

SFG3099



GOVERNMENT OF KENYA

**EXECUTIVE OFFICE OF THE PRESIDENT FOR THE NORTHERN
KENYA DEVELOPMENT INITIATIVE**

**KENYA DEVELOPMENT RESPONSE TO DISPLACEMENT
IMPACTS PROJECT (KDRDIP) (P161067)**

**ENVIRONMENTAL AND SOCIAL MANAGEMENT
FRAMEWORK (ESMF)**

(FINAL)

FEBRUARY, 2017

TABLE OF CONTENTS

TABLE OF CONTENTS.....	I
LIST OF TABLES	V
ACRONYMS AND ABBREVIATIONS	VI
DEFINITION OF TERMS USED IN THE REPORT	VIII
EXECUTIVE SUMMARY	IX
1. INTRODUCTION.....	1
1.1 BACKGROUND	1
1.2 OBJECTIVE OF THE ESMF	1
1.3 ESMF APPROACH AND METHODOLOGY	3
1.4 STRUCTURE OF THE DOCUMENT	3
1.5 KDRDIP OBJECTIVES.....	3
1.6 COMPONENTS OF KDRDIP	5
1.6.1 <i>Component 1 – Social and Economic Infrastructure and Services (approximately US\$45 million).</i>	5
1.6.2 <i>Component 2 – Environmental and Natural Resource Management (approximately US\$20 million).</i>	6
1.6.3 <i>Component 3 – Livelihoods Program (approximately US\$27.5 million).</i>	7
1.6.4 <i>Component 4 – Project Management, Monitoring and Evaluation, and Knowledge sharing (approximately US\$7.5 million).</i>	8
1.6.5 <i>Component 5 – Support to return areas in Somalia (US\$ 3 million)</i>	9
2 ENVIRONMENTAL BASELINE	10
2.1 CLIMATE	10
2.1.1 <i>Turkana West Sub County</i>	10
2.1.2 <i>Dadaab, Fafi, Lagdera and Wajir Sub County</i>	10
2.1.3 <i>Climate change</i>	11
2.2 WATER RESOURCES.....	11
2.2.1 <i>Turkana West Sub County</i>	12
2.2.2 <i>Lagdera, Fafi, Dadaab and Wajir South Sub Counties</i>	14
2.2.3 <i>Merti Aquifer</i>	15
2.3 BIOPHYSICAL BASELINE	16
2.3.1 <i>Dadaab, Fafi, Lagdera and Wajir South Sub counties</i>	16
2.3.2 <i>Turkana West Sub County</i>	23
3 SOCIO ECONOMIC BASELINE.....	27
3.1 DADAAB, FAFI, LAGDERA AND WAJIR SOUTH SUB COUNTIES.....	27
3.1.1 <i>Demographics</i>	27
3.1.2 <i>Social organization and ethnic groups</i>	27
3.1.3 <i>Land Use Activities</i>	28
3.1.4 <i>Education</i>	28
3.1.5 <i>Child dependents</i>	29
3.1.6 <i>Health facilities</i>	29
3.1.7 <i>HIV Aids</i>	30
3.1.8 <i>Energy</i>	31

3.1.9	<i>Poverty</i>	32
3.1.10	<i>Gender</i>	32
3.1.11	<i>Development Agencies</i>	33
3.1.12	<i>Security</i>	33
3.1.13	<i>Dadaab Refugee Complex Infrastructure</i>	33
3.2	TURKANA WEST SUB COUNTY	35
3.2.1	<i>Demographics</i>	36
3.2.2	<i>Social Organization and Ethnic Groups</i>	36
3.2.3	<i>Land Rights and Usage</i>	37
3.2.4	<i>Livelihood and Economic Activities</i>	37
3.2.5	<i>Energy</i>	38
3.2.6	<i>Industries</i>	38
3.2.7	<i>Waste Management</i>	39
3.2.8	<i>Gender Issues</i>	39
3.2.9	<i>Cultural Heritage</i>	39
3.2.10	<i>Education</i>	40
3.2.11	<i>Health</i>	40
3.2.12	<i>Infrastructure</i>	40
3.2.13	<i>Security</i>	41
3.2.14	<i>Development agencies</i>	42
3.2.15	<i>Refugee Camp Infrastructure</i>	42
4	OVERVIEW OF POLICIES, PLANS, LEGAL AND INSTITUTIONAL FRAMEWORK RELATED TO KDRDIP	43
4.1	GENERAL OVERVIEW	43
4.2	POLICIES AND PLANS	43
4.2.1	<i>Policy Paper on Environment and Development (Sessional Paper No 6 of 1999)</i>	43
4.2.2	<i>Vision 2030</i>	43
4.2.3	<i>The Kenya National Climate Change Response Strategy</i>	43
4.2.4	<i>Scaling-Up Renewable Energy Program (SREP) Investment Plan for Kenya</i>	44
4.2.5	<i>National Land Policy, 2009</i>	44
4.2.6	<i>National Environmental Policy, 2013</i>	44
4.3	NATIONAL LEGAL FRAMEWORK	47
4.3.1	<i>Administrative Framework</i>	47
4.3.2	<i>Review of Relevant Statures</i>	47
4.4	INTERNATIONAL CONVENTIONS AND TREATIES	59
4.5	INSTITUTIONAL FRAMEWORK	60
5	DESCRIPTION OF WORLDBANK ENVIRONMENTAL & SOCIAL SAFEGUARDS POLICIES AND TRIGGERS	67
6	IMPACT ANALYSIS AND PROPOSED MITIGATION MEASURES FOR KDRDIP	71
6.1	ENVIRONMENTAL AND SOCIAL RISK LEVELS	71
6.1.1	<i>Environmental Management and Monitoring Plan (EMMP)</i>	75
6.2	ENVIRONMENTAL & SOCIAL MANAGEMENT PROCESS	75
6.2.1	<i>Mitigation Considerations and Options</i>	76
6.2.2	<i>Recommended Mitigation Measures</i>	76
6.3	MONITORING PLANS AND INDICATORS	81

6.3.1	<i>Monitoring of Environmental and Social Indicators</i>	81
6.3.2	<i>Monitoring Roles and Responsibilities</i>	82
7	SCREENING, APPRAISAL, MONITORING AND REPORTING	84
7.1	SCREENING AND REVIEW PROCESS	84
7.1.1	<i>Preparation of Project Reports (PRs)</i>	84
7.2	ESIA STUDY	86
7.2.1	<i>Scoping Report</i>	87
7.2.2	<i>ESIA/EIA Study Report</i>	88
7.2.3	<i>Public Review of the ESIA/EIA Report</i>	88
8	STAKEHOLDER CONSULTATION AND INFORMATION DISCLOSURE	90
8.1	STAKEHOLDER IDENTIFICATION	90
8.2	APPROACH TO STAKEHOLDER CONSULTATION	90
8.2.1	<i>National Level:</i>	90
8.2.2	<i>County Level:</i>	91
8.2.3	<i>Sub County and Community Level:</i>	91
9	HANDLING OF PROJECT GRIEVANCES AND COMPLAINTS	92
9.1	INTRODUCTION	92
9.2	GRIEVANCE REDRESS COMMITTEE (GRC)	92
9.3	KDRDIP PROCEDURES FOR ADDRESSING COMPLAINTS	93
9.3.1	<i>Complaint uptake</i>	94
9.3.2	<i>Assessment, acknowledgment, and response</i>	94
9.3.3	<i>Sign off closure form</i>	95
9.3.4	<i>Registry and Monitoring</i>	95
9.3.5	<i>Responsibility and Resources</i>	95
9.3.6	<i>National Environment department</i>	96
9.3.7	<i>Land and Environment Courts</i>	96
10	CAPACITY BUILDING	97
10.1	TRAINING OBJECTIVES	97
10.2	SCOPE OF THE ESMF TRAINING	97
10.3	TARGET GROUPS.....	98
11	ESMF IMPLEMENTATION BUDGET	100
12	REFERENCES	101
13	ANNEXES	103
	ANNEX 1: ENVIRONMENTAL AND SOCIAL SCREENING CHECKLIST.....	103
	ANNEX 2: GUIDELINES FOR PREPARATION OF INTEGRATED PEST MANAGEMENT PLAN	110
	ANNEX 3: CHANCE FIND PROCEDURE	112
	ANNEX 4: GRM PROCEDURES	114
	ANNEX 5: LIST OF STAKEHOLDERS CONSULTED	116
	ANNEX 7: NGOS OPERATING IN DADAAB	138
	ANNEX 8: NEMA NOTICE ON REVIEW OF PROCESSES AND LEVIES	139
	ANNEX 9: GENERAL ENVIRONMENTAL AND SOCIAL MITIGATION PLAN	140
	ANNEX 10. DEVELOPMENT AGENCIES IN TURKANA WEST SUB COUNTY	148

LIST OF FIGURES

FIGURE 1: PROJECT INTERVENTION SUB COUNTIES IN KENYA 5

FIGURE 2: RAINFALL MAP OF NORTHERN AND CENTRAL TURKANA COUNTY. 10

FIGURE 3: MAP OF WATERSHEDS AND SUB-WATERSHEDS OF NORTHERN-CENTRAL TURKANA COUNTY. RTI, 2012. 12

FIGURE 4: SPATIAL DISTRIBUTION OF ASSESSED OPERATIONAL WATER SOURCES (WESCOORD, 2006)..... 14

FIGURE 5: SALINITY DISTRIBUTION IN THE MERTI AQUIFER (BASED ON OORD, 2012). 16

FIGURE 6: DADAAB VEGETATION DENSITY INDEX BETWEEN YEAR 2000 TO 2014(SOURCE INDRA, 2014)..... 18

FIGURE 7: A) TOPOGRAPHIC MAP OF THE EWASO NG'IRO CATCHMENT. (B) AGRO-CLIMATIC ZONES (ACZs) IN THE EWASO NG'IRO CATCHMENT. (ERICKSEN, ET AL, 2011) 19

FIGURE 8: (A) LAND COVER INCLUDING CROPLANDS (BASED ON AFRICOVER 2000) IN THE EWASO NG'IRO CATCHMENT. (B) LAND USE IN THE EWASO.(ERICKSEN, ET AL, 2011) 20

FIGURE 9: DISTRIBUTION OF WILDLIFE IN THE EWASO NG'IRO CATCHMENT, BASED ON MULTIPLE AERIAL SURVEYS FLOWN SPANNING THE PERIOD 1995–2010.(ERICKSEN, ET AL, 2011). 21

FIGURE 10: SOIL MAP 50KM RADIUS FROM DADAAB 23

FIGURE 11: SOIL-MAPPING UNITS OF THE PROPOSED PROJECT AREA (SOURCE CEPSA, 2014)..... 26

FIGURE 12: STAGES IN PREPARATION OF AN ESIA/EIA STUDY 87

LIST OF TABLES

TABLE 1: SURFACE AREA, RAINFALL RATES AND RAINFALL: AREA RATIOS OF WATERSHEDS OF NORTHERN-CENTRAL TURKANA COUNTY. RTI, 2012	13
TABLE 2: LAND COVER AND VEGETATION DISTRIBUTION TURKANA WEST	23
TABLE 3: ADMINISTRATIVE SET UP	27
TABLE 4: POPULATION CENSUS AND PROJECTIONS.....	27
TABLE 5: HIV BURDEN IN GARISSA.....	30
TABLE 6: INFRASTRUCTURE WITHIN DRC	33
TABLE 7: NATIONAL GOVERNMENT ADMINISTRATION	35
TABLE 8: COUNTY GOVERNMENT ADMINISTRATION	35
TABLE 9: COORDINATES FOR FARMS IN THE PROJECT AREA	38
TABLE 10: RELEVANT POLICIES	45
TABLE 11: INSTITUTIONS RELEVANT TO THE KDRDIP	61
TABLE 12: ENVIRONMENTAL AND SOCIAL CONCERNS FOR SUB PROJECTS	72
TABLE 13: ESMF IMPLEMENTATION BUDGET.....	100

ACRONYMS AND ABBREVIATIONS

AEZ	Agro Ecological Zones
ARAP	Abbreviated Resettlement Action Plan
CBO	Community Based Organisation
CC	Compensation Committee
CDD	Community- Driven Development
CDDC	Community- Driven Development Committees
CDP	Community Development Plan
CEC	County Environment Committee
CDE	County Director of Environment
CDP	Community Development Pan
CEOs	Chief Executive Officers
CIDP	County Integrated Development Plan
CIG	Common Interest Group
CPCU	County Project Coordinating Unit
CRA	Community Resource Assessment
CPCU	County Project Coordinating Unit
CPSC	County Project Steering Committee
EA	Environmental Audit
EIA	Environmental Impact Assessment
EMCA	Environment Management Coordination Act
ESIA	Environmental and Social Impact Assessment
EMMP	Environmental Monitoring and Management Plan
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
FAO	Food Agricultural Organization
FGDs	Focused Group Discussions
GIS	Geographic Information System
GOK	Government of Kenya
GPS	Geographic Positioning System
IA	Implementing Agency
IPM	Integrated Pest Management Plan
IPMF	Integrated Pest Management Framework
KDRDIP	Kenya Development Response to Displacement Impact Project
KFS	Kenya Forest Service
KWS	Kenya Wildlife Service
MMP	Mitigation Management Plan
M&E	Monitoring and Evaluation
MoU	Memorandum of Understanding
NEMA	National Environment Management Authority
NGO	Non-Governmental Organization

NPCU	National Project Coordinating Unit
NRM	Natural Resources Management
NPSC	National Project Steering Committee
PAD	Project Appraisal Document
PDO	Project Development Objective
PIU	Project Implementing Unit
PPPs	Policies, Plans & Programs
RAP	Resettlement Action Plan
SA	Social Assessment
TOR	Terms of Reference
VMGs	Vulnerable and Marginalized Groups (VMGs)
VGMF	Vulnerable and Marginalized Group Framework
WB	World Bank
WRMA	Water Resources Management Authority
WESCOORD Coordination	Water and Environmental Sanitation

DEFINITION OF TERMS USED IN THE REPORT

Unless the context dictates otherwise, the following terms shall have the following meanings:

ESIA/EIA a study of the effects of a proposed project, plan or program on the environment. The term is used interchangeably in the report. While the NEMA requirements specify EIA the World Bank Operational Policy on Safeguards reference is ESIA.

EXECUTIVE SUMMARY

Introduction

The National Government has requested for a credit from World Bank to finance the implementation of the Kenya Development Response to Displacement Impact Project (KDRDIP). The project implementation will be under the overall responsibility of the executive office of the President for the Northern Kenya Development Initiative. The Kenya DRDIP (KDRDIP) will be an integral part of the broader “Northern and North Eastern Kenya Development Initiative” specifically focusing on an area-based and progressive-solutions approach to addressing the impacts of protracted presence of refugees on the host communities around the Dadaab and Kakuma refugee camps in Garissa, Wajir and Turkana Counties in Kenya. The protracted presence of refugees has resulted in a complex relationship of interdependence between the refugees and host communities. While there has been some positive impacts on host communities like improved access to service and economic interactions including employment opportunities for the host communities there are also significant negative impacts on environment and natural resources including; water availability, conflicts over grazing lands and water.

ESMF

The development of an Environmental and Social Management Framework (ESMF) is a way to comply with the World Bank safeguard policy on Environmental Assessment (EA) (OP/BP 4.01) in a case when the project specific locations and activities are not defined prior to project appraisal. An EA process takes into account the natural environment (air, water and land); human health and safety; social aspects (involuntary resettlement, indigenous peoples; and physical cultural resources) and Trans-boundary and global environmental aspects. EA integrates environmental and social aspects in project implementation with project and in country considerations and conditions to the extent that the World Bank will not fund any project or activity that is not in line with overall policy framework; national legislation, international treaties and agreements or even institutional capabilities in managing potential environment and social issues. Using the ESMF, which is derived from the EA (OP/BP 4.01), therefore, the EA process intensity depends on the nature, scale, and potential environmental impact of the proposed project. (WB, 2008). A range of instruments are available that satisfy the OP/BP 4.01 including: Environmental and Social Impact Assessment (ESIA) or Environmental Impact Assessment (EIA); strategic environmental and social assessment (SESA); Environmental Audit (EA); hazard or risk assessment; environmental and social management plan (ESMP) Resettlement Action Plan and Resettlement Policy framework (RAP/RPF) and the environmental and social management framework (ESMF). Environmental and social screening is thus undertaken to determine the extent of potential impact and the type of instrument to use. Unless the context dictates otherwise, the terms **ESIA** and **EIA** (a study of the effects of a proposed project, plan or program on the environment) are used interchangeably in the report. While the NEMA requirements specify EIA the World Bank Operational Policy on Safeguards reference is ESIA.

Project Areas

The project will be implemented in the Turkana, Wajir and Garissa Counties of Kenya. The proposed areas of intervention are Lagdera, Fafi and Dadaab Sub-counties of Garissa County, Wajir South of Wajir County and Turkana West of Turkana County. However, the specific sites for project implementation are yet to be identified.

