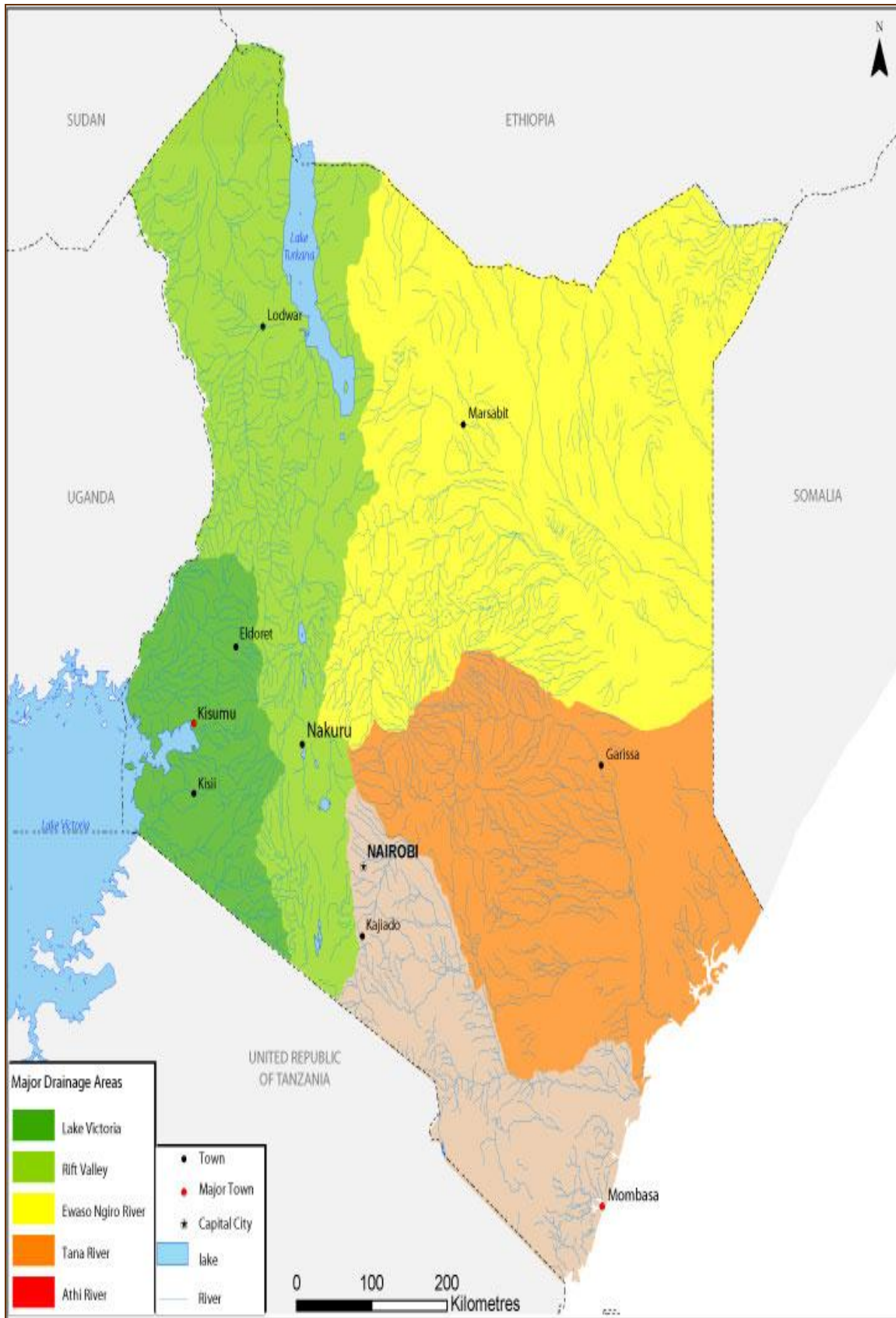


Figure 6: Drainage systems; Source: [WRI et al. 2007](#).

3.4 Land Use

Approximately seventy-five per cent (75%) of the country's population lives within the medium to high potential (20% of land area) and the rest in the vast Arid and Semi-Arid Lands (ASALs). One consequence of this is that size and distribution of land varies quite widely as does population density which ranges from as low as 2 persons per sq. km. in the ASALs to a high of over 2000 in high potential areas.

3.5 Biological Environment-Ecosystems

Kenya's land is covered by different types of vegetation according to the climate, topography, and other bio-physical factors. The major categories are grassland, forests, semi-deserts, and mountains. Human impacts on the land continue to alter the distribution, amount, and health of these ecosystems (Survey of Kenya 2003).

3.5.1 Grasslands

Grasslands dominate Kenya's land cover and include what is known as 'savanna' vegetation. Permanent meadows and pastures occupy about 21.3 million ha, in Kenya, which represent 2.4 per cent of Africa's total meadows and pastures (FAO 2008).

3.5.2 Forests

Forests cover 2.9 per cent of Kenya's land area (KFMP 1995). The main forest types are moist highland forest, dry forest, tropical rain forest, coastal forest, and riverine and mangrove forests (Survey of Kenya 2003). Although they are not extensive land cover, Kenya's forests provide significant goods and services, including numerous non-timber forest products that provide local people with food, fibres, medicines, and shelter. The closed canopy forests are habitat for a disproportionately large percentage of the country's wildlife and other biodiversity. It is estimated that they harbor 40 per cent of large mammals, 30 per cent of birds and 35 per cent of the nation's butterflies. About half of Kenya's threatened mammals and birds are found in its forests (Survey of Kenya 2003).

3.5.3 Arid and semi-arid lands (ASALS)

Over 80 per cent of Kenya is arid or semi-arid lands (ASAL). These lands are home to over 10 million people. The ASAL has over 70 per cent of the livestock population and 90 per cent of the wild game, which attract tourism to the area. The ASAL also contains much of Kenya's commercial mineral wealth (WRI et al. 2007 and MSDNKAL 2008).

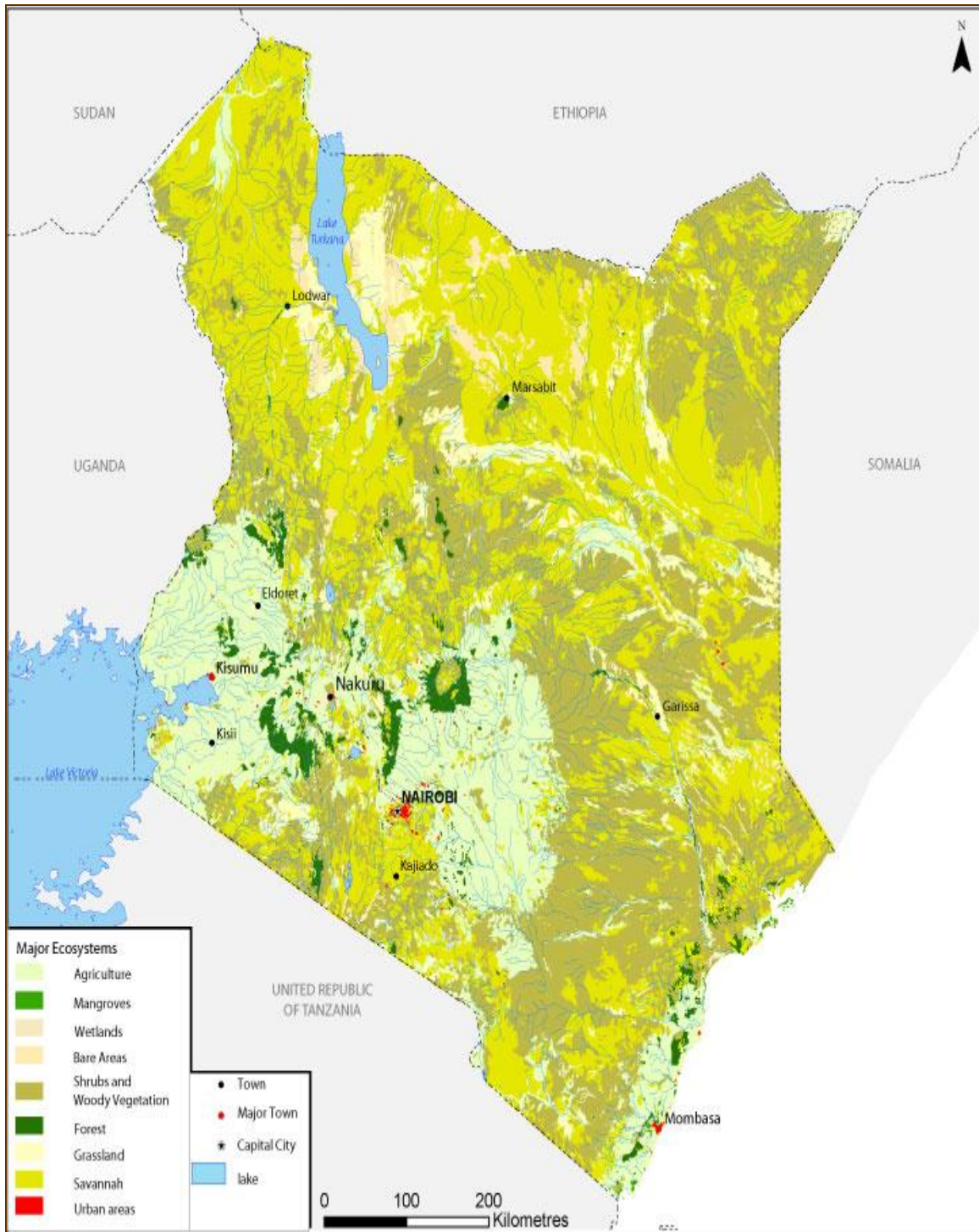


Figure 7: Major ecosystems in Kenya

3.5.4 Mountain vegetation

Kenya's five major mountainous regions (Mount Kenya, Mount Elgon, Aberdare Range, Mau Escarpment, and Cherangani Hills) are surrounded by foothills and high-elevation plateaus. Mountainous regions harbor unique types of vegetation due to the micro-

climates that occur on their slopes. Different altitudes, aspects, and moisture availability create a large variety of ecosystems over relatively small areas.

3.5.5 *Freshwaters and wetlands*

Kenya's wetlands occur in both fresh and salt waters. They include coral reefs, marine inshore waters, mangroves, deltas, creeks, lake shores, rivers, marshes, ponds, impoundments, and mountain bogs. They are a source of water, provide numerous ecosystem services, and have a high diversity of characteristic biota or living organisms (Ramsar Convention 2001).

Kenya's wetlands cover about 14 000 km² (2-3 per cent of the country's surface area) and are found along the major rivers. In addition, many seasonal and temporary wetlands occur all over the country, including rock pools and springs in the southern part of Nairobi, west of Ngong Hills, and at Limuru. Wetlands have also been created by damming water for hydroelectricity and water supplies, and some wetlands have been built to treat wastewater (Macharia 2004).

Wetlands are a source of social-cultural and economic potential providing people with food, medicinal products, firewood, and materials for building and handicrafts. Rapid population growth, agricultural operations, and encroachment of development pose a serious threat to wetlands. Expanding industries and urban centers discharge their waste water into them and the polluted waters are unhealthy for human and livestock use, destroy aquatic life, and restrict recreation opportunities (Ramsar Convention 2001).

3.5.6 *Marine and coastal areas*

Kenya's marine and coastal environments include the Indian Ocean's territorial waters and the immediate areas that border the ocean. The Kenyan coast stretches 550 kilometers from the Somali border in the north in a south-westerly direction to the border with Tanzania. The fringing coral reef (comprised of about 140 species of hard and soft corals) runs between 0.5km and 2km off-shore with occasional gaps at the mouths of rivers and isolated areas facing creeks. Beaches, cliffs, or mangrove forests dominate the shoreline in most areas. The coral-reef system, mangrove swamps, and hinterland provide unique natural landscapes and a wide range of biodiversity resources of special conservation concern.

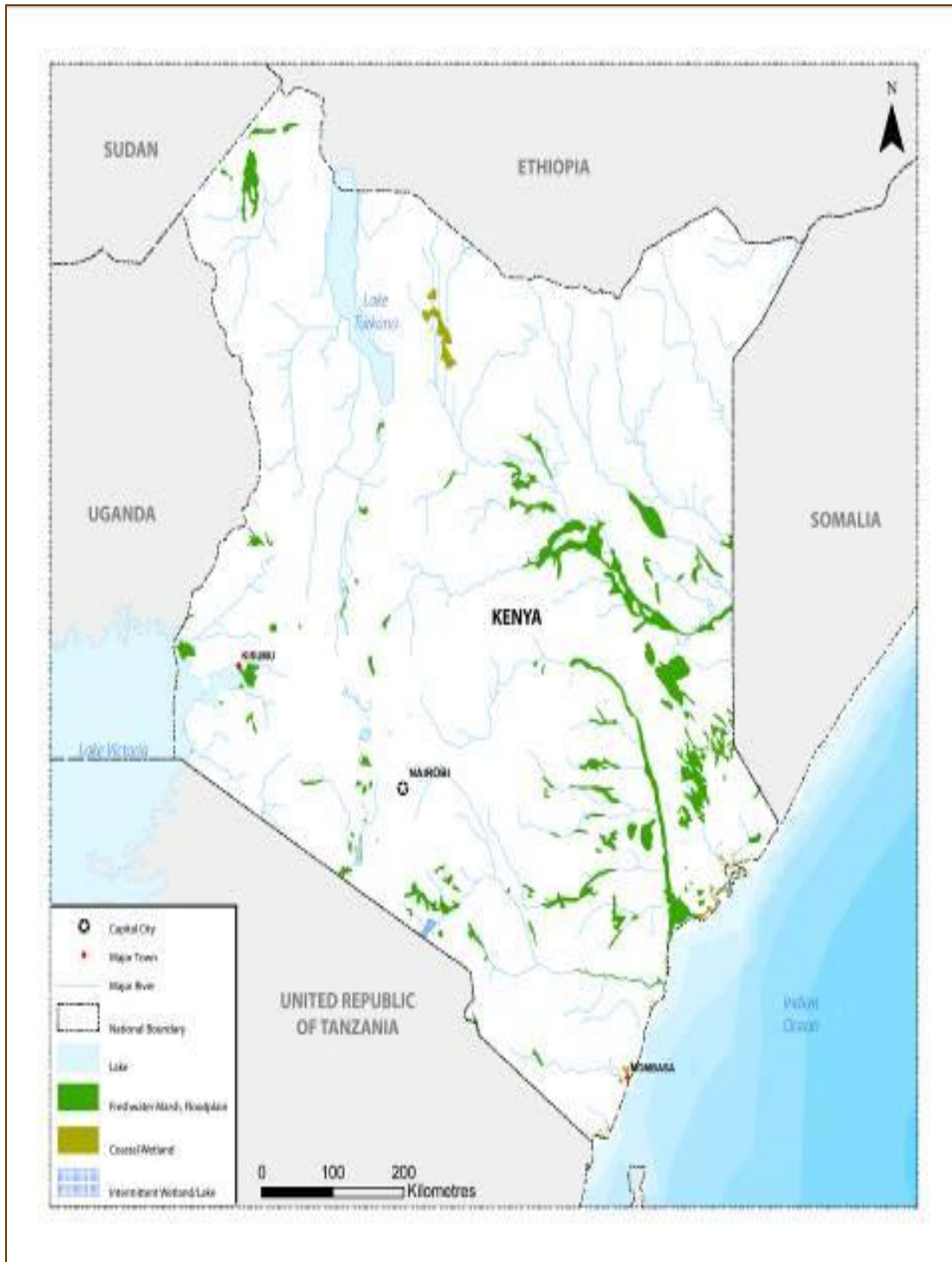


Figure 8: Kenya's Largest Wetlands

They include the shallow lakes Nakuru, Naivasha, Magadi, Kanyaboli, Jipe, Chala, Elmentaita, Baringo, Ol'Bolessat, Amboseli and Kamnarok; the edges of Lake Victoria and Lorian, Saiwa, Yala, Shompole swamps; Lotigipi swamp (Lotagipi) and Kano plains; Kisii valley bottoms and Tana Delta; and coastal wetlands (Source: WWF 2005).

3.5.7 Wildlife

Kenya's game parks and spectacular wildlife attract nearly two million tourists each year (UN-Water 2006) and generate important domestic revenues. Wildlife conservation is

thus a high priority. Formed in 1946, Nairobi National Park, just outside the city, was the country's first protected area. By 2008, about 75 237.9 km² (WCPA 2007) of the nation's land area had been set aside as national parks and game reserves.

Wildlife is also protected by bans on game hunting, killing animals even when they attack, and the trade in ivory and skins. Nevertheless, poaching is a significant threat to many species including leopards, cheetahs, lions, elephants, and rhinoceroses. Efforts are being made to restore populations of the endangered African elephant and black rhino, and an aggressive campaign is being waged against poachers. Moreover, increased pressure on marine resources has led the Kenyan government to establish a system of protected areas managed by the Kenya Wildlife Service (KWS) to conserve and manage the most important ecosystems along the coast. In total, Kenya has five Marine Protected Areas (MPA's).

Examples of endangered species include the Sokoke scops owl (*Otus ireneae*); Taita blue-banded papilio (*Papilio desmondi teita*); the highly endangered Tana River mangabey (*Cercocebus galeritus*) and the Tana River red colobus (*Piliocolobus rufomitratu*); the green sea turtle (*Chelonia mydas*) and the critically endangered hawksbill turtle (*Eretmochelys imbricata*).

In addition to threats to species biodiversity, a number of types of ecosystems are disappearing or are in dangerous decline due to human activities. These include the slopes of Mount Kenya and coastal forests as well as the Horn of Africa Acacia Savannas, a major centre of endemism for dry land plants.

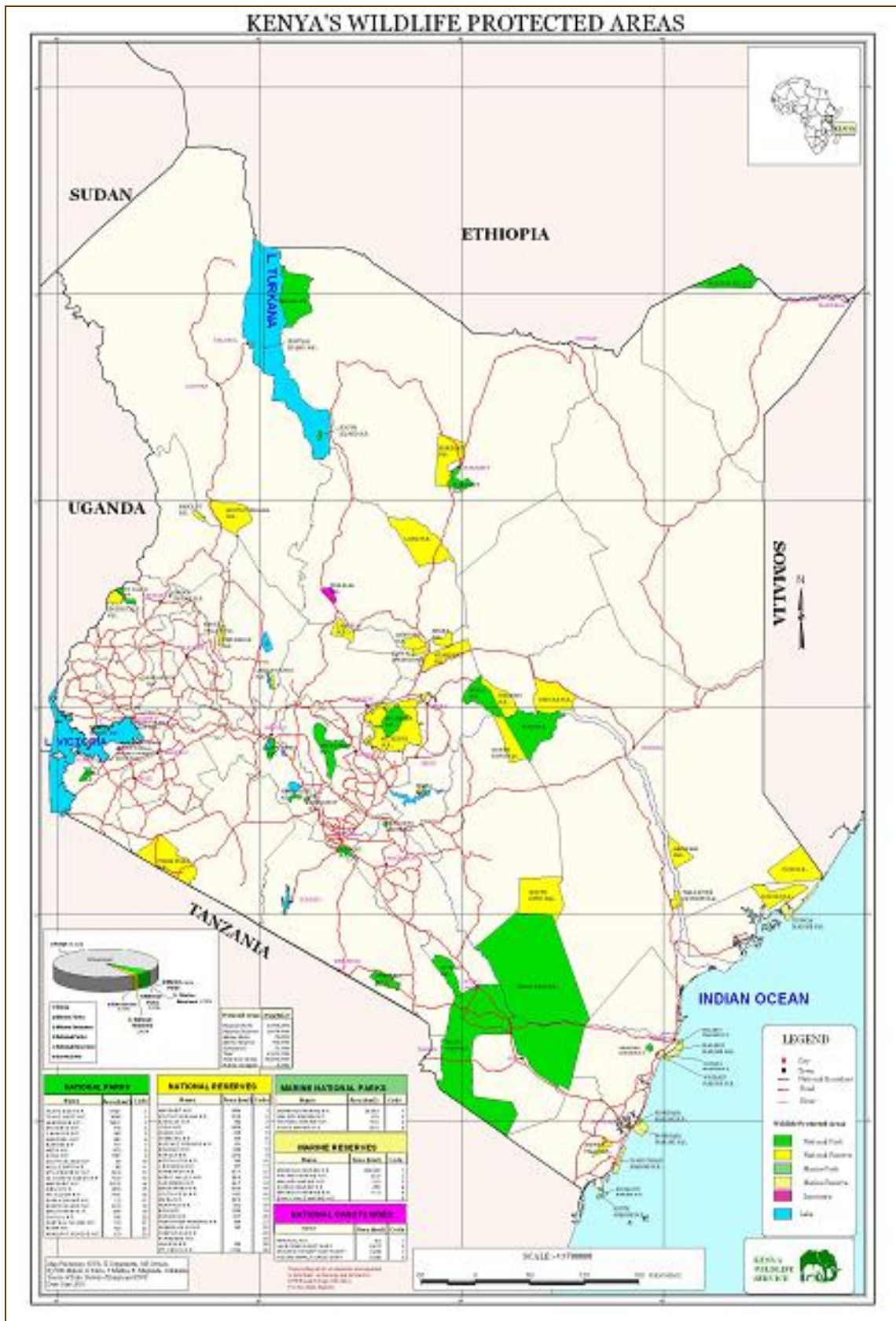


Figure 9: Protected Areas in Kenya

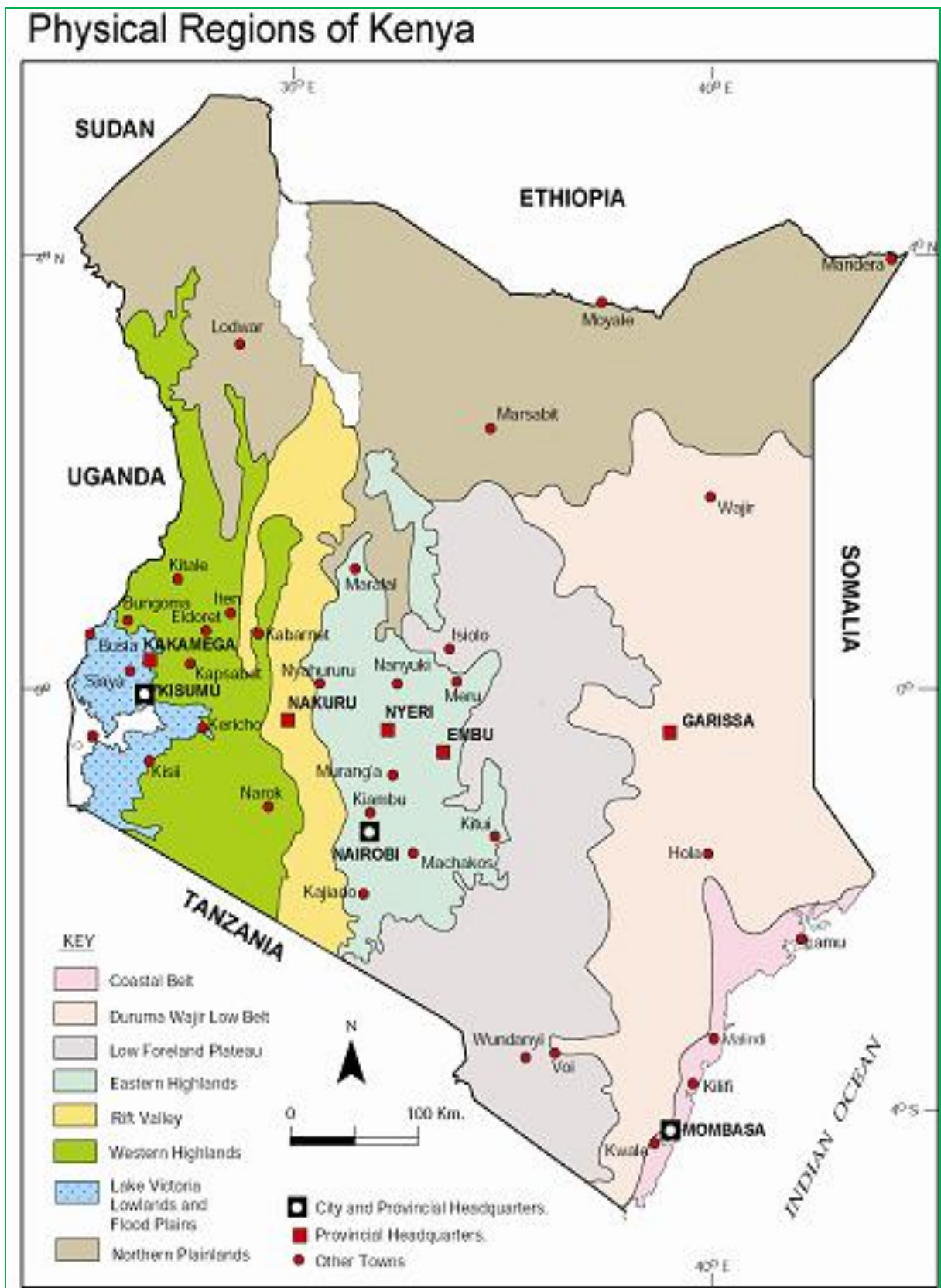


Figure 10: Physical Regions of Kenya

3.6 Socio-Economic Background

3.6.1 Population

Kenya's population was 10.9 million in 1969, and by 1999 it had almost tripled to 28.7 million (Central Bureau of Statistics, 1994, 2001a). Results of previous censuses indicate that the annual population growth rate was 2.9 percent per year during the 1989-1999 period, down from 3.4 percent reported for the 1979-1989 inter-censal period. Currently, growth is estimated to be about 2.8 percent. The decline in population growth is a realization of the efforts called for by the National Population Policy for Sustainable Development (National Council for Population and Development, 2000) and is a result of the decline in fertility rates over recent decades.

Kenya's population increases by an estimated one million a year. The government revised population based on the 2009 census is 39.8 million, an increase of over 35 percent in the past decade. The population report shows the distribution of the population across the country, with Rift Valley Province being the most populous with 10.1 million people. Nairobi, the capital, has 3.1 million people, according to the report released by the Ministry of Planning and National Development. Demographic trends show that more people are moving to urban areas and the Bank estimates that half of Kenya's population will live in cities by 2050. Better macro-economic conditions in the past decade helped improve the welfare of Kenyans, but the poor remain vulnerability to drought and other crises induced by climate change.

Rural and urban poverty remain a challenge. Recent analysis of the data from the 2005 to 2006 Kenya Integrated Household Budget Survey (KIHBS) indicates that national absolute poverty declined from 52.3 percent in 1997 to 46.1 percent in 2005 to 2006. While this decline in poverty compares well with other Sub Saharan African countries, it can still be considered high in comparison to neighbouring countries such as Tanzania (about 36 percent) and Uganda (about 31 percent). In rural areas, overall poverty declined from 52.9 percent to 49.1 percent, while in urban areas, poverty declined from 49.2 percent in 1997 to 38.8 percent over the same period.

The 2008-2009 Demographic Health Survey (DHS) show that fertility levels have declined from 8.1 births per woman in the late 1970s to the current level of 4.6 births per woman. The decline in fertility levels is expected to be manifested in the age distribution of the country's population. Mortality rates also have risen since the 1980s, presumably due to increased deaths from the HIV/AIDS epidemic, deterioration of health services, and widespread poverty (National Council for Population and Development, 2000). The crude birth rate increased from 50 births per 1,000 population in 1969 to 54 per 1,000 in 1979 but thereafter declined to 48 and 41 per 1,000 in 1989 and 1999, respectively. The crude death rate increased from 11 per 1,000 population in 1979-1989 to 12 per 1,000 for the 1989-1999 period. The infant mortality rate, which had steadily decreased from 119 deaths per 1,000 live births in 1969 to 88 deaths per 1,000 live births in 1979, and then to 66 deaths per 1,000 live births in 1989, increased briefly in 1999 to 77 per 1,000 but then resumed its decline in 2009.

The Kenyan poverty profile also reveals strong regional disparities in the distribution of poverty. According to the 2005 to 2006 survey, the lowest incidence of rural poverty was in Central province (30.3 percent), followed by Nyanza (47.9 percent), Rift Valley (49.7 percent), Eastern (51.1 percent), Western (53.2 percent), Coast (69.7 percent), and North Eastern province (74.0 percent). Inequality in Kenya remains high. The distribution of income, measured by the Gini coefficient (a measure of inequality of income distribution—the higher the percentage the higher the level of inequality) was estimated at 39 percent in rural areas and 49 percent for urban areas (pre-crisis). Income disparities in the rural areas have gone down since 1997, while the disparities in the urban areas have increased slightly. The Commission on Revenue Allocation is using the development and poverty data to develop a model for more equitable distribution of public resources.

There has been additional progress with respect to other dimensions of social development over the past years. For example, net primary education enrolment was only 80 percent in 2003, but has since increased to about 90 percent in 2008 (with an equal enrolment ratio between boys and girls). In 2004, only about 60 percent of primary students completed their education compared with about 80 percent in 2008. The transition from primary to secondary and later to tertiary and university education has also improved in recent years due to increased public and private investment in the education sector.

3.6.2 Economic Growth & Setting

Kenya's economy recorded high growth rates of real Gross Domestic Product (GDP) averaging 6.6% per annum during the immediate post-independence years (1964-1973) and towards the end of that decade. Deceleration of this growth which started in late 1970s, continued until 2002 when the economy registered a record negative growth rate of 0.2%. During the years 1997-2002 economic growth declined steadily with GDP recording an average annual growth rate of only 0.9%, against a population growth rate of 2.9% per annum. The economy has been on a recovery path since 2003 when real GDP grew by only 0.5% to 6.1 % in 2007, giving rise to an annual growth rate of about 4.3% against a population growth rate of about 2.8% per annum.

Among the key factors contributing to the economic decline were poor infrastructure, particularly bad roads, inadequate energy supply, inadequate water supply, a weak institutional framework, weak performance of the major sectors of the economy namely; agricultural and manufacturing sectors, and poor macro-economic management. More recently, about 46.6 % of Kenya's population of 35.5 million people in 2005/061 was estimated to be living below the country's poverty line in both rural and urban areas.