Project Development Objectives

The Proposed Development Objective is to improve access to social services, expand economic opportunities and enhance environmental management for host and displaced households in the targeted areas of Kenya.

Project Components

The four major components described in detail below will be implemented: (i) in a modular fashion focusing on mobilization, capacity building for communities and local governments; and (ii) through a process of scoping to identify specific opportunities and challenges, prioritization and engaging required technical assistance based on specific area characteristics

The project will support interventions designed to improve livelihoods and access to basic socio-economic services in selected Counties. The salient physical characteristics relevant to safeguard analysis relate to the project as follows.

- Component 1 - Social and Economic Infrastructure and Services (approximately US\$45 million). Potential investments (subprojects) include the construction, upgrading, rehabilitation, and/or expansion of basic social services, such as education, water supply, human health, and veterinary care; and economic infrastructure such as rural roads, market structures, and storage facilities. The target community, with guidance from local government, will identify and prioritize the specific social services and economic infrastructure to be funded under this subcomponent through the community-driven development approach
- Component 2: Environmental and Natural Resource Management (approximately US\$20 million). One subcomponent will support soil and water conservation through biological and physical activities on individual farms and communal lands, including the construction of soil bunds, stone bunds, artificial waterways, cut-off drains, check dams (gully rehabilitation), bench terraces, hillside terraces, trenches, area closures, planting of multipurpose trees, and groundwater recharge interventions. Another sub component will give support to interventions that address the host communities' energy requirements, such as domestic cooking and lighting; social services, such as schools and health services; and productive activities, including lighting for small shops and businesses and for manufacturing and processing through provision of improved cooking stoves, solar lanterns and lamps.
- Component 3: Livelihoods Program (approximately US\$27.5 million). The component will support interventions aimed at improving the productivity of traditional and non-traditional livelihoods and strengthening the resilience of communities. The support will include improved access to technology and equipment, storage and processing infrastructure and finance. There will be priority attention to build community institutions through mobilization and selection of beneficiary groups, the formation of Common Interest Groups and strengthening capacities of producer cooperatives for accessing input and output markets.
- Component 4: Project Management, Monitoring and Evaluation, and Knowledge sharing (approximately US\$7.5 million). The component will support the design of the project's management information system for monitoring inputs, outputs, and processes; the evaluation of outcome and impacts; environmental and social safeguard monitoring; and participatory M&E and internal learning. M&E activities

will include regular monitoring of the progress and performance of implementation; independent process monitoring of the community-level planning and effectiveness and quality of capacity-building efforts; and undertaking annual thematic studies and outcome as well as impact assessments -of-project. The project's Results Framework will be used as a basis for reporting progress against indicators, including progress toward achieving the PDO and implementation progress. The project will consider the use of mobile technologies to increase the reach and frequency of data capturing at the local level and aggregating it in a platform that could serve as a dashboard.

Project Beneficiaries

The project will target communities in refugee-hosting areas of Garissa, Wajir and Turkana Counties that have seen protracted presence of refugees with project investments potentially benefiting both the host and refugee communities following an area based development approach. The project is potentially expected to benefit a total host population of 1,040,8961 and a total refugee population of 502,739 as of October 2016

Safeguard Policies and Triggers

The Project is EA Category B, given the overall limited potential environmental and social impacts. The project has primarily triggered nine Bank's environmental and social safeguard policies namely; OP/BP 4.01 (Environmental Assessment), OP/BP 4.09 (Pest Management), OP/BP 4.10 (Indigenous Peoples), OP 4.12 (Involuntary Resettlement), OP 4.11 (Physical Cultural Resources), OP 4.37 (Safety of Dams) and OP/BP 7.50 (Projects on International Waterways).

The ESMF is therefore, prepared to guide the selection and implementation of subprojects that will require precautionary measures related to EA (OP/BP 4.01). The World Bank's safeguard policy on Environmental Assessment (OP/BP 4.01) is to be complied with where potential risks and impacts are anticipated. In this case, therefore, project alternatives would be avoiding, minimizing, mitigating or compensating for adverse environmental impacts and enhancing positive impacts where project selection, location, planning, design, and mitigating and managing through project implementation. Avoidance measures over mitigatory or compensatory measures should be the priority.

This Framework also targets certain activities that may negatively impact on the livelihoods of the target beneficiaries. Examples of such activities include sustainable land and water management, and infrastructural development.

The Bank Operational Policy on Safeguards requires that ESMF report and the integrated pest management framework (IPMF) which is part of the ESMF be disclosed in country and accessed easily by general public, and at the Bank's Info Shop.

Project Potential Environmental and Social Impacts

¹ Projected 2017 population figures

This ESMF considers that due mitigation process starting with subproject screening will be adopted and an environmental and social management plan (ESMP) for each subproject will be formulated.

Overall KDRDIP is likely to have positive impacts on the environment as well as positive socio- economic impact on host communities through improved livelihoods. However, implementation of KDRDIP sub-projects is likely to cause negative impacts. The activities envisaged under subprojects cumulatively may have negative impacts if not well mitigated see table below.

Type of Sub-project	Potential Environmental positive/negative impacts	Potential social positive/negative impacts
<i>Livestock production – component 3 livelihood program</i>		
Large scale livestock production (e.g. > 500 head of livestock)	Proper siting of animal sheds/ pens regarding drinking water supply, homestead health issues related to animals	<ul style="list-style-type: none"> • Risk of livestock falling on a dug soil and water conservation structure • Inequality issues on resource accessibility and use; • Increase in wealth and produce
Medium scale livestock production	Health issues	
Small scale animal husbandry	Increased pressure on carrying capacity and resulting to degradation of environment Potential misuse in Management and application of animal health chemicals and vaccines	
<i>Agriculture related projects – component 3 livelihood program</i>		
Water management projects for small-, micro- and household-scale irrigation schemes The project will finance small-scale irrigation investments that would be through groundwater abstraction of aquifers such as Merti aquifer	Water pollution and water quality, water; natural habitats, species loss, land degradation. Clearance of vegetation Depletion of underground aquifers Contamination ground water by sewage & latrines (minerals etc. Salinity ingress Declining yields with use Collapse of borehole under pressure head Noise during sinking would be a nuisance to residents Salinization of the irrigation Eutrophication due to use fertilizers Introduction of invasive species	<ul style="list-style-type: none"> • extraction and water rights, land loss, • Competition for land between crops and livestock • Inequality issues on resource accessibility and use; • Ownership; and tenure security • Gender disparities; • Leadership issues; • HIVAIDS • Land subdivision and fencing • Conflict with pastoral communities • Population influx • Impact on Health and sanitation • Rise of income leading to improvement of livelihoods • Potential for child labour
Small scale monoculture (cash and food crops)	Water pollution and water quality, water; extraction and water rights, land loss and resettlement, natural habitats, species loss, land degradation	

	Potential misuse of pesticides	
Field production of vegetables (Organic production)	<i>No Biophysical risk</i>	
Field production of vegetables (Conventional production)	Contamination due to disposal of pesticides/insecticides containers, Health and Safety, uncontrolled cultivation of genetically modified varieties, crop residual disposal, waste generation and disposal including plastics and non-biodegradables	
Fertilizer supply	Eutrophication, water quality impacts, soil acidification, salinity changes	
<i>Agro processing - component 3 livelihood program</i>		
Manufacture of dairy products	General good housekeeping standards and best practice, EMS for large organizations, worker safety, proper emissions and discharge control, potential air, surface and groundwater contamination, processing and solid waste disposal Clearing vegetation for fodder production and establishment of fattening pens Waste management	<ul style="list-style-type: none"> • Inequality issues on resource accessibility and use; • Ownership; and tenure security/tenure • Gender disparities; • Leadership issues; • HIV/AIDS • Governance • Waste from micro processing plants
Beekeeping, honey processing		
Livestock market		
Storage facilities		
<i>Sustainable environmental management component 2</i>		
Constructing or rehabilitating physical structures for water catchment management such as check-dams, and water harvesting structures; and biological measures like afforestation. In addition, alternative (including renewable) energy sources will be explored and exploited.	<p>Reduced greenhouse gases emissions, increased agricultural productivity and profitability leading to improved livelihoods, promotion of sustainable agricultural practices and reduced vulnerabilities of targeted rural communities</p> <p>Environmental degradation as result of soil excavation to create water pans, potential breed sited for water borne diseases, Erosion along stock roots, vegetation clearance, livestock diseases and deaths during transportation</p> <p>Sustainable supply of energy sources, degradation of natural vegetation, pressure to convert more land to energy crops, food security</p> <p>Proper siting, noise, bird and bat</p>	<ul style="list-style-type: none"> • Shared watering points are potential source of human and livestock disease spread • Conflicts between agro-pastoral and pastoral communities along cultivated (cropped) stock routes • Competition for land between crops and livestock • Risk of livestock falling on a dug soil and water conservation structure • Inequality issues on resource accessibility and use; • Ownership and tenure security; • Gender disparities; • Leadership issues; • governance • HIV/AIDS • Increased service close to people

	<p>mortality, access roads</p> <p>disruption to fragmented wildlife corridors</p> <p>change in local micro climate</p>	
<i>Infrastructure projects – component 1 and 2</i>		
<p>construction of schools, health centers, water supply, small dams and all-weather roads</p>	<p>Proper siting, construction safety, traffic safety, interference with hydrology, drainage on adjacent areas, dam safety</p> <p>Safety of dams</p> <p>Health and safety impacts;</p> <ul style="list-style-type: none"> • Dust emission • Air quality • Nuisance irritants related to air emissions • Air pollutants 	<ul style="list-style-type: none"> • Inequality issues on resource accessibility and use; • Ownership and tenure security; • Gender disparities; • Leadership issues; • Presence of VMGs and social inclusion processes; etc.; • Disruption of utility services; • Restriction of access to livelihood and other assets; • Minor land/asset acquisition impacts; • Delays in compensation (if any); and provision of alternative means of livelihood; • Community disputes; transparency and accountability issues etc.; • 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, flood management, dams or irrigation schemes). •
<i>Project Management, and Monitoring and Evaluation component 4</i>		
Project Management		<ul style="list-style-type: none"> • Conflicts, e.g. friction during mapping of roles of county and national representation; • Project coordination office and implementing agencies; Inter-intra community conflicts
Monitoring & Evaluation and Impact Evaluation	<p>Non-compliance with environmental laws;</p> <p>Failure to implement EMPs, ESMPs, IPPs, RAPs</p>	Non-participatory M&E
Contingency Emergency Response	Unintentional environmental impact	Unintentional social impacts

In line with the World Bank safeguard policy on Environmental Assessment (OP/BP 4.01), a number of framework reports have been prepared under KDRDIP that will guide implementation of project activities by avoiding and minimizing negative environmental and social impacts through a number and structured steps, which are detailed in the main text of this framework.

Integrated Pest Management Plan (IPMP)

Guidelines for the preparation of an integrated pest management plan (IPMP) is found on annex 2 of this ESMF and should be used in cases where agrochemical usage will be required in selected subprojects.

Mitigation Measures

The right EA tools will be applied as and where necessary, based on the anticipated impacts and risks.

For projects on community land prior to project implementation a community land resolution form should be signed and it should have evidence of community consultation with at least 2/3 of community representation as per the community land act 2016 requirements.

Institutional/Departments Responsible

A County Integrated Project Management Unit (CIPMU) is proposed which will be headed by a dedicated coordinator and will have representation from county and national governments, CSOs, representatives of beneficiary groups, and key UN partners with strong on the ground presence such as UNHCR, UNICEF and WFP. The CIPMU will ensure effective coordination of project activities with other operations supported by the World Bank and other development partners with the County Integrated Development Plan. It will also approve and monitor community sub projects following established protocols and develop consolidated county work plans, budgets, request funds releases, and track implementation and results as well as expenditure. The CIPMU will also monitor compliance with social and environmental safeguards. At the national level, it is proposed that an inter-ministerial department headed by a Principal Administrative Secretary supported by representatives from concerned line-ministries and consultants will be established at the Executive Office of the President to provide broad oversight and promote coordination for all operations under the NEDI. National Inter-Ministerial Department (NID) will prepare consolidated annual work plans and budgets based on inputs received from the 3 participating CIPMUs and recommend release of funds to counties. This NID will also prepare relevant project manuals and reporting formats which will be agreed during project appraisal and provide oversight for social and environmental safeguards. Finally, it will be responsible for coordinating with the World Bank and other key stakeholders and provide timely updates on project performance, funds utilization and audits.

A joint project steering committee headed by Chief of Staff, Executive Office of the President or his nominee is proposed for providing strategic oversight. This committee will have membership from county governments, line ministries, the National Treasury at a senior most level, Civil Society, and UNHCR. The project steering committee will approve annual

work plans and budgets and ensure effective coordination between counties and different line-departments of the national government.

The main institutions involved with the implementation of the ESMF and resettlement activities are: NEDI, NID, CIPMU; National Land Commission (NLC); the National Environmental Management Authority (NEMA); and consultants. The implementation of activities will be under the overall guidance of the IA of the KDRDIP.

Public Consultations

Appropriate consultations were carried out with stakeholders during the preparation of this ESMF. Stakeholder consultation included relevant Government agencies, County government officials, non-governmental organizations, non-state actors and civil society groups. Summary of comments are provided in annex 6.

1. INTRODUCTION

1.1 BACKGROUND

This document presents an Environmental and Social Management Framework (ESMF) for the Kenya Development Response to Displacement Impacts Project prepared under a consultancy as a Technical Assistance to the Executive Office of the President for the Northern Kenya. The ESMF has been developed as one of a set of due diligence instruments required to address and manage environmental and social impacts associated with the KDRDIP project.

KDRDIP is being processed as part of the regional operation that seeks to address the impacts of forced displacement on countries and communities in the HOA that are hosting refugees. It is a multi-sectoral development response by Kenyan government which addresses unmet social, economic, and environmental needs in local host communities in the three refugee hosting counties. The proposed project will use an investment project financing instrument with a total IDA funds of US\$103 million equivalent to be disbursed as credit at US\$100 million equivalent for Kenya; and a US\$3 million equivalent grant to IGAD.

The key drivers that informed the project design include (i) focus on addressing priority needs identified by communities hosting refugees, and (ii) use of government systems including fiduciary systems, structures, and institutions to deliver a development response to forced displacement. Given the significant development deficits in the three project counties, KDRDIP seeks to enhance the investments in the host areas and communities and to strengthen the government institutions and systems for delivering basic services and enhanced absorption and utilization of resources in these hitherto underserved areas following an areas based development approach. This is being done in close collaboration with other World Bank supported interventions in the three counties under the NEDI.

1.2 OBJECTIVE OF THE ESMF

The objective of the ESMF is to provide a framework for effective management of environmental and social issues in the proposed KDRDIP Project. It seeks to both enhance environmental and social development benefits of the project and mitigate any adverse impacts, in line with Government of Kenya and World Bank policies and guidelines on management of environmental and social development projects. Moreover, since the precise locations and potential impacts of future subprojects are not known, the ESMF provides the basis for the preparation of necessary environmental and social tools, as needed for the subproject investments supported through the Project.