In an environment of global turbulence and domestic shocks, Kenya recorded moderate growth of 4.4 percent in 2011. For the second consecutive year, the economy experienced positive growth across all quarters and sectors, even though agriculture performed poorly. The agriculture sector growth declined from 6.4 percent in 2010, to 1.6 percent in 2011. This is attributed to dry weather conditions in 2011. However, in terms of total value, Kenya's export crops benefited from favorable global prices, which compensated for reduced output and explained the increased export earnings. Growth in

the services sector remained robust, at 5.1 percent, though this was at a slower pace than in previous years. Industry experienced tepid growth in 2011 at 2.8 percent, a significant decline from 5.3 percent in 2010.

Kenya's growth for the last four years has been relatively modest. Since the 2008 crisis, Kenya has been growing at an average of 3.5 percent per year, well below the average for Sub-Saharan Africa (5.5 percent, excluding South Africa) and significantly slower than the East African Community (EAC) countries, some of which are among the fastest growing developing countries in the world. For example, Rwanda grew at 7.9 percent, Uganda 7.2 percent, and Tanzania 6.7 percent during the 2008-2011 period.

Agricultural growth remained modest, due to the dry weather conditions. The 2011 drought was concentrated in Kenya's arid and semi-arid regions, which affected pastoralist's livelihoods, especially livestock, but impacted agricultural production only mildly. The food sub-sector cereal production increased by 5 percent and horticulture production declined, but prices increased thus earnings remained stable in 2011.

The services sector sustained robust performance in 2011. Tourism continued to experience a boost, recording higher tourist arrivals than 2007, which had been a record year. Kenya has been attracting significant numbers of tourists from new markets, with substantial growth from the Middle East (42 percent) as well as Asia (25 percent), compared to 2010. This could be as a result of new flight routes which Kenya Airways has inaugurated to the Far East. The tourism market from Europe recorded relatively lower growth of 11 percent, when compared to previous years and to other markets.

Industrial sector growth remains driven by construction while manufacturing is lagging. The construction sub-sector recorded an impressive 8.1 percent growth in the first half compared to a 2.2 percent growth in the same period in 2010. Manufacturing grew at a modest 3.2 percent, compared to 5.5 percent in the same period last year. The drought impacted hydro power generation and the resulting high cost of energy has adversely affected the industrial sector. The share of hydro power in Kenya's energy supply declined from 57 percent in July 2010, to 43 percent in July 2011. This in turn increased dependence on back-up thermal power generation, which uses expensive imported fuel as its feedstock. Industries that depend on imported raw materials, saw their production costs increase significantly due to high import costs (oil and steel), along with the depreciation of the shilling.

The costs of imported machinery and equipment also increased substantially. The combined effect of these factors has negatively impacted the competitiveness of industry, resulting in a sluggish performance in 2011.

The services sector is holding up, fuelled by continued growth in ICT and a strong performance in tourism. Services grew by 4.3 percent in the first half of 2011, mainly driven by financial intermediation (8.2 percent); hotels and restaurants (6.4 percent), and transport and communication (5.2 percent). Tourist arrivals increased by 13.6 percent in the first half of 2011, compared to 2010 levels. Despite Europe's economic slowdown,

46 percent of arrivals were still from Europe, 25 percent from the rest of Africa, 12 percent from the Americas, and 10 percent from Asia. However, the emerging security concerns stemming from Kenya's incursion in Somalia will dampen tourist arrivals for the remainder of the year, though the high season is over.

The Information Communication and Technology (ICT) revolution is reaching new milestones and is stimulating growth in other services. The mobile phone revolution has continued, with subscriptions peaking at 25.3 Million at the end of June 2011, which is more than the number of adults in Kenya. Since June 2010, subscriptions increased by more than 25 percent. In the same period, internet users increased by 60 percent, climbing to 12.5 Million.

This indicates that the data revolution is now also in full swing. A key factor in the growth of internet usage is the new affordable tools, including smart phones and social networking applications with both internet and mobile interface that are proving increasingly popular, especially among the urban youth. The sector has also generated additional innovations, including M-banking, linking mobile money with personal bank accounts, M-credit, and M-insurance, which are expanding the reach of financial services to previously unbanked segments of the population

4 DESCRIPTION OF THE ADMINISTRATIVE, POLICY AND REGULATORY FRAMEWORK

This chapter outlines and highlights the relevant institutional and legal as well as policy framework in Kenya which has a direct bearing on the WSDP. The chapter further highlights the World Bank Safeguard Operational Policies applicable to the project including a comparative analysis and gaps existing between the Bank's policies and host country regulations and suggestions on bridging the gaps. Finally, a section on international laws and conventions that bear relevance to the implementation of this project have also been highlighted in this chapter.

4.1 The Legal, Regulatory and Policy Framework

4.1.1 Constitutional provisions (COK) 2010

Kenya now has a new Supreme law in form of the New Constitution of Kenya (COK) 2010 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, utilization, management and conservation of the environment and natural resources, and ensure the equitable sharing of the accruing benefits;*
- b) *Work to achieve and maintain a tree cover of at least ten per cent of the land area of Kenya;*
- c) *Protect and enhance intellectual property in, and indigenous knowledge of, biodiversity and the genetic resources of the communities;*
- d) *Encourage public participation in the management, protection and conservation of the environment;*
- e) *Protect genetic resources and biological diversity;*
- f) *Establish systems of environmental impact assessment, environmental audit and monitoring of the environment;*
- g) *Eliminate processes and activities that are likely to endanger the environment; and*
- h) *Utilize the environment and natural resources for the benefit of the people of Kenya.*

Section 69 (2) States that;-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 this document. In Section 72 however, the new constitution allows for enactment of laws towards enforcement of any new provisions of the Supreme Law.

4.1.2 Vision 2030

The economic, social and political pillars of Kenya Vision 2030 are anchored on macroeconomic stability; continuity in governance reforms; enhanced equity and wealth creation opportunities for the poor; infrastructure; energy; science, technology and innovation (STI); land reform; human resources development; security as well as public sector reforms. The 2030 Vision aspires for a country firmly interconnected through a network of roads, railways, ports, airports, water and sanitation facilities, and telecommunications.

4.1.3 Environment Management and Coordination (Amendment) Act (2015)

This is an Act of Parliament providing for the establishment of an appropriate legal and institutional framework for the management of the environment and for matters connected therewith and incidental thereto. This Act is divided into 13 Parts, covering main areas of environmental concern as follows: Preliminary (I); General principles (II); Administration (III); Environmental planning (IV); Protection and Conservation of the Environment (V); Environmental impact assessments (EIA), audits and monitoring (VI); Environmental audit and monitoring (VII); Environmental quality standards (VIII); Environmental Restoration orders, Environmental Easements (IX); Inspection, analysis and records (IX); Inspection Analysis and Records (X); International Treaties,

Conventions and Agreements (XI) National Environment Tribunal (XII); Environmental Offences (XIII). The Act provides for the setting up of the various ESIA Regulations and Guidelines which are discussed below:

Environmental (Impact Assessment and Audit) Regulations 2003

The Environmental (Impact Assessment and Audit) Regulations 2003 state in Regulation 3 that “the Regulations should apply to all policies, plans, programmes, projects and activities specified in Part III and V of the Regulations” basically lists the guidelines of undertaking, submission and approval of the ESIA Reports a key requirement outlined in this ESMF.

Environmental Management and Co-ordination (Waste Management) Regulations 2006

These are described in Legal Notice No. 121 of the Kenya Gazette Supplement No. 69 of September 2006. These Regulations apply to all categories of waste as provided in the Regulations. These include:

- *Industrial wastes;*
- *Hazardous and toxic wastes;*
- *Pesticides and toxic substances;*
- *Biomedical wastes;*
- *Radio-active substances.*

The proposed Project will have to abide by these regulations in dealing with waste management especially the provisions of wastes which may be generated during their construction and operation phases of the sub project investments.

Environmental Management and Coordination, (Water Quality) Regulations 2006

These are described in Legal Notice No. 120 of the Kenya Gazette Supplement No. 68 of September 2006. These Regulations apply to drinking water, water used for agricultural purposes, water used for recreational purposes, water used for fisheries and wildlife and water used for any other purposes. This includes the following:

- *Protection of sources of water for domestic use;*
- *Water for industrial use and effluent discharge;*
- *Water for agricultural use.*

These Regulations outline:

- a) *Quality standards for sources of domestic water;*
- b) *Quality monitoring for sources of domestic water;*
- c) *Standards for effluent discharge into the environment;*
- d) *Monitoring guide for discharge into the environment;*
- e) *Standards for effluent discharge into public sewers;*
- f) *Monitoring for discharge of treated effluent into the environment.*

In fulfilling the requirements of the regulations the project proponent will have to undertake monitoring of both domestic water and wastewater and ensure compliance with the acceptable discharge standards.

Environmental Management and Coordination, Conservation of Biological Diversity (BD) Regulations 2006

These regulations are described in Legal Notice No. 160 of the Kenya Gazette Supplement No. 84 of December 2006. These Regulations apply to conservation of biodiversity which includes Conservation of threatened species, Inventory and monitoring of BD and protection of environmentally significant areas, access to genetic resources, benefit sharing and offences and penalties.

Environmental Management and Coordination (Fossil Fuel Emission Control) Regulations 2006

These regulations are described Legal Notice No. 131 of the Kenya Gazette Supplement no. 74, October 2006 and will apply to all internal combustion engine emission standards, emission inspections, the power of emission inspectors, fuel catalysts, licensing to treat fuel, cost of clearing pollution and partnerships to control fossil fuel emissions used by the Contractor. The fossil fuels considered are petrol, diesel, fuel oils and kerosene.

Environmental Management and Coordination (Wetlands, Riverbanks, Lake Shores and Sea Shore Management) Regulations 2009

These regulations provide for the protection and management of wetlands, riverbanks, lakeshores and sea shore management and detail guidelines on the same.

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

These regulations prohibit making or causing any loud, unreasonable, unnecessary or unusual noise which annoys, disturbs, injures or endangers the comfort, repose, health or safety of others and the environment. It also prohibits the Contractor from excessive vibrations which annoy, disturb, injure or endanger the comfort, repose, health or safety of others and the environment or excessive vibrations which exceed 0.5 centimetres per second beyond any source property boundary or 30 metres from any moving source. Under the regulation the Contractor will be required to undertake daily monitoring of the noise levels within the Project area during construction period to maintain compliance.

4.1.4 Occupational Health and Safety Act, 2007

This is an Act of Parliament to provide for the safety, health and welfare of workers and all persons lawfully present at workplaces, to provide for the establishment of the National Council for Occupational Safety and Health and for connected purposes. The Act has the following functions among others:

- *Secures safety and health for people legally in all workplaces by minimization of exposure of workers to hazards (gases, fumes & vapours, energies, dangerous machinery/equipment, temperatures, and biological agents) at their workplaces.*
- *Prevents employment of children in workplaces where their safety and health is at risk.*
- *Encourages entrepreneurs to set achievable safety targets for their enterprises.*
- *Promotes reporting of work-place accidents, dangerous occurrences and ill health with a view to finding out their causes and preventing of similar occurrences in future.*
- *Promotes creation of a safety culture at workplaces through education and training in occupational safety and health.*

Failure to comply with the OSHA, 2007 attracts penalties of up to KES 300,000 or 3 months jail term or both or penalties of KES 1,000,000 or 12 months jail term or both for cases where death occurs and is in consequence of the employer. The Occupational Safety and Health Act (OSHA) 2007 repealed the Factories and Other Places of Work Act. Anything done under the provisions of the Factories and Other Places of Work Act including subsidiary legislation issued before the commencement of the OSHA 2007 shall be deemed to have been done under the provisions of this Act.

The Factories and Other Places of Work Act had over the years passed several subsidiary rules and regulations for effective implementation of the Act. All shall, as long as it is not inconsistent with OSHA 2007 remain in force until repealed or revoked by subsidiary legislation under the provisions of OSHA 2007 and shall for all purposes be deemed to have been made under this Act.

These regulations include:

- *The Factories (Cellulose Solutions) Rules 1957;*
- *The Factories (Wood Working Machinery) Rules 1959;*
- *The Factories (Dock) Rules 1962;*
- *The Factories (Eye Protection) Rules 1978;*
- *The Factories (Electric Power) (Special) Rules 1978;*
- *The Factories (Building Operations and Works of Engineering Construction) Rules 1984;*
- *The Factories and Other Places of Work (Health & Safety Committees) Rules 2004;*
- *The Factories and Other Places of Work (Medical Examination) Rules 2005;*
- *The Factories and Other Places of Work (Noise Prevention and Control) Rules 2005;*
- *The Factories and Other Places of Work (Fire Risk Reduction) Rules 2007;*
- *The Factories and Other Places of Work (Hazardous Substances) Rules 2007.*

The scope of OSHA 2007 has been expanded to cover all workplaces including offices, schools, academic institutions and plantations. It establishes codes of practices to be approved and issued by the Director, Directorate of Occupational Health and Safety (DOHS) for practical guidance of the various provisions of the Act.

Other parameters within the Act relevant to the project include:

1. *Duties of employers, owners or occupiers of workplace;*
2. *Establishment of safety and health committees;*
3. *Annual safety and health audit of workplaces;*
4. *Safety and Health obligations for persons who may come to premises for work and are not employees of that particular workplace;*
5. *Reporting of any accident, dangerous occurrence or occupational poisoning caused in the workplace to the area Occupational Health and Safety Office. These incidents should be entered in the General Register. In case of fatal accident information to the area Safety and Health Office should be within 24 hrs. and a written notice to the same within 7 days;*
6. *The duties of manufactures, designers, importers and suppliers to ensure that all articles and substances for use at workplace are safe and will not cause injury to health and the environment;*
7. *Duties of self-employed persons;*

8. *Duties of employed persons;*
9. *Prohibition of interference or misuse of any appliance, convenience or any other facility provided to secure Safety, Health and Welfare at work by any person (occupier, self-employed person or employed);*
10. *The administration of the Act is the responsibility of a Director and other appointed and gazetted officials (Occupational Health and Safety Officers);*
11. *The registration of all workplaces by the Director Directorate of Occupational Health and Safety (DOHS) forming the basis of his work statistics;*
12. *Machinery safety to include:*
 - *Safe use of machinery, plant and equipment;*
 - *Prime makers and transmission machines;*
 - *The maintenance, construction of fencing safeguards;*
 - *The statutory requirements of various machines, plants and equipment (hoists and lifts, chains and ropes, cranes, steam receivers and containers, air receivers, cylinders for compressed liquefied and dissolved gases and refrigeration plants).*
13. *Chemical safety including:*
 - (i) *Handling, transportation and disposal of chemicals and other hazardous substances;*
 - (ii) *Importance of Materials Safety Data Sheets (MSDS);*
 - (iii) *Labelling and marking of chemical substances;*
 - (iv) *Classification of hazardous chemicals and substances;*
 - (v) *Establishment and adoption of exposure limits on hazardous substances in a workplace;*
 - (vi) *Control of air pollution, noise and vibrations;*
 - (vii) *Redeployment on medical advice.*

4.1.5 The Water Act 2016

Water in Kenya is owned by the Government, subject to any right of the user, legally acquired. The control and right to use water is exercised by the Minister administering the Act, and such use can only be acquired under the provisions of the Act. The Minister is also vested with the duty to promote investigations, conserve and properly use water throughout Kenya. Water permits may be acquired for a range of purposes, including the provision and employment of water for the development of power and other uses. The following are the regulations developed under Water Act 2016 relevant to the Project. These regulations will relate to abstraction and use of water from rivers.

The Water Resources Management Rules (2007)

These Rules are described in Legal Notice Number 171 of the Kenya Gazette Supplementary Number 52 of 2007. They apply to all water resources and water bodies in Kenya, including all lakes, water courses, streams and rivers, whether perennial or seasonal, aquifers, and shall include coastal channels leading to territorial waters.

The Water Resources Management Rules empower Water Resources Authority (WRA) to impose management controls on land use falling under riparian land. It also enables any person with a complaint related to any matter covered by these rules to the appropriate office in WRA as per the Tenth Schedule which provides a format for report on complaints. WRA is to reply to the complainant with “copies to all other relevant parties within twenty one days of receiving the complaint, starting with what action is

being taken, the position of the Authority on the matter and any recommendation to the complainant.”

The rules also elaborate on the following:

- *Mechanisms for appeal;*
- *Public notification;*
- *Public consultation;*
- *Orders on compliance;*
- *Protection of the integrity of the water resources monitoring network;*
- *Water Resource User Associations;*
- *Water Resource Database;*
- *Approval of activities listed in the fifth schedule of Water Act 2002;*
- *Authorization and permitting;*
- *Wetlands;*
- *Allocation of water for irrigation;*
- *Prior right to water for storage;*
- *Dams;*
- *Groundwater development and its regulation;*
- *Control of water pollution and effluent discharge;*
- *Water works;*
- *Water use charges on permitted water use;*
- *Conservation of riparian land and catchment areas;*
- *Catchment management strategies;*
- *Protected areas and ground water conservation areas;*
- *Establishment and protection of reserve water;*
- *Miscellaneous provisions which include provisions on:*
 - (i) *Qualifications to practice as a water resource professional;*
 - (ii) *Qualifications for a registered contractor;*
 - (iii) *Recognized water quality laboratories;*
 - (iv) *Emergency orders;*
 - (v) *Penalties for offences;*
 - (vi) *Revocation of rules under Cap 372.*

Part IX: Conservation of Riparian and Catchment Areas of the Rules, Section 116(5) states “Unless otherwise determined by a water resources inspector, the riparian land adjacent to the ocean is defined as a minimum of two metres vertical height or thirty metres horizontal distance from the high watermark, whichever is less”.

Section 118 (1) of the Rules state “No person shall undertake the activities listed in the Sixth Schedule on riparian land unless authorised by the Authority in consultation with other relevant stakeholders”.

Part A of the Sixth Schedule: Protection and Conservation of Riparian and Catchment Areas of the Rules provide activities proscribed on riparian land as:

- 1) *Tillage or cultivation;*
- 2) *Clearing of indigenous trees or vegetation;*
- 3) *Building of permanent structures;*
- 4) *Disposal of any form of waste within the riparian land;*
- 5) *Excavation of soil or development of quarries;*

- 6) *Planting of exotic species that may have adverse effect to the water resource;*
- 7) *Or any other activity that in the opinion of the Authority and other relevant stakeholders may degrade the watercourse.*

4.1.6 The Wildlife Conservation and Management Act (2013)

The Wildlife (Conservation and Management), covers matters relating to wildlife in Kenya including protected areas, activities within protected areas, control of hunting, import and export of wildlife, enforcement and administrative functions of wildlife authorities. The 1989 amendment specifically established the Kenya Wildlife Service (KWS) as the parastatal charged with implementation of the provisions of the Act.

The Act specifically provides for the protection and regulation of protected animals, game animals and game birds as defined in three schedules. The first schedule includes game animals mostly mammals, although the list also includes crocodile and ostrich. The second schedule lists game birds, and the third schedule lists protected animals, which comprise primarily mammals, although it also includes two species of marine turtles, while in 1981 it was amended to include several species of reptiles, amphibians and butterflies. Apart from the protection provided to plants within National Parks and National Reserves, plants receive no further protection under this Act outside the protected areas.

Specific provisions of the Act allow for the establishment of National Parks (Section 6), National Reserves (Section 18), and local sanctuaries (Section 19). The National Parks are managed by KWS. Strict regulations prohibit various activities within National Parks, unless they are subject to the written consent of the Minister or, in other cases, the Director of KWS. No such prohibitions are specified for National Reserves or for local sanctuaries. Areas that were formerly game reserves but are declared as National Reserves continue to be administered by the local authorities, unless otherwise directed by the Minister by notice in the Kenya Gazette

4.1.7 Public Health Act Cap 242 of 1921

The Public Health Act provides for the protection of human health through prevention and guarding against introduction of infectious diseases into Kenya from outside, to promote public health and the prevention, limitation or suppression of infectious, communicable or preventable diseases within Kenya, to advice and direct local authorities in regard to matters affecting the public health to promote or carry out researches and investigations in connection with the prevention or treatment of human diseases. This Act provides the impetus for a healthy environment and gives regulations to waste management, pollution and human health.

The Public Health Act regulates activities detrimental to human health. The owner(s) of the premises responsible for environmental nuisances such as noise and emissions, at levels that can affect human health, are liable to prosecution under this act. An environmental nuisance is defined in the act as one that causes danger, discomfort or annoyance to the local inhabitants or which is hazardous to human health. This Act controls the activities of the project with regard to human health and ensures that the

health of the surrounding community is not jeopardized by the activities of the project such as water development.

4.1.8 Physical Planning Act, 1996

This Act provides for the preparation and implementation of physical development plans for connected purposes. It establishes the responsibility for the physical planning at various levels of Government in order to remove uncertainty regarding the responsibility for regional planning. A key provision of the Act is the requirement for Environmental Impact Assessment (ESIA). This legislation is relevant to the implementation and siting of sewerage plants in pilot urban centres as identified in the project document.

It provides for a hierarchy of plans in which guidelines are laid down for the future physical development of areas referred to in a specific plan. The intention is that the three-tier order plans, the national development plan, regional development plan, and the local physical development plan should concentrate on broad policy issues.

The Act calls for public participation in the preparation of plans and requires that in preparation of plans proper consideration be given to the potential for socio-economic development needs of the population, the existing planning and future transport needs, the physical factors which may influence orderly development in general and urbanization in particular, and the possible influence of future development upon natural environment.

4.1.9 The Forest Act No 7, 2005

The Forest Act, Cap 385 of 1962 (revised 1982, 1992 and 2005) addresses the reservation, protection, management, enforcement and utilisation of forests and forest resources on Government land. The Forest Act is applicable to gazetted forest areas (Forest Reserves) and specifically covers:

- *Gazettement, alteration of boundaries and de-gazettement of Forest Reserves (Section 4);*
- *Declaration of Nature Reserves within Forest Reserves and regulation of activities within Nature Reserves (Section 5);*
- *Issuance of licenses for activities within Forest Reserves (Section 7);*
- *Prohibition of activities in Forest Reserves (removal of forest produce, grazing, cultivation, hunting, etc.) and on un-alienated Government land (removal of trees, collection of honey, lighting of fires) except under license from the Director of Forest Services (Section 8);*
- *Enforcement of the provisions of the Act, penalties and powers afforded to enforcing officers (Sections 9-14);*
- *Power of the Minister to make rules with respect to sale and disposal of forest products, use and occupation of land, licensing and entry into forests (Section 15). This prerogative has been taken with the Forests (General) Rules, which sets forth rules for sale of forest produce and specifies royalty rates for these products.*

Section 4 of the Forest Act relates to excision and addition to the Government forest estate. Section 4 (2) states that declaration or alteration of forest boundaries, or cessation of a forest area may not take place unless twenty-eight days' notice of the intention to make the declaration is published by the Minister in the Kenya Gazette. Implementation

of changes in forest areas can be affected by Legal Notices (published in the Kenya Gazette Supplement) once the formalities of 28 days' notice are complete.

4.1.10 The Land Act 2012

It is very explicit in the Land Act, 2012, Section 107, that whenever the national or county government is satisfied that it may be necessary to acquire some particular land under section 110 of Land Act 2012, the possession of the land must be necessary for public purpose or public interest, such as, in the interests of public defence, public safety, public order, public morality, public health, urban and planning, or the development or utilization of any property in such manner as to promote the public benefit; and the necessity therefore is such as to afford reasonable justification for the causing of any hardship that may result to any person having right over the property, and so certifies in writing, possession of such land may be taken.

4.1.11 The Trust Land Act 1939

The constitution vests all land which is not registered under any act of parliament under the ownership of local authorities as trust land. Section 117 of the Constitution of Kenya provides that the Trust Lands Act may empower a county council to set apart an area of trust land vested in that county council for use and occupation by a public body or authority for public purposes, or by any person for a purpose likely to benefit the persons. The Act state that while giving due considerations to the rights and obligations of landowners, there shall be compensation whenever a materials site, diversion or realignment results into relocation of settlement or any change of user whatsoever of privately owned land parcels;

4.1.12 Antiquities and Monuments Act, Cap 215 of 1983

This Act aims to preserve Kenya's national heritage. Section-2 defines an antiquity as any moveable object other than a book or document made or imported into Kenya before 1895. Human, faunal or floral remains in Kenya dating to before the benchmark date of 1895 are also deemed to be antiquities. Both the National Museums of Kenya and the Kenya Cultural Centre have been established in part to discharge this Act.

4.1.13 The Lakes and Rivers Act Chapter 409 of 1966

This Act provides for protection of river, lakes and associated flora and fauna. The provisions of this Act may be applied in the management of the project.

4.1.14 The Employment Act, 2007

This Act declares and defines the fundamental rights of employees; minimum terms and conditions of employment; to provide basic conditions of employment of employees; and to regulate the employment of children, among other rights. Key sections of the Act elaborate on the employment relationship; protection of wages; rights and duties in employment; termination and dismissal and protection of children, among others. This Act will guide the management of workers, especially during the construction period.

While the EMCA supersedes all other environmental legislation, numerous other laws and regulations in addition to those described above influence the various aspects and activities of the Project, which include the following among others:

- i) *Trade Licence Act, Cap 497;*
- ii) *Penal Code Cap 63 (rev. 1985);*
- iii) *Standards Act, Chapter 496 (1974);*
- iv) *Building Code (1968);*
- v) *Work Injury and Benefits Act (2007);*
- vi) *Food, Drugs and Chemical Substances Act, Cap 254 (rev 1992);*
- vii) *Use of Poisonous Substances Act, Cap 247(rev. 1983);*
- viii) *Transport Licensing Board Act (Cap. 404).*

4.1.15 HIV and AIDS Prevention and Control Act 2011

The object and purpose of this Act is to (a) promote public awareness about the causes, modes of transmission, consequences, means of prevention and control of HIV and AIDS; (b) extend to every person suspected or known to be infected with HIV and AIDS full protection of his human rights and civil liberties by (i) prohibiting compulsory HIV testing save as provided in this Act; (ii) guaranteeing the right to privacy of the individual; (iii) outlawing discrimination in all its forms and subtleties against persons with or persons perceived or suspected of having HIV and AIDS; (iv) ensuring the provision of basic health care and social services for persons infected with HIV and AIDS; (c) promote utmost safety and universal precautions in practices and procedures that carry the risk of HIV transmission; and (d) positively address and seek to eradicate conditions that aggravate the spread of HIV infection.

Section 7 of the Act focuses on HIV and AIDS education in the workplace and states that (1) The Government shall ensure the provision of basic information and instruction on HIV and AIDS prevention and control to (a) employees of all Government Ministries, Departments, authorities and other agencies; and (b) employees of private and informal sectors. (2) The information provided under this section shall cover issues such as confidentiality in the work-place and attitudes towards infected employees and workers.

4.1.16 Sexual Offences Act 2006

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

Under Section 15 it is an offence for Any person who -

- (a) knowingly permits any child to remain in any premises, for the purposes of causing such child to be sexually abused or to participate in any form of sexual activity or in any obscene or indecent exhibition or show;
- (b) acts as a procurer of a child for the purposes of sexual intercourse or for any form of sexual abuse or indecent exhibition or show;
- (c) induces a person to be a client of a child for sexual intercourse or for any form of sexual abuse or indecent exhibition or show, by means of print or other media, oral advertisements or other similar means;
- (d) takes advantage of his influence over, or his relationship to a child, to procure the child for sexual intercourse or any form of sexual abuse or indecent exhibition or show;
- (e) threatens or uses violence towards a child to procure the child for sexual intercourse

or any form of sexual abuse or indecent exhibition or show;
(f) intentionally or knowingly owns, leases, rents, manages, occupies or has control of any movable or immovable property used for purposes of the commission of any offence under this law

Under Section 17 it is an offence for Any person who -

- (a) intentionally causes or incites another person to become a prostitute; and
- (b) intentionally controls any of the activities of another person relating to that persons prostitution; and does so for or in expectation of gain for him or herself or a third person, is guilty of an offence and is liable upon conviction to imprisonment for a term of not less than five years or to a fine of five hundred thousand shillings or to both.

Under Section 18 it is an offence for Any person who -

- (1) Any person who intentionally or knowingly arranges or facilitates travel within or across the borders of Kenya by another person and either -
 - (a) intends to do anything to or in respect of the person during or after the journey in any part of the world, which if done will involve the commission of an offence under this Act; or
 - (b) believes that another person is likely to do something to or in respect of the other person during or after the journey in any part of the world, which if done will involve the commission of an offence under this Act, is guilty of an offence of trafficking for sexual exploitation.
- (2) A person guilty of an offence under this section is liable upon conviction, to imprisonment for a term of not less than fifteen years or to a fine of not less than two million shillings or to both.

4.1.17 Child Rights Act (Amendment Bill) 2014

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

Section 15 states that a child shall be protected from sexual exploitation and use in prostitution, inducement or coercion to engage in any sexual activity, and exposure to obscene materials.

4.1.18 Labour Relations Act 2012

An Act of Parliament to consolidate the law relating to trade unions and trade disputes, to provide for the registration, regulation, management and democratisation of trade unions and employers organisations or federations, to promote sound labour relations through the protection and promotion of freedom of association, the encouragement of effective collective bargaining and promotion of orderly and expeditious dispute settlement, conducive to social justice and economic development and for connected purposes. This Act in Section II Part 6 provides for freedom of employees to associate; section 7 provides for protection of rights of employees; Part 9 provides for adjudication of disputes and Part 10 provides for protection of the employees to hold strikes and lock outs.

4.1.19 National Gender and Equality Commission Act 2011

The over-arching goal for NGEC is to contribute to the reduction of gender inequalities and the discrimination against all; women, men, persons with disabilities, the youth, children, the elderly, minorities and marginalized communities.