This ESMF includes several provisions that were outlined in the Terms of Reference:

- i. Develop and provide guidance on environmental and social criteria to be used during the identification and selection of priority investment projects. Also develop a negative list of activities and potential investments not recommendable for support, due to their poor environmental or social performance.
- ii. Compile a summary of key domestic legislative, regulatory and administrative regimes, within which the Project will operate, with a focus on requirements that will apply to the planning, approval and implementation of projects; research and summarize regional agreements and treaties that are relevant to project planning and

- implementation, as well as environmental management and due diligence.
- iii. Establish a clear understanding of the institutional requirements, roles and responsibilities for adopting and implementing the ESMF. Importantly, this should include a thorough review of the authority and capability of institutions at different levels (e.g., local, county, and national) and their capacity to manage and monitor ESMF implementation. The ESMF should also consider relevant implications for management procedures and training, staffing, operation and maintenance, budgeting and financial support for the new Project at the county level and within the Executive Office of the President for the Northern Kenya Development Initiative.
 - iv. Develop a screening and assessment methodology for potential specific investment activities that will include environmental and social performance criteria, allow an environmental/social risk classification and the identification of appropriate safeguards instruments; identify all relevant potential environmental risks and social concerns that may arise as a result of the proposed Project and specific investments.
 - v. Undertaking stakeholder consultative meetings with the key agencies (local and national levels) to document their input and experience in the use of environmental and social tools in other recent projects and what they would expect to be incorporated in the ESMF for the new Project. Key findings of stakeholder consultations will be mentioned in the ESMF and details presented as an Annex. Among others, the following should be consulted and their views recorded, analyzed and appropriate measures recommended where necessary: Ministry of Agriculture, Livestock and Fisheries, Ministry of Transport and Infrastructure, Ministry of Lands, Housing and Urban Development, Ministry of Education, Ministry of Water and Irrigation, Ministry of Environment and Natural Resources, Ministry of Health, Ministry of Devolution, Ministry of Public Service, Youth and Gender Affairs, Ministry of Labour and Social Protection, Kenya Wildlife Service, Kenya Forest Services, County governments, among others.
 - vi. Identify capacity needs for the implementation of the ESMF under the KDRDIP propose and cost capacity-building program.
 - vii. Propose training for the key user agencies on the use and operational modalities for the KDRDIP ESMF.
 - viii. Identify and describe the required instruments and procedures for managing and monitoring environmental risks and social concerns related to the priority activities, such as assessments (e.g. ESIA), studies (e.g. cumulative, sectoral or county assessments), management plans (e.g. ESMP) and respective monitoring instruments; This includes development of environmental management tools (including screening procedures, checklists, Environmental Management Plans, chance finds procedure, environmental reporting formats, grievance redress mechanisms, etc.) in the ESMF in line with the planned project activities.
 - ix. Provide procedures for “chance finds” in the report with details in the annex 3.
 - x. Propose realistic and effective arrangements for the Client to develop the capacity to manage environmental and social due diligence processes and activities in the project portfolio; propose reporting lines, review and approval functions; identify the required resources and technical assistance measures to establish and maintain the Client’s capacity for the Project duration and beyond; develop a process (incl. timeline, budget, organizational requirements, required trainer profiles and expertise) for building and enhancing the capacity of the institutions responsible for implementing the ESMF.
 - xi. Define the requirements for technical assistance to the Client, civil society organizations (CSO), service providers and public sector institutions to implement,

- manage, supervise, observe or support the implementation of the ESMF;
- xii. Propose training for the key user agencies on the use and operational modalities for the KDRDIP ESMF.
- xiii. Estimate a realistic budget to be allocated for timely implementation of the ESMF in the Project execution phase (details to be provided by the Bank's task team and/or the Client). It is expected that the consultancy will involve a series of county consultations at various levels and fieldwork to all levels where project activities are likely to be proposed, approved and then implemented in order to prepare the ESMF. The draft ESMF prepared by the consultant(s) will be disclosed to a broader stakeholder spectrum through appropriate channels to validate findings and observations, and discussed in a series of public hearings within the project locations.

1.3 ESMF APPROACH AND METHODOLOGY

The ESMF has been prepared on behalf of the Executive Office of the President for the Northern Kenya Development Initiative with support from the World Bank and is designed primarily to support the KDRDIP lifespan. Lessons learned in development of this tool draws from earlier ESMFs prepared for other projects in Kenya.

The consultant undertook several consultations at national level in November 2016 to solicit information on the Project. In December 2016 the consultant undertook a two weeks' field visit to the project intervention areas of Garissa, Wajir and Turkana Counties. Specifically, the following sub counties were visited Turkana west, Dadaab, Wajir South, Fafi and Lagdera Sub Counties.

A list of stakeholders who were consulted is provided in **Annex 5**, and findings of these consultations are summarized in **Annex 6**.

1.4 STRUCTURE OF THE DOCUMENT

The ESMF is divided into a main body with supporting information assembled into several annexes and Operational Tools and Guidelines. The main body of the ESMF: (a) establishes clear procedures and methodologies for the environmental and social assessment, review, approval and implementation of investments to be financed under the KDRDIP; (b) specifies appropriate roles and responsibilities, and outline the necessary reporting procedures, for managing and monitoring environmental and social concerns related to Project investments; (c) determines the training, capacity building and technical assistance needed to successfully implement the provisions of the ESMF; and (d) proposes a budget to implement recommendations outlined in the document.

The annexes contain relevant material referenced throughout the document while the Operational Tools and Guidelines provide the resources needed for implementing the KDRDIP Subproject Environmental and Social Review, Appraisal, Monitoring and Reporting Process.

1.5 KDRDIP OBJECTIVES

KDRDIP will contribute to Kenya's key priorities identified in the World Bank's Country Partnership Strategy (CPS) for FY 2014-18 of reducing poverty and inequality by helping achieve objectives of improved social service delivery for vulnerable groups, particularly women; greater citizen feedback on the quality of service delivery in key sectors; improved agriculture productivity; enhanced transparency in the use of public resources; greater

involvement of the private sector; and reduced vulnerability to climate change, especially in the Arid and Semi-Arid Lands (ASALs).

The Project Development Objective (PDO) is to improve access to basic social services, expand economic opportunities, and enhance environmental management for communities hosting refugees in the target areas of Kenya as shown in figure 1.

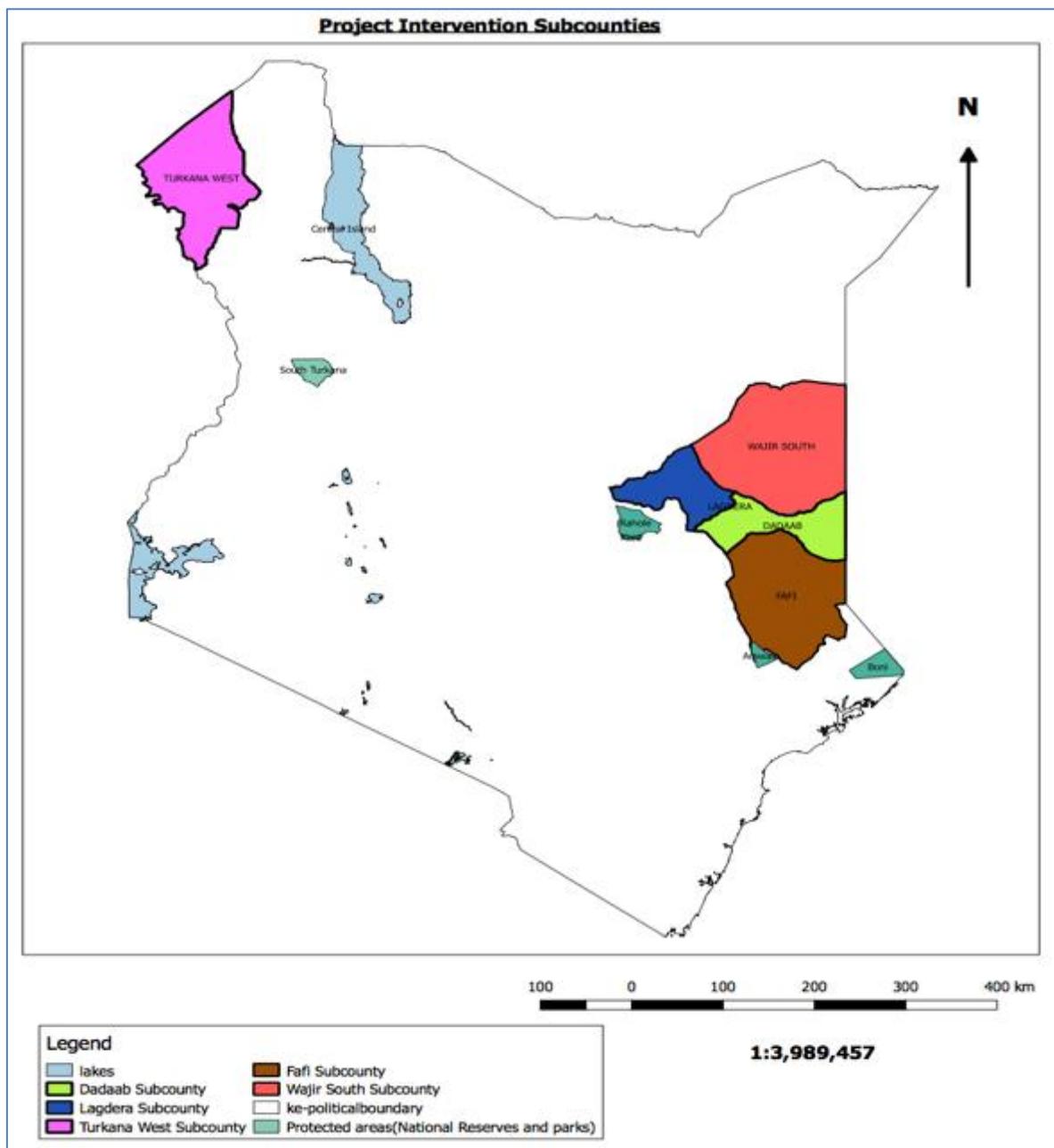


Figure 1: Project intervention sub counties in Kenya

1.6 COMPONENTS OF KDRDIP

1.6.1 Component 1 – Social and Economic Infrastructure and Services (approximately US\$45 million).

This component will specifically support improvements in access to quality basic services for the host communities. The key services will include education, primary and secondary health services, water supply, sanitation and hygiene. The guiding principles would be: (a) Prioritization based on identified community needs especially by girls and women; (b) Inputs complementary to ongoing support from the county and national governments as well as other development partners and civil society organizations; (c) compliance with quality standards and norms of GOK; and (d) strong accountability to citizens and credible systems for monitoring and evaluation.

(a) Subcomponent 1(a): Community Investment Fund (approximately US\$42.5 million).

This subcomponent seeks to improve community access to basic social services and economic infrastructure by providing investment funds that, together with community contributions, will expand and improve service delivery and build infrastructure for local development. Investments will be identified, prioritized, implemented, and monitored by beneficiary communities. Potential investments (subprojects) include the construction, upgrading, rehabilitation, and/or expansion of basic social services, such as education, water supply, human health, and veterinary care; and economic infrastructure such as rural roads, market structures, and storage facilities. The target community, with guidance from local government, will identify and prioritize the specific social services and economic infrastructure to be funded under this subcomponent through the community-driven development approach. Only those subprojects that are currently functioning—that can cover their operating costs and have staff—and those who have a budget for staff and materials provided by their respective administration will be supported, ensuring the sustainability of the interventions.

(b) Subcomponent 1(b): Capacity Support for Local Planning and Decentralized Service Delivery (approximately US\$2.5 million).

This subcomponent seeks to improve the service-delivery capacity of local-level government authorities. Specifically, it will support capacity building of local government authorities and local implementing institutions in the areas of community-driven planning process, local development management, service-delivery capacities enhancement, mainstreaming of project interventions with government's development planning and budgeting process, coordination of all development stakeholders at local-level and community-level development learning. The project will also support technical assistance to reinforce the capacity of specialized implementing agencies, including the recruitment of national and international technical assistance for the planning, engineering design, procurement, construction management, safeguards and technical monitoring of physical investments.

1.6.2 Component 2 – Environmental and Natural Resource Management (approximately US\$20 million).

This component aims to decrease environmental impacts of protracted refugee presence and the direct and indirect consequences on the host communities which include unprecedented deterioration of the natural resource base due to overexploitation of wood and other non-timber forest products for various purposes (shelter, firewood, charcoal, food, medicines, etc.), overgrazing from ever-increasing livestock numbers, and over-abstraction of groundwater for domestic consumption and livestock. Severe environmental degradation has led to host communities forced to travel much longer distances in search of pastures, but also to meet their energy (fuel wood) and construction material needs. The proposed activities that would enhance environmental management include improving access to energy in the form of environmentally friendly alternative sources of household energy, and reduce risks associated with wood fuel supply and demand. The operation will also support activities aimed at generating information that supports decision-making for the sustainable management of natural resources including wildlife; and the implementation of natural resource management activities in host communities, refugee camps as well as in the surrounding areas, in order to mitigate the impact on natural resources in particular and the environment at large.

(a) Subcomponent 2(a): Integrated Natural Resources Management (approximately US\$18 million).

This subcomponent intends to enhance the productivity of environmental and natural resources, including arresting the degradation of fragile ecosystems in forest, range, and agricultural lands. It would support soil and water conservation through biological and physical activities on individual farms and communal lands, including the construction of soil bunds, stone bunds, artificial waterways, cut-off drains, check dams (gully rehabilitation), bench terraces, hillside terraces, trenches, area closures, planting of multipurpose trees, and groundwater recharge interventions. Customary/traditional Community institutions will be engaged and strengthened through more inclusive representation of women and youth, and ensuring community agreements and monitoring of land use. The primary implementation modality for the component will be labour intensive public works and specific efforts will be made to integrate women – not only into the labor opportunities but also as beneficiaries of the activities.

(b) Subcomponent 2(b): Access to Energy (approximately US\$2 million).

This subcomponent seeks to improve the host communities' access to energy by promoting the better use of energy resources and increasing access to alternative sources of energy. Support will be given to interventions that address the host communities' energy requirements, such as domestic cooking and lighting; social services, such as schools and health services; and productive activities, including lighting for small shops and businesses and for manufacturing and processing. Household cooking is currently based on firewood and charcoal. To address this concern, improved cooking devices will be introduced with appropriate community consultations about methods of cooking and baking and what types of firewood are locally available. Training would be provided on the use of the new devices, including the preparation of fuel. Attention would be given to monitoring use, regular

maintenance, and repairs. Solar lanterns and lamps are among the options for meeting home and street lighting as well as mobile phone charging needs. The inputs provided by the project will be complementary to the proposed off-grid solar operation.

1.6.3 Component 3 – Livelihoods Program (approximately US\$27.5 million).

Refugee hosting communities in the target areas derive their income either from traditional livelihoods including pastoralism, agro-pastoralism, and small-scale agriculture; and/or non-traditional livelihoods including small businesses, skills-based jobs and service enterprises. Both forms of livelihoods are characterized by low-level technologies and skills, which are often characterized by inherent low productivity and incomes. Some of the major challenges affecting traditional and non-traditional livelihoods include periodic droughts, lack of reliable water source for livestock and agriculture, and limited access to capital, quality inputs, capacity building and technical support to increase productivity, access to markets and lack of infrastructure. The component will support interventions aimed at improving the productivity of traditional and non-traditional livelihoods and strengthening the resilience of communities. The support will include improved access to technology and equipment, storage and processing infrastructure and finance. There will be priority attention to build community institutions through mobilization and selection of beneficiary groups, the formation of Common Interest Groups and strengthening capacities of producer cooperatives for accessing input and output markets. The key guiding principles will be: (a) Emphasis on promoting livelihoods of the most vulnerable including women and youth; (b) Building on experiences and tools developed by government and partner agencies in promoting livelihoods; and (c) Optimizing of the existing infrastructure including those in the refugee camps. The component will ensure convergence with other livelihood interventions in the target area.

(a) Sub-component 3 (a): Support to Traditional and Non-Traditional Livelihoods (approximately US\$25 million).

The objective of this sub-component is to increase the production and productivity of pastoralism (livestock); agro-pastoralism (crop and livestock) and agriculture (crops and livestock); and commercialize their livelihood activities for improved incomes, employment, and self-reliance. Support for on-farm activities primarily will aim to improve lives of pastoralists/agro-pastoralists through enhancing the production and productivity of livestock (goats, camels, cattle and poultry) and dry land farming with emphasis on rebuilding pastures. The support to off-farm activities will aim at strengthening the value chains for selected commodities and promoting agri-businesses. This in turn is envisaged to be achieved through improved access to financial services (through the promotion of grassroots financial institutions) and strengthening technical and advisory services to help host communities identify viable businesses and/or investment opportunities and income generating activities.

(b) Sub-component 3 (b): Capacity Building of Community-Based Organizations for Livelihoods (approximately US\$2.5 million).

The objective of this sub-component is to improve the service delivery capacity of pastoral/ago-pastoral/farmer organizations, including community-based organizations. The support will include establishing and building the capacity of community-based organizations (CBOs) given the CDD approach of the project and primacy of CBOs in inclusive implementation and sustainability of project investments. For livelihoods promotion, the CBOs would include pastoralist groups, livestock marketing associations, community disease reporters, farmer organizations, cooperatives, Village Savings and Lending Associations (VSLAs), and common interest groups (CIGs). These CBOs will be trained in group management, savings, financial literacy, bookkeeping, and encouraged to have regular meetings to promote savings, inter-loaning, timely repayment, and up-to-date books of accounts. These efforts will be coordinated by the County and Sub-County Technical Committees who will have overall responsibility for the capacity building. Both the traditional and non-traditional livelihoods will be implemented through Common Interest Groups (CIGs). These capacity building efforts of CIGs will be coordinated by respective County Project Implementation Units (CPIU) which will have overall responsibility for the capacity building.

1.6.4 Component 4 – Project Management, Monitoring and Evaluation, and Knowledge sharing (approximately US\$7.5 million).

The objectives of this component are to ensure enhanced and effective project management, coordination, and implementation and to support the design of the project's M&E system, which will be described in detail in the M&E manual. The implementation of the proposed operation will follow existing government structures. To ensure robust project management and implementation, Steering Committees (SCs) and Technical Committees (TCs) will be established at National and County levels. While the SCs will provide broader oversight and ensure cross-sector coordination the TCs will ensure technical guidance and backstopping (TCs) to project management as well as implementation. The project will build on existing community-level structures, such as community development committees, and will establish new local-level institutions as needed, including community facilitation teams, community project management committees, community procurement committees, and social audit committees.

The component will support the design of the project's management information system for monitoring inputs, outputs, and processes; the evaluation of outcome and impacts; environmental and social safeguard monitoring; and participatory M&E and internal learning. M&E activities will include regular monitoring of the progress and performance of implementation; independent process monitoring of the community-level planning and effectiveness and quality of capacity-building efforts; and undertaking annual thematic studies and outcome as well as impact assessments -of-project. The project's Results Framework will be used as a basis for reporting progress against indicators, including progress toward achieving the PDO and implementation progress. The project will consider the use of mobile technologies to increase the reach and frequency of data capturing at the local level and aggregating it in a platform that could serve as a dashboard.

Kenya and Somalia will join other DRDIP countries in the Regional Project Steering Committee hosted by the Regional Secretariat on Forced displacement and Mixed Migration anchored in IGAD and represented by nominee of its national steering committees and project coordinator. It will benefit from the Regional Secretariat led activities including research, knowledge generation, the documentation of lessons learnt to enhance the coordination, knowledge sharing and learning across the project countries. The regional project steering committee will provide oversight of the implementation of the regional program and will guide, advise, and support a regional policy dialogue.

1.6.5 Component 5 – Support to return areas in Somalia (US\$ 3 million).

Following Tripartite Agreement, voluntary repatriation of some of the Somali refugees from the Dadaab camp to key return areas of Mogadishu, Kismayo and Baidoa in Somalia is in progress. Currently, a number of different agencies and actors are supporting returnees with shelter, livelihood interventions, and essential social services in these return areas; albeit in an uncoordinated manner with limited role for the local government authorities. Security is also a major challenge for the government with large numbers of returnees and IDPs settling in a sporadic manner within a rather short timeframe exacerbating the development deficits in these areas. This component will support IGAD and the Regional Secretariat on Forced displacement and Mixed Migration to channel capacity and systems support to the federal, regional and municipality level administrations to adopt a development approach that is displacement sensitive, and better coordinated interventions in return areas.

The key interventions of IGAD will include (i) provision of technical assistance for developing appropriate guidelines for ensuring a coordinated development response in return areas; and building capacities, systems and processes; (ii) Development and maintenance of a database to include mapping of services, spatial planning and Geo tagging of social services to determine gaps in provision, identify priorities for areas and agencies, and prevent duplication and inefficiencies; (iii) Regular monitoring, reporting and learning from experiences including documenting community voices and identifying the potential role of traditional governance structures – for scaling up; and (iv) Responding to “just in time” needs expressed by the local government, which could range from providing an expert with specific skills for few weeks, to reviewing technical documents or carrying out a quick assessment.

The component will also enable the Regional Secretariat for Mixed Migration and Forced Displacement to augment its staffing and operational resources to support the activities for and in Somalia.

2 ENVIRONMENTAL BASELINE

This chapter provides an overview of the biophysical and social baseline in the proposed areas of intervention areas of Lagdera, Fafi and Dadaab sub-counties of Garissa County, Wajir South of Wajir County and Turkana West of Turkana County.

2.1 CLIMATE

2.1.1 Turkana West Sub County

The entire Turkana County is classified as an arid area where the climatic conditions are characterized as warm to hot, with temperatures ranging between 24 to 38 degrees Celsius. Rainfall is erratic and unpredictable both in timing and distribution. Turkana West located to the northwestern area border with Uganda and Sudan receive more than 500mm per year. Figure 2 below shows average annual rainfall values are indicated in black, average annual rainfalls calculated for a period 4 to 10 years are indicated in red text. Calculations may vary depending on the availability of of the data derived from the 14 meteorological stations (names indicated in blue). RTI, 2013; Kenya Meteorological Agency data, 2012.

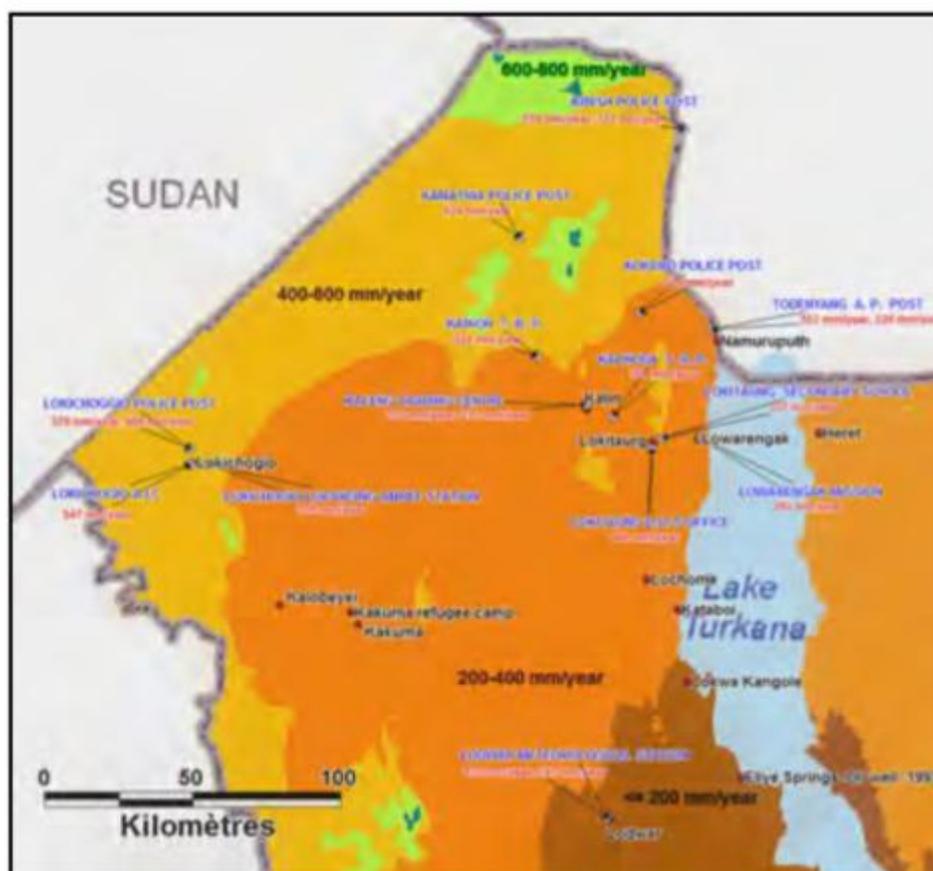


Figure 2: Rainfall map of northern and central Turkana County.

2.1.2 Dadaab, Fafi, Lagdera and Wajir Sub County

Given the arid nature of this areas, temperatures are generally high throughout the year and range from 20°C to 38°C. The average temperature is however 36°C. The hottest months are September and January to March, while the months of April to August are relatively cooler. The humidity averages 60g/m³ in the morning and 55 g/m³ in the afternoon. An average of

9.5 hours of sunshine is received per day. Strong winds are also experienced between April and August with the rest of the months getting calm winds

2.1.3 Climate change

Over the past several decades, Kenyan government data show a clear trend in increasing average temperatures in the country as a whole and in Turkana County. While global mean temperatures are estimated to have increased by 0.8°C (1.5°F) in the past century, in Turkana County minimum and maximum air temperatures have increased by between 2 and 3°C (3.5 and 5.5°F) between 1967 and 2012. Rainfall patterns have also changed: the long rainy season has become shorter and dryer and the short rainy season has become longer and wetter, while overall annual rainfall remains at low levels.¹

Climate data from a meteorological station in Turkana's capital Lodwar documents increased (minimum and maximum) temperatures of 2-3°C (3.6 to 5.4°F) between 1967 and 2012. Rainfall patterns in Turkana also appear to have changed, with the short rainy season becoming longer and wetter and the long rainy season becoming shorter and dryer. Overall annual rainfall in Turkana remains at low levels, with repeated intense droughts across Northern Kenya. These patterns appear consistent with scientific evidence suggesting a correlation between increasing overall temperatures and droughts and more extreme rainfall.

Rainfall data from the meteorological station in Garissa provides some insights into the rainfall patterns in the area. According to the Kenya Meteorological Department, the normal range of variability is +/- 25% from the normal, determined based on data from the 1961-1990 period. Between 1990 and 2010, the March-May rains were more than 50% lower than normal in ten of the years, compared to only four years in the 1970-1989 period. This supports the communities' assertion that the climate is becoming dryer. Heavy rainfall (more than 50% more than normal) was experienced every 3-5 years over the period from 1990-2010, showing a trend of high rainfall variability and frequent extremes²

2.2 WATER RESOURCES

The following sections describe the main hydrological characteristics of the study area, focusing on the river basins (and sub-basins) in which the KDRDIP are located (see *Figure 3*). They include a description of the principal surface water features, a presentation of some of the key available water resources data (including their reliability) and a summary of the main water users in each basin. The descriptions focus primarily on surface water resources, although groundwater is discussed where this is a significant feature and where data are available. In addition, the presentation is based upon the current (or historical) hydrological situation in the intervention areas: the possible future effects of climate change on these water resources were broadly discussed in *Section 2.1.3*

¹ <https://www.hrw.org/report/2015/10/15/there-no-time-left/climate-change-environmental-threats-and-human-rights-turkana>

² http://www.careclimatechange.org/files/CVCA_Kenya_Report_Final.pdf

2.2.1 Turkana West Sub County

In Turkana West Sub County rural water supply projects rely considerably on groundwater to meet the needs of pastoralists and displaced populations. Rainfall contributes a total volume of approximately 24 km³ of water into Turkana. Overall, the rainfall in the County has been on the decline over the years as reported by Savatia (2010). Runoff contributes approximately 4.8 km³ (16.7% of rainfall) Turkana West has several rivers. The Tarach is a seasonal river and brings floods waters from mountain ranges near the Ugandan border. The worst flood in Kakuma was recorded in May 2003 when some 16,800 refugees saw their homes destroyed. A number of latrines overflowed and collapsed, leading to the spread of water-borne diseases, including cholera and dysentery. Tarach River has high number of shallow wells most of which are less than 10m located in sandy riverines that overlie shallow aquifers. They are important water sources since new shallow wells and boreholes are tapped on these aquifers. This shallow wells are the most important water sources for livestock. An RTI (RTI,2012) report mapped the boundaries of watershed catchment areas within the study area, and calculated the total rainfall harvested per year for catchment, prior to subtracting evaporation or runoff (seen in Figure 2.15). It was observed that the watersheds in Turkana North and Central are naturally oriented towards Lokichogio, Kalobeiyei, Kakuma Refugee Camp and Lodwar. The western watershed system and its four sub- watersheds replenishing the Lotikipi Basin (outlined in blue) have a cumulative rainfall harvest of 7.36 BCM/year. The eastern watershed system (outlined in red) replenishes Lake Turkana with a global input of 9.6 BCM/year.

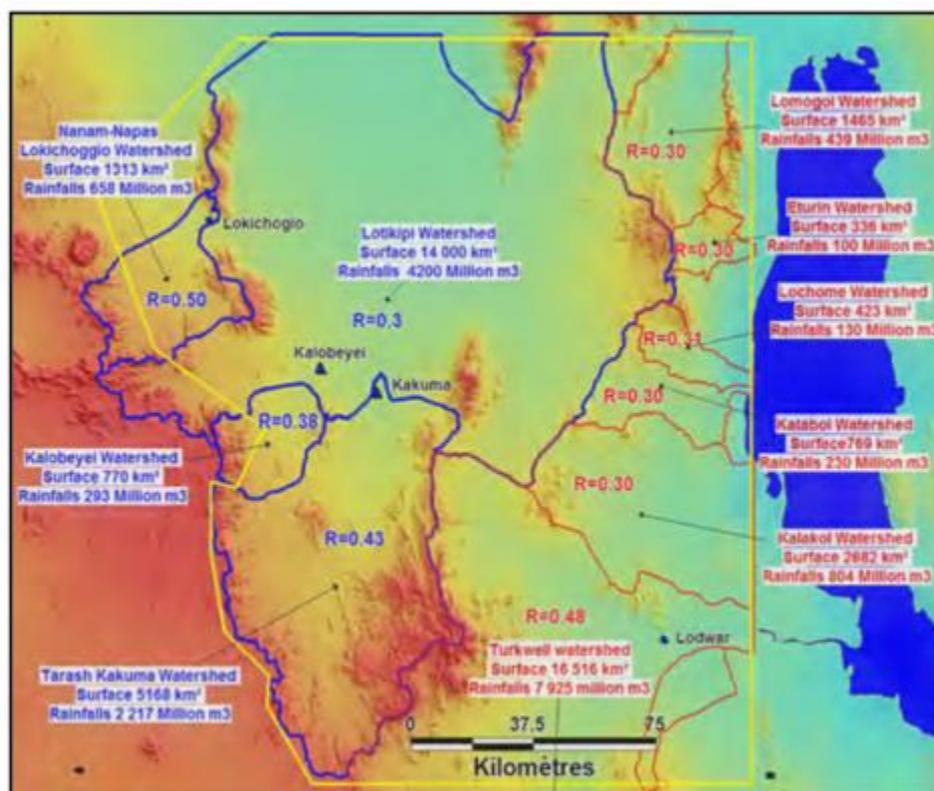


Figure 3: Map of watersheds and sub-watersheds of northern-central Turkana County. RTI, 2012.

Table 1: Surface area, rainfall rates and Rainfall: Area ratios of watersheds of northern-central Turkana County. RTI, 2012

Watershed	(S) Area (km ²)	(R) Volume rainfall (MCM/yr)	R / S ratio
(1) Tarash-Kakuma sub-watershed	5,168	2,217	0.43
(2) Nanam-Napas sub-watershed	1,313	658	0.50
(3) Lotikipi sub-watershed	14,000	4,200	0.30
(4) Kalobeiyei sub-watershed	770	293	0.38
Lotikipi watershed system (all sub-watersheds)	21,251	7,368	0.35
(1) Turkwel-Lodwar	16,516	7,925	0.48
(2) Kalakol	2,682	804	0.30
(3) Lomogoi	1,465	439	0.30
(4) Kataboi	769	230	0.30
(5) Lochome	423	130	0.31
(6) Eturin	336	100	0.30
L.Turkana watershed system (all sub-watersheds)	22,191	9,628	0.43

Other than the naturally occurring surface water bodies, there are also the man-made ones such as pans and dams. See figure 4.

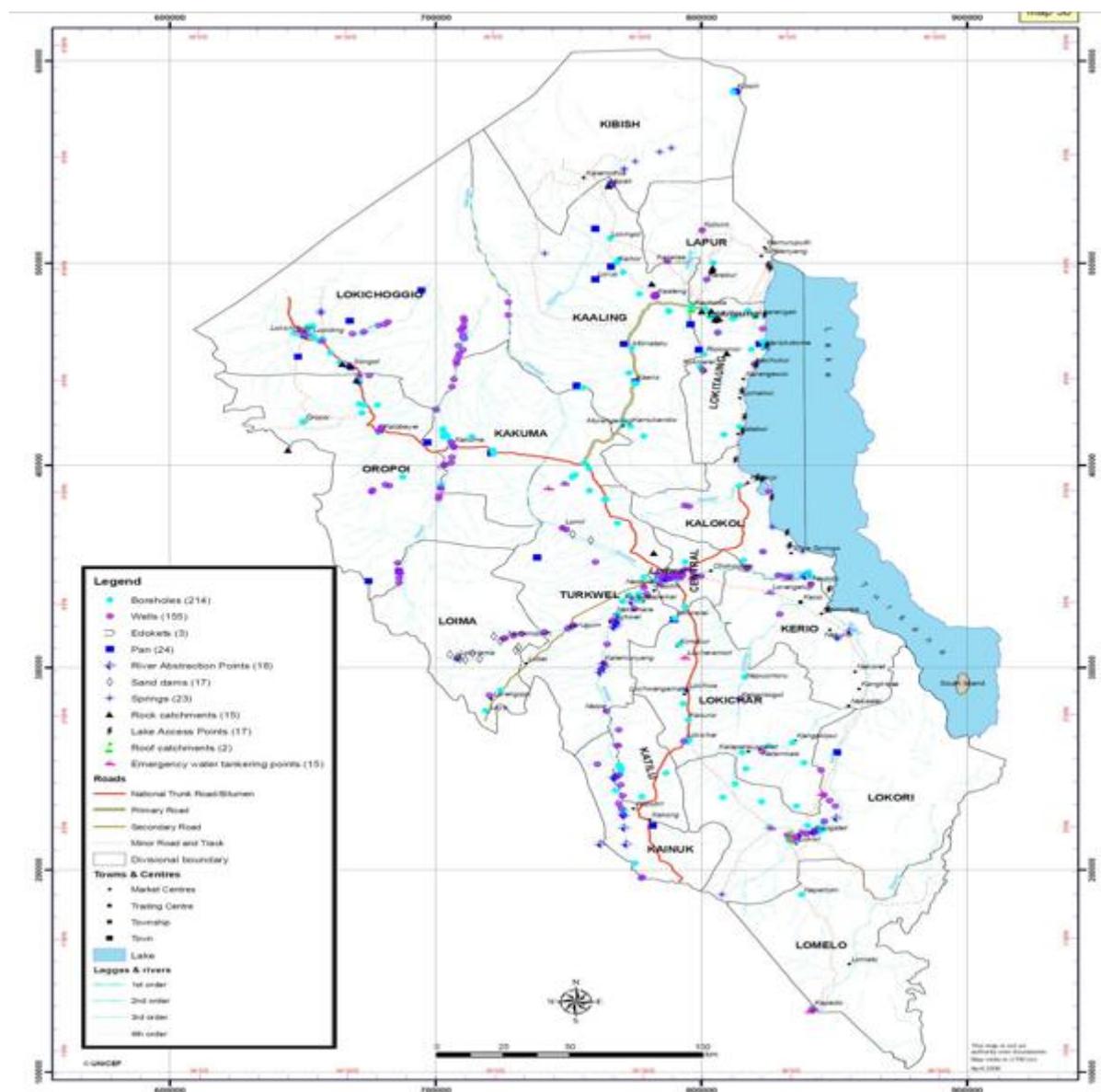


Figure 4: Spatial Distribution of assessed Operational water sources (WESCOORD, 2006)

2.2.2 Lagdera, Fafi, Dadaab and Wajir South Sub Counties

Groundwater resources in the four project Sub Counties include pans, shallow wells and boreholes. Groundwater occurs in shallow aquifers as well as in deep aquifers in the area. Shallow aquifers can be found in the alluvium beneath and along (ephemeral) river beds, where they occur as shallow groundwater bodies. Boreholes that tap into the deeper aquifers have variable yields and water quality (salinity). A large fresh water body is present in what is regarded in most studies as the Merti aquifer, which is one of the largest known aquifers in the region. Around Dadaab, water is generally struck at a depth of approximately 130 m below ground level. Test yields of the existing boreholes at Habaswein vary from 75 to 350 m³/day. Apart from aquifer characteristics, the yield depends on borehole characteristics, such as screen length. EC values in Dadaab refugee complex range from 800 to 2000 $\mu\text{S}/\text{cm}$.