4.2 Relevant Sector Policies and Reforms

4.2.1 National Policy on Environment and Development Sessional Paper No. 6 of 1999

Currently, a far-reaching initiative towards an elaborate national environmental policy is contained in the Sessional Paper No. 6 of 1999 on Environment and Development. It advocates for the integration of environmental concerns into the national planning and management processes and provides guidelines for environmental sustainable development. The challenge of the document and guidelines is to critically link the implementation framework with statutory bodies namely, the National Environmental Management Authority (NEMA), Kenya Wildlife Service (KWS), Kenya Forestry Service (KFS); the Public Complaints Committee (PCC) and the National Environmental Tribunal (NET).

4.2.2 The National Environmental Sanitation and Hygiene Policy-July 2007

The National Environmental Sanitation and Hygiene Policy is devoted to environmental sanitation and hygiene in Kenya as a major contribution to the dignity, health, welfare, social well-being and prosperity of all Kenyan residents. The policy recognizes that healthy and hygienic behaviour and practices begin with the individual. The implementation of the policy will greatly increase the demand for sanitation, hygiene, food safety, improved housing, use of safe drinking water, waste management, and vector control at the household level, and encourage communities to take responsibility for improving the sanitary conditions of their immediate environment.

4.2.3 Forest Policy 2005

The goal of this Policy is to: enhance the contribution of the forest sector in the provision of economic, social and environmental goods and services. The specific objectives of this policy are to:

- *Contribute to poverty reduction, employment creation and improvement of livelihoods through sustainable use, conservation and management of forests and trees.*
- *Contribute to sustainable land use through soil, water and biodiversity conservation, and tree planting through the sustainable management of forests and trees.*
- *Promote the participation of the private sector, communities and other stakeholders in forest management to conserve water catchment areas, create employment, reduce poverty and ensure the sustainability of the forest sector.*
- *Promote farm forestry to produce timber, wood fuel and other forest products.*
- *Promote dry land forestry to produce wood fuel and to supply wood and non-wood forest products.*
- *Promote forest extension to enable farmers and other forest stakeholders to benefit from forest management approaches and technologies.*
- *Promote forest research, training and education to ensure a vibrant forest sector.*

4.2.4 Fisheries Policy (2005)

The overall objective of this policy is to: “Create an enabling environment for a vibrant fishing industry based on sustainable resource exploitation providing optimal and sustainable benefits, alleviating poverty, and creating wealth, taking into consideration gender equity.” The specific objectives of this policy are to:

1. *Promote responsible and sustainable utilization of fishery resources taking into account environmental concerns;*
2. *Promote development of responsible and sustainable aquaculture, recreational and ornamental fisheries;*
3. *Ensure that Kenya has a fair access to, and benefit from, the country’s shared fishery resources;*
4. *Promote responsible fish handling and preservation measures and technologies to minimize post-harvest losses;*
5. *Encourage value addition, marketing and fair trade in Kenya’s fishery products worldwide;*
6. *Encourage efficient and sustainable investment in the Kenya fishery sector;*
7. *Promote active involvement of fisher communities in fisheries management;*
8. *Integrate gender issues in fisheries development;*
9. *Promote fish consumption in the country*

4.2.5 Wildlife Policy 2007

The goal of this Policy is to provide a framework for conserving, in perpetuity, Kenya’s rich diversity of species, habitats and ecosystems for the wellbeing of its people and the global community. The objectives and priorities are to:

- *Conserve Kenya’s wildlife resources as a national heritage.*
- *Provide legal and institutional framework for wildlife conservation and management throughout the country.*
- *Conserve and maintain viable and representative wildlife populations in Kenya.*
- *Develop protocols methodologies and tools for effective assessment and monitoring of wildlife conservation and management throughout the country.*
- *Promote partnerships, incentives and benefit sharing to enhance wildlife conservation and management.*
- *Promote positive attitudes towards wildlife and wildlife conservation and management.*

4.2.6 Wetland Policy 2008 Draft

The development of this Policy is in cognizance of the importance of wetlands nationally and Kenya’s obligation under the Ramsar Convention. The policy takes into consideration the broader national environmental frameworks, particularly the Environment Management and Coordination Act (EMCA) 1999, the country’s premier framework environmental law, the Water Act 2002, the Water Policy and the Forest Policy 2007.

The policy spells out clearly eight objectives to achieve its aim. These are;

1. *Establish an effective and efficient institutional and legal framework for integrated management and wise use of wetlands, which will provide an enabling environment for the participation of all stakeholders.*
2. *Enhance and maintain functions and values derived from wetlands protect biological diversity and improve essential processes and life-support systems of wetlands.*

3. *Promote communication, education and public awareness among stakeholders to enhance their participation in wetland conservation.*
4. *Carry out demand driven research and monitoring on wetlands to improve scientific information and knowledge base.*
5. *Enhance capacity building within relevant institutions and for personnel involved in conservation and management of wetlands.*
6. *Establish a national wetlands information management system and database including tools and packages to targeted groups.*
7. *Promote innovative planning and integrated management approaches towards wetlands conservation and management in Kenya*
8. *Promote partnership and cooperation at regional and international levels for the management of transboundary wetlands and migratory species*

4.3 Water Sector Reforms

Kenya's water sector reforms are intended to formalise service provision to all citizens and fulfil their human right to water and sanitation. Discrimination of the urban poor should end, and they should enjoy the same benefits of service provision as people in the middle and high income brackets. A financing mechanism has been established to extend services to poor, under-served areas. This is the Water Services Trust Fund (WSTF), which promotes the scaling up of low-cost technology for the provision of clean water and basic sanitation. Another new body, the Water Resources Management Authority (WRMA), is now implementing a catchment management approach. With the active participation of the water users, this will increase water availability, while reducing water conflicts and the pollution of water resources.

In 2006, a sector-wide approach was started, involving joint financing with other donors, all of whom participate in conferences and the annual joint sector reviews. There are also regular meetings with donors and civil society representatives at which the ministry and water sector institutions report on their performance.

Results achieved so far

The MoWI has set up a new policy framework consisting of the Water Sector Strategic Plan, as well as national strategies for water supply, sanitation and integrated water resources management.

Conflicts over water have declined in sub-catchment areas thanks to the work of water resource users associations, as well as wetland protection activities and the issuing of water permits to control over-extraction. Water polluters are now identified and dealt with. Participatory catchment planning has been introduced and is now the standard in Kenya.

The Water Services Trust Fund (WSTF) has begun to scale up the provision of water and sanitation services. It now aims to help the water services providers reach around 400,000 additional people every year.

The Water Services Regulatory Board (WASREB) has put in place an information system and now publishes an annual performance report – the Impact Report – on water

and sanitation. For the first time in Kenya, this provides a national overview of the current situation, thus exerting pressure on water service providers constantly to improve their performance. All the major performance indicators for providers have shown steady improvement since the reform.

The Water Resources Management Authority (WRMA) now publishes an annual report on the status of the country's water resources. This should help increase public awareness and safeguard the environment for future generations.

4.4 Relevant Institutions-Environmental

4.4.1 Environmental Assessment Administrative/Institutional Framework

There are over 20 institutions and departments, which deal with environmental issues in Kenya. Some of the key institutions include Ministry of Water and Irrigation (MoWI), Ministry of Environment and Natural Resources (MoENR), Kenya Forest Services (KFS), Kenya Wildlife Service (KWS), National Museums of Kenya (NMK), National Environment Management Authority (NEMA), Water Resources Management Authority (WRMA) and the public universities, among other organisations. There are also local and international NGOs involved in environmental issues in Kenya. In 2001, the Government established specific administrative structures to implement the EMCA. The main administrative structures are described in the following sections.

The National Environment Management Authority

The responsibility of the National Environmental Management Authority (NEMA) is to exercise general supervision and co-ordination over all matters relating to the environment and to be the principal instrument of Government in the implementation of all policies relating to the environment.

In addition to NEMA, the Act provides for the establishment and enforcement of environmental quality standards to be set by a technical committee of NEMA known as the Standards and Enforcement Review Committee (SERC) which will govern the discharge limits to the environment by the proposed project.

County Environmental Committees

The County Environmental Committees also contribute to decentralised environmental management and enable the participation of local communities. These environmental committees consist of the following:

- i) Representatives from all the ministries;*
- ii) Representatives from local authorities within the county;*
- iii) Two farmers / pastoral representatives;*
- iv) Two representatives from NGOs involved in environmental management in the county;*

Public Complaints Committee on Environment

The Public Complaints Committee is established under Section 31 of EMCA. The PCC is concerned with the investigation of complaints relating to environmental damage and degradation generally. The PCC has powers to investigate complaints against any person or even against NEMA or on its own motion investigate any suspected case of environmental degradation. The PCC is required by law to submit reports of its findings and recommendations to NEC. The law however is weak in that it does not provide PCC with the mandate to see its recommendations carried through. Further, NEC is not specifically required to do anything with regard to the reports submitted by the PCC and will often note and adopt the same without any further follow up action. So far the PCC has experienced challenges such as failure to honour summons, hostility between parties, hostility directed at PCC investigators, lack of understanding of EMCA and abdication of duty by Lead Agencies.

Standards and Enforcement Review Committee

The Standards and Enforcement Review Committee (SERC) is a committee of NEMA and is established under Section 70 of EMCA. This is a technical Committee responsible for formulation of environmental standards, methods of analysis, inspection, monitoring and technical advice on necessary mitigation measures. The Permanent Secretary under the Minister is the Chairman of the Standard and Enforcement Review Committee.

The members of the SERC are set out in the third schedule to EMCA. They consist of representatives of various relevant government ministries and parastatals that are Lead Agencies as well as those responsible for matters such as economic planning and national development, finance, labour, public works, law and law enforcement, etc. Other members are drawn from public universities, and other government institutions.

National Environmental Tribunal (NET)

The NET is established under Section 125 of EMCA for the purpose of hearing appeals from administrative decisions by organs responsible for enforcement of environmental standards. An appeal may be lodged by a project proponent upon denial of an EIA licence or by a local community upon the grant of an EIA licence to a project proponent. NEMA may also refer any matter that involves a point of law or is of unusual importance or complexity to NET for direction. The proceedings of NET are not as stringent as those in a court of law and NET shall not be bound by the rules of evidence as set out in the Evidence Act. Upon the making of an award, NET's mandate ends there as it does not have the power to enforce its awards. EMCA provides that any person aggrieved by a decision or award of NET may within 30 days appeal to the High Court.

Land and Environment Court

The new constitutional dispensation has provided for the creation of land and environment courts for specific handling of land and environmental related disputes and grievances.

4.5 Autonomous and Semi-Autonomous Government Agencies (SAGAs) Related to the WSDP

4.5.1 Water Sub-Sector

Water Resources Management Authority (WRMA)

The Water Resources Management Authority (WRMA) was formed as one of the water sector bodies under the water sector reforms; the body was established under the Water Act 2002. The overall mandate of WRMA is to protect and conserve water resources. Water resources for purposes of the Water Act include lakes, ponds, swamps, streams, marshes, watercourses or anybody of flowing or standing water both below and above the ground.

The functions of the WRMA include planning, management, protection and conservation of water resources. The WRMA is also authorized to receive and determine applications for water permits and monitor their compliance. There are currently six established regional offices in Kenya these are Athi catchment area in Machakos, Tana catchment area in Embu, Rift Valley catchment area in Nakuru, Lake Victoria South catchment area in Kisumu, Lake Victoria North catchment area in Kakamega and Ewaso Nyiro North catchment area in Nanyuki. The WRMA responsibilities extend to the management of water catchments. The Water Act establishes the Catchment Area Advisory Committees whose principal functions are to advise the WRMA on water resources conservation, use and apportionment at the catchment levels.

Water Services Regulatory Board (WASREB)

The Water Services Regulatory Board is established under the Water Act and was operationalised in March 2003. The functions of the WASREB include the issuance of licences to Water Service Boards and to approve service provision agreements concluded between Water Service Boards and Water Service Providers. The Water Service Providers are the agencies that directly provide water and sanitation services to consumers. The WASREB is responsible for ensuring that water services and supply are efficient and meet expectations of consumers through regulation and monitoring of Water Service Boards and Water Service Providers. To standardize service provision, the Board has the responsibility of developing among others, tariff guidelines.

The Board is therefore supposed to oversee the implementation of policies and strategies relating to provision of water and sanitation services, these policies include the National Water Services Strategy (2007 -2015), Pro-Poor Implementation Plan for Water Supply and Sanitation. The specific functions of the WASREB include:

- Providing information about water and sanitation services.
- Regulating the provision of water and sanitation services; this is done through such methods as setting standards for the provision of water services, monitor compliance of facilities for water supply with the set standards.
- Licensing Water Service Boards such as the Athi Water Services Board and other regional water service boards and approving their appointed Water Service Providers through service provision agreements.

- Setting the rules, establishing standards guidelines and monitoring the performance of Water Service Boards and Water Service Providers and enforcing regulations.
- Establishing technical, water quality and effluent disposal standards.

Water Services Trust Fund (WSTF)

The Government of Kenya, through the Ministry of Water and Irrigation established the Water Services Trust Fund (WSTF) under the Water Act 2002 to channel funding for its long-term objectives of developing water and sanitation services in areas of Kenya without adequate water. The main objective of the WSTF is to assist in financing capital costs of providing services to communities without adequate water and sanitation services. The WSTF focuses on reaching those areas that are underserved or not served at all such as informal settlements, the priority being given to poor and disadvantaged groups. The projects are funded through direct allocation by the Government and donations and grants that may be received from bilateral and multilateral development partners, organisations and individuals.

Water Appeals Board

The Water Appeals Board is established under the Water Act to adjudicate disputes within the water sector. The Appeals Board is made up of three persons, one appointed by the President on advice of the Chief Justice and two others appointed by the Minister for Water and Irrigation. The Water Appeals Board can hear and determine appeals arising from the decision of the Minister of Water and Irrigation, the WASREB and the Water Resources Management Authority (WRMA) with respect to the issuance of permits or licenses under the Water Act.

Water Services Boards (WSB)

Water Services Boards (WSBs) are constituted under the Water Act 2002. The WSBs are responsible for the provision of water and sewerage services within their areas of coverage and are licensed by the WASREB. The WSBs are also responsible for contracting Water Services Providers (WSPs) for the provision of water services. WSB and WSP enter into service provision agreements that include but not limited to the supply area, development, rehabilitation and maintenance of water and sewerage facilities of the WSBs. The WSBs are responsible for the review of the water services tariffs proposals from WSP before submission to WASREB for consideration. There are currently eight (8) established WSBs namely: Athi Water Services Board, Tana Water Services Board, Coast Water Services Board, Lake Victoria South Water Services Board, Lake Victoria North Water Services Board, Northern Water Services Board, Rift Valley Water Services Board and Tanathi Water Services Board.

4.6 World Bank Group EHS Guidelines

The Environmental Health and Safety (EHS) Guidelines are technical reference documents with general and industry-specific examples of Good International Industry Practice (GIIP). The EHS Guidelines contain the performance levels and measures that are normally acceptable to the WB Group, and that are generally considered to be achievable in new facilities at reasonable costs by existing technology. All sub projects

under WSDP requiring ESIA will as a mandatory requirement make reference to the applicable guideline(s) based on the sub project. www.ifc.org/ehsguidelines

4.7 International Environmental and Social Management Requirements

Kenya is a signatory to several international treaties and conventions that are relevant to the sectors that the proposed sub projects under the WSDP. The conventions include among others:-

1. *United Nations Framework Convention on Climate Change*
2. *United Nations Convention on Biological Diversity*
3. *United Nations Convention on Combating Desertification*
4. *Convention on the Conservation of Migratory Species (CMS)*
5. *Africa Convention on Conservation of Nature and Natural Resources*
6. *International Convention for the Prevention of Pollution from Ships*
7. *Convention on International Trade in Endangered Species of Wild Fauna and Flora*

5 DESCRIPTION OF WORLD BANK ENVIRONMENTAL & SOCIAL SAFEGUARDS POLICIES AND TRIGGERS

Table 3 below shows the Banks safeguards policies in general and **Table 4** highlights the specific safeguards that are triggered as a result of the proposed WSDP investments.

Table 3: Summary of World Bank's Safeguards Policies objectives including when they are triggered

Policy	Objective	Trigger for the Policy
OP/BP 4.01 Environmental Assessment	The objective of this policy is to ensure that Bank-financed projects are environmentally sound and sustainable, and that decision-making is improved through appropriate analysis of actions and of their likely environmental impacts. This policy is triggered if a project is likely to have potential (adverse) environmental risks and impacts on its area of influence. OP 4.01 covers impacts on the natural environment (air, water and land); human health and safety; physical cultural resources; and transboundary and global environment concerns.	Depending on the project, and nature of impacts a range of instruments can be used: EIA, environmental audit, hazard or risk assessment and environmental management plan (EMP). When a project is likely to have sectoral or regional impacts, sectoral or regional EA is required. The Borrower is responsible for carrying out the ESIA.
OP/BP 4.04 Natural Habitats	<p>This policy recognizes that the conservation of natural habitats is essential to safeguard their unique biodiversity and to maintain environmental services and products for human society and for long-term sustainable development. The Bank therefore supports the protection, management, and restoration of natural habitats in its project financing, as well as policy dialogue and economic and sector work. The Bank supports, and expects borrowers to apply, a precautionary approach to natural resource management to ensure opportunities for environmentally sustainable development. Natural habitats are land and water areas where most of the original native plant and animal species are still present. Natural habitats comprise many types of terrestrial, freshwater, coastal, and marine ecosystems. They include areas lightly modified by human activities, but retaining their ecological functions and most native species.</p> <p>This bank policy prohibits financing for developments that would significantly convert or degrade critical natural habitats, and preference is on siting projects on already converted land.</p>	This policy is triggered by any project (including any sub-project under a sector investment or financial intermediary) with the potential to cause significant conversion (loss) or degradation of natural habitats, whether directly (through construction) or indirectly (through human activities induced by the project).
OP/BP 4.36 Forests	The objective of this policy is to assist borrowers to harness the potential of forests to reduce poverty in a sustainable manner, integrate forests effectively into sustainable economic development and protect the vital local and global environmental services and values of forests. Where forest restoration and plantation development are necessary to meet these objectives, the Bank assists borrowers with forest restoration activities that maintain or enhance biodiversity and ecosystem functionality. The Bank assists borrowers with the establishment of environmentally appropriate, socially	This policy is triggered whenever any Bank-financed investment project (i) has the potential to have impacts on the health and quality of forests or the rights and welfare of people and their level of dependence upon or interaction with forests; or (ii) aims to bring about changes in the management, protection or utilization of natural forests or plantations.

Policy	Objective	Trigger for the Policy
	beneficial and economically viable forest plantations to help meet growing demands for forest goods and services.	
OP 4.09 Pest Management	<p>The objective of this policy is to (i) promote the use of biological or environmental control and reduce reliance on synthetic chemical pesticides; and (ii) strengthen the capacity of the country's regulatory framework and institutions to promote and support safe, effective and environmentally sound pest management. More specifically, the policy aims to (a) Ascertain that pest management activities in Bank-financed operations are based on integrated approaches and seek to reduce reliance on synthetic chemical pesticides (Integrated Pest Management (IPM) in agricultural projects and Integrated Vector Management (IVM) in public health projects. (b) Ensure that health and environmental hazards associated with pest management, especially the use of pesticides are minimized and can be properly managed by the user. (c) As necessary, support policy reform and institutional capacity development to (i) enhance implementation of IPM-based pest management and (ii) regulate and monitor the distribution and use of pesticides.</p> <p>Pesticides in WHO Classes IA and IB may not be procured for Bank supported projects.</p>	The policy is triggered if : (i) procurement of pesticides or pesticide application equipment is envisaged (either directly through the project, or indirectly through on-lending, co-financing, or government counterpart funding); (ii) the project may affect pest management in a way that harm could be done, even though the project is not envisaged to procure pesticides. This includes projects that may (i) lead to substantially increased pesticide use and subsequent increase in health and environmental risk; (ii) maintain or expand present pest management practices that are unsustainable, not based on an IPM approach, and/or pose significant health or environmental risks.
OP/BP 4.11 Physical Cultural Resources	The objective of this policy is to assist countries to avoid or mitigate adverse impacts of development projects on physical cultural resources. For purposes of this policy, "physical cultural resources" are defined as movable or immovable objects, sites, structures, groups of structures, natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. Physical cultural resources may be located in urban or rural settings, and may be above ground, underground, or underwater. The cultural interest may be at the local, provincial or national level, or within the international community.	This policy applies to all projects requiring a Category A or B Environmental Assessment under OP 4.01, project located in, or in the vicinity of, recognized cultural heritage sites, and projects designed to support the management or conservation of physical cultural resources.
OP/BP 4.10 Indigenous Peoples	<p>The objective of this policy is to (i) ensure that the development process fosters full respect for the dignity, human rights, and cultural uniqueness of indigenous peoples; (ii) ensure that adverse effects during the development process are avoided, or if not feasible, ensure that these are minimized, mitigated or compensated; and (iii) ensure that indigenous peoples receive culturally appropriate and gender and inter-generationally inclusive social and economic benefits.</p> <p>The policy requires free, prior and informed consultation with indigenous peoples.</p>	The policy is triggered when the project affects the indigenous peoples (with characteristics described in OP 4.10 para 4) in the project area.
OP/BP 4.12 Involuntary Resettlement	The objective of this policy is to (i) avoid or minimize involuntary resettlement where feasible, exploring all viable alternative project designs; (ii) assist displaced persons in improving their former living standards, income earning capacity, and production levels, or at least in restoring them; (iii) encourage community participation in planning and implementing resettlement; and (iv) provide assistance to affected people regardless of the legality of land tenure.	This policy covers not only physical relocation, but any loss of land or other assets resulting in: (i) relocation or loss of shelter; (ii) loss of assets or access to assets; (iii) loss of income sources or means of livelihood, whether or not the affected people must move to another location.

Policy	Objective	Trigger for the Policy
		This policy also applies to the involuntary restriction of access to legally designated parks and protected areas resulting in adverse impacts on the livelihoods of the displaced persons.
OP/BP 4.37 Safety of Dams	The objectives of this policy are as follows: For new dams, to ensure that experienced and competent professionals design and supervise construction; the borrower adopts and implements dam safety measures for the dam and associated works. For existing dams, to ensure that any dam that can influence the performance of the project is identified, a dam safety assessment is carried out, and necessary additional dam safety measures and remedial work are implemented.	This policy is triggered when the Bank finances: (i) a project involving construction of a large dam (15 m or higher) or a high hazard dam; and (ii) a project which is dependent on an existing dam. For small dams, generic dam safety measures designed by qualified engineers are usually adequate. Dams with ≥ 15 m in height review by an independent dam safety panel is required.
OP 7.50 Projects in International Waters	The objective of this policy is to ensure that Bank-financed projects affecting international waterways would not affect: (i) relations between the Bank and its borrowers and between states (whether members of the Bank or not); and (ii) the efficient utilization and protection of international waterways. The policy applies to the following types of projects: (a) Hydroelectric, irrigation, flood control, navigation, drainage, water and sewerage, industrial and similar projects that involve the use or potential pollution of international waterways; and (b) Detailed design and engineering studies of projects under (a) above, include those carried out by the Bank as executing agency or in any other capacity.	This policy is triggered if (a) any river, canal, lake or similar body of water that forms a boundary between, or any river or body of surface water that flows through two or more states, whether Bank members or not; (b) any tributary or other body of surface water that is a component of any waterway described under (a); and (c) any bay, gulf strait, or channel bounded by two or more states, or if within one state recognized as a necessary channel of communication between the open sea and other states, and any river flowing into such waters.
OP 7.60 Projects in Disputed Areas	The objective of this policy is to ensure that projects in disputed areas are dealt with at the earliest possible stage: (a) so as not to affect relations between the Bank and its member countries; (b) so as not to affect relations between the borrower and neighboring countries; and (c) so as not to prejudice the position of either the Bank or the countries concerned.	This policy is triggered if the proposed project will be in a "disputed area". Questions to be answered include: Is the borrower involved in any disputes over an area with any of its neighbors. Is the project situated in a disputed area? Could any component financed or likely to be financed as part of the project be situated in a disputed area?
The WB Group Environment, Health and Safety Guidelines.	The General EHS Guidelines contain information on cross-cutting environmental, health, and safety issues potentially applicable to all industry sectors. The guidelines include;- <u>Environment</u> <ul style="list-style-type: none"> • Air Emissions and Ambient Air Quality • Energy Conservation • Wastewater and Ambient Water Quality • Water Conservation • Hazardous Materials Management • Waste Management 	These guidelines will be followed during the preparation of mitigation measures. When host country regulations differ from the levels and measures presented in the EHS Guidelines, projects are expected to achieve whichever is more stringent. If less stringent levels or measures are appropriate in view of specific project circumstances, a full and detailed justification for any proposed alternatives is needed as

Policy	Objective	Trigger for the Policy
	<ul style="list-style-type: none"> Noise Contaminated Land <u>Occupational Health and Safety Guidelines</u> <u>Community Health and Safety</u> <u>Construction and Decommissioning</u>	part of the site-specific environmental assessment. This justification should demonstrate that the choice for any alternate performance levels is protective of human health and the environment.

5.1 World Bank's Safeguards Likely to be Triggered by WSDP

The WSDP is a countrywide program and expected to have project investments in the entire country for as long as the selected sites are feasible in terms of water development. However, the likely or potential locations of many of the proposed investments are unknown at this point in time.). The safeguards instruments prepared for any sub project investment will address the requirements of any applicable policies.

Table 4: Safeguard policies likely to be triggered under WSDP

Safeguard Policies Triggered by the Project(For the Moment)	Yes	Reasons For Triggers	No
Environmental Assessment (OP/BP 4.01)	X	Investments are likely to have potential significant adverse environmental impacts	
Natural Habitats (OP/BP 4.04)	X	While no significant negative impacts on natural habitats, including mangroves, are anticipated by project works, this policy is triggered given the types of works and the potential locations and associated environmental conditions. Depending on the subprojects and potential negative impacts to the natural habitats (flora and fauna), these subprojects will require special studies to protect or preserve the species identified at risk of being affected. If a subproject can cause irreversible damages, it will be excluded.	
Pest Management (OP 4.09)		<p>The project will not involve the purchase, manufacture or use of pesticides.</p> <p>The Project will not lead to increased/changed use of pesticides.</p>	X
Physical Cultural Resources (OP/BP 4.11)	X	Investments may involve excavation activities which can lead to impacts on physical and cultural resources. The project will screen for PCRs and chance finds, and will include in the ESIA's appropriate plans, and measures will be put in place during the	

		preparation and implementation of ESIA's so as to protect PCR's. The ESIA that will be prepared for such projects will include a physical cultural resources management plan that includes (a) measures to avoid or mitigate adverse impacts on physical cultural resources; (b) provisions for managing chance finds; (c) any necessary measures for strengthening institutional capacity for the management of PCR; and (d) a monitoring system to track progress of these activities.	
Involuntary Resettlement (OP/BP 4.12)	X	Investments may involve land take for construction purposes	
Indigenous Peoples (OP/BP 4.10)	X	Investments may be located in areas with vulnerable and marginalised groups/people. A social assessment study has been prepared for Wajir and Garissa County where vulnerable and marginalised groups may exist.	
Forests (OP/BP 4.36)		Project funds will not support any investments that will be deemed risky and may be considered as likely to adversely impact on forests of all types.	X
Safety of Dams (OP/BP 4.37)	X	The project will finance distribution network infrastructure that will take drinking water from the Mwache Dam which is under design. The construction will be financed through another project – Kenya Coastal Region Water Security and Climate Resilient Project (PP145559) - financed by the World Bank. Thus, WSDP will rely on the performance (storage and operation) of a potential Dam under Construction (DUC). It is important to mention here that relevant safeguard reports on the Mwache Dam have been prepared by the Borrower, consulted upon, and disclosed in-country and at the Bank's InfoShop. Thus conditions in OP/BP 4.37 para 8-9 have been met. Nonetheless, prior to commencement of any civil works relating to the distribution network, the Borrower will arrange for one or more dam specialists to (a) inspect and evaluate the safety status of the DUC; (b) review and evaluate the owner's operation and maintenance procedures; and (c) provide a written report of findings and recommendations for any remedial work or safety-related measures necessary to upgrade the DUC to an acceptable standard of	

Projects in Disputed Areas (OP/BP 7.60)*		safety. Investments will not be in areas under dispute as per the Bank policy	X
Projects on International Waterways (OP/BP 7.50)	X	This policy is triggered because parts of the project will be implemented in the area of the Merti aquifer which extends from Kenya into Somalia. The Government of Kenya has notified the Government of Somalia about the project. No response has yet been received.	

5.1.1 Environmental Assessment (OP4.01)

This policy requires Environmental Assessment (EA) of projects proposed for Bank financing to help ensure that they are environmentally and socially sound and sustainable, and thus to improve decision-making. The EA is a process whose breadth, depth, and type of analysis will depend on the nature, scale, and potential environmental impact of the proposed investments under the WSDP. The EA process takes into account the natural environment (air, water, and land); human health and safety; social aspects (involuntary resettlement, indigenous peoples, and cultural property) and transboundary and global environmental aspects.

The adverse environmental and social impacts under WSDP will come from the proposed investments and associated activities. However, since the exact location of these investments will not be identified before bank appraisal of the project, the Banks' EA policy calls for the GoK to prepare an Environmental and Social Management Framework (ESMF), and Resettlement Policy Framework (RPF) in accordance with its' procedures.

OP4.01 is triggered because the WSDP will finance civil works projects including the rehabilitation and refurbishment of existing infrastructure, as well as the construction of new water related infrastructure. This ESMF (also, the separately prepared RPF) establishes a mechanism to determine and assess future potential environmental and social impacts during implementation of WSDP activities, and sets out mitigation, monitoring and institutional measures to be taken during operations of these activities, to eliminate adverse environmental and social impacts, offset them, or reduce them to acceptable levels.