The Ewaso Ng'iro watershed forms the border between Garissa and Wajir districts and

covers parts of four divisions in Garissa: Dadaab, Liboi, Modogashe, and Shant-Abak. dams and pans represent the vast majority of water sources (67%) and account for 77% of all operational sources. Boreholes are also an important resource in this region, representing nearly 25% of all water sources.

2.2.3 Merti Aquifer

In most available literature, deeper aquifers in the study area (mainly tapped by boreholes) are considered to be part of the Merti aquifer. Following this classification, the Merti aquifer is defined by permeable water-bearing layers in the Merti formation, which can be found in most of the study area. The Merti formation within the Anza Rift consists of rotated and faulted sediments and/or (near-) horizontal post-rift formations. The Anza Rift is bound by major faults. In the north-east, the rift is bound by the Lagh Bogal Fault (Bosworth & Morley, 1994). In the southwest, the Anza Rift is bound by the Basement complex. Younger rifting shifted away from the early basin boundaries (North-eastward).

Sediments of similar age and depositional environments can be found north of the Anza Rift (around Wajir) and further to the south (Lamu embayment). In some studies, permeable water bearing layers in these related formations are also considered to be part of the Merti aquifer. Generally, groundwater in the Merti aquifer is confined and is found at rather uniform depths between 110 and 180 m below ground level (m bgl). Successful boreholes tap the more permeable zone of the Merti formation commonly between 105 m to 150 m bgl (GIBB, 2004). The actual thickness of the Merti aquifer is unknown, because generally boreholes do not fully penetrate the aquifer. The aquifer is considered to be confined in most studies and the maximum penetration depth at Habaswein is approximately 25 m..

Also the vertical extension of the Merti aquifer is not well defined. Several attempts have been made to define the Merti aquifer and its extent (e.g. Swarzenski and Mundorff 1977, GIBB 2004). In these studies, the aquifer is believed to be limited by the presence of adjacent saline water bodies. Most studies agree that the main freshwater aquifer (in this study defined as the 'Central Merti aquifer') extends from the northeast of Habaswein into Somalia at Liboi and beyond. The freshwater aquifer zone is relatively narrow at Habaswein (with a width of approximately 15-30 km) but broadens to 70 km near Dadaab.

The geological structure of the Anza Rift plays an important role in the regional hydrogeology. Faults can act as barriers to horizontal fluid flow, thus limiting regional flow systems into distinct compartments. On the other hand, faults and fracture zones can also form preferential horizontal flow paths, e.g. through the secondary porosity of broken rocks. Faults can also form preferential flow paths for vertical flow, even in areas where lateral hydraulic head gradients suggest that they impede flow (Bense 2006). Rotated layered sediments can impede flow or influence flow directions as well.

Hydraulic continuity of permeable layers can be deduced from known or suspected geological structures, combined with lateral differences in piezometric heads (static water levels) and/or groundwater chemistry (see Figure 3). Based on this approach, Oord (2012) divided the Merti aquifer into different hydrogeological zones. The area under study is part of the Central Merti aquifer, which is the main continuous freshwater aquifer body with high non saline groundwater potential. This hydrogeological concept is used in the current study.

The boreholes that supply water for the refugee operation - together with large portions of

Garissa, Wajir and Isiolo - tap into the Merti aquifer. Total abstraction from this aquifer is estimated at 4,6 M m³/yr. Recharge is difficult to quantify but the best estimate of the study is around 4,5 M m³/yr. The rate of water discharge therefore slightly exceeds the likely rate of recharge and the presence of the camps is a contributing factor. There is, however, believed to be sufficient water stored underground to last many centuries at current abstraction rates, which explains the minimal drops recorded in local borehole levels

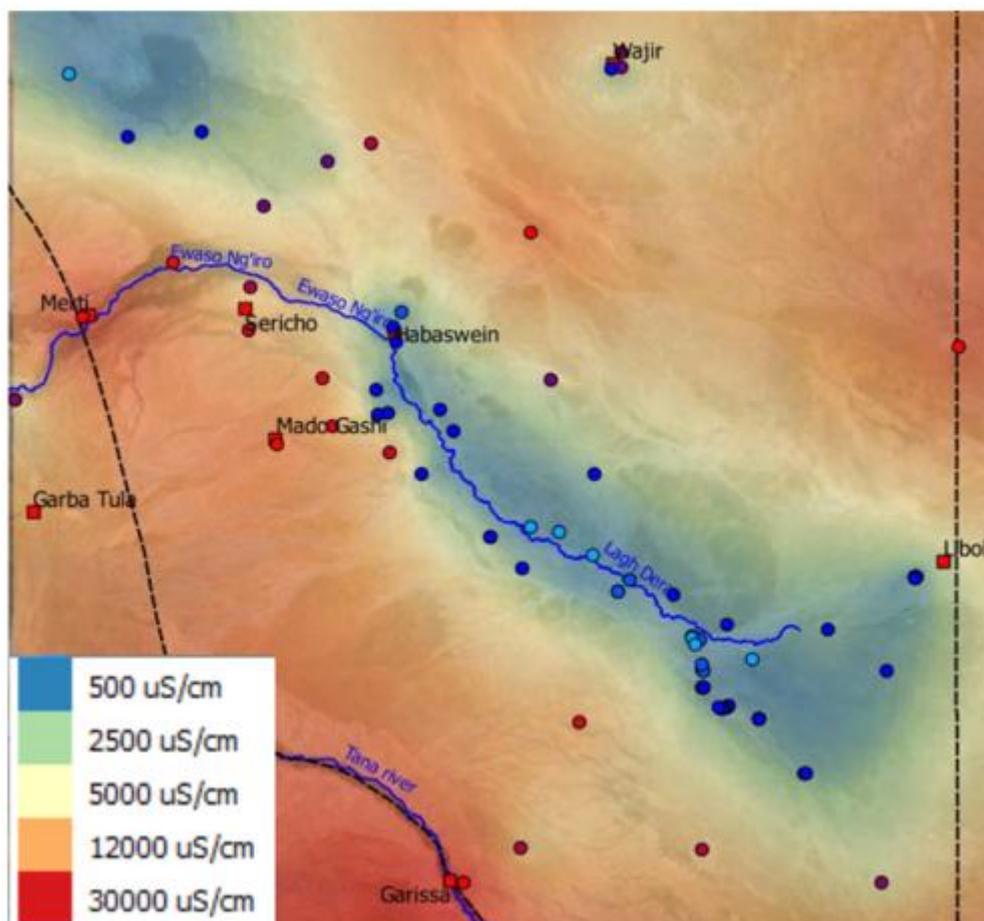


Figure 5: Salinity distribution in the Merti aquifer (based on Oord, 2012).

2.3 BIOPHYSICAL BASELINE

2.3.1 Dadaab, Fafi, Lagdera and Wajir South Sub counties

(a) Biodiversity

The Project intervention areas are in the ecoregion defined on the arcgis website¹ as Hot Semi-Dry Plains on Unconsolidated Sediment with Grassland, Shrub, or Scrub. This ecoregion, comprises of semi-arid mixed woodland, scrub and grassland, is not protected

¹

<http://story.maps.arcgis.com/apps/MapJournal/index.html?appid=dc91db9f6409462b887ebb1695b9c201&webmap=dd6f7f93d54341a69a47002696cf5744>

and numbers of humans and livestock is increasing, and nomadic pastoralism is declining in favour of settlement, causing environmental degradation through heavy grazing, charcoal production and agricultural expansion. Water is always in short supply in this region, where one or both rainy seasons commonly fail.

Environment around the refugee camps of Dadaab and Kakuma is degraded. Dadaab and Kakuma are located in environmentally fragile arid areas vulnerable to shifts in climate, where the high and increasing density of the population is adding pressure on already rapidly degrading land. Ten years of drought further add to the environmental stress. Tension is increasing between the host populations and refugees. Over the use of scarce environmental resources. As a consequence, the availability of fuel wood for cooking has become a major challenge in the camps.

Environmental degradation in Kakuma is less severe than in Dadaab, mainly due to a smaller refugee population and a stricter encampment policy. However, a survey conducted in 2008 to assess the status of woodland degradation and fuelwood demand in Kakuma area found that the presence of refugees has negatively affected the environment¹. There has been a reduction in both densities of trees and other plants and, species diversity, the closer one gets to the camp. Satellite imagery before and after the establishment of the camp supports the findings on the ground. While refugees are not allowed to collect firewood, demand for fuelwood by refugees led to the proliferation of trade in charcoal and firewood between refugees and the local communities in both camp areas. Firewood provided, which covers about 20 percent of the refugees needs, locals also source and sell the balance. Unsustainable and inefficient charcoal production is another major contributor to depletion of natural vegetation, eventually leading to deforestation, which in turn is both a cause and effect of climate change.

The protracted presence of a high number of refugees has placed a considerable strain on the natural resources in the project area. Within a 0-20 km range, degradation of the woody biomass is very significant². Moreover, conflict with local communities over access to and exploitation of natural resources is on the rise.

An environmental degradation assessment, vegetation development and cultivation monitoring around the Dadaab refugee camps in Kenya in 2000, 2005, 2010 and 2014 was carried out by Indra³. The vegetation index (see figure 6) shows the changes in vegetation cover as a result of the refugee settlement in Dadaab.

¹ Kariuki J.G., Machua J.M., Luvanda A.M. and Kigomo J.N. (2008), Baseline Survey of Woodland Utilization and Degradation Around Kakuma Refugee Camp, Kenya Forestry Research Institute; Nairobi. <http://www.kefri.org/jofka%20report%20finale.pdf>

² Danish Refugee Council (DRC) & Norwegian Refugee Council (NRC) (2010), Socio-economic and Environmental Impacts of Dadaab Refugee Camps on Host Communities

³ <http://emergency.copernicus.eu/mapping/list-of-components/EMSN011>

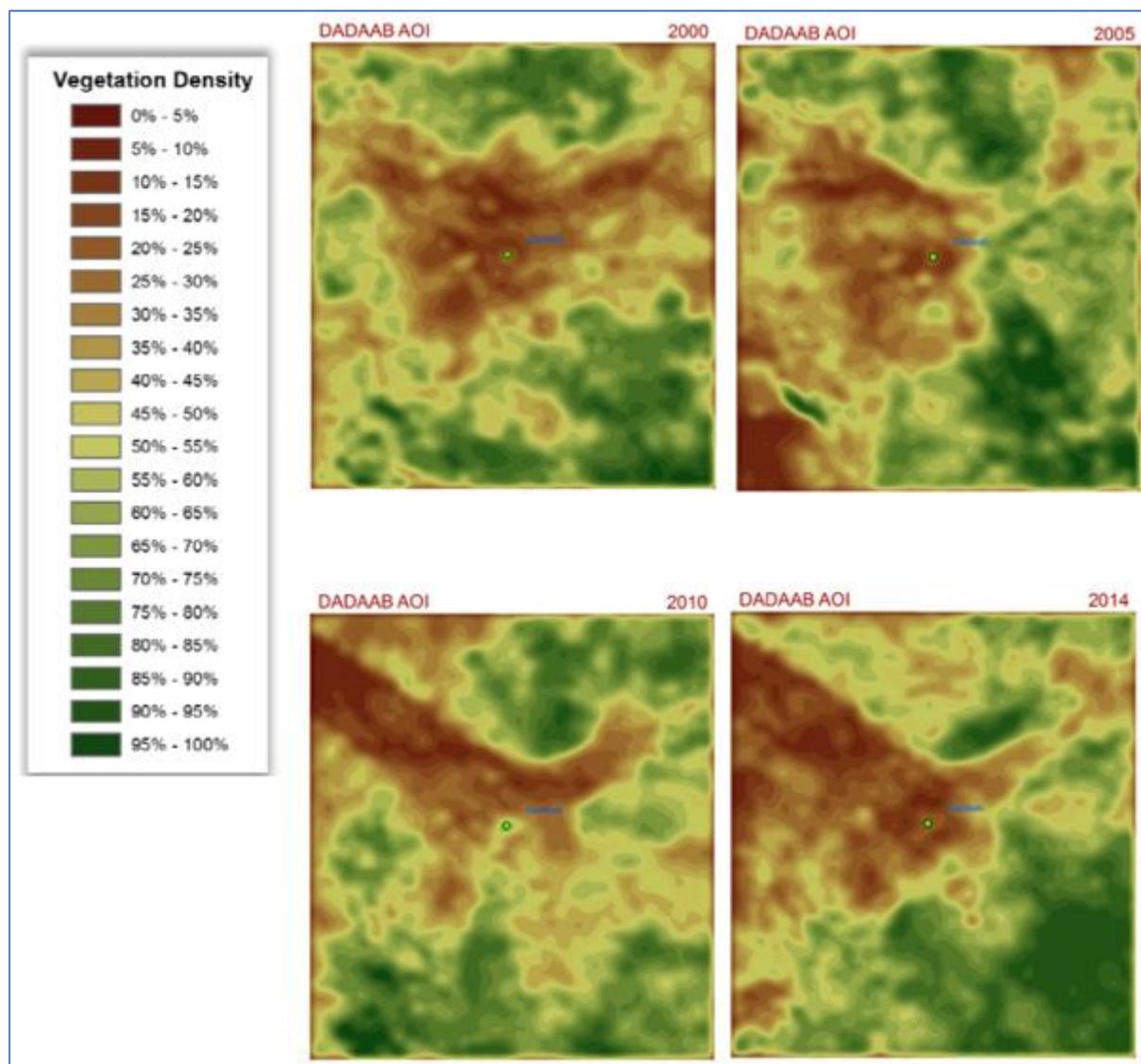


Figure 6: Dadaab Vegetation density index between year 2000 to 2014(source Indra, 2014)

The project intervention areas of Dadaab, Fafi, Lagdera and Wajir South form the downstream Lagdera River plains of the Ewaso Ng'iro River catchment. Whereas the surface flow from the Ewaso Ng'iro River disappears into the Lorian Swamp in Kenya, subsurface flows continue eastwards to recharge rivers inside Somalia, which eventually drain into the Indian Ocean (Mati et al. 2005).

The eastern lower parts of the Ewaso Ng'iro River Catchment that includes Wajir South and Garissa have altitude ranges of 500m to 1000m asl. This area falls under AEZ of arid to very arid with vegetation cover of mainly shrub savannah, shrubs and grasslands and livestock production land use. Figure 7 and 8 show agro climatic zones and land cover in the catchment.