In regard to disclosure of the ESMF report, World Bank requires that the report be disclosed as a separate document as a condition for Bank appraisal. This report will be disclosed to the general public to meet this requirement as well as external website of the World Bank and the date of disclosure will precede the date for appraisal of the program. The World Bank system assigns a project to one of three project categories, as defined below:

The extent and type of environmental and social assessment required by the World Bank is a function of the project's environmental impact and hence, its environmental screening category. The World Bank undertakes environmental and social screening of each proposed subproject to determine the appropriate extent and type of environmental and social assessment. The World Bank classifies projects into one of three categories (A, B and C), depending on the type, location, sensitivity, and scale of the project and the nature and magnitude of its potential environmental impacts.

Table 5. World Bank EA Screening Categories (No Category A Projects Apply)

Category “A”	An EIA is always required for projects that are in this category. Impacts are expected to be ‘adverse, sensitive, irreversible and diverse with attributes such as pollutant discharges large enough to cause degradation of air, water, or soil; large-scale physical disturbance of the site or surroundings; extraction, consumption or conversion of substantial amounts of forests and other natural resources; measurable modification of hydrological cycles; use of hazardous materials in more than incidental quantities; and involuntary displacement of people and other significant social disturbances.
Category B	When the subproject’s 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 subprojects. Impacts are site – specific; few, if any, of the impacts are irreversible; and in most cases, mitigation measures can be designed more readily than for Category A subprojects. The scope of environmental assessment for a Category B subproject may vary from sub-project to sub-project, but it is narrower than that of a Category A sub-project. It examines the subproject’s potential negative and positive environmental impacts and recommends any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental performance.
Category C	If the subproject is likely to have minimal or no adverse environmental impacts. Beyond screening, no further environmental assessment action is required for a Category C sub-project.

The WSDP is rated as Category B. All projects in this WSDP will be subjected to mandatory screening to determine whether they require further environmental analysis or otherwise.

5.1.2 Natural Habitats (OP 4.04)

This policy recognizes that the conservation of natural habitats is essential to safeguard their unique biodiversity and to maintain environmental services and products for human society and for long-term sustainable development. The Bank therefore supports the protection, management, and restoration of natural habitats in its project financing, as well as policy dialogue and economic and sector work. The Bank supports, and expects borrowers to apply, a precautionary approach to natural resource management to ensure opportunities for environmentally sustainable development. Natural habitats are land and water areas where most of the original native plant and animal species are still present. Natural habitats comprise many types of terrestrial, freshwater, coastal, and marine ecosystems. They include areas lightly modified by human activities, but retaining their ecological functions and most native species. This bank policy prohibits financing for developments that would significantly convert or degrade critical natural habitats, and preference is on siting projects on already converted land.

5.1.3 Involuntary Resettlement

The objective of this policy to avoid where feasible, or minimize, exploring all viable alternative project designs, to avoid resettlement. This policy is triggered in situations involving involuntary taking of land and involuntary restrictions of access to legally designated parks and protected areas. The policy aims to avoid involuntary resettlement to the extent feasible, or to minimize and mitigate its adverse social and economic impacts.

This policy covers direct economic and social impacts that both result from Bank-assisted investment projects, and are caused by (a) the involuntary taking of land resulting in (i) relocation or loss of shelter; (ii) loss of assets or access to assets, or (iii) 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.

The policy prescribes compensation and other resettlement measures to achieve its objectives and requires that borrowers prepare adequate resettlement planning instruments prior to project appraisal of proposed projects. The main objective of this policy is to (i) avoid or minimize involuntary resettlement where feasible, exploring all viable alternative project designs; and (ii) assist displaced persons in improving their former living standards, income earning capacity, and production levels, or at least in restoring them; and (iv) provide assistance to affected people regardless of the legality of land tenure.

The policy requires the displaced persons and their communities, and any host communities receiving them, are provided timely and relevant information, consulted on resettlement options, and offered opportunities to participate in planning, implementing, and monitoring resettlement; and appropriate and accessible grievance mechanisms are established for these groups. In new resettlement sites or host communities, infrastructure and public services are provided as necessary to improve, restore, or maintain accessibility and levels of service for the displaced persons and host communities.

A Resettlement Policy Framework (RPF) has been prepared that establishes standards and procedures for the preparation of Resettlement Action Plans (RAPs), as required. The RAPs would be prepared by WSDP executing partners. In this case, the World Bank reserves the right to also approve the individual RAPs as a condition for that particular project investment to be financed. For individual investments/subproject the RAP will be prepared when a project activity, in the cases mentioned above, for example, causes the involuntary taking of land and other assets resulting in:

- 1) Relocation or loss of shelter,*
- 2) Loss of assets or access to assets,*
- 3) Loss of income sources or means of livelihood, whether or not the affected persons must move to another location,*
- 4) Loss of land,*

A Resettlement Policy Framework has been prepared for the WSDP principally because the envisaged investments may involve land acquisition and or restriction of access to existing infrastructure. The RPF will guide preparation of Resettlement Action Plans (RAPs), where required.

5.2 Alignment of WB and GoK Policies relevant to this ESMF

Both the World Bank safeguards policies and GoK laws are generally aligned in principle and objective with no notable difference:

- *Both require screening of sub project investments in order to determine if further environmental analysis (ESIAs/EIAs) is needed.*
- *Both require ESIA before project design and implementation (which also includes an assessment of social impacts).*
- *Both require public disclosure of ESIA/EIA reports.*
- *The Bank requires that stakeholder consultations be undertaken during planning, implementation and operation phases of the project which is equivalent to the EMCA requirements.*
- *Additionally, statutory annual environmental audits are required by EMCA.*

In Kenya, it is a mandatory requirement under EMCA 1999 for all proposed development projects to be preceded by an EIA/ESIA study. However, prior to developing an EIA/ESIA, a project proponent is required to prepare a project report to aid NEMA in making a determination whether a full scale EIA/ESIA is necessary or not. Thus, under the laws of Kenya, environmental assessment is fully mainstreamed in all development process and starts with a screening process which is consistent with World Bank safeguard policies on EA that calls for mandatory screening as well to determine the rating category.

Project reports will be prepared for all the sub project investments under the WSDP to determine if they require a full scale EIA/ESIA. Further, in order to fully insure against triggers to WB safeguard policies, individual investments will be screened against each policy as part of the EA process.

5.3 Requirements for Public Disclosure

Prior to appraisal of the WSDP, this draft ESMF will be disclosed in country through posting on MoWI's website www.water.go.ke as well as in the Bank's external website. If there are any changes, a final version will be disclosed in the same manner and places described later.

6 DETERMINATION OF POTENTIAL ENVIRONMENT AND SOCIAL IMPACTS

This chapter analyses the potential positive (beneficial) and negative (adverse) environmental consequences of the sub project investments envisioned under the WSDP.

6.1 Positive Impacts

The water resources development investments supported under the Program could include infrastructure for bulk water supply (including dam and groundwater development) and flood management, upstream activities to ensure the sustainability of investments (e.g., catchment management for selected sites, community outreach, etc.), and enhanced downstream productive water uses to ensure investment performance (e.g., water supply and sanitation, etc.). Investments would be considered within a catchment based approach and may be accompanied by site-specific measures to increase resilience to natural hazards and allow for adequate disaster preparedness. Sanitation investments under this project including construction of sewerage treatment plants will improve the health and sanitation of the target areas by ensuring there are adequate sewerage disposal.

6.1.1 *Employment and Improved Service Delivery*

Increased employment opportunities, improved service delivery to enterprises and the population across the water sector in general remains one of the positive benefits that will arise from the WSDP sub projects. Under the Kenya Economic Stimulus Programme, emphasis has been placed on applying human labour in projects in order to provide significant employment opportunities. This project is no different and will therefore provide substantive employment opportunities to local populations. It is anticipated that the project will provide direct employment during the construction phase and another operational stage. Indirect employment through aspects such as transportation, infrastructure maintenance, markets, research and marketing will be far much greater and over a longer period of time.

6.1.2 *Increase Water Supply & Reduced Disease Burden*

Bulk water supply systems under this program will ensure that the general public in the targeted areas have access to clean water supply a pre-requisite for health and sanitation and a basic right as per the constitution of Kenya including part of the MDGs. Poor sanitation and lack of sanitation infrastructure are related to public health diseases. Discharge of sewerage wastes without treatment leads to environmental contamination and disease burden.

6.1.3 *Improved Economic Growth*

Poor water infrastructure has been identified as one of the primary causes of poor economic and employment growth in Kenya. If the WSDP succeeds, the program will translate to overall measurable economic growth for the country.

6.1.4 Create Birdlife Habitat

Water infrastructure sub projects like dams and other open bulk water storage infrastructure will attract birdlife in the project area due to availability of food for the birds. This would improve on the general diversity of life in the area but may also threaten the birds should the farmers treat them as pests thus necessary measures should be taken to prevent and endangering of the birdlife through this.

6.1.5 Market Creation

The project will create a market for building and construction materials. This is a direct beneficial impact that would be felt during implementation and construction.

6.2 Potential Adverse Impacts

The potential adverse environmental and social impacts of the WSDP are numerous and this ESMF highlights these impacts which are broad and cross cutting across most of the envisaged investments projects. However, the specific adverse impacts for each investment will be distinguished during the preparation of the specific EIA/ESIA or ESMP based on the sub project investment environmental category once the screening process is complete.

6.3 Adverse Environmental Impacts

6.3.1 Loss of vegetation

There will be vegetation loss during the construction phase (for project investments) either to pave way for access roads, actual project construction among others. The vegetation will be cleared so that the area where the construction work is to take place is clear for the construction work to be performed. The construction works will involve direct land take of productive pasture land and agricultural lands, bush clearing, removal of top soil, excavation and mass haulage. These activities will expose the land to elements of erosion such as wind and water and thus will trigger the process of land degradation.

6.3.2 Change in Hydrology

Abstraction of water for water and sanitation infrastructure will have impact of the hydrological flow of the riverine system. The impact will affect the general hydrological flows including current existence of water bodies.

6.3.3 Loss of Fauna

Potential investments may generally fragment ecosystems, isolating species population and cutting off migrations and other movement. For example, dams will block the upstream and downstream passage of migrating aquatic animals. This will isolate them from vital spawning and feeding areas. Many fish and invertebrates inhabit the river bottom, but these habitats will decline due to depletion of riverbed gravels. Destruction of wild fauna habitat due to construction (on site and along road rehabilitation profile/borrow pit sites).

6.3.4 Soil Erosion

Soil erosion could occur during the construction phase when loose soil is swept by waters and during the construction and operation phase. This will be as a result of the intensive activities that will be going on in the construction areas especially land clearing. The heavy equipment and machines that shall be used in the construction process will interfere with the soil structure making it loose hence liable to erosion.

6.3.5 Decreased Water Quality

Increase in suspended particles due to construction works; risk of human contamination from construction camps; and competition for water will affect the water quality especially where investment projects are close to natural water bodies. Suspended particles including soil from the neighbouring catchment area will contribute to this.

Blasting is used to loosen or break up rocks for removal. It is used during excavation of bedrock. Potential environmental impacts include dust (air quality), contaminant spills, sedimentation, safety (workers, storage), fly rock and debris, noise and explosive detonation effects on people and structures.

6.3.6 Downstream Impacts of Water Infrastructures

Changes to the low flow regime may have significant negative impacts on downstream users. Minimum demands from both existing and potential future users need to be clearly identified and assessed in relation to current and future low flows. The quality of low flows is also important. A reduction in the natural river flow together with a discharge of lower quality drainage water can have severe negative impacts on downstream users.

Habitats both within and alongside rivers are particularly rich, often supporting a high diversity of species. Large changes to low flows ($\pm 20\%$) will alter micro-habitats of which wetlands are a special case. It is particularly important to identify any endangered species and determine the impact of any changes on their survival. Such species are often endangered because of their restrictive ecological requirements.

The ecology of estuaries is sensitive to the salinity of the water which may be determined by the low flows. Saline intrusion into the estuary will also affect drinking water supplies and fish catches. It may also create breeding places for anopheline vectors of malaria that breed in brackish water.

As a result, in the cumulative impact analysis which would be done for each investment the impact of a given project on those people should be considered. The most important mitigation measures are the release of good quality Reserve Flows capable of maintaining important environmental services, and satisfying downstream water requirements. In addition, the measures taken in the catchment areas in order to improve the longevity as well as the operation of the water infrastructure (dams etc.) could affect the livelihoods means of the people living upstream.

6.3.7 Borrow Pits and Quarry Sites

Borrow pits and quarry sites where stone, sand, gravel, till, clay, or other granular soils are extracted for construction of the various investments within WSDP. The term

‘pit’ is used when granular material is extracted. The term ‘quarry’ is used where consolidated rock is removed. Environmental impacts of pit and quarry development can include the loss, reduction or disturbance to wildlife and habitat, erosion, dust, soil/groundwater contamination, damage to historic resources, waste disposal, noise, and aesthetics.

6.3.8 Visual Intrusion

Unsightly earthworks and borrow pits during construction may be a source of visual related impacts especially through scarring of landscapes. During operations, visual intrusion of equipment on site may be seen as a negative impact at the local level.

6.3.9 Impacts on Ecosystems

Potential environmental impacts will result from the creation of the diversion sites and structures themselves, and from operational management of diversion sites and the impacts on downstream riverine ecosystems, including maintenance of in stream and riparian habitats. Downstream impacts on riverine ecosystems are considered above under downstream environmental flows and these are considered to be the primary environmental impacts associated with the development of these water supply abstraction sites. Off-take of water for domestic use will result in reduced stream flows especially during the dry season.

6.3.10 Greenhouse Gas Emission

Greenhouse gas (methane) will be emitted from the dams. The cumulative effects of greenhouse gas effect on the climate results in global warming.

6.3.11 Decreased Air Quality

Airborne dust will be caused by excavation, vehicle movement hence engine combustion and materials handling, particularly downwind from the construction sites during the construction phase of the identified investments. Uncovered stock piles and asphalt mixing plant operations are another source of dust. Air pollution will be further caused by emissions from vehicles and construction machinery. There will be decreased air quality due to dust, suspended particles, hydrocarbon vapours, oxides of nitrogen and sulphur (NO_x and SO_x) and Volatile Organic Compounds (VOC) among other emissions.

6.3.12 Dam Safety related Impacts

Poor dam design and maintenance may lead to dam breakage and therefore flooding that may lead to deaths and destruction of property. In case of dam break, it can have far reaching impacts on the downstream communities. Emergency plans and procedures will have to be developed to handle such an incidence. Although its occurrence may have far reaching consequences, the impact is mitigable and the probability of its occurrence will be minimized through dam safety plans, inspection procedures and disaster management procedures and thus the magnitude of this impact is expected to be medium negative.

6.3.13 Noise and Vibration Impacts

Construction activities could result in significant noise impacts so as to impact on general well-being, health and functioning. Large scale infrastructure developments involve the use of heavy equipment (graders, drilling equipment, trucks, blasting equipment, tractors,

and excavators) for among others rock blasting, excavation, asphalt mixing plant operations and vehicular movement that emit incessant noise usually harmful to the environment. Introduction of new sources of noise is an issue in areas where ambient noise levels have been low.

6.3.14 Solid and Effluent Waste

Solid waste issue is a potential adverse impact that will be as a result of abandonment of litter/construction materials on site, use of plastic container/bags by road users and the construction crew and use of polythene sheet for curing by the contractor. Construction camps may be a further source of both solid and liquid wastes.

6.4 Social Impacts

6.4.1 Public Health

Improve access to water and sanitation will have positive benefits on the lives of the communities such improved in yield and better access to drinking water. However, it also could have some negative impacts. Dams and diversion weirs could impact the health situation of those living close to them due to increase in the number of mosquitoes as one example.

There is a potential risk that the construction process for most of the investment projects could increase HIV/AIDS prevalence in the project areas especially through interactions of the locals with the labour forces. Increase in risk of sexually transmitted diseases, such as HIV/AIDS etc. due to influx of migrant workers; solid waste and effluent discharge from construction camps; risk of increase in vectors of *schistosomiasis*, *river blindness*, *Lymphatic filariasis (elephantiasis)* and malaria due to stagnant water associated with construction works/borrow pits etc. (targeting bulk water supply schemes and dams).

6.4.2 Traffic Management

Traffic congestion from construction and operation phases of the investments and which could potentially cause disruption, health and safety impacts, as well as economic impacts. The use of heavy moving construction vehicles and machineries in project sites is generally known to cause traffic reducing movement and flow of vehicles. It is also further envisaged that with the improvement of the transport sector (i.e. construction, expansion or of new roads, highways and bridges) the traffic volumes and speeds will increase, and composition will change. This is likely to cause increased frequency and severity of accidents.

6.4.3 Loss of Land

There will be loss of farm land, grazing land, business and structures among others by the local communities owning the land. The construction of water and sanitation infrastructures (sewer, dams, bulk water supply systems), among others. The existing land use of the project area will be affected by the construction of access roads, construction camps, opening up of material sites and quarry sites among others. These will scar the land, cause vegetation loss leading to soil erosion. The construction activities is almost all the sectors will involve a relatively high degree of land take

bearing in mind that most of the projects are linear in nature thus requiring adequate land and space.

There are populations who may lose their land, assets and means of livelihood due to infrastructures and programs needed for the investment under WSDP.

6.4.4 Impact on Social Fabric and Community Relations

Some of the infrastructure as well as loss of land can cause communities to be separated and some of the social and economic relations and reliance disturbed. For example dams and sewer lines are likely to segment the communities and in certain instances deny them access to land and to one another.

6.4.5 Gender Issues and Impacts

As noted above, women have different needs and use of water including for domestic household use, small households plots for agriculture, for animals among other things. Construction of dams, sewers, bulk water storage facilities can limit women access to water for such needs. As a result, different needs of women with respect to land and water use should be taken into consideration when designing the investments under WSDP to avoid their potential discrimination from access to land and water.

6.4.6 Health and Safety of Construction Workers

Occupation health and safety of the workers during the construction phase (and in certain cases operation phase) is likely to be a concern due to the accidents that normally occur in construction sites that could cause loss of life, limbs among others.

6.4.7 Increased Crime and In-migration

The increase in the number of people in a specific project area or site especially during construction has the potential to lead to a number of negative socio-economic impacts, including increased insecurity and community conflicts, increased incidences of diseases; increased risk of accidents and occupational hazards; and immigration of construction workers and labour force management challenges.

6.4.8 Employment Issues

The construction activities of sub project investments may require recruitment of “foreign” skilled and unskilled labour that could trigger conflict, resentment and tension by the local communities over perceived inequities in distribution of job opportunities by the local communities.

6.4.9 Risk of Drowning

There is a risk of drowning by both children and adults in the reservoirs. Furthermore, domestic animals may also drown in the reservoir while trying to drink from it. Although this risk leads to loss of lives, it can be avoided and mitigated thus the magnitude of the impact is considered to be medium negative and can be mitigated by planting trees and other vegetation to reduce accessibility, carry out surveillance and off the dam area and sensitization of the community of emergency plans of action in case of disasters.

6.4.10 Workers/Labor Influx Impacts

The influx of workers and followers can lead to adverse social and environmental impacts on local communities, especially if the communities are rural, remote or small. Such adverse impacts may include increased demand and competition for local social and health services, as well as for goods and services, which can lead to price hikes and crowding out of local consumers, increased volume of traffic and higher risk of accidents, increased demands on the ecosystem and natural resources, social conflicts within and between communities, increased risk of spread of communicable diseases, and increased rates of illicit behavior and crime. Such adverse impacts are usually amplified by local-level low capacity to manage and absorb the incoming labor force, and specifically when civil works are carried out in, or near, vulnerable communities and in other high-risk situations.

6.5 POTENTIAL CUMULATIVE IMPACTS

Cumulative Impact Assessment (CIA) has been defined, and is applied in this Section, as the analysis of all the effects on an area from one or more activities as they accumulate over time and space (IPENZ, 2000). Cumulative effects can be different in nature (e.g. additive, synergistic or interactive), larger in magnitude, greater in significance, more long-lasting, and/or greater in spatial extent than is the case with individual effects (IPENZ, 2000). Additionally, the individual impacts from a single development may not be singularly significant on their own, but when combined with other impacts, those effects could become significant (Cooper, 2004).

WSDP investment projects may individually have insignificant adverse environmental impacts. However, several water investments in combination, or in combination with other government or private sector activities within the water sector, could have a larger, more significant cumulative impact. This is particularly likely to be the case for:

- Groundwater depletion owing to the demand for water; Combined reductions in flow volumes within a particular river resulting from municipal and industrial water withdrawals
- Surface water depletion, owing to the impact of several diversion schemes on small streams and watercourses.
- Cumulative impact on aquatic and terrestrial flora and fauna across the basins due to multiple water investment projects are likely to be experienced.
- Cumulative impact on hydrological flows, at various points within specific project investment, at various points within a day, season, year, over the years and cumulatively across the basin and impacts thereof. This will include impacts on various hydrological elements including springs, tributaries, groundwater aquifers, etc.

As suggested by Cooper (2004) CIA must into consideration other relevant plans or projects which may affect the same valued attributes as outlined above. These include

major infrastructure projects planned within any given water basin where sub project investments under WSDP are planned. Typical sub project activities identified as having the potential for long term cumulative impact include among others:

- Dam construction including canals
- Water abstraction for domestic use
- Water deviation for domestic use
- Vegetation clearing and inundation;

These were identified as leading to potential long-term cumulative impacts of:

- Loss of habitat and connectivity;
- Changes to downstream flows; and
- Eutrophication and pollution
- Reduced water for downstream users hence conflict
- Regional economic benefits.

Loss of Habitat and Connectivity

The cumulative impact of water infrastructure and clearing or inundation is on species and communities of flora and fauna. Measures that address the cumulative impact relate to the rehabilitation and offset strategies. These aim to provide and protect appropriate areas of vegetation over the long term such that habitat is available for the impacted flora and fauna. This multiplier ensures that the offset is adequate to address the impact. With mitigation and offsets, the development of these sub projects is not expected to have a cumulative impact upon the terrestrial flora or fauna.

Changes in Downstream Flows Impacts

Changes to the low flow regime may have significant negative impacts on downstream users, whether they abstract water (drinking supplies) or use the river for transportation or hydropower. Minimum demands from both existing and potential future users need to be clearly identified and assessed in relation to current and future low flows. The quality of low flows is also important. Return flows are likely to have significant quantities of pollutants.

Habitats both within and alongside rivers are particularly rich, often supporting a high diversity of species. Large changes to low flows ($\pm 20\%$) will alter micro-habitats of which wetlands are a special case. It is particularly important to identify any endangered species and determine the impact of any changes on their survival. Such species are often endangered because of their restrictive ecological requirements.

The ecology of estuaries is sensitive to the salinity of the water, which may be determined by the low flows. Saline intrusion into the estuary will also affect drinking water supplies and fish catches. It may also create breeding places for anopheline vectors of malaria that breed in brackish water.

Potential cumulative environmental impacts related to inter-basin transfers include water quality changes (positive or negative) and impacts on the habitats of fish and other aquatic species.

In addition, resettlement due to the acquisition of land for investments may combine with induced migration of people (for labour, services etc.) to place greater pressure on natural resources in particular areas. The avoidance and mitigation of cumulative impacts requires: avoidance and mitigation of the impacts of individual projects; careful planning, based on sound technical knowledge, of the location, size, and material requirements of infrastructural projects, within the district and regional planning cycles.

Growth-inducing Potential: Each new proposed investment/action can induce further actions to occur. The effects of these "spin-off" actions (e.g., increased vehicle access into a previously unroaded hinterland area) may add to the cumulative effects already occurring in the vicinity of the proposed action, creating a "feedback" effect. Such actions may be considered as "reasonably-foreseeable actions"

6.6 Environmental and Social Management Process

This ESMF contains potential mitigation measures and monitoring indicators (*see tables 6 and 7*) through which the adverse impacts for specific sub project investments may be managed. However, each sub project investment will have to prepare an ESMP. The ESMP for each sub project should at a very minimum contains among others;-

- *Description of the possible adverse effects that the ESMP is intended to address;*
- *Identification of project design alternatives that would meet similar objectives, and a description of why these projects are not viable, especially if they have a lesser environmental or social impact;*
- *Description of planned mitigation measures, and how and when they will be implemented*
- *Program for monitoring the environmental and social impacts of the project, both positive and negative;*
- *Description of who will be responsible for implementing the ESMP; and*
- *Cost estimate and source of funds.*

6.6.1 Mitigation Considerations and Options

All moderate to major adverse impacts are considered for mitigation. Specific measures have been suggested in this regard where practicable. With regard to negligible and minor impacts where the project activity is not expected to cause any significant impact in such cases, best practice measures and mitigation have also been recommended where appropriate to improve the environmental and social performance of the Project. The mitigation options considered may include project modification, provision of alternatives, project timing, pollution control, compensations and relocation assistance. In cases where the effectiveness of the mitigation is uncertain, monitoring programs are introduced.

6.6.2 Recommended Mitigation Measures

The mitigation measures or guidelines have been designed in order to avoid, minimize and reduce negative environmental and social impacts at the project level. The mitigation measures are presented in the following tables in a descriptive format.

Table 6: Proposed mitigation measures

Impacts	Description of mitigation measures
Physical Environment	
Solid and Effluent Waste	<p><u>Solid nontoxic waste</u> Adequate waste receptacles and facilities should be provided at project sites/camp sites</p> <p>Training and awareness on Safe Waste Disposal in construction camps for all workers</p> <p>Final disposal should be at dumpsites approved by the NEMA</p> <p><u>Waste oil /fuel</u> Spent or waste oil from vehicles and equipment should be collected and temporarily stored in drums or containers at site Waste oil should be disposed of by oil marketing companies or agents approved or recognized and have the capacity to undertake oil disposal</p> <p>Prepare Waste Disposal Plan for every construction site Install waste disposal receptacles and signs in strategic places within the construction camps Provide training and awareness on need to avoid littering Ensure the construction camps have toilets and connected to the sewer system</p>
Decreased Air Quality	<p>Proposed investments should require that construction contractors operate only well maintained engines, vehicles, trucks and equipment. A routine maintenance program for all equipment, vehicles, trucks and power generating engines should be in place.</p> <p>The project should ensure the use of good quality fuel and lubricants only</p> <p>If dust generation at the project/construction site becomes a problem, limited wetting of sites and or unloading and reloading points should be done to reduce dust raising</p> <p>Construction traffic speed control measures should be enforced on unpaved roads (speed limits through communities should be $\leq 50\text{km/hr}$ on unpaved roads and near or at project site should be $\leq 30\text{ km/hr}$).</p> <p>Engines of vehicles/trucks and earth-moving equipment should be switched off when not in use.</p>
Noise and vibration	<p>Proposed investments should require contractors to use equipment and vehicles that are in good working order, well maintained, and that have some noise suppression equipment (e.g. mufflers, noise baffles) intact and in working order.</p> <p>This will be achieved by making it a component of contractual agreements with the construction contractors.</p> <p>Contractors will be required to implement best driving practices when approaching and leaving the site (speed limit of $\leq 30\text{ km/hr}$) to minimize noise generation created through activities such as unnecessary acceleration and breaking squeal.</p> <p>Engines of vehicles/trucks and earth-moving equipment should be switched off when not in use.</p>

Visual Impacts	Landscaping of facilities after construction and restoration of disturbed areas e.g. borrow pits
Impact on traffic and public safety	<p>Only road worthy vehicles and trucks should be used to avoid frequent breakdowns on the roads</p> <p>Only experienced drivers should be employed</p> <p>Contractors must provide training for drivers; Establish speed limits; Enforce safe driving and take disciplinary action against repeat offenders</p>
Water Abstraction	Obtain water abstraction permits from the Water Resources Management Authority (WRMA)
Decreased Water Quality	<p>No garbage/refuse, oily wastes, fuels/waste oils should be discharged into drains or onto site grounds</p> <p>Fuel storage tanks/sites should be properly secured to contain any spillage</p> <p>Maintenance and cleaning of vehicles, trucks and equipment should take place offsite especially where project sites are close to water bodies.</p> <p>Toilet facilities should be provided for construction workers to avoid indiscriminate defecation in nearby bush or local water bodies</p>
Soil Erosion	<p>Minimize land clearing areas as much as possible to avoid unnecessary exposure of bare ground to the elements of the weather</p> <p>Re-vegetate cleared areas as early as possible using native plant species</p> <p>As much as possible, avoid construction work in the rainy season</p>
Impact on fauna and habitat	<p>Avoid unnecessary exposure and access to sensitive habitat areas</p> <p>For identified or suspected sensitive habitats (swamps/ wetlands), regular inspection or monitoring should be carried out in the area prior to start and during work.</p> <p>If sensitive habitats are encountered, Project activities should cease and the Project should consult KWS to determine the appropriate course of action.</p> <p>If the project site is discovered as a sensitive habitat area, the Project should engage the KWS to develop a suitable plan.</p> <p>Prohibition on hunting and consumption of bush meat by workforces</p> <p>Proposed investments should require that contractors implement a hazardous materials management plan that includes specification for proper storage and handling of fuels, oil, wastes, and other potentially hazardous materials as well as a plan for containment and clean-up of accidental spills into the aquatic environment.</p> <p>During pre-installation and installation of project facilities, spotting of sensitive aquatic mammals should form part of the project activities. Should these species be observed in the vicinity of the work area, the project should execute measures to avoid destruction or disturbance.</p> <p>Ensure provision for water flow reserves and appropriate reservoir filling schedules</p> <p>Project staff must report sightings of any injured or dead aquatic life (fishes)/ mammals immediately, regardless of whether the injury or death is caused by a Project activity. The report should include the date and location of the animal/strike, and the species identification or a description of the animal. The</p>

	<p>report should be made to the NEMA or KWS.</p> <p>The Project workforce and local communities should be educated to ensure that the importance of environmental protection and nature conservation are effectively communicated and that wider appreciation of environmental issues and construction best practice are fostered.</p>
Dam safety impacts ⁷	Ensure dam is designed by specialists; Institute a dam safety panel and develop a dam safety plan for all dams
Downstream Impacts of dams, dykes and weirs and other water infrastructure e.g., bulk water supply, dams etc. ⁸	Maintain environmental flow reserves for the river, Do into retain water in reservoir during drought, ensure that water retention in dam is controlled to ensure that adequate reserve is left to flow downstream for users
Quarry Site Impacts	Identify borrow and quarry sites away from sensitive environments and develop quarry management and rehabilitation plans
Hydrology Impacts/Changes	Maintain environmental flow reserves for the river, Do into retain water in reservoir during drought, ensure that water retention in dam is controlled to ensure that adequate reserve is left to flow downstream for users
Social Environment	
Physical displacement	<p>All affected persons to be given relocation assistance (cash or kind) by the Project to enable them move their properties to new locations, i.e. in accordance with the Resettlement Policy Framework (RPF)</p> <p>Resettlement Plans will be required. If a site is acquired, the State may relocate persons and their families as well as community facilities to be affected. The affected families should not be made to incur any cost during the relocation period. A resettlement plan should be prepared for this area with the RPF as a guide.</p>
Loss of employment and livelihoods	<p>Those whose livelihood is affected should be assisted to ensure they will not be worse off as a result of the project. This can include livelihood assistance, provision of new jobs immediately without any loss of income. The social assessments and socio-economic surveys, which will be undertaken for the preparation of individual investments/subprojects as well as the resettlement action plans, should assess these issues and provide measures in accordance with the Resettlement Policy Framework (RPF).</p> <p>Contractors should use local labor as much as possible and where available. As much as possible, all unskilled labor should be contracted or obtained from the local community.</p>
Loss of land and other assets	Due process should be followed to establish the true owner of any land, be it family or communal land. Once established, the project should acquire the site by paying appropriate compensation in accordance with the resettlement policy framework (RPF), which would be the replacement cost of the assets lost.
Loss of structures/properties	<p>For a project site to be used, irrespective of the land ownership, appropriate compensation should be paid for any structures/ properties which are permanent structures at the site as well as investment made for any development on the land.</p> <p>Depreciation should not be factored during valuation of these properties. The compensation process should satisfy the RPF developed for the project.</p>

⁷ The project will finance distribution network infrastructure that in the future will take drinking water from the Mwache Dam which is under design. The construction will be financed through another project – Kenya Coastal Region Water Security and Climate Resilient Project (PP145559) - financed by the World Bank. Thus, WSDP will rely on the performance (storage and operation) of a potential Dam under Construction (DUC). It is important to mention here that Relevant safeguard reports on the Mwache Dam have been prepared by the Borrower, consulted upon, and disclosed in-country and at the Bank's InfoShop.