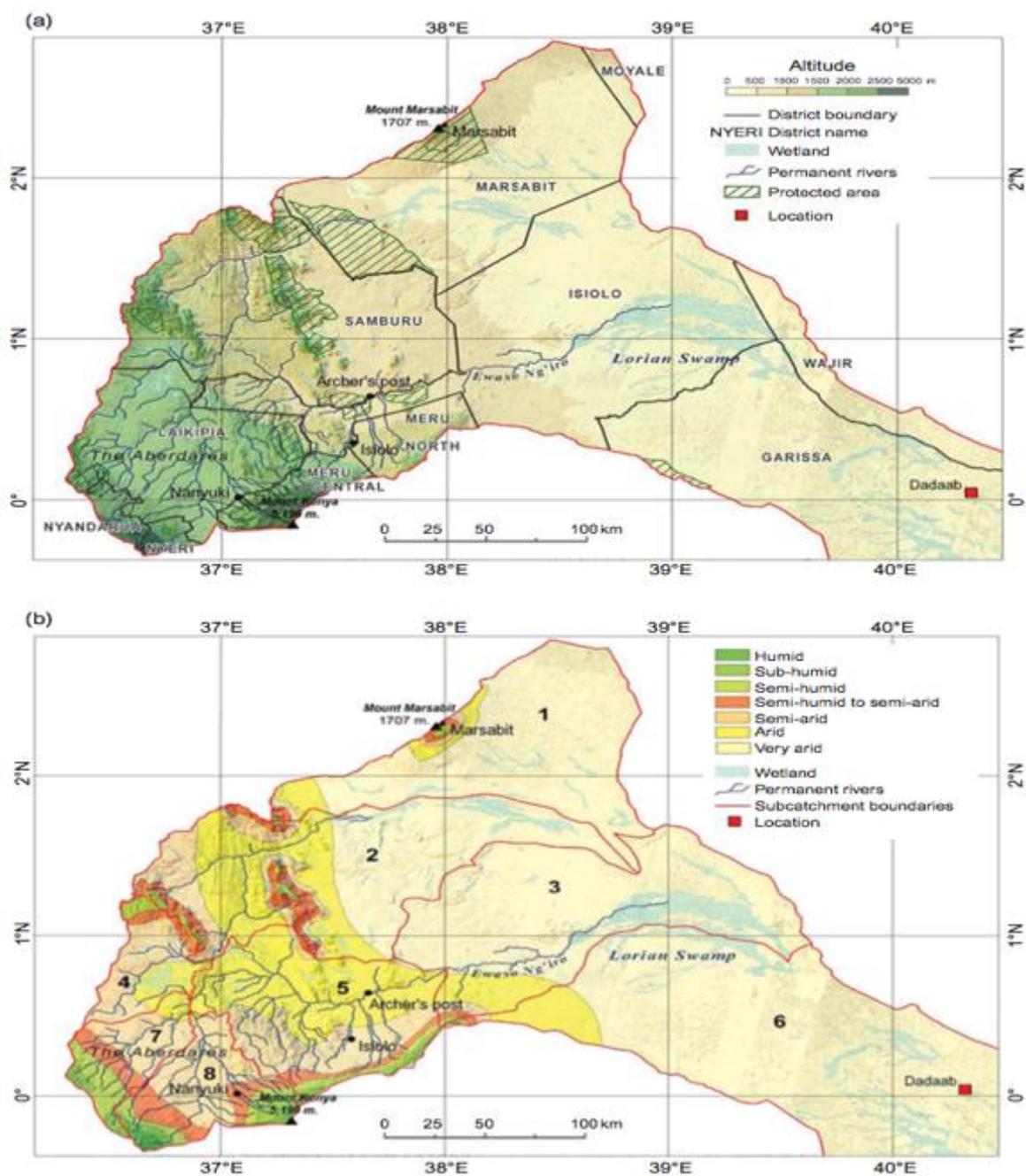


Figure 7: a) Topographic map of the Ewaso Ng'iro catchment. (b) Agro-climatic zones (ACZs) in the Ewaso Ng'iro catchment. (Ericksen, et al, 2011)

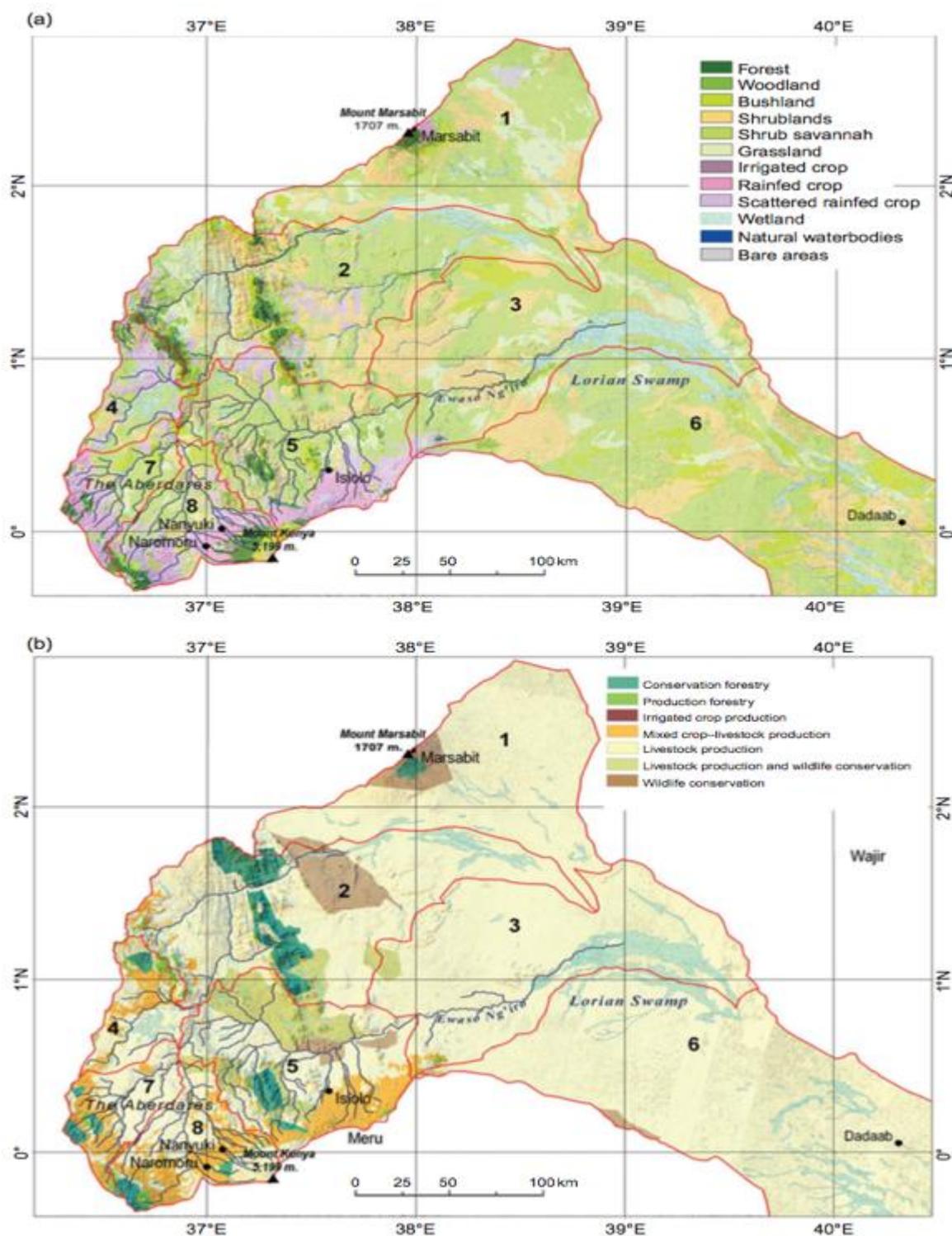


Figure 8: (a) land cover including croplands (based on Africover 2000) in the Ewaso Ng'iro catchment. (b) Land use in the Ewaso.(Ericksen, et al, 2011)

Figure 9 contains maps of wildlife density distribution across the catchment with focus on the lower part of the catchment three wildlife species mapped (giraffes, oryx, Grevy's and Grevy zebra) show quite distinct distributions. Giraffes and oryx are more evenly distributed. Grevy zebra, a red-listed species with a significant part of its global population found in the Ewaso Ng'iro catchment, is distributed in patches. Other wildlife species

include; Gerenuk, Lesser Kudu and Cheetah. Warthogs are commonly encountered at watering points and the Somali Ostrich and Hyenas are common. Lions also occur in the area and there are reports of the African wild dogs. Bird species include guinea fowls, hornbills, the ubiquitous mourning dove and *Quelea quelea* and other passerine birds. Note that for the project intervention areas within the catchment all wildlife species are out of protected areas and conservancies as shown in figure 8. From the red list of International Union for Conservation of Nature (IUCN) the fauna found in project areas are not threatened. There is also no important or protected area for fauna and flora.

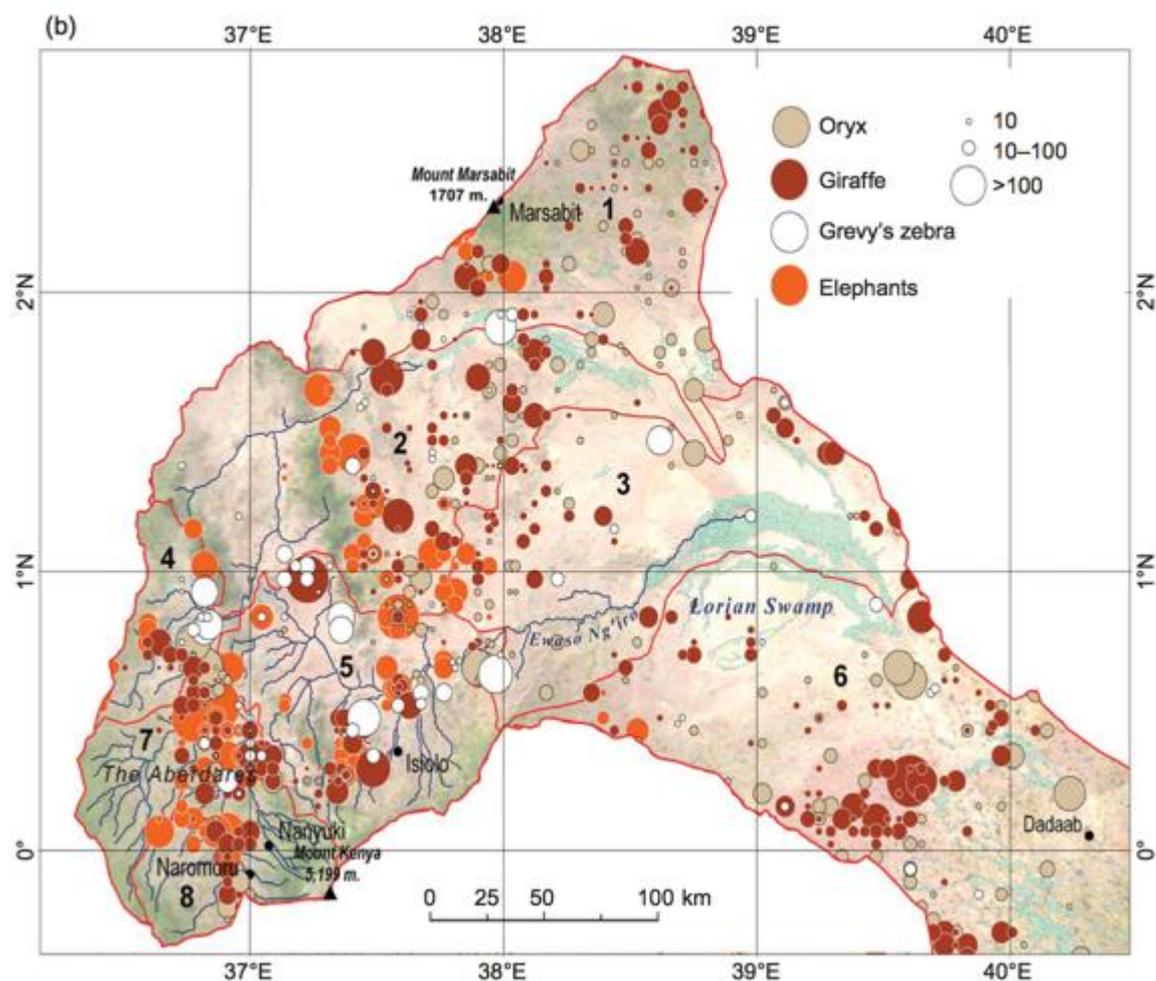
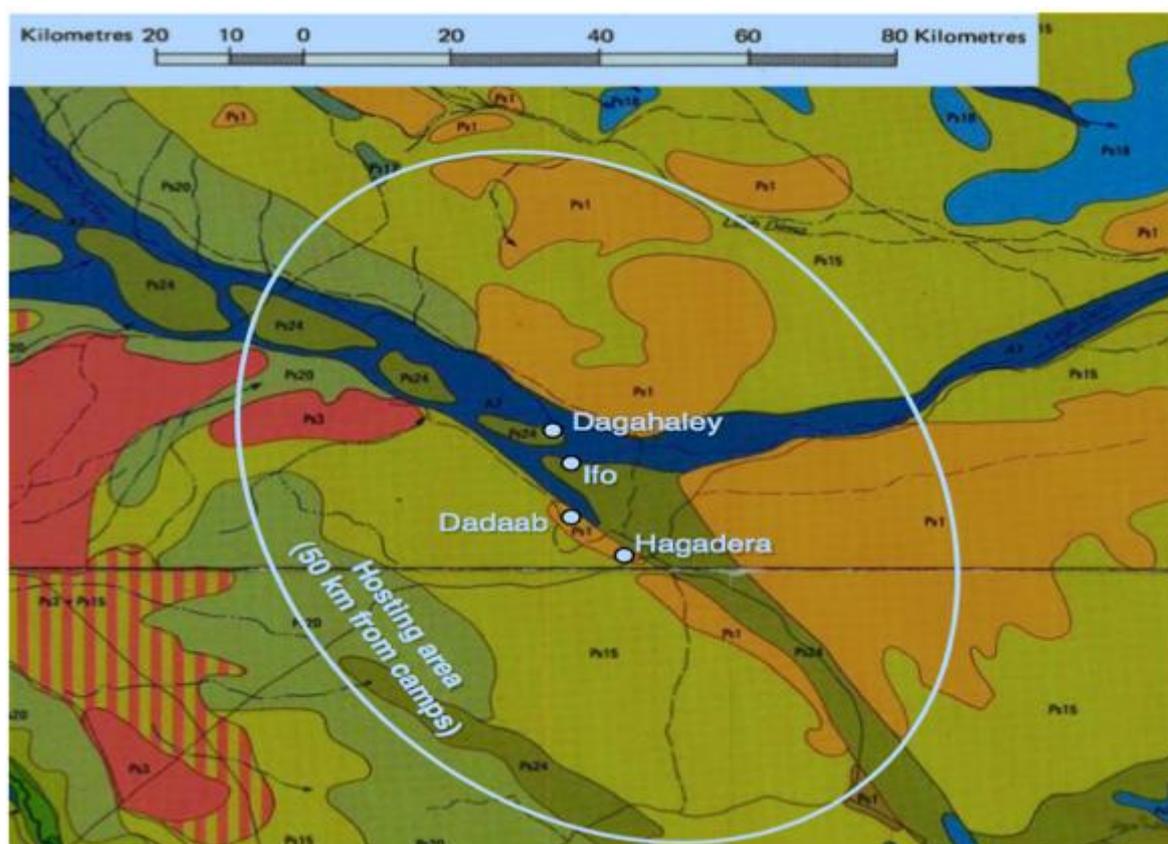


Figure 9: Distribution of wildlife in the Ewaso Ng'iro catchment, based on multiple aerial surveys flown spanning the period 1995–2010. (Ericksen, et al, 2011).

(b) Soil and Topography

The project intervention sub counties of Garissa and Wajir are not situated in a homogenous sea of dryland scrub, but have 14 different landscape classes as identified (IRD, 1999). Soil type is the main determinant of land cover so the soil map of the area (see figure 10) gives a general indication of likely vegetation cover. The arable clay soils are generally the most thinly vegetated, exemplified by the Lagh Dera near Dagahaley. Some of the clay soils (kunia) found along other valley floors support thicker vegetation. The remainder of the area's soils may sustain visibly dense bush, but low rainfall and a lack of nutrients mean that growth rates are slow. The most productive soils are the loamier ber gudud and most

refugee wood harvesting takes place in these more fertile areas which lie mostly to the south and west of the camps, while the areas to the north and east have the poorest sandy soils (raama) and are less fertile, less productive and hence the least attractive for sourcing building materials and fuel. The project area is mostly at or gently undulating with elevation between 110 and 190 m above mean sea level (a.m.s.l.). The terrain generally slopes downwards from west to east. The main geographical feature is the Lagh Dera flood plain, which passes immediately north of Dagahaley camp and is a former continuation of the Ewaso Ng'iro River that rises on Mount Kenya. The Lagh Dera floods periodically and inundates parts of Dagahaley and Ifo.