⁸ idem

	Appropriate compensation should be paid for any damaged or destroyed propriety that belongs to affected persons. No depreciation during valuation of these properties.
Impact on access among communities living in the project areas	Measures will be considered in the projects' design to ensure that communities are not divided and if they are as a result of a project appropriate measures are taken to mitigate this impact.
Impacts on recreation and public areas	Appropriate notices and warning signs will be erected around working areas and public areas to warn prospective trespassers of any danger or risk
Impacts on human health/ traffic safety and sanitation	<p>Trucks carrying construction materials such as sand, quarry dust, laterite etc. will have the buckets covered with tarpaulin or appropriate polythene material from or to project site</p> <p>Only road worthy vehicles/trucks should be used</p> <p>Only experienced drivers/operators should be employed</p> <p>Except for areas secured by fencing, all active construction areas will be marked with high-visibility tape to reduce the risk accidents involving pedestrians and vehicles.</p> <p>All open trenches and excavated areas will be backfilled as soon as possible after construction has been completed. Access to open trenches and excavated areas will be secured to prevent pedestrians or vehicles from falling in.</p> <p>Adequate sanitary facilities will be available for workers and open range defecation will not be countenanced.</p> <p>Construction workers will be provided with and educated to wear suitable Personal Protective Equipment (PPE) including hard hats, overalls, high-visibility vests, safety boots, earplugs, gloves etc.</p> <p>Enforce use of PPEs at all times for all staff and labourers and ensure supervision of the same to minimise accidents</p> <p>Construction workers should be educated to adhere to basic rules with regard to protection of public health, including most importantly hygiene and disease (HIV/AIDS) prevention.</p>
Impacts on cultural heritage / archaeological interest / existing ecologically sensitive areas	<p>The pre-construction surveys should identify cultural heritage resources and existing ecologically sensitive areas that the project should avoid and by-pass these resources.</p> <p>The Project should implement a chance find procedure and reporting system to be used by contractors in the event that a cultural heritage feature or ecologically sensitive item/issue is encountered.</p>
Impacts on human health and public safety	<p>The Project will require all contractors to implement an Environmental, Health and Safety (EHS) plan which will outline procedures for avoiding health and safety incidents and for emergency medical treatment. This will be achieved by making it a component of contractual agreement.</p> <p>Contractors will be required to wear suitable Personal Protective Equipment (PPE) including hard hats, high-visibility vests, safety boots and gloves and life vests as appropriate in accordance with the EHS plan.</p> <p>Enforce use of PPEs at all times for all staff and labourers and ensure supervision of the same to minimise accidents</p> <p>All construction and other workers will be sufficiently trained in the safe methods pertaining to their area of work to avoid injuries.</p>
Labor Influx Management	Develop site-specific measures before the contractor starts work, and update them as necessary to reflect project developments. Overall, adequate monitoring and adaptive management of the potential impacts from labor

	<p>influx are key to properly addressing them and mitigating risks. Recruit as many local workers from the areas as possible. Provide training for the local communities to acquire skills needed for work opportunities if there is reasonable time especially on monitoring and maintenance.</p> <p>Develop a Labour Influx Management Plan and Workers Camp Management Plan for all projects. Outline the contractor's responsibilities on influx management in contracts, including the provision and enforcement of a workers' code of conduct</p>
Impact on gender access to water for household use and household plots as well as impact on pastoralists and fisheries.	The project will take into consideration the different needs for water and types of access which will be affected for each of these groups and provide relevant mitigation measures which will be decided with those affected. Some mitigation measures could include water points for household use and livestock; livelihood assistance to those whose whole or partial livelihood will be affected as a result of some of the possible investments such as dams. Specific impact and relevant measures will be covered by project specific social assessment.
HIV/AIDS Spread and other related public health diseases – Water borne diseases etc.	<p>Design HIV/AIDS awareness, sensitisation and prevention program for each project that extends to the communities as a whole;</p> <p>Design programs for reducing the spread of water borne diseases like Malaria, Bilharzia etc. in collaboration with the Ministry of Health</p>
Labour and employment related impacts	<p>Ensure that the local communities are given priority in relation to employment and provided with training (skilled) to provide future labour in the project e.g. operation and maintenance. Ensure that workers are provided satisfactory working conditions and work environment including pay in accordance with the laws of the country</p> <p>Ensure that child labour is not tolerated in the project;</p> <p>The project to prepare redundancy plans and packages to be discussed with affected workers which will include re- training and re- tooling of affected workers and aim to avoid labor strife</p>
Drowning ⁹	Establish dam safety measures by securing the dam areas to minimise drowning related risks.

6.7 Monitoring Plans and Indicators

6.7.1 Monitoring of Environmental and Social Indicators

The goal of monitoring is to determine whether interventions have resulted in dealing with negative impacts, whether further interventions are needed or monitoring is to be extended in some areas. Monitoring indicators will be very much dependent on specific project contexts.

Monitoring Levels-Overall Project Level

The MoWI/PCT will be responsible for overall monitoring and reporting on compliance with the ESMF. MoWI via the PCT will ensure that sub projects investments are screened, their safeguard instruments prepared, cleared and disclosed prior to sub project approval. Further, MoWI/PCT will ensure that executing agencies implement or cause their contractors to implement the specific sub project ESMP, and submit reports on ESMP implementation as required.

⁹ idem

Within MoWI/PCT, monitoring and surveillance of all the sub project investments will be undertaken by the WSDP/PMU that will be established for the project. The MoWI/PCT will report results of this monitoring to the Bank. In appreciation of the fact that it would be impossible to visit or monitor all sub project investments to be financed under the project, “spot checks” may be undertaken by the PCT but no investment will be ignored in this high level monitoring.

Bank’s Monitoring Support

The Bank will provide the second line of monitoring compliance and commitments made in the ESMP through supervision albeit in a less frequent manner and detail as compared to the first line of monitoring that will be undertaken by the specific implementing agencies. The Bank will further undertake monitoring during its scheduled project supervision missions.

Specifically, for each year that the agreement is in effect, sub project implementing agencies within the WSDP will be required to submit to the MoWI/PCT all the monitoring reports and MoWI will consolidate and summarise these reports and submit to the Bank as part of its reporting to the Bank and the Bank supervision missions will review these reports and provide feedback.

Sub Project Level Monitoring

The second level of monitoring will be at the sub project level where the safeguard instruments for the investments will and must include a monitoring plan for which the executing agency will be responsible for ensuring that monitoring is carried out. Each sub project investment will set up an implementation unit solely responsible for executing the investment and which will include responsibility for monitoring and reporting all the elements in the ESMP on day to day or periodically as specified in the monitoring plan.

The sub project level monitoring reports will be submitted to the environmental safeguards specialist at the PCT/WSDP/ for review and analysis. The higher level monitoring at the PCT/MoWI level will check to see that executing agencies are doing this.

All sub project investments will be subject to mandatory annual environmental audit /supervision to ensure that they comply with national requirements by EMCA.

Table 7: Monitoring indicator

Monitoring Level	Monitoring Issue	Verifiable Indicators	Responsibility
ESMF Level	Adequate dissemination of ESMF and RPF to stakeholders Capacity building and training programs	Record of consultations and meetings; Workshop reports.	MoWI, MoWI,
Project Investment Level	Preparation of environmental and social impact assessment report	Independent consultants hired to prepare EIA/ESIA and/ RAP documents	Implementing Agencies
	Environmental permitting	Environmental Permits for sub projects	Implementing Agencies

	Monitoring and evaluation	Environmental Management Plans, Monitoring Reports, Annual Environmental Reports	Implementing Agencies
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Table 8: Project monitoring indicators and responsibilities

Impact issue	Proposed Action/Measures	Implementation tool/criteria	Monitoring indicators (Inputs)	Monitoring Indicators (Outcomes)	Verification	Project stage	Responsibility
Solid waste disposal	Provide adequate waste reception facilities at construction camp sites	Waste management plan/Construction site management plan	Number of waste bins at site bins	Percentage of workers who follow the solid waste disposal plan including use of receptacles	Weekly checks by project engineer	Construction	Contactor
	Dispose of waste at approved waste collection sites		Availability of waste disposal plan Final disposal records	Number of workers familiar and aware of the waste disposal plan at the construction sites		Operation	Project engineer
Waste oil/fuel disposal	Provide drums/containers for temporary storage on site of waste oil from equipment and vehicles.	Waste management plan/Construction site management plan	Waste oil drums/containers on site	Number of workers familiar and aware of the waste disposal plan	Monthly checks by project engineer	Construction	Contactor
	Dispose of waste oil through an approved agent		Availability of waste disposal plan (waste oil)	Percentage of workers who follow the waste disposal plan including use of receptacles		Operation	Project engineer

Air Quality degradation /pollution	<p>Purchase sound equipment/machinery for project</p> <p>Operate well maintained vehicles, trucks and other equipment</p> <p>Use good quality fuel and lubricants</p> <p>Suppress dust generation at project sites</p> <p>Switch off engines when not in use</p>	<p>Part of contract agreement</p> <p>Routine maintenance plan for machinery</p> <p>Purchase of fuel at recognized stations</p> <p>Schedule of works is to limit</p> <p>Water surfaces several times a day to reduce dust at the site.</p>	<p>Number of sound machinery and equipment purchased</p> <p>Availability of equipment and machinery maintenance plan</p> <p>Frequency of watering of surfaces to reduce dust related impacts</p>	<p>Percentage of workers following the good practices for equipment and machinery maintenance</p>	<p>Independent check by project engineers</p> <p>Verification of maintenance record by project engineers</p> <p>Self-check by contractor</p>	Construction	Contactor/Project engineer
Noise pollution	<p>Schedule of works is to be limited to daylight hours</p> <p>Compliance with the noise emission levels/standard of NEMA</p> <p>Provision of PPE for workers for noise pollution</p> <p>Train workers on the use of PPEs for noise mitigation and reprimand those not complying</p>	<p>Part of contract agreement for the contractors</p>	<p>Recorded grievances</p> <p>Number of PPE procured for noise mitigation</p>	<p>Number of workers correctly and frequently using PPEs</p> <p>Number of workers aware of the emissions standards of NEMA and complying with the same</p>	<p>Self-check by contractor</p>	Construction	Contactor/Project engineer

Visual Impacts	Landscaping of facilities after construction, and restoration of disturbed areas	Construction site maintenance and restoration plan.	Implementation of the plan	Quality of restored landscapes Number of disturbed sites successfully restored	Self-check by contractor	Construction	Contactor/Project engineer
Traffic impacts	Use only road worthy vehicles and trucks Use experienced drivers Contractors must provide driver training Establish speed limits, Enforce safe driving and take disciplinary action against repeat offenders.	Purchase sound vehicles and trucks /machinery for project Driver qualification recorded Traffic Safety Plan	Traffic incidence records Grievances Recorded	Number of drivers aware and familiar with the traffic safety plan Percentage of drivers who have not committed a traffic offence for the last 6 months Number of compliance (traffic) inspection and checks conducted by traffic department found to be satisfactory	Project engineers to verify	Construction	Contactor/Project engineer

Water pollution	No garbage/refuse, oily wastes, fuels/waste oils should be discharged into drains or water bodies	Waste management plan Spill prevention and control plan	Visibility of oil on water bodies	Increased water quality upstream and downstream shown by periodic measurements	Daily self-checks by contractors	Construction	Contractors /Project engineers
	Fuel storage tanks/sites should be properly secured Maintenance and cleaning of vehicles, trucks and equipment should take place offsite. Provide toilet facilities for construction workers Construction activities, including camps to include measures to control runoff	Water Quality Plan to measure the quality of water including physical, chemical and biological. Implement an Integrated Pest Management Plan when using fertilizers and pesticides	Procurement and installation of water monitoring and measuring gauges On site erosion observed Proposed actions implemented Quality of water following periodic measurements No of pollution incidences recorded Number of complaints on pollution of water	Water samples collected showing compliance to water pollution standards	Periodic reports on performance by contractor to project engineers Spot checks/audits by project engineers	Operation	Project engineers

Impact on fauna and flora	Avoid unnecessary exposure or access to sensitive habitat.	If a sensitive habitat is discovered in the work area or vicinity, Project activities should cease.	Wildlife incidents recorded and reported to KWS/KFS/NEMA	Number or percentage of terrestrial flora and fauna unaffected by the sub projects	Regular self-checks by contractor	Construction	Contractors /Project engineers/KWS/NEMA
	Avoid protected areas, critical habitats or areas with significant biodiversity (wetlands)	The contractor should notify project engineers who will consult KWS to determine the appropriate course of action.		Number of workers aware and sensitized on the need to conserve the flora and fauna	Spot checks and audit by contractor to the client	Operation	
	Regular inspection or monitoring should be carried out in sensitive areas e.g. swamps/ wetlands the area prior to start of work.	Hazardous material management plan/accident management plan.		Impact on terrestrial flora and fauna		Maintenance	
	Ensure proper storage and handling of potentially hazardous materials (including oil).	Awareness raising among contractor personnel					

Table 9: Project monitoring indicators and Responsibilities-Social Impacts

Impact issue	Proposed Action/ Measures	Implementation tool/criteria	Monitoring indicators (Input)	Monitoring indicators (Output)	Verification	Project stage	Responsibility
Impacts on downstream water users	Maintain Environmental Flows for river basins Ensure that abstraction of water complies with the WRMA permits	Environmental Flows Plan	Presence of an Environmental Flows Plan calculated and approved by WRMA Installation of Water Monitoring Stations Procurement of water measuring and monitoring equipment Availability of Water Abstraction Permit from WRMA	Impacts on water uses and livelihoods downstream	Regular spot checks by WRMA Periodic checks of the flows by environmental team	Construction Operation	Contractor Executing Agency NEMA WRMA
Impacts on recreation and public areas	Place notices and warning signs at working areas	ESMP	Grievance records	Recreational Facilities and areas restored/protected	Warning signs/notices in place	Construction	Contractors/Project engineers

Impacts on Human Health/ Safety and sanitation	<p>Cover buckets of trucks carrying construction materials such as sand, quarry dust, etc.</p> <p>Use road worthy vehicles/trucks and experienced drivers/operators</p> <p>Active construction areas to be marked with high-visibility tape</p> <p>Backfill and or secure open trenches and excavated areas.</p> <p>Provide adequate sanitary facilities</p> <p>Provide PPEs for construction workers.</p> <p>Educate construction workers on site rules/regulation and hygiene and disease (HIV/AIDS) prevention.</p>	<p>ESMP</p> <p>Vehicle maintenance programme/plan in place</p> <p>Construction site management plan</p> <p>ESMP</p> <p>ESMP</p> <p>ESMP</p> <p>ESMP</p>	<p>Health and safety incident register</p> <p>Grievance records</p>	<p>Reduced accidents and hazards in construction sites</p> <p>Reduced incidence of diseases spread e.g. HIV/AIDS, and other STDs</p> <p>Increased understanding of workers on measures to reduce STDs/HIV/AIDS etc.</p>	<p>Health and safety plan under implementation</p> <p>Daily self-checks and verification by contractor</p> <p>Spot checks by project engineers</p> <p>Periodic reports by contractor to project engineers</p>	Construction	Contractors
Impacts on cultural heritage/ archaeological interest /existing aquatic infrastructure and services	<p>Identify cultural heritage resources and existing ecologically sensitive areas.</p>	<p>Pre-construction surveys / Chance finds procedure</p> <p>Plan for accidental Cultural Finds</p>	<p>Cultural/ archaeological resources/ existing infrastructure encounter incidence register</p>	<p>Number of workers familiar with the chance find procedures</p>	<p>Chance finds procedure under implementation</p> <p>Daily self-checks and verification by contractor</p> <p>Periodic reports by contractor to project engineers</p>	Preconstruction and construction and repairs/ recovery	Contractors/NMK
Impacts on Human Health and Safety	<p>Use suitable Personal Protective Equipment (PPE).</p> <p>Provide Training on use of PPE</p>	<p>ESMP</p>	<p>Health and safety incident register</p> <p>Grievance records</p>	<p>Reduction in or increase in accidents due to use of or lack of use of PPEs</p>	<p>ESMP under implementation</p> <p>Spot checks and observations by project engineers</p> <p>Periodic reports on performance by contractor to project engineers</p>	Pre-construction and construction, and repairs/ recovery	Contractors

Labour related impacts (Employment)	Ensure that the local communities are given priority in relation to employment and provided with training (skilled) to provide future labour in the project e.g. operation and maintenance	Human Resource Management Plan	Number of local residents employed in sub projects	Number of local residents employed in sub projects	Employment Records	Pre-construction and construction, and repairs/ recovery	Contractors/EA
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6.8 Issues Related to Resettlement, Physical Cultural Resources, Social Assessment and Dam Safety

The WSDP triggers other safeguard policies and therefore requires preparation of other safeguard instruments alongside this ESMF which have been prepared already. They include a Resettlement Policy Framework and Social Assessment (SA) for Wajir and Garissa which have been identified as vulnerable counties by GoK.

6.8.1 Resettlement Action Plan

Resettlement Action Plans (RAPs) will be needed for investment that may result in the loss of access to resources. The RPF outlines the relevant steps required in order to ensure that appropriate measures are put in place to safeguard the rights of affected persons and communities.

6.8.2 Physical Cultural Resources Management

A plan for the management of physical cultural resources shall form part of the ESIA for each investment since the WSDP triggers the OP 4.11, it is important that the EIA also include identify the process for addressing impacts on cultural property. Measures will need to be integrated into the ESMP to address the following areas:

- Avoidance or mitigation of identified adverse impacts;
- Provisions for chance finds;
- Preparation, as appropriate, of a physical cultural resources management plan consistent with the overall policy framework and national legislation, taking into account institutional capabilities;
- Measures for strengthening institutional capacity; and
- Monitoring systems to track progress of these activities.

6.8.3 Protected Areas, Natural Habitats and Forests

No significant impacts on natural habitats, including mangroves, are anticipated by project works; however, this policy is triggered given the types of works and the potential locations and associated environmental conditions. As an upfront procedural due diligence, all proposed sub-projects will be screened at the onset using the screening checklist developed alongside this ESMF to eliminate proposals whose safeguards footprint to natural habitats and forests may be irreversible, unprecedented and difficult to mitigate. Also, compliance will be handled through the ESMF and site specific ESIA's. Depending on the subprojects and potential negative impacts of the natural habitats (flora and fauna), these subprojects will require special studies in the EA to protect or preserve the species identified at risk of being affected. If a subproject can cause irreversible damages, it will be excluded. Important to mention that Kenya national environmental regulations restrict the construction of infrastructure in protected areas (paragraph 4.1.3).

6.8.4 Dam Safety

Water infrastructure like dams are some of the investments included in the WSDP, and in effect triggering the OP 4.37. When the World Bank finances a project that includes the construction of a new dam or expansion of an existing dam it requires that the dam be designed and its construction supervised by experienced and competent professionals. It

also requires that the Borrower adopt and implement certain dam safety measures for the design, bid tendering, construction, operation, and maintenance of the dam and associated works.

The World Bank distinguishes between small and large dams:

- a) Small dams are normally less than 15 meters in height. This category includes, for example, farm ponds, local silt retention dams, and low embankment tanks.
- b) Large dams are 15 meters or more in height. Dams that are between 10 and 15 meters in height are treated as large dams if they present special design complexities--for example, an unusually large flood-handling requirement, location in a zone of high seismicity, foundations that are complex and difficult to prepare, or retention of toxic materials. Dams under 10 meters in height are treated as large dams if they are expected to become large dams during the operation of the facility.

For small dams, generic dam safety measures designed by qualified engineers are usually adequate however for large dams competent experienced engineers, preferably with international experience and familiarity with World Bank, FERC and CDA requirements, should carry out dam designs. The designs must be reviewed by an independent dam safety panel of experts which must be constituted for this purpose. Construction supervision should be comprehensive and carried out by competent site staff familiar with construction of dam projects.

Key issues to consider include:

- Users should restrict themselves to the construction of earth dams no higher than 5 m from streambed to finished crest level.
- Dams on catchment areas exceeding 25 km² or with reservoir areas storing more than 50,000 m³ may require the advice of a hydrologist to assist in the design of spillways and other outlets and for the estimation of freeboard.
- No spillway should be less than 10 m wide and 1 m deep for catchments up to 5 km² and should be at least 15 m wide and 1.5 m deep for catchments exceeding this area.
- Any dam that involves out of the ordinary topography (i.e. steep slopes upstream, risks of landslips), hydrology (i.e. flash floods, droughts, snowmelt) or soils (i.e. poor quality soils, sodic soils, permeable layers in the soil, bare earth surfaces in the catchment) should only be designed and constructed under the supervision of a qualified engineer.

6.8.5 Social Assessment

The project has developing a Social Assessment targeting the counties of Wajir and Garissa where the GoK has identified and categorised as having vulnerable and marginalised groups.

6.9 Monitoring Roles and Responsibilities

6.9.1 WSDP Implementing Partner Institutions

The specific government agencies implementing the specific investment (once identified) under the WSDP will be solely responsible for the environmental monitoring of the activities that they are responsible for implementing. They will be required to prepare periodic (monthly, quarterly and annual) monitoring reports for submission to the WSDP which will then onward submit to the MoWI/PCT, World Bank and NEMA.

6.9.2 National Environment Management Authority (NEMA)

The EMCA places the responsibility of environmental protection on NEMA as the coordinating agency. NEMA is charged with the overall role of providing oversight in regard to monitoring for all project activities that have potential impacts on the environment in Kenya. NEMA will undertake periodic monitoring of the investment projects by making regular site inspection visits to determine compliance with the investment projects ESIA's approved and will further rely on the submitted annual audit reports submitted for each investment project annually as required by EMCA as a way of monitoring. NEMA will provide approvals and ESIA licence to all the investments based on the EIA/ESIA reports submitted, without NEMA's approval implementation of the investment project will not move forward. All monitoring reports as well as annual environmental audit report will be submitted to NEMA as specified by the environmental assessment and audit regulations.

6.9.3 MoWI/PCT -Environmental and Social Specialist

The MoWI/PCT may recruit environmental and social safeguard specialists or co-opt the safeguards specialists from KWSCRIP who will provide oversight, screening of sub projects, preparation of ToRs for ESIA's, facilitation, coordination, review of ESIA's, monitoring and evaluation of all the sub projects.

In principle, the specialist will work with the executing agencies to ensure that monitoring of investments are undertaken and findings are reported to them periodically so that needed technical assistance to ensure compliance is provided.

The environmental and social specialists based at the MoWI/PCT will submit quarterly monitoring reports of all active investments under implementation to the WSDP Coordinator who will then submit these reports to the World Bank.

6.9.4 Others (Water Users Associations and Civil Society Organisations)

Water Users Associations and relevant CSOs in the area where a sub project investment is identified will be part of the monitoring and evaluation and will be provided with adequate training for on-going day to day monitoring.

7 PROJECT REVIEW, COORDINATION & IMPLEMENTATION ARRANGEMENTS

7.1 Sub Project Investment Review

The Environmental Management and Coordination Act (EMCA) require that all projects be subjected to a review and screening process in order to determine whether a full scale ESIA is necessary or otherwise. This is done through preparation of a project report which will be prepared by the WSDP/PMU jointly with the executing agency of the specific sub project investment. Each investment will need to be reviewed independently for potential environmental and social impacts. In cases where a full scale EIA/ESIA is required, it will be paramount that the feasibility studies occur concurrent with the EIA/ESIA study in order to ensure that the findings of the ESIA are incorporated in the feasibility study at the design stage. This will ensure that environmental sound design including proposed mitigation measures as well as alternatives are incorporated in the feasibility reports at the design stage hence avoiding design change at an advanced stage.

The WSDP has been classified as Category **B**, and thus requires an ESIA/ESMP to be prepared which must be conducted parallel to the feasibility studies to ensure that the findings of the ESIA are incorporated in the feasibility study at the design stage. The Environmental Management and Coordination Act (EMCA) require that all projects be subjected to a review and screening process in order to determine whether a full scale EIA/ESIA is necessary or otherwise. Project investments will each need to be reviewed independently for potential environmental and social impacts.

A completed appraisal package comprises all of the results of the ESIA procedures in order to permit a full environmental review. If the World Bank determines that the appraisal package is not complete because the environmental procedures have not been completed, or because after further review it is discovered that the information provided earlier for the screening procedures was incorrect or misleading and that further information is required, the appraisal package will be deemed incomplete and the Task Manager will promptly notify the applicant of the deficiencies.

No WSDP support will be provided until (i) the applicant has presented the WB with a certified copy of the positive conclusion of the relevant national authority or - as the case may be - the World Bank determines that no further environmental review is required, and (ii) the World Bank has reviewed and cleared the environmental documentation and issued its formal no objection.

Consultation and Disclosure Requirements: In addition to the environmental documentation requirements described above, World Bank Operational Policy 4.01 (paragraphs 15 and 16), and the WB Policy on disclosure stipulates that the following consultation and disclosure requirements be utilized for all Category A sub projects:

Consultation should occur at least twice, once near the beginning of the EA process and once when a draft final report has been disclosed. During the EA process, the applicant shall consult groups affected by the subproject and local NGOs about the subproject's environmental aspects and take their views into account. The applicant shall initiate such consultations as early as possible. Consultations with stakeholders should take place only once after a draft EA report is prepared. In addition, the applicant shall consult with such groups throughout project implementation as necessary to address EA-related issues that affect them.

For meaningful consultations, the applicant shall apply the following disclosure requirements:

- The applicant shall provide relevant material in English and/or the local language (as appropriate) in a timely manner prior to consultation;
- The applicant shall make the draft ESIA report including a detailed summary of the ESIA's conclusions available at a public place accessible to groups affected by the subproject and local NGOs.

7.1.1 Screening and Investment Project Preparation

Screening of investments will commence right at the project inception phase as soon as the specific sub project details are known including nature and scope, proposed location and area among other parameters. Screening is expected to happen concurrently with the project specific feasibility studies so that any potential impacts identified through screening are immediately incorporated into the feasibility study hence ensuring that environmental sound design of the sub projects occurs right at the project design phase.

The screening process could result in any of the following determination;-

1. Full ESIA
2. A stand-alone ESMP or
3. No further environmental study

7.1.2 Who Prepares a Screening Checklist?

NEMA is the institution designated to make a decision on whether a full scale ESIA is necessary for proposed investments or otherwise. To make this determination, a project report must be submitted to NEMA in order to make a determination and this is part of the screening. The project/screening report will be prepared by WSDP executing agencies and then submitted MoWI/PCT safeguards team for review before submission to the NEMA for further determination.

The Bank also requires that sub project investments are screened in order to make a determination as to whether a full scale ESIA, a standalone ESMP or no further environmental studies are needed for investments. In order to blend the requirements of the bank and that of NEMA, the screening will be done and submitted to the bank and NEMA respectively. In the event that both NEMA and the bank recommend for a full scale ESIA then the same will be prepared.

However, bearing in mind that the Bank will never recommend a less stringent environmental study than NEMA, even if NEMA could do so according to its own policies, but (b) recognizing that the Bank may require a more stringent study than NEMA does and if so, that more stringent requirement will apply to the sub project concerned.

This implies that even if the screening is done to meet the Bank requirements and a decision is made that an ESMP alone is sufficient by the Bank, the Bank will not stand in the way if the executing agency for the sub project prepares a full ESIA if NEMA directs so. On the other hand, if NEMA determines that no ESIA is required following screening and submission of project report, and the Bank feels that project requires an ESIA, then the sub project executing agency will need to prepare the same to satisfy and get approval for the sub project from the Bank.