Code	Soil type	Description	Drainage	Local name
A7	Flood plain	Very deep, dark grey, very firm	Imperfectly drained	Adable
Ps24	Lower level sedimentary plain	Grey clay plain. Very deep, dark greyish brown, very firm clay	Imperfectly to poorly drained	Kunia
Ps15	Sealing loam plain	Moderately deep, brown, extremely firm, clay loam, with a topsoil of sealing sandy loam	Imperfectly drained	Bar guduud
Ps20	Sealing loam plain	As above, but differentiation of underlying clay loam more abrupt		
Ps1	Sedimentary plain	Red sand plain. Very deep, dark red to dusky red, friable, sandy loam to sandy clay loam	Well drained	Raama when dark red pure sand, Raama ad if more loamy and yellow/boige
Ps3	Sedimentary plain	As above, but less deep		

Source: Exploratory Soil Map of Kenya (Kenya Soil Survey, 1980); IRD (1999); Blondel (2000a).

Figure 10: Soil Map 50Km radius from Dadaab

2.3.2 Turkana West Sub County

(a) Biodiversity

Turkana West is characterized by low rainfall with a high degree of spatial and temporal variability. This has resulted in a high degree of variability in the distribution of vegetation resources. The vegetation in the area is generally thin in density and poor in diversity. Most of the perennial plants, the majority of which are short bushes and shrubs, depend on percolated sub-surface rainwater that occurs within depths reachable by the root zone. The seeds of only few plants succeed in germinating under such conditions. A considerable concentration of vegetation appears around the dry river beds too.

The proportion of native vegetation within the project area consists mainly of dwarf shrubs of *Indigofera spinosa* (herbaceous) and bushes of *Acacia reficiens* (woody vegetation). Patchy grassed areas comprising of *Chloris virgata* and *Aristida mutabilis* are also found.

The vegetation cover exhibits the protective influence of plants in terms of shade, protection of the soil from rain impact and control of soil movement. These are important considerations in Turkana, given the high average daily temperatures (35°C) and torrential nature of the rainfall whose large water drops can cause considerable soil erosion.

Land cover and vegetation distribution in Turkana West Sub County is provided in the table below.

Table 2: Land cover and vegetation distribution Turkana West

Category	Distribution
Shrubland	This habitat type is mainly composed of woody plants that reach a maximum height of 8 metres and bushes which make up more than 50% of the vegetation matter observed. the dominant species being <i>Acacia reficiens</i> , <i>Acacia melliiifera</i> , <i>Boscia sp.</i> , <i>Indigofera sp.</i> , and <i>Grewia sp.</i> , <i>Maerua angolensis</i> , <i>Acacia tortilis</i> , <i>Calotropis procera</i> , <i>Euphobia spp.</i> , wild sisal, <i>Indigofera spinosa</i> and <i>Prosopis juliflora</i> . The development and establishment of species within this habitat type can be linked to soil salinity levels, soil sodicity levels, water and anthropogenic influence. Shrub-land habitats in the project area are found in the undisturbed sections of the land and in areas with moderately well drained and developed soils.
Grassland	This type of habitat is characterized by savannah grasslands extensively covering the area with a few patches of shrubs, <i>Prosopis juliflora</i> species or woody trees occurring as well. Some areas had palatable grass such as <i>Chloris virgata</i> and <i>Aristida mutabilis</i> . The Lokitipi floodplain are dominated by a mix of grass species growing on frequently flooded stratified loamy and/or clayey soils that are associated with the seasonally inundated sites and areas surrounding lugga systems. The predominant species was <i>Chloris virgate</i> is found in few areas particularly at Nasinyono.
Bushland	This type of vegetation is dominant in most of the study area. The

	<i>Prosopis juliflora</i> species shrub was introduced from South America to help curb desertification in the 1980s but has since turned to be a major invasive species in the area dominating the majority of habitats. The species has invaded most of the area and due to its rapid growth has formed bushlands that have made most areas within the study area inaccessible. This type of habitat is found mostly within the proposed Nanam area forming a significant portion of vegetation cover in the area.
Grassed shrubland	This type of habitat comprises a mixture of two types of habitats namely; grasses and shrubs. Where the habitat occurs shrubs represent at least 50-60% and grasses take over the remaining 40-50%. This type of habitat is found in patches within vast areas of bare surface especially in the Lotikipi plains, Nasinyono, Lokangae and Nanaam within the project area. The shrubs and grass species observed in this ecotype habitat include; <i>Acacia melifera</i> and <i>Cadaba sp.</i> , <i>Indigofera spinosa</i> .
Riverine vegetation	The expansive floodplain habitat has numerous seasonal channels (<i>luggas</i>) that drain water into the main <i>luggas</i> such as Tarach and Anum <i>luggas</i> . The presence of water and sediment load in the channels has led to the establishment of riverine forest. These forests are not very rich in terms of species diversity and are dominated by <i>Prosopis juliflora</i> and <i>Acacia tortilis</i> intermixed with <i>Boscia sp.</i> and <i>Salvadora persica</i> . In most cases a significant portion of the vegetation is found along seasonal <i>luggas</i> that are within the project area.

(b) Fauna

Despite the low carrying capacity of the area the fauna is relatively diverse, especially in breeding and migrant birds. The table below shows fauna found in Turkana West County

Fauna	Distribution
Arachnids	Arachnids spotted in the project area are represented by a single species of scorpion, they are seen very rarely and this is attributable to their nocturnal activity. In daylight they remain hidden under rocks. There were also several ant hills throughout the project area, hence a likely indication of termites in the region.
Reptilia (Reptiles)	Reptiles are relatively scarce in the project area since only a single species Turkana Gecko <i>Hemidactylus barbieri</i> is known to be around Nasinyono area. A crocodile habitat has been spotted in the Lotikipi plains and at water pans charged by the Tarach River.
Aves (birds)	The common avifauna of the project area is the white-headed buffalo weaver (<i>Dinemellia dinemelli</i>), Superb starling (<i>Lamprotornis superbus</i>), helmeted guinea fowl (<i>Numida meleagris</i>), Hornbills (<i>Tockus jackson</i> and <i>Tockus deckeni</i>), African paradise flycatcher (<i>Terpsiphone viridis</i>), Lappet-faced vulture (<i>Torgos tracheliotus</i>), Dwarf necked raven (<i>Corvus edithae</i>), Kori bustards (<i>Ardeotis kori</i>), Lesser bustards, Rollers (<i>Coraciidae</i>), Gabar goshawk (<i>Micronisus gabar</i>) and ostriches (<i>Struthio spp.</i>). Regionally threatened bird species in the Turkana County area include the ostrich (<i>Struthio camelus</i>), Great egret (<i>Casmerodius albus</i>), Saddle-billed stork (<i>Ephippiorhynchus senegalensis</i>), Banded snake-eagle (<i>Circaetus cinerascens</i>), African fish eagle (<i>Haliaeetus vocifer</i>), Fox kestrel (<i>Falco alopex</i>), Heuglin's

	bustard (<i>Neotis heuglinii</i>), Abyssinian ground hornbill (<i>Bucorvus abyssinicus</i>), African skimmer (<i>Ryncops flavirostris</i>) and Somali sparrow (<i>Passer castanopterus</i>) (Bennun & Njoroge, 2001; Stattersfield et al, 1998). The site is also an important staging post for migrating warblers and wagtails (KWS, 1992).
Mammalia (mammals)	Mammals in the project area are represented by a handful of species. The range of the large herbivores is restricted to the lake region of the County, which support permanent vegetation. Mammalian population is under extreme pressure from indiscriminate hunting. The mammalian species observed in the study area include: Waller's gazelle (<i>Litocranius walleri</i>), Grant gazelle (<i>Gazella granti</i>), Guenther's dikdik (<i>Madoqua guentheri</i>), Bat-eared fox (<i>Otocyon megalotis</i>), Black-backed jackal (<i>Canis mesomelas</i>) and Golden common Jackal (<i>Canis aureus</i>).

(c) *Important or protected flora or fauna*

From the red list of International Union for Conservation of Nature (IUCN) the fauna found in the Turkana west is not threatened. There is also no important or protected area for fauna and flora but there are plans to gazette Lotikipi plains as a game reserve. A February 2016 report from the Directorate of Environment Turkana county states that County government is in the process of surveying, mapping and gazettement Lotikipi as a nature reserve to protect, conserve and sustainably manage the ecosystem to make Turkana the next tourism destination of choice. Terms of Reference have been developed for consultancy service to do aerial survey and mapping of resources therein. In February 2016, the ministry held a meeting with the warden Turkana County and agreed on the following;

1. Ministry of Environment and Natural Resources to re-forward a letter to the Assistant Director KWS requesting KWS carry aerial survey and mapping
2. Officially request the KWS to forward the budget for the survey, beacon and mapping of the resources therein.

(d) *Soil Geology and Topography*

Soils of floodplains are developed from sediments from various pyroclastic and volcanic rocks, basic igneous rocks (basalts) while those of hills are developed from undifferentiated tertiary recent volcanic rocks. Soils of floodplains are well drained, dark grayish brown to dark yellowish brown, friable, stratified, moderately calcareous, none to slightly saline, moderately sodic and loam to clay. Others soils may be well drained to imperfectly drained, very deep, dark brown to yellowish brown, stratified and predominantly loamy soils. Soils of hills are well drained, shallow, dark reddish brown, boulder or stony, loam to clay loam and in many places saline.

Floodplain areas were characterized by bare patches/surfaces and or scanty shrubs that make these areas susceptible to water and wind erosion. The flood plains are easily accessible during dry periods however; minimal showers render the area impassable and this can be associated with their high water retention rate.

Figure 11 presents the soil mapping units of the proposed project area.

3 SOCIO ECONOMIC BASELINE

This socio-economic baseline assessment has been carried out using secondary data and key informant interviews.

3.1 DADAAB, FAFI, LAGDERA AND WAJIR SOUTH SUB COUNTIES

3.1.1 Demographics

Dadaab, Fafi and Lagdera are sub counties within the Larger Garissa County while Wajir south sub county is in Wajir County. The table below provides the area coverage and administrative set up of these sub counties.

Table 3: Administrative set up

County	Administrative unit	Area Coverage (KM ²)	Divisions	Locations
Garissa	Dadaab	6,781	3	12
	Fafi	15,469	3	12
	Ladgera	6,519	3	10
Wajir	Wajir South	(5,446.8)	Diif	5
		(1,224.4)	Wajir Bor	5
		(2,293.7)	Kulaaley	7
			Burder	3

Source: Garissa and Wajir County CIDP

The four Sub Counties are home to about 470,405 people as per the 2009 census and the population is projected to increase to 631,946 by 2017. Data from Garissa and Wajir CIDP is presented in the table below. This data excludes a population of about 325,000 refugees hosted at Dadaab refugee camp.

Table 4: Population census and projections

Constituency	2009 (Census)		2012 (Projections)		2015 (Projections)		2017 (Projections)	
	Pop	Density/ (Km ²)	Pop	Density/ (Km ²)	Pop	Density/ (Km ²)	Pop	Density/ (Km ²)
Lagdera	92,636	14	104,083	16	116,944	18	126,389	19
Dadaab	152,487	22	171,329	25	192,500	28	208,048	37
Fafi	95,212	6	106,977	7	120,196	8	129,904	8
Wajir South	130,070	6	143,044	7	157,311	7	167,605	8
Total	470,405		525,433		586,951		631,946	

Source: Garissa and Wajir County CIDP

3.1.2 Social organization and ethnic groups

The indigenous community among the host inhabiting the project area is the Ogaden clan of Somali Community. Other minor tribes in the area include Luo, Kisii, Kalenjin, Luhya, and Kikuyu who are mainly civil servants and businessmen. These minor tribes are mainly found in Dadaab, Habaswein and Bura towns. The Ogaden clan are the dominant ethnic group in all the five sub counties. Minority groups within the area include Warde, Galjael, Derisame and Leisan clans.

The Ogaden community have several clans within the project area which include Abduwak,

Asharaf, Auliyahan, Bahgari, Balat, Gare, Har and Magabul. Among these the dominant clan is Auliyah.

3.1.3 Land Use Activities

The soils in the project intervention areas have low water retention capacity but support vegetation. These soils have potential for farming. The scattered shrubs and grasslands are ideal for livestock production. The exploitation of the soil resource thus must take into account conservation measures due to their fragile nature. The mineral potential of the soils is not exactly known as no geological mapping has been done, however, there are some occurrences of clay, good quality building sand along laggas, lime and gypsum in places such as Benane in Lagdera Constituency.

Agriculture is mainly practiced along River Tana basin and other areas where water is available. Food crops grown are basically watermelons, mangoes, vegetables, tomatoes, paw paws, bananas, cowpeas, simsim, maize, beans and green grams. These crops are usually produced on a small scale under irrigation farming.

Livestock is the mainstay in majority of project area. This sector accounts for over 90% of the economic value of all livelihood activities of the residents. The main livestock products are meat, milk, hides and skins. The backbone of the economic activities is livestock and agriculture. Agriculture consists of cereals, root crops and cash crops while livestock sector include cattle, camels, goats and sheep among others.

The host area has seen a steep rise in human settlement and this is having negative impacts on mobility and grazing patterns. The significant increase in total livestock numbers has nevertheless taken place without the pasture and browse resource being completely depleted. The combined demand for firewood and building materials from the camp and host community populations is very significant, with more or less equal total demand from both groups. The supply of wood to the camps has become highly commercialized and is dominated by harvesters based in the camps. A programme of agency-managed firewood supply has provided an average of 11% of estimated camp consumption over the 12 years of its operation. It is disliked by many host community members, however, who report that supply contracts benefit only a few influential individuals. The environmental impact of using thorn bushes for greenbelt fencing is limited, but enclosing portions of the rangeland contributes to an undesirable process of resource alienation and undermines a pastoral mode of production that depends upon communality of resources. The host area is undergoing a general trend of environmental degradation that has been ongoing since the early 1990s, which is spreading outwards from the camps and (without a major reduction in the area's population) will continue to do so.

3.1.4 Education

Garissa County has a total of 58 Pre-Primary schools, 47 Primary Schools, and 9 Secondary Schools. Dropout rates for primary school is 43% for females and 31% for males while in secondary schools it was reported to be 15% and 22% respectively. The pupil teacher ratio is 1:38 in primary schools and 1: 18 in secondary schools. Enrolment of girls in Pre-Primary, Primary, and Secondary Schools is higher than that of boys. The primary school going age of 6-13 years, there are 191,837 children who are within the primary school going age. Of this, 54.8 per cent are boys while 45.2 per cent are girls. The primary school enrolment is however low for both gender but worse for the girl child.

The implications of the above analysis are that this situation is reflected in formal employment where females are less than males. In rural areas where women provide the bulk of the labour force, the lower levels of education are likely to have negative effect productivity, as uneducated labour is less productive. However, women have been trying to make up for this shortcoming in education by enrolling in adult education classes where they make up to 60% of the total enrolment.

In Wajir County There are 203 pre-school centers, with 203 teachers. Enrolment for the ECD stands at 18,800 with 8,158 girls and 10,642 boys. The net enrolment rate for boys is 5.2 per cent and 5.0 per cent for girls with a total net enrolment rate of 5.1 per cent.

There are 203 primary schools with a total of 59,065 pupils and served by 889 teachers. The teacher pupil ratio is 1:66 which is higher than the recommended ratio of 1:40. There is need to employ more teachers to fill the existing gap. The net enrollment rate for the primary level is 35.9 per cent for boys and 32.9 per cent for girls.

The literacy level is 23.8 per cent. Only 22 per cent of women and 59 per cent of men have received any education (KDHS 2008-09). The low literacy levels mean limited skills, knowledge and innovativeness. This is a major factor that has inhibited the pursuit of resilience alternative livelihood in the county.

There are 34 secondary schools in the county with enrolment at 7,195 and staffing at 320. The teacher student ratio is 1:22 indicating a shortfall of 48 teachers. The net enrolment rate is 7.5 per cent for boys and 6.8 per cent for girls.

There are four polytechnics (Wajir, Habaswein, Khorof Harar and Griftu polytechnics) run by the Ministry of Youth Affairs and currently not operational due to lack of enrolment. There is one private college (Frontier Institute of Professional Studies) operating in the County. There are few cases of on job training mostly for craft undertakings in tailoring and masonry.

3.1.5 Child dependents

The average number of children per family was 6 children (standard deviation ± 4.2 , minimum = 1, maximum = 26, number of respondent = 93). This is suggestive that the average family size has 8 members. This is higher than national average of 5 family members (Kenya National Bureau of Statistics, 2008). On average, 3 children of school going age were attending classes (standard deviation ± 2.2 , minimum = 1, maximum = 11, number of respondent = 83). The main reasons for being out of school included lack of school fees (56.8%) or lack of adequate schools in the area (27.8%). The data is suggestive that project are has average of 5 children per family at home. By extension, survival of the clans could be the principal reason of having a large number of children per family. Approximately over 90% of the families had children averaging 5 per household.