Format 1.0: SCREENING CHECKLIST (Filled and prepared by environmental and social experts WSDP implementing agencies or by consultants if agencies lack experts)

WSDP Project: Select relevant project		
Project Investment name	[type here]	
Location	[type here]	
Estimated cost (USD)	[type here]	
TYPE OF PROJECT OR ACTIVITY		
Sub Project Type		
<input type="checkbox"/> Construction of Bulk Water Supply Systems <input type="checkbox"/> Construction of Multi-Purpose Dams <input type="checkbox"/> Construction of water supply pipelines <input type="checkbox"/> Construction of water treatment plants, sewage ponds, sludge ponds <input type="checkbox"/> Construction of wells and boreholes		
Please give more details: [type here]		
For all projects, an Environmental and Social Management Plan (ESMP) will be required.		
In addition, the following studies may be required:		
Will this project affect vulnerable and marginalised groups? If yes, a Vulnerable and Marginalised Groups' Plan will be required	<input type="checkbox"/>	<input type="checkbox"/>
Will the project require land for its development, and therefore displace individuals, families or businesses from land that is currently occupied, or restrict people's access to crops, pasture, fisheries or forests, even, whether on a permanent or temporary basis? If yes, a Resettlement Action Plan will be required	<input type="checkbox"/>	<input type="checkbox"/>
Will the investment project involve the construction of dams?	<input type="checkbox"/>	<input type="checkbox"/>
Will the Project:	Yes	No
Adversely affect natural habitats nearby, including forests, rivers or wetlands?	<input type="checkbox"/>	<input type="checkbox"/>
Require large volumes of construction materials (e.g. gravel, stone, water, timber, firewood)?	<input type="checkbox"/>	<input type="checkbox"/>
Use water during or after construction, which will reduce the local availability of groundwater and surface water?	<input type="checkbox"/>	<input type="checkbox"/>
Affect the quantity or quality of surface waters (e.g. rivers, streams, wetlands), or groundwater (e.g. wells, reservoirs)?	<input type="checkbox"/>	<input type="checkbox"/>
Be located within or nearby environmentally sensitive areas (e.g. intact natural forests, mangroves, wetlands) or threatened species?	<input type="checkbox"/>	<input type="checkbox"/>
Lead to soil degradation, soil erosion in the area?	<input type="checkbox"/>	<input type="checkbox"/>
Create waste that could adversely affect local soils, vegetation, rivers and streams or	<input type="checkbox"/>	<input type="checkbox"/>

groundwater		
Create pools of water that provide breeding grounds for disease vectors (for example malaria or bilharzia)?	<input type="checkbox"/>	<input type="checkbox"/>
Involve significant excavations, demolition, and movement of earth, flooding, or other environmental changes?	<input type="checkbox"/>	<input type="checkbox"/>
Affect historically-important or culturally-important site nearby?	<input type="checkbox"/>	<input type="checkbox"/>
Require land for its development, and therefore displace individuals, families or businesses from land that is currently occupied, or restrict people's access to crops, pasture, fisheries, forests or cultural resources, whether on a permanent or temporary basis?	<input type="checkbox"/>	<input type="checkbox"/>
Result in human health or safety risks during construction or later?	<input type="checkbox"/>	<input type="checkbox"/>
Involve inward migration of people from outside the area for employment or other purposes?	<input type="checkbox"/>	<input type="checkbox"/>
Will the Project:	Yes	No
Result in conflict or disputes among communities?	<input type="checkbox"/>	<input type="checkbox"/>
Affect indigenous people, or be located in an area occupied by indigenous people?	<input type="checkbox"/>	<input type="checkbox"/>
Be located in or near an area where there is an important historical, archaeological or cultural heritage site?	<input type="checkbox"/>	<input type="checkbox"/>
Result in a significant change/loss in livelihood of individuals?	<input type="checkbox"/>	<input type="checkbox"/>
Adversely affect the livelihoods and /or the rights of women?	<input type="checkbox"/>	<input type="checkbox"/>
If you have answered Yes to any of the above, please describe the measures that the project will take to avoid or mitigate environmental and social impacts		
[type here]		
What measures will the project take to ensure that it is technically and financially sustainable?		
[type here]		

If the answer to any of questions “Yes”, please use the indicated Annexes or sections(s) of the ESMF for guidance on how to avoid or minimize typical impacts and risks.

When considering the location of an investment, rate the sensitivity of the proposed site in the following table 10 according to the given criteria. Higher ratings do not necessarily mean that a site is unsuitable. They do indicate a real risk of causing undesirable adverse environmental and social effects, and that more substantial environmental and/or social planning may be required to adequately avoid, mitigate or manage potential effects.

Table 10: Site Sensitivity Rating

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

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

CONCLUSION

Which course of action do you recommend?

☐ **FULL ESIA** ☐ **ESMP** ☐ **RAP/RPF is the reference document with reference to resettlement issues**

☐ **OTHER ENVIRONMENTAL/SOCIAL PLANS**

☐ There are no environmental or social risks

[Type here]

If a RAP is required, will the project Displace or restrict access for less than 200 individuals, or if over 200, are losses for all individuals less than 10% of their assets?

If Yes, Prepare an abbreviated RAP ☐

If No, Prepare a full RAP ☐

Full details of resettlement requirements are provided in the accompanying Resettlement Policy Framework.

Completed by: [type here]

Name: [type here]

Position: [type here]

Date: [type here]

Format 2.0: SCREENING CHECKLIST REVIEW FORM (Prepared by Environment and Social Specialists from PCT/MoWI)

	Yes	No
Based on the location and the type of investment, please explain whether the Proponent's responses are satisfactory.	<input type="checkbox"/>	<input type="checkbox"/>
Their description of the compliance of the investment with relevant planning Documents	<input type="checkbox"/>	<input type="checkbox"/>
If 'No', please explain: [type here]		
Their responses to the questions on environmental and social impacts	<input type="checkbox"/>	<input type="checkbox"/>
If 'No', please explain: [type here]		
Their proposed mitigation measures	<input type="checkbox"/>	<input type="checkbox"/>
If 'No', please explain: [type here]		
Their proposed measures to ensure sustainability	<input type="checkbox"/>	<input type="checkbox"/>
If 'No', please explain: [type here]		

REVIEWER'S CONCLUSION

Which course of action do you recommend?

- ☐ **FULL ESIA** ☐ **ESMP**; ☐ **RAP-RPF is the reference document with reference to resettlement issues**
☐ There are no environmental or social risks

[Type here]

If a RAP is required, will the investment displace or restrict access for less than 200 Individuals, or if over 200, are losses for all individuals less than 10% of their assets?

If Yes, Prepare an abbreviated RAP ☐

If No, Prepare a full RAP ☐

Full details of resettlement requirements are provided in the accompanying Resettlement Policy Framework. If this differs from the Proponent's recommended course of action, please explain:

[Type here]

☐ Preparation of a project Report, based on field appraisal by NEMA District Officer, is required to investigate further, specifically to investigate:

[Type here]

☐ **Reject**

Review form completed by: [type here]

Name: [type here]

Position / Community: [type here]

Completion of this screening form will facilitate the identification of potential environmental and social impacts, determination of their significance, assignment of the appropriate environmental category, proposal of appropriate environmental mitigation measures, or recommend the execution of an Environmental and Social Impact Assessment (ESIA), if necessary.

Development of project reports follows systematic process as follows;

- *Review of TORs with the implementing partners for adequacy*
- *Familiarization with project design*
- *Familiarization with projects area of influence*
- *Identification of the relevant statutes and WB safeguard policies*
- *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*

7.1.3 Statutory content of Project Reports:

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

- *The nature of the project;*
- *The location of the project including the physical area that may be affected by the project's activities;*

- *The activities that shall be undertaken during the project construction, operation, and decommissioning phases;*
- *The design of the project;*
- *The materials to be used, products, by-products, including waste to be generated by the project and the methods of disposal;*
- *The potential environmental impacts of the project and the mitigation measures to be taken during and after implementation;*
- *An action plan for the prevention and management of possible accidents during the project cycle;*
- *A plan to ensure the health and safety of the workers and neighbouring communities;*
- *The economic and socio-cultural impacts to the local community and the nation in general;*
- *The project budget;*
- *Any other information that the Authority may require.*

Once a project report is submitted to NEMA, a decision is made by NEMA and in the event that NEMA, based on the project report submitted makes a decision that an EIA/ESIA report must be prepared, the WSDP executing agency for that specific sub project will be required to identify independent NEMA registered expert(s) to prepare an EIA/ESIA report in accordance with the EMCA.

Project Reports are normally prepared as a means of informing NEMA of the proposed development such that after review of the report, NEMA advises on the need or otherwise for a full EIA/ESIA. The EIA/ESIA regulations allow for approval of proposed projects at the Project Report Stage and have been effectively used by NEMA to grant Environmental Licenses to small projects without requiring a full EIA/ESIA.

Table 11: The NEMA Process for Approving Investment Project Reports

Steps	Action	Actor	Time requirement
One	Submission of PR to NEMA. NEMA receives PR, issues a receipt and acknowledgement.	WSDP/PCT and executing agencies	To be undertaken by executing agencies environmental and social specialists with input from the MoWI/PCT safeguards team
Two	NEMA mails PR to Lead Agencies	NEMA	7 days assuming all requirements are fulfilled
Three	Lead agencies review PR and issue comments	Lead Agencies	21 days (minimum) after receipt of PR from NEMA.
Four	Review of PR by NEMA	NEMA	30 days after receipt of PR.
Five	Communication of findings from NEMA review	NEMA	45 days after receipt of PR.

Typical outcomes of review of Project Reports from NEMA are likely to be as shown in **Table 12** below. These are as follows:

Project investment is approved. Where NEMA and lead agencies ascertain that a project report has disclosed adequate mitigation for identified impacts, the project is approved by NEMA upon which, conditions attached to grant of an Environmental License are issued. Once these are fulfilled, an Environmental License is also issued subject to conditions

which will be specific to the sub project in question. Among these is the requirement that the scheme design should not be altered without approval by NEMA. As well, an audit report is required of each project after the first year of completion.

Project Report discloses potential for major irreversible adverse impacts. In this case, NEMA may not approve the project.

Table 12: Possible Outcomes of NEMA Review of Project Reports

Outcome	Recommendation	Important precautions
Project found to have no significant Social and Environmental Impacts or Project report discloses sufficient mitigation measures	An Environmental License will be issued by NEMA	Project report must disclose adequate mitigation measures and show proof of comprehensive consultations within the area of influence.
Significant adverse social and environmental impacts found or Project Report fails to disclose adequate mitigation measures.	A full cycle EIA will be required by NEMA	As above
A proponent is dissatisfied with the outcome of the NEMA review.	An Appeal is provided for	

In the eventuality that a Project cannot be approved by NEMA on the basis of a Project Report, the proponent will be advised to undertake full cycle EIA/ESIA leading to development of a fully-fledged Environmental and Social Impact Assessment Study Report. **Figure 11** below outlines the EIA/ESIA process and review to be followed in an event that a determination for a full scale EIA/ESIA is arrived at by NEMA.

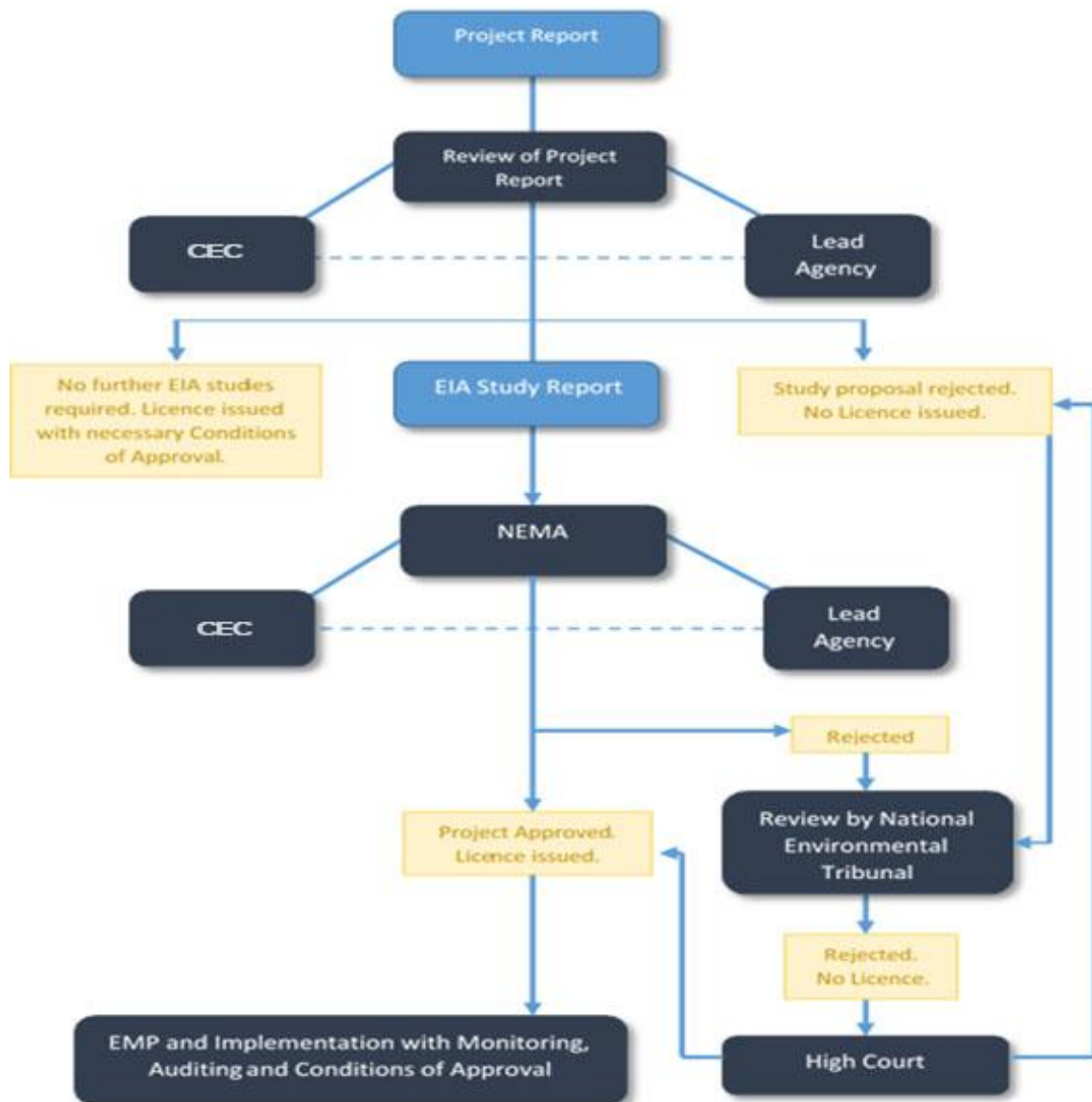


Figure 11: EIA Process

7.1.4 Scoping Report

Firstly, on advice from NEMA, the proponent will prepare a Scoping Report specifying the project's area of influence, the thematic scope and depth of assessments required, the composition of the required EIA/ESIA team, and the probable budget required to prepare the EIA/ESIA Study.

7.1.5 EIA/ESIA Study

Upon review and approval of the Scoping Report, NEMA will advise that an EIA/ESIA Study be undertaken. The EIA/ESIA Study will entail a systematic investigation of all impact areas as identified in the scoping report, taking care to document the current baseline environment, resource exploitation patterns and ecological pressure points.

The implementing agency will prepare the Terms of Reference for the EIA/ESIA. In certain instances where there are no specialists within the implementing agency to prepare the ToR, then the PMU environmental and social specialist will prepare this ToR.

Also, the impact mitigation measures provided in this ESMF may provide some basis for the design of the ToR. To facilitate the formulation of the ToR, a template has been prepared and provided in the **Annex G** of this report. In the case of existing operations, the outline for Environmental and Social Management Plans (ESMPs) is also given.

The ESIA will identify and evaluate potential environmental impacts for the proposed investments, evaluate alternatives, and design mitigation measures. The preparation of the ESIA will be done in consultation with stakeholders, including people who may be affected. It is mandatory for the ESIA study to undertake public consultation with all stakeholders in the project's area of influence. Public consultations are critical in preparing a proposal for the activities of the WSDP likely to have impacts on the environment and population. The public consultations should identify key issues and determine how the concerns of all parties will be addressed in the ESIA. When an ESIA is necessary, the administrative process enacted by the NEMA will be followed and executed. The ESIA Team should note and understand all stakeholder interests so as to cater for them in the ESMP. All accruing information will be written into a Draft EIA/ESIA Report prepared in the same format as the project Report and submitted to NEMA for review. Upon review of this report, it will be subjected to public review.

7.1.6 Social Impact Assessment Process

The breadth, depth, and type of analysis required for the social assessment will be proportional to the nature and scale of the proposed project investment's potential and effects on the affected persons.

The social assessment will be conducted by socio-economic experts and will ensure that through primary and secondary literature search critical information including (i) ethnic composition and demographic characteristics; (ii) land use; (iii) water use; (iv) non-agricultural activities such as livestock/itinerant pastoralism, fishing and other income generating activities; (v) socio-cultural issues regarding decision making within communities; (vi) gender division of labor and rights/responsibilities; (vii) use of land, land and resource tenure, access to and control over resources, resource rights including those related to water; (viii) access to different services and inclusion in the producer organizations based on gender; and (ix) baseline health situation with a focus on water borne and sexually transmitted diseases (STDs) among others are collected and documented

7.1.7 Public Review of the EIA/ESIA Report

EMCA provides for public consultation and review of all EIA reports prepared and dictates that all ESIA documents be disclosed at certain points for the public to provide comment. Copies of ESIA are placed at vantage points including the NEMA Library and NEMA website, NEMA Regional Offices and the sector Ministry responsible for a particular undertaking. NEMA serves a 21-day public notice in the national and local newspapers about the EIA/ESIA publication and its availability for public comments.

When the public review period elapses, the comments and issues raised by the public are consolidated and addressed and the report re-submitted as final.

7.1.8 EIA/ESIA Review Process

The Implementing Agency will submit the draft ESIA to NEMA. The report will be reviewed by a cross-sectoral National Environmental and Social Impact Assessment Technical Review Committee (ESIA/TAC) made up of representatives of various Ministries, Departments and Agencies. Notable ones are the Ministry of Environment and Mineral Resources, Science and Technology, Ministry of Energy, Ministry of Forestry and Wildlife, Ministry of Environment, Water and Natural Resources, Works and Housing, Town and County Planning etc. The review committee is expected to:

- *Assist the Agency in screening/reviewing all Environmental Assessment Applications and Reports (Environmental Impact Statements, Annual Environmental Reports, Environmental Management Plans and other related reports)*
- *Make recommendations to the Director General of the NEMA for final decision-making*
- *Provide technical advice on conduct of assessments and related studies on undertakings and the reports submitted on them;*
- *Make recommendations on the adequacy of the assessment and any observed gap;*
- *Advice on the seriousness of such gaps and the risks or otherwise to decisions required to be made recommend whether the undertakings as proposed must be accepted and under what conditions, or not to be accepted and the reasons, as well provide guidance on how any outstanding issue/areas may be satisfactorily addressed.*

The review committees are mandated to co-opt relevant officials as and when necessary. In certain instances the support of international ESIA institutions such as the Netherlands ESIA Commission are solicited in review of some major or controversial projects where there is limited national expertise.

7.1.9 Environmental Permitting Decision (EPD)

In cases where the draft ESIA is found acceptable, the implementing agencies of the specific WSDP will be notified to finalize the reports and submit 10 hard copies and an electronic copy. Following submission to NEMA, the implementing agency shall be issued an Environmental License.

7.1.10 Annual Environmental Audit

An independently commissioned environmental and social audit will be carried out on an annual basis. The audit team will report to NEMA and WSDP implementing agency (s), who will lead the implementation of any corrective measures that are required. An audit is necessary to ensure (i) that the ESMF process is being implemented appropriately, and (ii) that mitigation measures are being identified and implemented. The audit will be able to identify any amendments in the ESMF approach that are required to improve its effectiveness.

The annual audit also provides a strong incentive for the WSDP implementing agencies to ensure that the ESMF will be implemented, and the individual ESMPs will be developed and implemented.

7.2 Overall Project Compliance and Reporting

The ESMF will be utilized by the WSDP executing agencies. The executing agencies will collaborate with the safeguards specialist within the MoWI/PCT to ensure effective execution. **Table 13** provides a summary of the stages and institutional responsibilities for the screening, preparation, assessment, approval and implementation of the MoWI project activities.

Table 13: Screening Responsibilities.

No.	Stage	Institutional responsibility	Implementation responsibility
1.	Screening of Environmental and Social Infrastructure Project to assist in project formulation using checklist	Implementing agency,	Environmental Officer (EO) /Safeguard specialists in the executing agency and PCT
	Statutory Environmental Registration of WSDP investments	Implementing agency	Environmental Officer executing agency and PCT
2.	Determination of appropriate environmental assessment level/ category	NEMA / Implementing agency	-
2.1	Selection validation	World Bank	-
3.	Implementation of environmental assessment	Executing agency	Environmental Officer executing agency and PCT
	If ESIA is necessary		
3.1	Preparation of Terms of Reference	Executing agency	Environmental Officer executing agency and PCT
3.2	Validation of ESIA/ESMP TOR	NEMA/ World Bank	PCU Safeguard Specialist
3.3	Selection of Consultant	Executing agency	EO/ Procurement Officer/ Safeguard Specialist
3.4	Realization of the EIA, Public Consultation Integration of environmental and social management plan issues in the tendering and project implementation	Implementing agency/Procurement Office/Consultancy firm/Contractor	Environmental Officer/ Procurement Officer/ Safeguard Specialist IA
4.	Review and Approval	NEMA/ World Bank/ Executing Agency	
4.1	ESIA Approval (Category A, high-risk B)	NEMA/ World Bank	
4.2	Simple ESIA/ESMP Approval (Category B and C)	Executing agency	Environmental Officer/Project manager
5.	Public Consultation and disclosure	Executing agency / NEMA	EO/Contractor// PMU Safeguard Specialist
6.	Surveillance and monitoring	Executing agency /NEMA/ World Bank/ MoWI	Environmental Officer/ PCT Safeguard Specialist
7.	Development of monitoring indicators	Executing agency	Environmental Officer / PCT Safeguard Specialist

8 CAPACITY BUILDING, TRAINING AND TECHNICAL ASSISTANCE

8.1 Institutional Capacity for ESMF Implementation

The principal institution that will provide overall coordination including administration of the WSDP is the MoWI in order to ensure environmentally sound design and management of proposed project investments. However, other institutions will be directly or indirectly involved and they include among others:-

- *NEMA*
- *Ministry of Finance for disbursement of funds*
- *MoWI Implementing agencies*
- *World Bank*

8.1.1 Ministry of Water and Irrigation

MoWI is the principal implementing institution for this project and a senior official in the Ministry will be the overall Project Coordinator. The executing agencies of this project will report periodically to MoWI/WSDP/PCT on all issues and aspects related to this project including environmental and social safeguards.

8.1.2 Other Relevant Government line ministries and agencies

The technical capacity and capability of the institutions that will be implementing the ESMF for the WSDP will require bolstering in order to ensure effective implementation of the Environmental and Social Management Framework (ESMF). Some of the executing agencies expected to implement certain sub projects within the WSDP do not have to a great extent in-house capacity and specialist in environment and social safeguards.

A capacity needs assessment of the executing partner institutions on social and environmental evaluation, screening, mitigation and monitoring will be necessary as part of the capacity strengthening program. This ESMF proposes capacity building by way of awareness creation and sensitization, actual training through workshops and seminars as well as short courses as described below for different stakeholder and implementing partners within the WSDP.

8.1.3 Water Users Association

The Water Act provides for formation of Water Users Association for each water catchment and solely remains responsible for ensuring the protection of water resources and catchment including playing a significant role in the management of the specific water resource. WUAs will play a critical role in monitoring and evaluation and management of water projects and thus will require training and capacity building on environmental safeguards to strengthen their role.

8.2 Identification of Capacity Needs

The first step in pursuing capacity building will be to identify the capacity needs of the various stakeholders. Capacity building should be viewed as more than training. It is human resource development and includes the process of equipping individuals with the understanding, skills and access to information, knowledge and training that enables them to perform effectively. It also involves organizational development, the elaboration of relevant management structures, processes and procedures, not only within organizations but also the management of relationships between the different organizations and sectors (public, private and community). The capacity building requirements will mostly be in the form of training workshops and seminars.

8.2.1 Technical Capacity Enhancement

Awareness creation, training and sensitization will be required for personnel of the following institutions.

- *National Environment Management Authority*
- *Environmental and Social officers from implementing partner ministries and agencies*
- *Local Engineering Contractors who will be contracted or sub contracted to undertake the construction works*
- *County Environment Officers*
- *Water Users Association*

8.2.2 Training will focus on:

- *Stakeholder engagement, consultation and partnerships;*
- *ESIA law, relevant environmental policies;*
- *Water Quality Monitoring*
- *Development of mitigation measures and Environmental Management Plans*
- *Thorough review of Country ESIA procedures, Environmental Management Policies & Guidelines and WB safeguards as well as their implementation and enforcement.*
- *The group will also be trained on use and application of ESMF tools (Screening checklists, ESIA), their review, implementation and enforcement.*
- *Participants will be trained on environmental reporting, monitoring and follow-up of ESMF*
- *Community Consultation/Participatory Planning*
- *Significant emphasis will be placed on understanding ESIA procedures, Environmental Management policies & guidelines, WB safeguards, implementation and enforcement*
- *Reporting, monitoring and follow-up of ESMF*

Table 14: Trainings and Target groups

Training Aspect	Target group
EIA law, relevant Environment policies and World Bank Safeguard Policy and guidelines	Government agency representatives including district-level officials, NGOs, CBOs.
Relevant social laws and policies	Government agency representatives including district-level officials, Local Government, Private Sector, NGOs, CBOs and community members.

Table 15: Training directly linked to implementation ESMF

	PCT/MoWI	County Government	Private Sector	NGO & CBO	Community
Role of ESMF in WSDP	A	S	S	S	S
Identification of Indicators and data collection		TS	TS	TS	TS
Identification of environmental and social Impacts		T	T	T	T
Determination of negative and positive impact of project investments	T	T	T	T	A
Development of mitigation measures and Environmental Management Plan including Institutional Responsibility Framework and Budget.		T	T	T	T
EIA procedures, Environmental Management policies & guidelines, WB safeguards, implementation and enforcement	T	S	S	S	S
Use and application of ESMF tools (Screening checklists, ESIA, EA)	T	T	T	T	T
Review of ESMF tools, implementation and enforcement	T	T	S	T	S
Reporting, monitoring and follow-up of ESMF	S	T	T	T	S
Training of Consultants on Public Consultation Process	T	T	T	T	S

* *A=Awareness-T=Training-S=Sensitization*

Contractors and supervision consultants as part of best practice, and in order to comply with international standards for Occupational, Health and Safety (OHS), will be provided with awareness raising and environmental and OHS training on site. These should focus not only on the construction phase but also operational phase of the Project. A proposed format for 1 day training is provided in the following **Table 16** below.

Table 16: Awareness raising and training for civil work contractors and supervision consultants

Topic	Input
Awareness raising <ul style="list-style-type: none"> Environmental awareness and the importance of effective mitigation Practice mitigation measures and environmentally sound construction techniques Compliance with local legislation on OHS, EIA and ESMP requirements 	0.5 day
Technical training <ul style="list-style-type: none"> Implementation of the ESMP (contract clauses) Monitoring of ESMPs (and RAPs) Preparation of budgets 	0.5 day
Total	1 day

The training and capacity building exercises will take into consideration during their development, the integration and fulfilment of the requirements of World Bank social and

environmental policies and guidelines, as well as those on Environmental Protection (including relevant policies, regulations and guidelines). Where institutional capacity in terms of availability of human resource is inadequate, the project will engrain support for this through hiring of qualified staff to provide necessary expertise.

Training directly linked to the implementation of the ESMF should be undertaken first and subsequently followed with regular interval training on aspects influencing success of ESMF. The training program/agenda below provides a sample training outline and course content. The training programmes have been clustered into appropriate groups to facilitate for various target groups. Target groups for training, awareness and sensitization will be as follows.

8.3 ESMF Implementation Budget

The estimated total cost for ESMF implementation cannot be estimated because of variation from project to project. The table below however, highlights the key indicative aspects that would require a cost budget and tentative estimates for activities like awareness creation and capacity building.

Table 17: Indicative Areas For Budgeting for ESMF in WSDP

Activity	Description	Unit cost, US\$	No	Total Cost, US\$
Preparation and implementation of ESIAs, ESMPs and related safeguard management plans for investments funded from the investment pool	Recruitment of Consultants and experts to prepare and review the ESIAs and ESMPs			
Monitoring of ESIAs, ESMPs and related safeguard management plans for WSDP	Recruitment of Consultants and experts to monitor the ESIAs and ESMPs			
Awareness creation and Capacity building	Training workshop/seminars on Programme for MEWNR, project staff			100,000
Study tours	Selected environmental champions participating in WSDP drawn from NEMA, Implementing Agencies to visit related or similar project sites			
Capacity building/improvement for Line Ministries	Training workshops			300,000
Awareness creation for general public	Radio, TV discussions, Newspaper adverts on issues relating to ESMF			200,000

9 PUBLIC CONSULTATION AND DISCLOSURE

9.1.1 ESMF Disclosure

The World Bank disclosure policies require that ESMF are disclosed as well as ESIA reports for sub projects are made available to project affected groups, local NGOs, and the public at large. Public disclosure of ESIA documents is also a requirement of the Kenya environmental procedures.

WSDP executing agencies in collaboration with the line agencies and NEMA will make available copies of the ESMF and ESIA on the respective websites and offices of the ministries. Public notice in the media should be used to serve as information source to the public. However, the ESIA will have to be advertised in the local newspaper, website of NEMA, that of the executing agency. The notification should provide:

9.1.2 Public Consultation

The implementation of each specific sub project investment under the WSDP will require that public consultation and stakeholder engagement is carried out as a means of gathering information on public concerns, issues, perception, fears and suggestions on proposed investment. Public consultation will be conducted in line with the requirements of Environmental Management and Coordination Act (EMCA) which calls for utilisation of all forms of consultation and stakeholder engagement and the Bank's requirements for public consultation. The consultations will be conducted through among others;-

- *Key Informant Interviews*
- *Direct Interviews with Project Affected Persons*
- *Workshops and Meetings*
- *Public Hearings (Barazas)*
- *Advertisements' in the print and electronic media*
- *Focus Group Discussions*
- *Internet and telephone interviews*

9.1.3 Grievance Mechanism

Grievance mechanisms provide a formal avenue for affected groups or stakeholders to engage with the project implementers or owners on issues of concern or unaddressed impacts. Grievances are any complaints or suggestions about the way a project is being implemented. They may take the form of specific complaints for damages/injury, concerns about routine project activities, or perceived incidents or impacts. Identifying and responding to grievances supports the development of positive relationships between projects and affected groups/communities, and other stakeholders.

The World Bank standards outline requirements for grievance mechanisms for some projects. Grievance mechanisms should receive and facilitate resolution of the affected institutional or communities' concerns and grievances.

The World Bank states the concerns should be addressed promptly using an understandable and transparent process that is culturally appropriate and readily acceptable to all segments of affected communities, at no cost and without retribution. Mechanisms should be appropriate to the scale of impacts and risks presented by a project.

Grievances can be an indication of growing stakeholder concerns (real and perceived) and can escalate if not identified and resolved. The management of grievances is therefore a vital component of stakeholder management and an important aspect of risk management for a project. Projects may have a range of potential adverse impacts to people and the environment in general, identifying grievances and ensuring timely resolution is therefore very necessary.

9.2 World Bank Grievance Redress

Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit <http://www.worldbank.org/GRS>. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

9.2.1 Establishment of Grievance Redress Committee

Each sub project investment will have a Grievance Redress Committee (GRC) established for the purpose of handling grievances related to environmental and social concerns. The GRCs will be ad hoc institutions established primarily for the sub project investment and will have no legal mandate. The GRC will be established under the guidance of NEMA County Director of Environment and comprise of:

1. Project Affected Persons representative
2. Environmental and Social Specialists from the WSDP Executing Agency
3. NEMA County representative
4. Representatives from relevant line ministries
5. Contractor/Engineers
6. Women and Youth Representatives
7. Representation of active NGOs or CBOs in project area

Table 11: Grievance Redress Process

Process	Description	Time frame	Other information
Identification of grievance	Face to face; phone; letter, e-mail; recorded during public/community interaction; others	1 Day	Email address; hotline number
Grievance assessed and logged	Significance assessed and grievance recorded or logged (i.e. in a log book)	4-7 Days	Significance criteria: Level 1 –one off event; Level 2 – complaint is widespread or repeated; Level 3- any complaint (one off or repeated) that indicates breach of law or policy or this ESMF provisions
Grievance is acknowledged	Acknowledgement of grievance through appropriate medium	7-14 Days	
Development of response	Grievance assigned to appropriate party for resolution Response development with input from management/ relevant stakeholders	4-7 Days 7-14 Days	
Response signed off	Redress action approved at appropriate levels	4-7 Days	Project staff to sign off
Implementation and communication of response	Redress action implemented and update of progress on resolution communicated to complainant	10-14 Days	
Complaints Response	Redress action recorded in grievance log book Confirm with complainant that grievance can be closed or determine what follow up is necessary	4-7 Days	
Close grievance	Record final sign off of grievance If grievance cannot be closed, return to step 2 or refer to sector minister or recommend third-party arbitration or resort to court of law.	4-7 Days	Final sign off on by WSDP/PMU Coordinator

9.2.2 Public Complaints Committee

The Public Complaints Committee on Environment is an organ established by the EMCA whose role is to address complaints by the public on projects and investments that the public oppose due to environmental and social impacts. In an event that the public is dissatisfied with the proposed projects the PCC will serve as the first stop for getting redress and if this fails then the National Environmental Tribunal (NET) another organ set up by NET to resolve environmental and social disputes on investments will form the next avenue for redress.

9.2.3 Land and Environment Courts

The Constitution of Kenya (CoK) has further provided for specific courts to deal with land and environment (Land and Environment Courts) that are charged with playing a vital role in reconciling environmental related disputes and these courts will serve as the ultimate stop in the event of disputes or complaints that cannot be resolved through other alternative means.

10 REFERENCE

1. Government of Kenya Environmental Management and Coordination Act 1999
2. Government of Kenya Land Control Act
3. Government of Kenya Local Government Act
4. Government of Kenya Physical Planning Act
5. Government of Kenya Public Health Act
6. Government of Kenya Forest Act
7. Government of Kenya Vision 2030
8. Government of Kenya Water Act 2002
9. Government of Kenya Occupational Health and Safety Act
10. Government of Kenya The Land Acquisition Act
11. Government of Kenya The Trust Land Act
12. Government of Kenya Antiquities and Monuments Act, Cap
13. Government of Kenya The Lakes and Rivers Act Chapter 409 Laws of
14. Government of Kenya The Employment Act
15. Government of Kenya National Policy on Environment and Development Sessional Paper No. 6 of 1999
16. Government of Kenya National Environmental Sanitation and Hygiene Policy-July 2007
17. Government of Kenya Fisheries Policy
18. Government of Kenya Forest Policy 2005
19. Government of Kenya Wildlife Policy 2007
20. Government of Kenya Wildlife Conservation and Management Act
21. Project Documentation for WSDP
22. Survey of Kenya 2003
23. World Bank Aide Memoire for WSDP
24. World Bank Draft Project Appraisal Document (PAD), WSDP

Annex A. Stakeholders Consulted

The key institutions likely to implement the WSDP 2 have been consulted so far and as the program partners become clearer and defined additional consultation will be undertaken. An attendance list and few photographs have been attached as separate documents to this ESMF.

Annex B. Stakeholders Issues and Concerns Summary

MINISTRY OF WATER AND IRRIGATION **Water and Sanitation Development Programme**

Minutes of Public Consultations on ESMF and RPF held at Hilton Hotel – Wajir County

Meeting attended by:	Stakeholders drawn from County Government, Water Institutions, NGOs, CBOs and Ministries
No. of Participants at the meeting:	74 (Seventy Four)
Date:	5 th January, 2017
Time:	9:25HRS
Facilitator:	Lazarus Kubasu Nolasco
Agenda: <ol style="list-style-type: none"> I. Word of prayer and Introduction of the participants II. Welcoming Remarks III. Background of the Consultations and Brief on Water and Sanitation Development Programme IV. ESMF and RPF presentations V. Plenary Session to Receive comments/ feedback from participants VI. Closing Remarks. 	
<p>Minute 01: Introductory Remarks and Purpose of the meeting</p> <p>The meeting began with a word of prayer. The County CEC water welcomed the stakeholders present. He informed the participants that there is a serious shortage of water and sanitation services in Wajir Town and the County at large but the County Government has done a lot to ensure improved services. He noted that the water table has gone down due to drought making the shallow wells dry. This implies that one has to dig deeper than before and this has necessitated various Feasibility studies to be undertaken to explore probable sources of water for Wajir Town.</p> <p>The objective of the meeting was to discuss the objective and coverage of Water and Sanitation Development Programme and how Environmental, Social and Resettlement aspects related to project will be handled using the developed Environmental and Social</p>	

Management Framework and Resettlement Policy Framework. He therefore requested participants to listen carefully on the presentations and give their views and comments to enrich the developed frameworks.

The County Chief Officer also added that Water tracking was done between June and November 2016 and it has now started due to failure of short rains. There are 12,000 shallow wells within the Urban Centre. 10% of those are dry and 8% are drying up. In some cases it is taking up to 10 minutes to fill a 5 litre jerrican and currently shallow wells are going up to 50 metres. There are a number of probable options for sources of water for Wajir Town like the Merti Aquifer and Butte Dam. Further studies will be done to determine the best source and presented to the County for investment.

Minute 02: Background of the Consultations and brief on Water and Sanitation Development Programme

Eng. Kyengo, the Programme Coordinator thanked all the participants present and stressed the need of public participation as enshrined in the constitution of Kenya. He emphasized that consultation and feedback from stakeholders in the planning stage is important in ensuring that all concerns are addressed and this avoids future conflicts especially during implementation of donor projects.

The participants were informed that the new programme will be funded by the World Bank and will cover water and sanitation projects in Six Counties, two in North and North Eastern Kenya – Wajir and Garissa and Four in the Coastal region, Taita Taveta, Kilifi, Mombasa and Kwale. The project will have four distinct components: - Water and Sanitation in the Coastal area, Water and Sanitation in Wajir and Daadab Host Communities in Garissa County, Performance based financing and Project Management. The total cost of the project is 330million USD - donor contribution 300million USD and 30million USD GoK contribution.

Minute 03: Environmental and Social Management Framework (ESMF) and Resettlement Policy Framework (RPF)

Mr. Lazarus Kubasu Nolasco presented the ESMF and RPF frameworks highlighting the principles and contents of the frameworks and invited participants to give their comments.

The Environment and Social Management Framework (ESMF) has been prepared to: (i) integrate environmental and social aspects into the pre-feasibility and feasibility analysis of potential future WSDP sub-projects at the preparation and planning stages; (ii) promote transparency through the use of extensive stakeholder consultations and disclosure procedures; (iii) take into account possible uses of innovative and strategic environmental and social analyses; (iv) encourage consideration of technical alternatives

based on possible environmental and social impacts; and (v) strengthen environmental and social management capacities within the implementing institutions of WSDP. The ESMF also spells out the E&S safeguards, institutional arrangements and capacity required to use the framework. This ensures that sub-projects under WSDP meet the national and Banks E&S requirements, and also consistent with OP/BP 4.01 and OP/BP 4.12 (of the Bank).

The **Resettlement Policy Framework (RPF)** for WSDP has been prepared because the extent and location of all WSDP subprojects cannot be known at the moment. The RPF establishes resettlement objectives and principles, organizational arrangements, entitlement matrix and eligibility criteria for any resettlement operation that WSDP may trigger during project implementation. In the RPF, existing local laws and policies related to land acquisition and compensation and World Bank's Operational Policy 4.12 has been referred to. The legal and institutional framework in Kenya over land administration, land tenure, and land expropriation is outlined.

Minute 04: Discussion and Feedback from the Stakeholders:

What mechanisms will be put in place to ensure that there is no political interference that is likely to affect this initiative?

Politicians will be engaged directly to avoid conflicts and intense community participation will be done to ensure right information is disseminated.

Public participation has not been properly undertaken and not well planned. What will be done to address this?

The project management will ensure that there is structured engagement and agreements between the County Government and communities in all aspects of the project. The county has already a Public Participation office which will ensure proper consultations are carried out and documented.

Does the Executing Agency have money for research to establish sources of water for Wajir Town?

Studies and research are inclusive in the planned programme and will incorporate what has already been done and wider bearing in mind that Wajir Town is growing

Is there need to do further studies on Merti aquifer as some studies have already been done?

As much as possible any study will build on what has already been undertaken.

Does Wajir Water & Sanitation Company meet the minimum requirements under WASREB to attract performance based financing?

Eligibility criteria will be set and all WSPs will be requested to bid and if the company is found to be eligible then it will receive the funds on performance basis.

Wajir County has invested a lot in water infrastructure. How will the new program address sustainability aspects?

By strengthening capacity building through Technical Assistance.

Sanitation covers a wide area and the programme needs to be specific on what to cover, whether conventional treatment on on-site sanitation?

Feasibility studies will be carried out to give detailed description of the sanitation infrastructure that is feasible for Wajir Town taking into account the existing scenario.

Is the earmarked financing a grant or a loan?

The financing is on-lending as a grant from the National Treasury whereby the NG will pay on behalf of the CG appreciating the fact that WAJWASCO is not in a financial position to pay for a loan

Is the project already designed and is there any idea on what needs to be done?

Studies are currently ongoing that will guide on the interventions required. Once the interventions are agreed upon then specific projects will be designed.

Will there different Environment Assessment Reports for different geographical areas?

Once specific projects are identified, EIA will be carried out on each specific project.

There has been no protection of dry lands from new settlements, bush clearing and individual activities. How is the new programme going to address this?

The works contractor will be tasked to implement the mitigation measures proposed in the Environmental and Social Management Plan in addressing new settlements and individual activities.

Management of some projects implemented in the County has not been transparent with no documents or reports shared. Is the new programme going to be transparent?

The Counties will implement the county specific projects with stakeholder participation and consultation to ensure accountability and transparency. The Ministry will coordinate and ensure timely submission of financial and progress reports.

Management of Resettlement process and modalities of payments – is it going to be done by the County or National Government?

The process has been incorporated in the RPF but the actual compensation will be done by the National Land Commission to PAPs documented in the developed RAP. SCRCC will ensure that the process is smooth and LRCC will handle any disputes.

Most of the residents do not have title deeds – how are the affected persons going to be identified without the legal documents?

Documentation and Compensation will be guided by the National Land Commission. There is no point of worry.

Will the Ministry micro-manage the projects?

Implementing agency is the County Government and the companies while the National Government will coordinate the programme ensuring adequate and timely reporting. The Executing Agency will engage Technical Assistance to support in procurement and M&E.

What are the modalities for payment of the project activities?

Implementing Agency can pay up to 200,000 USD but above 200,000 the CG has to prepare certificates and send to World Bank to pay directly to the project consultant/contractor.

What will happen to the existing water infrastructure?

The feasibility studies will recommend what project activities will be carried out in order to achieve the development objective. It can be expansion, rehabilitation or new project.

What are the Modalities for Compensation?

We will use replacement costs. Replacement costs will include the current market rates of the affected asset plus all the transaction costs and disturbance allowance in acquiring a similar asset.

What type of Capacity Building is earmarked?

This will include strengthening of institutions like the water companies through short courses targeting Non revenue reduction, improving efficiency of billing and revenue collection systems.

Minute 04: Closing Remarks

The CEC thanked the stakeholders present for sparing their time to attend the meeting and reiterated that the County will endeavour to comply with all the requirements of the Environmental policies in executing the programme activities. Eng. Kyengo also thanked the participants for their contributions and informed them that their views will be incorporated into the frameworks

Minute 05: AOB

There being no other business the meeting ended with a word of prayer.

MINISTRY OF WATER AND IRRIGATION
Water and Sanitation Development Programme
Minutes of Public Consultations on ESMF and RPF held at Nomads Hotel – Garissa County

Meeting attended by:	Stakeholders drawn from County Government, Water Institutions, NGOs, CBOs and Ministries
No. of Participants at the meeting:	37 (Twenty)
Date:	6 th January, 2017
Time:	9:50HRS
Facilitator:	Lazarus Kubasu Nolasco
Agenda: <ol style="list-style-type: none"> I. Word of prayer and Introduction of the participants II. Welcoming Remarks III. Background of the Consultations and Brief on Water and Sanitation Development Programme IV. ESMF and RPF presentations V. Plenary Session to Receive comments/ feedback from participants VI. Closing Remarks. 	
Minute 01: Introductory Remarks and Purpose of the meeting The meeting began with a word of prayer. The County CEC Hon. Mohamed Abdi welcomed the participants and then introduced the stakeholders present. He informed the participants that their opinion is essential in ensuring that the project is well understood by the beneficiaries from the planning stage. He informed the participants that the objective of the consultation was to discuss the objective and coverage of Water and Sanitation Development Programme and how Environmental, Social and Resettlement aspects related to project will be handled using the developed Environmental and Social Management Framework (ESMF) and Resettlement Policy Framework (RPF). He therefore requested participants to listen carefully on the presentations and give their views and comments to enrich the developed frameworks.	
<u>Minute 02: Background of the Consultations and brief on Water and Sanitation Development Programme</u>	

Eng. Kyengo, the Programme Coordinator thanked all the participants present and stressed the need of public participation as enshrined in the constitution of Kenya. He emphasized that consultation and feedback from stakeholders in the planning stage is important in ensuring that all concerns are addressed and this avoids future conflicts especially during implementation of donor projects.

The participants were informed that the new programme will be funded by the World Bank and will cover water and sanitation projects in Six Counties, two in North and North Eastern Kenya – Wajir and Garissa and Four in the Coastal region, Taita Taveta, Kilifi, Mombasa and Kwale. The project will have four distinct components: - Water and Sanitation in the Coastal area, Water and Sanitation in Wajir and Daadab Host Communities in Garissa County, Performance based financing and Project Management. The total cost of the project is 330million USD - donor contribution 300million USD and 30million USD GoK contribution.

Minute 03: Environmental and Social Management Framework (ESMF) and Resettlement Policy Framework (RPF)

Mr. Lazarus Kubasu Nolasco presented the ESMF and RPF frameworks highlighting the principles and contents of the frameworks and invited participants to give their comments.

The Environment and Social Management Framework (ESMF) has been prepared to: (i) integrate environmental and social aspects into the pre-feasibility and feasibility analysis of potential future WSDP sub-projects at the preparation and planning stages; (ii) promote transparency through the use of extensive stakeholder consultations and disclosure procedures; (iii) take into account possible uses of innovative and strategic environmental and social analyses; (iv) encourage consideration of technical alternatives based on possible environmental and social impacts; and (v) strengthen environmental and social management capacities within the implementing institutions of WSDP. The ESMF also spells out the E&S safeguards, institutional arrangements and capacity required to use the framework. This ensures that sub-projects under WSDP meet the national and Banks E&S requirements, and also consistent with OP/BP 4.01 and OP/BP 4.12 (of the Bank).

The **Resettlement Policy Framework (RPF)** for WSDP has been prepared because the extent and location of all WSDP subprojects cannot be known at the moment. The RPF establishes resettlement objectives and principles, organizational arrangements, entitlement matrix and eligibility criteria for any resettlement operation that WSDP may trigger during project implementation. In the RPF, existing local laws and policies related to land acquisition and compensation and World Bank's Operational Policy 4.12 has been referred to. The legal and institutional framework in Kenya over land administration, land tenure, and land expropriation is outlined

Minute 04: Discussion and Feedback from the Stakeholders:

In Daadab there is massive environmental degradation. Is the project focused on restoration of the environment?

An extensive Environmental Impact Assessment (EIA) will be carried out and depending on the extent of destruction, categorization will be done and appropriate mitigation measures proposed in the Environmental Management Plan.

In utilizing international waters, a letter was written to Somali for use of Merti Aquifer. Is there any objection by Somali?

The Government of Somali was notified by early December, 2016 giving details of the quantity of water to be abstracted and so far we have not received any objection.

Has environmental Impact Assessment been carried out for the proposed Development programme?

No, EIA will be carried out once specific projects have been identified and to be guided by the developed Environmental and Social Management Framework (ESMF) of which we have presented today.

In focusing on International Operation Policies, where are pastoralists placed in handling Indigenous people?

Indigenous people are people whose livelihood depends almost exclusively on land, water and forests resource, but the constitution recognizes vulnerable and marginalized people. Pastoralists as live have not been classified under vulnerable or marginalized groups.

But Pastoral Communities depend on forests and Land, therefore there is need to accommodate this.

The question of indigenous people remain contentious, but the constitution has listed them vulnerable communities. Indigenous Peoples are culturally distinct societies and communities. The land on which they live and the natural resources on which they depend are inextricably linked to their identities, cultures, livelihoods, physical, and spiritual well-being. Some of the most biologically important lands and waters are intact as a result of indigenous peoples' stewardship. They hold vital ancestral knowledge and expertise on how to adapt, mitigate, and reduce risks from climate change and natural disasters. However, only a fraction of these lands are officially recognized by Government. In Kenya, they are usually referred as Vulnerable and Marginalized people.

Resettled people create environmental threats. What precautions will the project put in place to address this?

EIA will be carried out on where the people are resettled and Environmental Management Plan (EMP) will be prepared that will recommend on mitigation activities to be implemented to conserve and protect the environment where people are resettled.

Research has shown that gravity systems can be used to create energy to pump water. Is there any possibility to create artificial hills under this programme to pump water for Garissa Water and Sewerage Company to reduce on current huge electricity bills?

Garissa Water and Sewerage Company to utilize the component of capacity assistance under the programme and explore options of reducing energy in pumping. The county Government will also engage other agencies focusing on solar energy.

How much public participations are going to be done for this programme?

Public participation is not well defined in terms of how many consultations that need to be done but for those who will be affected there will be individual consultation. ESMF also recommends that during project preparation, the design consultant will undertake public consultation in preparing EIA report and no resettlement action plan will be approved without public consultation. Before any project can be implemented, public consultations will be undertaken.

How will Human Wildlife conflict be addressed?

This will be handled during design stage and preparation of EIA by recommending ways of handling the conflict. The approach agreed will be included in the EMP to be executed by the Contractors and County during project implementation.

In Daadab, who are the target beneficiaries? The project being implemented in ASAL area, will it focus on Agricultural use or Irrigation?

The project will benefit Daadab host communities covering a 50km radius from Daadab Refugee Camp and the project is targeting only Water and Sanitation aspects.

How will project sustainability issues be addressed?

By strengthening capacity building through Technical Assistance of the County Water Supply providers.

Is there any possibility of factoring a small portion of the project activities to increase treated water capacity for Garissa W/Supply?

The county government is in discussion with other development partners to address turbidity and storage improvement. For enhancing energy component in North and North eastern counties the World bank is supporting installation of hybrid or solar energy systems for operations. This will reduce the cost of O & M.

How will security issues be handled when implementing the project components in areas with security challenges?

The security issues will be handled by the county commissioner in collaboration with UNHCR.

Minute 04: Closing Remarks

The County CEC Hon. Mohamed thanked the stakeholders present for sparing their time to attend the meeting. He added that Garissa Water and Sewerage Company will be strengthened to cover rural areas of the county. Eng. Kyengo also thanked the participants for their contributions and informed them that their views will be incorporated into the frameworks.

Minute 05: AOB

There being no other business the meeting ended with a word of prayer.

MINISTRY OF WATER AND IRRIGATION
Water and Sanitation Development Programme
Minutes of Public Consultations on ESMF and RPF held at Leopards Beach Hotel – Kwale County

Meeting attended by:	Stakeholders drawn from County Government, Water Institutions, NGOs, CBOs and Ministries
No. of Participants at the meeting:	20 (Twenty)
Date:	9 th January, 2017
Time:	10:10HRS
Facilitator:	Lazarus Kubasu Nolasco
Agenda: <ol style="list-style-type: none"> I. Word of prayer and Introduction of the participants II. Welcoming Remarks III. Background of the Consultations and Brief on Water and Sanitation Development Programme IV. ESMF and RPF presentations V. Plenary Session to Receive comments/ feedback from participants VI. Closing Remarks. 	
Minute 01: Introductory Remarks and Purpose of the meeting The meeting began with a word of prayer. The County CEC Hon. Hemed Mwabu welcomed the participants and then introduced the stakeholders present. He informed the participants that it was an important sitting to discuss issues related to the project and emphasized on the significance of the project. He noted that demand for water in Kwale is more than what is being currently supplied and Mwache dam will relieve this pressure once completed. He also informed the participants that the main aim of the consultation was to discuss the objective and coverage of Water and Sanitation Development Programme and how Environmental, Social and Resettlement aspects related to project will be handled using the developed Environmental and Social Management Framework and Resettlement Policy Framework. He therefore requested participants to listen carefully on the presentations and give their views and comments to enrich the developed frameworks.	
<u>Minute 02: Background of the Consultations and brief on Water and Sanitation Development Programme</u> Eng. Kyengo, the Programme Coordinator thanked all the participants present and stressed the need of public participation as	

enshrined in the constitution of Kenya. He emphasized that consultation and feedback from stakeholders in the planning stage is important in ensuring that all concerns are addressed and this avoids future conflicts especially during implementation of donor projects.

The participants were informed that the new programme will be funded by the World Bank and will cover water and sanitation projects in Six Counties, two in North and North Eastern Kenya – Wajir and Garissa and Four in the Coastal region, Taita Taveta, Kilifi, Mombasa and Kwale. The project will have four distinct components: - Water and Sanitation in the Coastal area, Water and Sanitation in Wajir and Daadab Host Communities in Garissa County, Performance based financing and Project Management. The total cost of the project is 330million USD - donor contribution 300million USD and 30million USD GoK contribution.

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The **Resettlement Policy Framework (RPF)** for WSDP has been prepared because the extent and location of all WSDP subprojects cannot be known at the moment. The RPF establishes resettlement objectives and principles, organizational arrangements, entitlement matrix and eligibility criteria for any resettlement operation that WSDP may trigger during project implementation. In the RPF, existing local laws and policies related to land acquisition and compensation and World Bank's Operational Policy 4.12 has been referred to. The legal and institutional framework in Kenya over land administration, land tenure, and land expropriation is outlined

Minute 04: Discussion and Feedback from the Stakeholders:

What criteria was used to select the four counties in the coastal region?

The four counties were considered because they share water sources. In addition, under WaSSIP a water master plan was developed and flagship projects proposed. Phase I – development of Mwache dam, Phase II – Development of Baricho 2 and expansion of Taveta Lumi, Phase 3 – Development of Mzima Pipeline. It therefore means that once Mwache dam is developed, more water will be available for Kwale, Mombasa, Kilifi and Taita Taveta and thus expansion of water and sewerage infrastructure is required.

To what extent WSPs staff will benefit from this programme?

An assessment will be carried out to identify capacities that will need strengthening under technical assistance of the programme.

What mechanisms are going to be put in place to ensure that cash compensations do not lead to miserable life?

The bank policy requires that the landowner is consulted and be given an opportunity to identify compensation preferences. In most cases and in most projects in Kenya, project affected persons prefer cash compensation to land for land compensation. We will not object to any preference. However, safeguards measures will be put in place to avoid women and children being disadvantaged. WSDP will provide Financial training on Money management. Two, the National land commission usually advises that before compensation Man and Wife sign for the money.

What safeguard plan is in place to cater for WSPs who lose customers due to resettlement?

If the company loses business or business structures as a result of relocating customers, it is treated as a project affected institution and is entitled for compensation.

How are people living in the Mwache Dam project area handled if they are not indigenous?

Social assessment was carried out to confirm if they were indigenous and the result was negative. However, the Kenya Water Security and Climate Resilience Program has a livelihood restoration program for the vulnerable persons in the area.

Most of the project aspects are to improve water supply. Is there a sub-component for protecting the water sources?

During specific project design and planning, full water resources cycle will be looked at and details of interventions to be provided that will be subjected to public consultations.

It is not clear how National Land Commission comes into play taking into account there are other institutions implementing the project activities.

National Land Commission has the legal mandate of handling compensation issues and not individual institution. Once RAP is prepared, it is used to secure funds from Treasury by the executing agency and the funds transferred to National Land commission account. The NLC does the valuation and awards. Therefore, the implementing agencies will work together with NLC to ensure the compensations are done transparently and the necessary changes made to the ownership documents.

Advantage of using NLC is that it reduces changes of claims and court cases that usually lead to delays in project implementation. Then NLC is the legal constitutional body task with compulsory acquisition of land.

Is there a fixed timeframe within which the project takes from inception to actual implementation and is there any possibility of reviewing it?

Yes it's possible to have a fixed timeline to have all the documentation finalized, but in some cases there is no control over the period due to back and forth to have the documents approved and release of money.

What happens if World Bank Operational policies conflict Local laws?

If it is a World Bank funded project and the Operational policy conflicts the local national laws, then the World Bank OP applies.

Taking into account the effects of climate change, have hydrological and hydrogeological surveys been done to confirm whether there is adequate water resources for the projects?

To ensure that there will be adequate and sufficient water resources, all the studies will be done to check on the potential of the water resources including environmental concerns.

Minute 04: Closing Remarks

The County CEC Hon. Hemed Mwabu thanked the stakeholders present for attending the meeting. Eng. Kyengo also thanked the participants for their contributions and informed them that their views will be incorporated into the frameworks.

Minute 05: AOB

There being no other business the meeting ended with a word of prayer.

MINISTRY OF WATER AND IRRIGATION

Water and Sanitation Development Programme

Minutes of Public Consultations on ESMF and RPF held at Sai Rock Hotel – Mombasa County

Meeting attended by:	Stakeholders drawn from County Government, Water Institutions, NGOs, CBOs and Ministries
No. of Participants at the meeting:	35 (Thirty Five)
Date:	10 th January, 2017
Time:	9:40HRS
Facilitator:	Lazarus Kubasu Nolasco
Agenda: <ul style="list-style-type: none">I. Word of prayer and Introduction of the participantsII. Welcoming RemarksIII. Background of the Consultations and Brief on Water and Sanitation Development ProgrammeIV. ESMF and RPF presentationsV. Plenary Session to Receive comments/ feedback from participantsVI. Closing Remarks.	
Minute 01: Introductory Remarks and Purpose of the meeting <p>The meeting began with a word of prayer. The County Water Director Mr. Bakari welcomed the participants and then introduced the stakeholders present. He informed the participants that the current water demand for Mombasa is 186,000m³/day with current supply of 40,000m³/day which implies Mombasa requires additional investment to address the shortfall in water and Sanitation coverage which stands at 10%. He also informed the participants that the main aim of the consultation was to discuss the objective and coverage of Water and Sanitation Development Programme and how Environmental, Social and Resettlement aspects related to project will be handled using the developed Environmental and Social Management Framework and Resettlement Policy Framework. He therefore requested participants to listen carefully on the presentations and give their views and comments to enrich the developed frameworks.</p>	
<u>Minute 02: Background of the Consultations and brief on Water and Sanitation Development Programme</u> <p>Eng. Kyengo, the Programme Coordinator thanked all the participants present and stressed the need of public participation as enshrined in the constitution of Kenya. He emphasized that consultation and feedback from stakeholders in the planning stage is important in ensuring that all concerns are addressed and this avoids future conflicts especially during implementation of donor projects.</p>	

The participants were informed that the new programme will be funded by the World Bank and will cover water and sanitation projects in Six Counties, two in North and North Eastern Kenya – Wajir and Garissa and Four in the Coastal region, Taita Taveta, Kilifi, Mombasa and Kwale. The project will have four distinct components: - Water and Sanitation in the Coastal area, Water and Sanitation in Wajir and Daadab Host Communities in Garissa County, Performance based financing and Project Management. The total cost of the project is 330million USD - donor contribution 300million USD and 30million USD GoK contribution.

Minute 03: Environmental and Social Management Framework (ESMF) and Resettlement Policy Framework (RPF)

Mr. Lazarus Kubasu Nolasco presented the ESMF and RPF frameworks highlighting the principles and contents of the frameworks and invited participants to give their comments.

The Environment and Social Management Framework (ESMF) has been prepared to: (i) integrate environmental and social aspects into the pre-feasibility and feasibility analysis of potential future WSDP sub-projects at the preparation and planning stages; (ii) promote transparency through the use of extensive stakeholder consultations and disclosure procedures; (iii) take into account possible uses of innovative and strategic environmental and social analyses; (iv) encourage consideration of technical alternatives based on possible environmental and social impacts; and (v) strengthen environmental and social management capacities within the implementing institutions of WSDP. The ESMF also spells out the E&S safeguards, institutional arrangements and capacity required to use the framework. This ensures that sub-projects under WSDP meet the national and Banks E&S requirements, and also consistent with OP/BP 4.01 and OP/BP 4.12 (of the Bank).

The **Resettlement Policy Framework (RPF)** for WSDP has been prepared because the extent and location of all WSDP subprojects cannot be known at the moment. The RPF establishes resettlement objectives and principles, organizational arrangements, entitlement matrix and eligibility criteria for any resettlement operation that WSDP may trigger during project implementation. In the RPF, existing local laws and policies related to land acquisition and compensation and World Bank's Operational Policy 4.12 has been referred to. The legal and institutional framework in Kenya over land administration, land tenure, and land expropriation is outlined.

Minute 04: Discussion and Feedback from the Stakeholders:

Is there an avenue to engage development partners to explore options of desalination to address the water shortage in Mombasa?

The desalination option is being explored under PPP funding and Expression of Interest has been done. There are also ongoing interventions that will address water shortage in Mombasa. Mwache dam which is funded by the World Bank will supply Mombasa with a total of 180,000m³/day once completed. Therefore, as we expect more water for Mombasa, rehabilitation and expansion of distribution network to accommodate the extra water will be supported under this new program.

Is the program going to address the issues of sewer leakages and improve on piped water distribution to minimize on cartels selling water to consumers at exaggerated prices?

The budget for water and sanitation interventions is an estimate and counties will be funded on priority projects.

Despite numerous interventions to address non-revenue water, most WSPs still experience no reduction. What really needs to be done?

Non-revenue is a serious issue and can be worse if we subject the existing infrastructure to convey the extra water from Mwache dam. Under this program, the WSPs will explore options available to address non-revenue water under component three – performance based financing and TA that will be provided.

How will a person doing business in rented premise will be compensated?

He or she will be compensated 10% of the total annual income from the business as outlined in the Resettlement Policy Framework (RPF).

Generally we experience frequent bursts and it takes several days before it is identified and repaired. How is the project going to handle this or minimize in the bulk lines?

Proper designs to be carried out that will result in right pipe specifications to handle the design pressures. In embracing modern technology, the new program will look on the feasibility of installing leak detectors that can be monitored from a central point.

How is the project going to handle political interference to ensure the beneficiaries get the intended project outcomes?

Institutional arrangements must be clear to stakeholders and who does what. If the beneficiaries are not getting the intended project outcomes, then the institution concerned need to be notified and tasked to address the issue.

What is the difference between EIA and ESA?

ESA provides general possible environmental impacts assessments and mitigation measures if a certain project is going to be

implemented and EIA is project and site specific; assessing impacts that are project and site specific.

Has the World bank stopped any project any place in the world?

Yes, those that have violated the Banks safeguard policies after an inspection panel has undertaken investigations.

Do politicians participate in stakeholder consultations?

Consultation is enshrined in the constitution of Kenya and some Counties have established an office handling public participation. The office is tasked with the responsibility of mapping stakeholders who are invited for consultations regarding new investments. This project will consult everybody who has an interest in the project.

Minute 04: Closing Remarks

The County Water Director thanked the stakeholders present for attending the meeting. Eng. Kyengo also thanked the participants for their contributions and informed them that their views will be incorporated into the frameworks.

Minute 05: AOB

There being no other business the meeting ended with a word of prayer.

MINISTRY OF WATER AND IRRIGATION
Water and Sanitation Development Programme

Minutes of Public Consultations on ESMF and RPF held at North Coast Beach Hotel – Kilifi County

Meeting attended by:	Stakeholders drawn from County Government, Water Institutions, NGOs, CBOs and Ministries
No. of Participants at the meeting:	21 (Twenty One)
Date:	11 th January, 2017
Time:	10:05HRS
Facilitator:	Lazarus Kubasu Nolasco
Agenda: <ol style="list-style-type: none"> I. Word of prayer and Introduction of the participants II. Welcoming Remarks III. Background of the Consultations and Brief on Water and Sanitation Development Programme IV. ESMF and RPF presentations V. Plenary Session to Receive comments/ feedback from participants VI. Closing Remarks. 	
Minute 01: Introductory Remarks and Purpose of the meeting The meeting began with a word of prayer. The County Water Director Mr. Thomas thanked and welcomed the stakeholders present. He informed the participants that Kilifi has challenges of Sanitation and water coverage due to fast growing towns. He also informed the participants that the main aim of the consultation was to discuss the objective and coverage of Water and Sanitation Development Programme and how Environmental, Social and Resettlement aspects related to project will be handled using the developed Environmental and Social Management Framework and Resettlement Policy Framework. He therefore requested participants to listen carefully on the presentations and give their views and comments to enrich the developed frameworks.	
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projects.

The participants were informed that the new programme will be funded by the World Bank and will cover water and sanitation projects in Six Counties, two in North and North Eastern Kenya – Wajir and Garissa and Four in the Coastal region, Taita Taveta, Kilifi, Mombasa and Kwale. The project will have four distinct components: - Water and Sanitation in the Coastal area, Water and Sanitation in Wajir and Daadab Host Communities in Garissa County, Performance based financing and Project Management. The total cost of the project is 330million USD - donor contribution 300million USD and 30million USD GoK contribution.

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Minute 04: Discussion and Feedback from the Stakeholders:

In Kilifi County most of the urban areas have been developed without proper planning for sewerage services. How is the

project going to address this scenario?

Specific projects to be implemented will be selected by the County Governments and detailed feasibility studies will be carried out to determine the best sanitation facility to be implemented. At the moment, we can state what sanitation project will be supported. It will be upon the county to propose the specific project.

On environment, the world bank policies have been clearly elaborated. Do we need to undertake Environmental Strategic Assessment first?

For this program, the activities and the anticipated impacts have been captured in the framework document, Environmental Social Management Framework (ESMF) and so far this is adequate. The EIA will be prepared for specific projects that will be identified.

In handling RPF, what precautions is MoWI putting in place to ensure that the correct information trickles down to the affected people?

Correct information will be provided to avoid conflicts that is why the Ministry of Water is organizing these consultation meetings in focus counties of WSDP. Two, for the consultant who will be preparing the RAP, some information will be disclosed while information on valuation and entitlements will not be provided until NLC has validated the same. Final valuation will be done by NLC.

In Kilifi we have issues of land and most people are squatters with absentee landlords. Will the squatters be entitled for compensation if affected by the project?

According to the RPF and World Bank OP 4.12, squatters are entitled to some form of compensation and resettlement if they have to be relocated. For absentee landlords, we believe the Government of Kenya through the Ministry of Land has information on the owners of the land who will be compensated if affected.

Will there be a general grievance redress mechanism or each implementing agency will have one?

There will be project specific grievance mechanisms and will be informed by the nature of the project once the designs have been carried out.

What will be the composition of Location Resettlement and Compensation Committee (LRCC)?

The representation from LRCC will include, the local Chief, local land department official, social department at the ward level, ward administrator, affected woman representation, youth representative.

How will sanitation impact issues be addressed?

Sanitation aspects will be captured in specific Environmental Impact Assessment report for a specific project.

How will compensation be done on communal land without title deed?

National Land commission will arrange for ownership documents and all the ranch members will be registered under Community Land Act and sufficiently compensated by NLC.

What mitigation measures are going to be put in place to ensure that the normal grazing pattern of livestock is not affected by the wide pipe trenches?

Trenching is one of the impacts that will be identified in the EIA and execution of mitigation measures contained in the Environmental & Social Management plan (ESMP). The project contractor will have to implement proposed mitigation measures in ESMP so that grazing patterns are not adversely affected.

Can somebody claim compensation after implementation of the project has started?

For smooth execution of the project activities, compensations will be handled before the project commences. Therefore, all PAPs are required to use all the institutional arrangements put in place to ensure that all affected people are compensated before works contract starts. Otherwise, they will be a grievance mechanism to address such incidences.

Minute 04: Closing Remarks

The County Water Director thanked the stakeholders present for attending the meeting. Eng. Kyengo also thanked the participants for their contributions and informed them that their views will be incorporated into the frameworks.

Minute 05: AOB

There being no other business the meeting ended with a word of prayer.

MINISTRY OF WATER AND IRRIGATION
Water and Sanitation Development Programme

Minutes of Public Consultations on ESMF and RPF held at Tsavo Camps & Lodges Ltd – Taita Taveta County

Meeting attended by:	Stakeholders drawn from County Government, Water Institutions, NGOs, CBOs and Ministries.
No. of Participants at the meeting:	42 (Forty Two)
Date:	12 th January, 2017
Time:	12:15HRS
Facilitator:	Lazarus Kubasu Nolasco
Agenda: <ol style="list-style-type: none"> I. Word of prayer and Introduction of the participants II. Welcoming Remarks III. Background of the Consultations and Brief on Water and Sanitation Development Programme IV. ESMF and RPF presentations V. Plenary Session to Receive comments/ feedback from participants VI. Closing Remarks. 	
Minute 01: Introductory Remarks and Purpose of the meeting <p>The meeting began with a word of prayer. The County Governor Hon. J. Mrutu thanked and welcomed the stakeholders present. He informed the participants that there is need to expand water and sanitation infrastructure in fast growing towns of the county that include Voi, Mwatate, Wundanyi and Taveta to address the deficit. He also informed the participants that the main aim of the consultation was to discuss the objective and coverage of Water and Sanitation Development Programme and how Environmental, Social and Resettlement aspects related to project will be handled using the developed Environmental and Social Management Framework and Resettlement Policy Framework. He therefore requested participants to listen carefully on the presentations and give their views and comments to enrich the developed frameworks.</p>	
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projects.

The participants were informed that the new programme will be funded by the World Bank and will cover water and sanitation projects in Six Counties, two in North and North Eastern Kenya – Wajir and Garissa and Four in the Coastal region, Taita Taveta, Kilifi, Mombasa and Kwale. The project will have four distinct components: - Water and Sanitation in the Coastal area, Water and Sanitation in Wajir and Daadab Host Communities in Garissa County, Performance based financing and Project Management. The total cost of the project is 330million USD - donor contribution 300million USD and 30million USD GoK contribution.

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Minute 04: Discussion and Feedback from the Stakeholders:

How will the 160million USD for component one be shared in the four coastal counties?

The money distribution will be known once the specific projects have been agreed upon.

Is there provision for this project in the FY 2017/2018 budget?

There is no budget provision until financial agreement is signed and we will seek for authority to spend from NT once effected.

Allocation for bulk water is 40million USD. What will happen if the provision is not enough?

The basis for the 40million USD is the coastal water master plan which recommended short and long term interventions. If the amount will not be adequate, then prioritization of the projects will be done.

Is this programme likely to end up with white elephant projects?

There will be no white elephant projects as the projects will be initiated by the County Governments and the World Bank will offer financial support that full funds the prioritized project at the county.

Will procurement done by the County Government or National Government?

Procurement will be done by implementing agencies and the executing agency will procure support procurement teams.

On international water- ways can Somali Government refuse on use of Merti Aquifer?

Yes it can. The notification forwarded had a detailed study of Merti aquifer and the volume of water we intend to abstract.

Will sanitation projects be considered in this program?

Sanitation projects will be considered and therefore there in need to prioritize them in the investment plan

How will the project ensure there is economic empowerment of the beneficiaries?

The program will make attempts that the beneficiaries are economically empowered through trainings.

Will there be public participation of the project affected persons?

Consultation is mandatory exercise under the project. There will therefore be individual consultation of the PAPs during the

preparation of RAP.

How will delays that result in increasing the project cost be minimized?

Attempts will be made to execute project activities within the specified timeframes. However, in cases where delays are unavoidable variations will be allowed in accordance with the conditions of contract.

Minute 04: Closing Remarks

The County Governor Hon. J. Mrutu thanked the stakeholders present for attending the meeting. Eng. Kyengo also thanked the participants for their contributions and informed them that their views will be incorporated into the frameworks.

Minute 05: AOB

There being no other business the meeting ended with a word of prayer.

Annex C. Format of Project Report As Required by NEMA

Environmental Impact Assessment and Audit Regulations (EIA/EA) - Legal Notice No.121 of 2003.

PART II - THE PROJECT REPORT

7. (1) A proponent shall prepare a project report stating -

- a) The nature of the project;*
- b) The location of the project including the physical area that may be affected by the project's activities;*
- c) The activities that shall be undertaken during the project construction, operation and decommissioning phases;*
- d) The design of the project;*
- e) The materials to be used, products and by-products, including waste to be generated by the project and the methods of their disposal;*
- f) The potential environmental impacts of the project and the mitigation measures to be taken during and after implementation of the project;*
- g) An action plan for the prevention and management of possible accidents during the project cycle;*
- h) A plan to ensure the health and safety of the workers and neighbouring communities;*
- i) The economic and socio-cultural impacts to the local community and the nation in general;*
- j) The project budget; and*
- k) Any other information the authority may require.*

(2) In preparing a project report under this regulation, the proponent shall pay particular attention to the issues specified in the Second Schedule to these Regulations.

(3) A project report shall be prepared by an environmental impact assessment expert registered as such under these Regulations.

8. A proponent shall submit at least ten copies of the project report to the Authority or the Authority's appointed agent in the prescribed form accompanied by the prescribed fees.

Annex D. Format of EIA/ESIA Study Report

Environmental Impact Assessment and Audit Regulations (EIA/EA) - Legal Notice No.121 of 2003.

PART IV - THE ENVIRONMENTAL IMPACT ASSESSMENT STUDY REPORT

18. (1) A proponent shall submit to the Authority, an environmental contents of impact assessment study report incorporating but not limited to the environmental following information -

- a) *The proposed location of the project;*
- b) *A concise description of the national environmental legislative and regulatory framework,*
- c) *A concise description of baseline information,*
- d) *And any other relevant information related to the project; the objectives of the project;*
- e) *The technology, procedures and processes to be used, in the implementation of the project;*
- f) *The materials to be used in the construction and implementation of the project;*
- g) *The products, by-products and waste generated project;*
- h) *A description of the potentially affected environment;*
- i) *The environmental effects of the project including the social and cultural effects and the direct, indirect, cumulative, irreversible, short term and long-term effects anticipated;*
- j) *Alternative technologies and processes available and reasons for preferring the chosen technology and processes;*
- k) *Analysis of alternatives including project site, design and technologies and reasons for preferring the proposed site, design and technologies.*
- l) *An environmental management plan proposing the measures for eliminating, minimizing or mitigating adverse impacts on the environment; including the cost, time frame and responsibility to implement the measures;*
- m) *Provision of an action plan for the prevention and management of foreseeable accidents and hazardous activities in the cause of carrying out activities or major industrial and other development projects;*
- n) *The measures to prevent health hazards and to ensure security in the working environment for the employees and for the management of emergencies;*
- o) *An identification of gaps in knowledge and uncertainties which were encountered in compiling the information;*
- p) *An economic and social analysis of the project;*
- q) *An indication of whether the environment of any other state is likely to be affected and the available alternatives and mitigating measures; and*
- r) *Such other matters as the authority may require.*

Added components of the ESIA report to ensure World Bank (O P 4.01 Annex B) format is adhered to include;-

- 1. Section on institutional capacity*
- 2. Section on capacity building*
- 3. Section on consultation*

(2) The environmental impact assessment study report shall be accompanied by a non-technical summary outlining the key findings, conclusions and recommendations of the study and shall be signed by the proponent and environmental impact assessment experts involved in its preparation.

19. A proponent shall submit ten copies and an electronic copy of an environmental impact assessment study report to the Authority in Form 1B set out in the First Schedule to these Regulations accompanied by the prescribed fees.

Annex E. SAMPLE TERMS OF REFERENCE (TOR) FOR AN ENVIRONMENTAL & SOCIAL IMPACT ASSESSMENT FOR WATER RELATED PROJECTS

1. Objectives of the ToR

This section should state the scope of the ESIA in relation to the screening category, and identify the geothermal project the ESIA will apply to. It should prescribe the process and its timing of project preparation, design, and implementation stages in order to adequately address Bank safeguards issues. Further, it should identify constraints (adequacy of existing baseline data and need for additional data) and provide an exact development schedule.

2. Background Information

The ToR should provide pertinent background for preparing the ESIA. This would include a brief description of:

- Statement of the project objectives,
- Implementing agency/sponsor and their requirements for conducting an ESIA,
- Project components, especially those that will finance subprojects;
- Anticipated types of subprojects/components, and what types will not be financed by the project;
- Areas of influence to be assessed (description plus good map)
- Summary of environmental/social setting
- Applicable Bank safeguards policies, and consequent Project preparation requirements, as specified in the approved ISDS.

The ToR should also include a brief history of the project, including alternatives considered, its current status and timetable, and the identities of any associated projects. Also include a description of other project preparation activities underway (e.g., legal analysis, institutional analysis, economic analysis, social assessment, baseline study) since the consultant preparing the ESIA will need to coordinate with other teams to ensure an effective and efficient information exchange.

3. EA Requirements/Regulations

This paragraph should identify any regulations and guidelines which will govern the conduct of the assessment or specify the content of its report. They may include any or all of the following:

- National laws and/or regulations on environmental assessments;
- Regional, provincial or communal environmental assessment regulations;
- Environmental assessment regulations of any other financing organizations involved in the project.
- Relevant international environmental agreements/conventions to which the country is party
- World Bank Operational Policies 4.01 "Environmental Assessment," 4.04 "Natural Habitats", 4.11 "Cultural Property", 4.12 "Involuntary Resettlement", 4.10 "Indigenous People" and other pertinent operational policies and Guidelines.

4. Study Area and Likely Major Impacts

Specify the area involved and the boundaries of the study area for the assessment (e.g., water catchment). Where appropriate specify the right-of-way (ROW)-width and alignment for pipelines. Similarly, specify locations for transmission substations, pumps.

Identify adjacent or remote areas which should be considered with respect to impacts of particular aspects of the project.

5. Scope of Work

In some cases, the tasks to be carried out by a consultant will be known with sufficient certainty to be specified completely in the terms of reference. In other cases, information deficiencies need to be alleviated or specialized field studies or modelling activities performed to assess impacts, and the consultant will be asked to define particular tasks in more detail for contracting agency review and approval.

Task 1. Description of the Proposed Project. Provide a brief description of the relevant parts of the project, using maps (at appropriate scale) and including the following information: location of all project related development sites and ROW's, including offsite investments; general layout; flow diagrams/drawings of facilities/operation design basis, size, capacity, flow-through of unit operations, including pollution control technology; pre-construction activities; construction activities; schedule; staffing and support; facilities and services; commissioning, operation and maintenance activities; required offsite investments; and life expectancy for major components. [Note: there may be particular types of information appropriate in the description of the project category you are concerned with. Please specify them here.]

Include the need for any resettlement plan or indigenous people development plan.

Provide maps at appropriate scales to illustrate the general setting of project-related development sites and ROW's, as well as surrounding areas likely to be impacted. These maps should include topographic contours, as available, as well as locations of major surface waters, roads, railways, town centers, parks and reserves, and political boundaries. Also provide, as available, maps to illustrate land use, including industrial, residential, commercial and institutional development, agriculture, etc.

Task 2. Description of the Environment (baseline condition). Assemble, evaluate and present baseline data on the relevant physical, biological, and socio-economic characteristics of the development area and area of influence. Include information on any changes anticipated before the project commences. [Annotate or modify the lists below to show the critical information for this project category, or that which is irrelevant to it. You should particularly avoid compiling irrelevant data.]

- a.) Physical environment: geology (e.g., stratigraphy and seismic history of development areas, integrity of geological layers protecting portable groundwater supplies); topography (e.g., drainage patterns around construction areas); soils (e.g., agricultural value); climate and meteorology; ambient air quality; existing sources of air emissions; surface and groundwater hydrology (e.g., soil erosion and sedimentation potential, flood hazard potential); water resources (e.g., adequacy of water supply) coastal and oceanic parameters; existing water pollution discharges, and receiving water quality (e.g., ability to assimilate effluent discharges and maintain water quality standards for desired uses).
- b.) Biological environment: flora (e.g., types and diversity); fauna (e.g., resident and migratory); rare or endangered species within or in areas adjacent to project related development sites or

ROW's; sensitive habitats, including parks or preserves, significant natural sites, etc.; species of commercial importance; and species with potential to become nuisances, vectors or dangerous.

- c.) Socio-cultural environment (include both present and projected where appropriate): population; land use (e.g., year-round and seasonal); planned development activities; community structure; employment; distribution of income, goods and services; recreation; public health; cultural properties (e.g., archeological and historically significant sites); indigenous peoples and traditional tribal land; and customs, aspirations and attitudes.

Task 3. Legislative and Regulatory Considerations. Describe the pertinent regulations and standards governing environmental quality, health and safety, protection of sensitive areas, protection of endangered species, siting, land use control, etc., at international, national, regional and local levels (The TOR should specify those that are known and require the consultant to investigate for others.) If transboundary impacts are likely, relevant international conventions should be described.

Task 4. Determination of the Potential Impacts of the Proposed Project. Predict and assess all significant impacts that the project is likely to generate, in quantitative terms as far as possible. Assess the impacts from changes brought about by the project on baseline environmental conditions as described under Task 2.

In this analysis, distinguish between significant positive and negative impacts, direct, indirect, and cumulative impacts, and immediate and long-term impacts. Identify impacts that may occur due to accidental events. Identify impacts which are unavoidable or irreversible. Wherever possible, describe impacts quantitatively, in terms of environmental costs and benefits. Assign economic values when feasible. Impact analyses for sub projects should be divided between construction impacts and operational impacts.

Characterize the extent and quality of available data, explaining significant information deficiencies and any uncertainties associated with predictions of impact. If possible, give the TOR for studies to obtain the missing information. [Identify the types of special studies likely to be needed for this project category.] For information not be obtainable until after execution, provide TOR for studies to monitor operations over a given time period and to modify designs and/or operational parameters based upon updated impact analysis.

Task 5. Analysis of Alternatives to the Proposed Project. Describe alternatives that were examined in the course of developing the proposed project and identify other alternatives which would achieve the same objectives. The concept of alternatives extends to siting, design, technology selection, construction techniques and phasing, and operating and maintenance procedures. Compare alternatives in terms of potential environmental impacts; capital and operating costs; suitability under local conditions; and institutional, training, and monitoring requirements. When describing the impacts, indicate which are irreversible or unavoidable and which can be mitigated. To the extent possible, quantify the costs and benefits of each alternative, incorporating the estimated costs of any associated mitigating measures.

Include the alternative of not constructing the project to demonstrate environmental conditions without it. Alternatives should include the following: the "no action" alternative (as mentioned above); alternative means of meeting the energy requirements; the alternative of upgrading existing facilities; alternative routes and sites; alternative design; and alternative methods of construction, including costs and reliability.

Task 6. Development of an Environmental Management Plan (EMP). Recommend feasible and cost-effective measures to prevent or reduce significant negative impacts to acceptable levels. Include measures to address emergency response requirements for accidental events.

Estimate the impacts and costs of those measures, and of the institutional and training requirements to implement them. Consider compensation to affected parties for impacts which cannot be mitigated. Prepare a management plan including proposed work programs, budget estimates, schedules, staffing and training requirements, and other necessary support services to implement the mitigating measures. Provide environmental protection clauses for application by contractors and consultants.

The ToR should state that the concerned and affected parties should agree mitigating measures before they are submitted as recommendations in the EMP

Task 7. Identification of Institutional Needs to Implement Environmental Assessment Recommendations. Review the authority and capability of institutions at local, provincial/regional, and national levels and recommend steps to strengthen or expand them so that the management and monitoring plans in the environmental assessment can be implemented. The recommendations may extend to new laws and regulations, new agencies or agency functions, intersectoral arrangements, management procedures and training, staffing, operation and maintenance training, budgeting, and financial support.

Task 8. Development of a Monitoring Plan. Prepare a detailed plan to monitor the implementation of mitigating measures and the impacts of the project during construction and operation. Include in the plan an estimate of capital and operating costs and a description of other inputs (such as training and institutional strengthening) needed to implement the plan.

Depending upon local conditions and predicted impacts upon communities/individuals, there may be a need for a Resettlement Action Plan.

Task 9. Assist in Inter-Agency Coordination and Public/NGO Participation. Assist in coordinating the environmental assessment with other government agencies, in obtaining the views of local NGO's and affected groups, and in keeping records of meetings and other activities, communications, and comments and their disposition. (The Terms of Reference [TOR] should specify the types of activities; e.g., interagency scoping session environmental briefings for project staff and interagency committees, support to environmental advisory panels, public forum.). Review the authority and capability of institutions at local, provincial/regional, and national levels and recommend steps to strengthen or expand them so that the management or monitoring plans in the environmental assessment are likely to be implemented. The recommendations may extend to new laws and regulations, new agencies or agency functions, intersectoral arrangements, management procedures and training, staffing, operation and maintenance training, budgeting, and financial support.

Relevant material will be provided to affected groups in a timely manner prior to consultation and in a form and language that is understandable and accessible to the groups being consulted. The consultant should maintain a record of the public consultation and the record should indicate: means other than consultations (e.g., surveys) used to seek the views of affected stakeholders; the date and location of the consultation meetings, a list of the attendees and their affiliation and contact address; and summary minutes.

6. Report.

The environmental assessment report should be concise and limited to significant environmental issues. The main text should focus on findings, conclusions and recommended actions, supported by summaries of the data collected and citations for any references used in interpreting those data. Detailed or uninterpreted data are not appropriate in the main text and should be presented in appendices or a separate volume. Unpublished documents used in the assessment may not be readily available and should also be assembled in an appendix. Organize the environmental assessment report according to the outline below. *(This is the format suggested in OP4.01; the ToR may specify a different one to satisfy national agency requirements as long as the topics required in the Bank's OP are covered)*

- Executive Summary
- Policy, Legal and Administrative Framework
- Description of the Proposed Project
- Baseline Data (Description of the Environment)
- Significant Environmental Impacts
- Analysis of Alternatives
- Environmental Management Plan
- Environmental Management and Training
- Environmental Monitoring Plan
- Inter-Agency Coordination and Public/NGO Participation
- Appendices: List of Environmental Assessment Preparers References Record of Interagency/Forum/Consultation Meetings *(This is the format suggested in OD 4.01; the TOR may specify a different one to satisfy national agency requirements as long as the topics required in the Bank's directive are covered.)*

7. Consulting Team

Environmental assessment requires interdisciplinary analysis. The general skills required of an environmental assessment team are: environmental management planning, ecology, hydrology/hydrogeology, and water quality analysis.

(Identify in this paragraph which specializations ought to be included on the team for the particular project category.)

Note: The team will be required to work closely with specialists undertaking the social analysis and to define arrangements for the final report, especially if the EA and social analysis are to be combined in one report.

8. Services, Facilities and Materials to be provided by the Client

The ToR should specify what services, facilities and materials will be provided to the Consultant by the World Bank and the Borrower, for example:

- The Project ISDS and draft PAD;
- Relevant background documentation and studies;
- Example ESMFs that demonstrate best practice, especially from the region or country;
- Making all necessary arrangements for facilitating the work of the Consultant and to provide access to government authorities, other Project stakeholders, and Project sites.

10. Schedule and Deliverables

Specify dates for the consultancy deliverables (e.g. detailed work plan within 2 weeks, interim report within 7 weeks, and final draft report within 10 weeks of contract signature), and the overall duration of the consultancy (e.g. 15 weeks from contract signature).

11. Technical Proposal Contents

The ToR should require a technical proposal that at least:

- Demonstrates that the Consultant understands the overall scope and nature of the ESIA preparation work, and what will be required to respond satisfactorily to each component of the ToR;
- Demonstrates that the Consultant and his proposed team have relevant and appropriate experience to carry out all components of the ToR. Detailed curriculum vitae for each team member must be included;
- Describes the overall methodology for carrying out each component of the ToR, including desk and field studies, and data collection and analysis methods; and
- Provides an initial plan of work, outputs, and staff assignments with levels of effort by task.

12. Budget and Payments

The ToR should indicate if there is a budget ceiling for the consultancy. The ToR should specify the payment schedule (e.g. 10% on contract signature, 10% on delivery of detailed work plan, 40% on delivery of interim report, 30% on delivery of final draft ESIA, and 10% on delivery of final ESIA).

8. Other Information

Include here lists of data sources, project background reports and studies, relevant publications, and other items to which the consultant's attention should be directed.

Annex F: Format of an Annual Environmental Report

Environmental Authority:							
Reporting dates:							
County:							
Sub projects approved:							
Project Investment Title	Activities	Project phase ⁽¹⁾	Environmental Category (B or C)	ESIA / ESMP completed?	Environmental Permit granted?	Effectiveness of ESMP	Issues ⁽²⁾
(name, location, title or reference)	(new construction, rehabilitation, maintenance)	See note below		Yes, No or N/A	Yes, No or N/A	Good, poor, or needs improvement	See note below
1							
2							
3							
etc.							
Sub projects rejected:							
Subproject title	Activities	Reasons for rejection			Remarks ⁽³⁾		
1							
2							
etc.							

Annex G. Corrective Action Plan

Issue/Concern	Mitigation Action	Indicator	Responsibility	Timeline	Progress To Date