3.1.6 Health facilities

Health services in the intervention areas are provided through a number of institutions comprising of hospital, health centres and dispensaries, private clinics and mobile clinic. Despite these institutions the area is quite vast and the existing facilities are inadequate to serve the population as expected.

Most of the health facilities are concentrated within the Sub County headquarters and major

settlement centres. A good number of the population lives in rural areas where these services are not easily accessed and have to walk long distances averaging 50 kilometres to the nearest health facility to get medical attention.

Considering the available government doctors, the doctor/population ratio stands at 1:46,000 for Garissa County. Inadequate equipment, drugs and personnel have led to underutilization of some of the facilities. Most prevalent diseases in the counties are malaria, diseases of respiratory systems, anaemia, skin diseases and HIV/AIDs.

Health sector in Garissa face a number of challenges that include, inadequate funding to support planned rehabilitations of health facilities, limited local capacity in procurement building and supervision, inefficient supply chain management system, matching supply of skilled human resources with the high rising demand for public health services, compounded by high population growth rate and lack of data and information on community health.

Since the establishment of the refugee camps. Health services catering for host communities have been improved by agencies working in Dadaab and the agency-equipped hospitals in the camps and Dadaab town may be accessed free of charge by local people. The presence of the camps has dramatically improved the frequency and reach of transport services available to the host community. The overall availability of social services is high compared to other areas of pastoral settlement in Kenya, especially close to the camps

In Wajir County there are 80 public health facilities, 27 private facilities and 2 facilities run by NGO/missions. The county has 10 level IV hospitals, 26 level III health centers, 46 level II health centers, 46 dispensaries and 24 clinics. According to the 2005/2006 KIHBS, 95.9 per cent of the population has to cover more than 5 Km to access a health facility and only 4.1 per cent access a health facility within less than 1Km. The HIV prevalence rate is 0.9 per cent which is lower than the national one at 6.7 per cent.

The county is served by 5 doctors, 175 nurses and 625 community health workers. The doctor patient ratio is 1; 132,000 compared to internationally recommended standards of 1: 5,000. The nurse to patient ratio is 1:4,163. The bed capacity is 358.

3.1.7 HIV Aids

HIV/AIDS situation in the project Counties is of concern. The low level of awareness of the disease due to illiteracy and denial due to, cultural beliefs and poverty are some of the major factors that have contributed to the rise in infection rates in the Counties.

Information on the spread and effects of this disease is scarce, however by the end of 2011, there were 10,563 people living with HIV in Garissa County where children constituted 16% of those living with HIV in the County. Despite the fact that there is limited statistics on this pandemic it is reported that in 2007 the proportion of men living with HIV in Garissa County was higher than that of women. Notwithstanding the great importance of HIV testing as a way to increase prevention and treatment, about 71 per cent of people in Garissa County had never tested for HIV by 2009 as shown in Table 5 below.

Table 5: HIV Burden in Garissa

Indicator	Total	Rank in the Country
Total population (2009)	623,060	18
HIV adult prevalence (overall)	2.6%	7

Number of adults living with HIV	8,839	10
Number of children living with HIV	1,736	16
Total number of people living with HIV	10,563	11

Source: Prevalence of HIV and AIDS

There is a need to scale up HIV testing in the County, to counsel and reduce the risk for those who test negative, and to link those who test positive to care and treatment programmes.

In Wajir County the HIV/Aids prevalence rate is 0.9 per cent (KDHS 2008/09) against a national average of 6.7 per cent. However, the HIV and AIDS rate in the county is on the upward trend. High levels of stigma, inadequate support for operations and monitoring of activities for CACCs & DTCs, vastness of the county coupled with poor transport and communication networks, nomadic lifestyle especially where activities are not tailor made, high illiteracy, high poverty levels, inadequate funds for CBOs and transport for technical personnel are some of the challenges faced in the fight against HIV and AIDS.

3.1.8 Energy

About 78.8 per cent of the Garissa county's population use firewood as a source of energy for cooking purposes while 18.2 per cent of the population use charcoal. Electricity is only available in Garissa (national grid connected), Ijara, Dadaab, Bura East and Modogashe, and their environs with only 0.7 per cent of the population having access to electricity. The Ministry of Energy has installed solar systems in health facilities, schools and watering points. Other sources of energy such as biogas and solar are used on a limited scale.

Electricity is available in Dadaab town and in sections of the refugee camps from privately run generator sets, but is otherwise not available in the host community. Solar energy is installed in many mosques, schools and dispensaries, and shops providing mobile phone charging services often also use solar energy. Mobile telephone services are now available in several of the visited host communities.

Firewood is the most significant resource harvested around the Dadaab camps. Total consumption in the three camps is around 73 000 t./yr. Adding local people living within 50 km brings combined annual demand to 138 000 t., 66% of which is used within a 10 km radius. Hence Dadaab is a large and concentrated focus of wood energy demand, second only to Garissa.

Firewood demand is species-specific and the quantitative survey revealed consumer preference (in declining order) for *Cordia sinensis*, *Acacia tortilis*, *A. reficiens*, *Terminalia obicularis* and *T. spinosa*. Donkey carts travel great distances to locate these species, rather than return with inferior (and less lucrative) alternatives. The weight of a donkey cart of wood is an average of 390 kg per load. Prices per cart range from KSh 1200-1500 (equivalent to KSh 3,1-3,8/ kg), with most deliveries destined for particular customers rather than the open market, according to operators interviewed.

According to the KIHBS 2005/6, 98.4 per cent of the county households depend on wood fuel (Firewood and Charcoal) for cooking and 31.5 per cent depend on lantern for lighting. 96.6 per cent of households use traditional stone fire for cooking. Wajir, Habaswein and Eldas centers are connected to the national grid where 3,039 (2009 KPHC) households are supplied with power. However, efforts are being made to connect Griftu and Bute market centers through the Kenya Rural Electrification Programme. Connection to Abakore, Tarbaj

and Eldas market centers is on-going. Solar energy accounts for 0.2 per cent (2009 KPHC) of energy source but is also limited to schools and health facilities as it is out of reach for majority of the households.

3.1.9 Poverty

Poverty in the project area is perceived as the inability to afford minimum basic human needs such as food and non-food items like clothing and shelter. Poverty conditions may be as a result of inability to access other factors. For instance, lack of access to health services may be due to high cost of medication or long distance to reach the health facilities due to the poor condition of the roads,. Poverty is also manifested through inability to obtain potable water and have access to sanitation.

The project area was very poor at the outset, before the refugee operations were launched in 1992. At that time the North Eastern Province had Kenya's highest proportion of people living in absolute poverty and it still ranks lowest in UNDP's Human Development Index (UNDP). For Kenya as a whole, GDP per capita in 2009 was estimated at USD 912,10 out of this the annual per capita economic impact for the local host population will constitute 10%. For the arid project area, however, the poverty line of USD 1 per day could be more relevant for comparison, and of that the estimated host population impact would constitute 25%. The KNBS 2013 report for Garissa and Wajir County shows the project areas, more than 60% of the population exists on income levels below that of poverty line .

Although host community households adopt a range of different strategies to piece together a livelihood, widespread poverty still prevails. However, poverty levels are less pronounced than would be expected for a pastoral area coming out of one of the worst droughts in memory and with a heavy burden of in-migration. When compared to the prevalence of absolute rural poverty for the region as a whole of around 60-65%, poverty around Dadaab is less acute than in other comparable areas. However, the dependency on free food, services and donor-funded projects is more pronounced than in other comparable pastoral areas, with basic services like water and schooling usually available within a short distance of the villages.

3.1.10 Gender

The division of labour in host communities is strongly gender-based. Men and boys herd, water, trek and trade livestock, and gather and trade firewood commercially, while women and girls collect firewood and water for household use, take care of children, handle and trade milk, prepare food and are responsible for other domestic chores and income-generating activities dealing in small income generating activities like retail shop and selling of milk. Little change has been seen in this division of labour.

For the households or parts of household settled in villages, the duties of men and boys have tended to reduce while those of women and girls have remained the same or even increased (if they need to go further for firewood or become involved in additional income-generating activities). This has a tendency to result in under-employment of settled males and associated problems of idleness, debt and khat addiction. The impacts of the refugee camps on host communities play out differently for men and women. Whereas the economic opportunities, cheaper food and access to free rations is of equal benefit, the environmental impacts have clearly been felt more directly by women than men. The easier access to services and transport in the hosting area has had especially positive impacts for women, as the main day-to-day caretakers of the family.

Extended family structures remain strong and govern families' participation in pastoral production and other livelihoods, and ensure that households are able to benefit from the opportunities associated with settlement and mobility. Young unmarried men can herd the livestock, while married women and children and older people can stay in the centres and be involved in trade and the collection of food relief.

There are few female-headed households and these are most common in the settlements closest to the camps. Inter-marriage between refugees and host community members does occur.

3.1.11 Development Agencies

Government agencies, Non-Governmental Organizations, Community Based Organization and Faith Based Organizations in an area may influence the choice of livelihood of the individual through the services offered and the regulations provided. There are many NGOs, CBO and FBOs in the project area which are involved in livelihood programs. For the details of some of the organizations please refer to Annex 7.

3.1.12 Security

There have been increased cases of insecurity which manifests itself in form of inter-clan conflicts caused by fighting over resources such as land, water and grazing land. The emergence of the Al-Shabaab insurgency has complicated the insecurity situation leading to over stretching the existing security resources and personnel. The Somalia border is volatile with the KDF aiding the existing security agents to beef up security in the county.

3.1.13 Dadaab Refugee Complex Infrastructure

Social and Economic Investments component of KDRDIP includes sustaining the infrastructure created for the camps. This section lists existing infrastructure within Dadaab refugee complex

Table 6: infrastructure within DRC

Infrastructure	Kambios	Hagadera	Ifo 1	Ifo 2	Dagahley
Health	one primary health post	Four clinics and one hospital	six primary health posts, one level 4 hospital with surgical services	Ifo 2 has one level 5 hospital, a maternity hospital and three health posts	100 bed hospital four health posts
Water	Two operational boreholes with the capacity of 60m ³ of water per hour 2km water pipe	seven operational boreholes 201 water taps in the camp and 807 taps	seven operational boreholes	Seven operational boreholes provide water Six tanks with a total water storage capacity of 900m ³ Six out of the seven boreholes, are PV Solar-Diesel hybrid system, while	seven boreholes in Dagahley and two outside the camp serving the host community Six elevated steel tanks are connected to 7.63 km of pipes

				one borehole is PV Solar stand alone.	
Education	3 primary schools	seven primary schools; two secondary schools, one adult literacy centre; one vocational centre; one ICT training centre.	eight primary schools and two secondary schools as well as an adult literacy centre and a youth vocational centre	ten primary schools (three in Ifo 2 East and seven in Ifo 2 West), and one secondary school. Mwangaza Primary School and Nasib Secondary School Are Instant Network Schools (INS)	seven primary schools, two secondary schools and one adult literacy centre
Security	13 police stations				

Source: UNHCR Dadaab SO 2015

3.2 TURKANA WEST SUB COUNTY

Turkana County like others in Kenya is administered at two levels. There is the county administration and the national government administration. The county is divided into six sub counties namely Turkana South, Turkana East, Turkana North, Turkana West, Turkana Central and Loima. The project area lies in Turkana West which is further subdivided into three divisions namely Oropoi, Kakuma and Lokichogio. Under the national government administration, Turkana County is governed by the County Commissioner who is assisted by the Deputy County Commissioner and County Commissioner who are in charge of the Sub county and division respectively. Under the county government administration, the governor is in charge of the county and is assisted by the sub county administrators and ward administrators who govern the various Sub Counties and wards in the County. Tables 7 and 8 show the levels of governance in the project area and the personnel in charge.

Table 7: National Government Administration

Level of Administration	Area of Governance	Designation	Person In charge
County	Turkana	County Commissioner	Mr. J.M. Mathenge
Sub county	Turkana West	Deputy County Commissioner	Mr. Mohamed Haji

Table 8: County Government Administration

Level of Governance	Area of Governance	Designation	Person in charge
County	Turkana	Governor	Hon. Josephat Nanok
Sub county	Turkana West	Sub County Administrator	Ms. Christine Nalemsekon
Ward	Lokichogio	Ward Administrator	Mr. Echip Obed
	Nanaam	Ward Administrator	Fr. Cosmas Longore
County assembly ward	Songot	Member Of County Assembly	Hon. Betwel Komingin
	Lopur	Member Of County Assembly	Hon. Ekal Olat
	lokichogio	Member Of County Assembly	Hon. Vincent Ekipor
	Nanaam	Member Of County Assembly	Hon. Philip Ekwam

Sub County	Ward	Area Km ²	No of locations	Number of sub locations
Turkana West	Oropoi	5534.8	3	11
	Kakuma	3466.5	3	10
	Lokichoggio	8264.8	6	13

Total	68,680.3	56	156
-------	----------	----	-----

3.2.1 Demographics

According to the Kenya Population and Housing Census (2009) Turkana County has a population of 855,399. The county is projected to have a total population of 1,427,797 in 2017 (TCIDP 2013). These projections are based on a population growth rate of 6.4% assuming constant mortality and fertility rates (Turkana County Development Profile 2013). The population of Turkana West was estimated to be 245,327 as per the 2009 census and is projected to grow to 409,490 by the year 2017 (See table). Turkana West Sub County is the most populated sub county in Turkana due to the presence of the refugee camp in Kakuma.

Sub County	2009 (Census)		2012(Projections)		2015(Projections)		2017(Projections)	
	Pop	Density (Km ²)	Po	Density (Km ²)	Pop	Density (Km ²)	Pop	Density (Km ²)
Turkana West	245,327	14	297,291	17	360,262	21	409,490	24

Source: County Statistics Office, Turkana 2011

3.2.2 Social Organization and Ethnic Groups

The indigenous community inhabiting the project area is the Turkana community. Other minor tribes in the area include Luo, Kisii, Kalenjin, Luhya, Kikuyu and Somali who are mainly civil servants and businessmen. These minor tribes are mainly found in Lokichoggio and Kakuma towns. The Turkana are the dominant ethnic group in the Sub County.

The Turkana community have several clans within the project area which include Yapakuno, Nalukumong, Ngiduya, Ngiponga, Ngipucho, Ngimeturuana, Sonyoka, Ngiduya, Ngijie, Ngidocha, Ngimecharimukata and Kwatela. Among these the dominant clan is Kwatela. There is a traditional hierarchy of leadership in all the locations where the senior most is the prophet called Emurwan who is followed by the kraal elders then the community members follow. The Emurwan is in charge of directing the community and prophesizing what may befall the community.

Major decisions in the Turkana community are made by elders. Apart from decision-making, the elders also perform the following duties:

- Resolving conflicts in the community
- Counselling troubled community members
- Help the chief in governing the area
- Custodians of the Turkana culture

Middle aged men who have not yet attained the age to be regarded as elders perform the following duties:

- Provide security to the community from thieves and bandits
- Grazing and watering the animals
- Supervising the society activities
- Fending for their families

Women on the other hand have well defined roles in the community including:

- Fencing the livestock boma and the homestead
- Taking care of the children
- Food preparation
- Taking care of animals left in the homestead
- Fetching water
- Advising the young girls
- Building manyattas

The youth carry out the following duties: The girls help their parents and the elderly and fetch water. Boys offer security to the society, look after animals and migrating with the livestock in search of water and pasture. Duties assigned to the young children include: Looking after the young goats (kids), Running errands in the home

3.2.3 Land Rights and Usage

In Turkana County, land is governed by the community. Currently the land is held in trust for the community by the county government. The recent oil exploration activities in other parts of Turkana County such as Lokichar is on communal land. In the project area, land is also communal and mainly used for pastoralism activities, settlements and small portions are used for agriculture. The community members can freely graze and live in any area depending on the availability of pasture and water. However, each clan has its own designated area for settlement and grazing but in case people want to migrate to another area the chiefs communicate and agree before migrating. Settlement pattern in the project area is therefore determined by the availability of pasture and social facilities. The locals live in clusters in places near water points, schools, markets and pasture. In the project area the people migrate during dry seasons to look for pasture and water and mostly they are the young men and middle aged men who migrate with the livestock, however, in case of conflicts and banditry attacks, the whole community migrates.

3.2.4 Livelihood and Economic Activities

Livelihood activities in the area range from livestock keeping, crop farming, charcoal and firewood selling, small-scale business and casual labour among others. The main livestock kept in the area are goats, sheep, donkeys and a few people keep camels in areas of Nanaam. Livestock in Turkana community are a key source of wealth with camels and cattle being highly prized while goats and sheep kept for immediate needs (GOK 2009). Additionally, the livestock provide resources for immediate nutritional needs such as meat and milk and also sometimes they sell the by-products and the animals to generate cash income for buying other food stuffs.

Crop farming is slowly being adopted by people in the project area. According to the Sub county agricultural officer, the uptake of agriculture in the area is due to frequent banditry attacks and droughts that lead to deaths of livestock in a short time. The agricultural officer added that almost 60% of the residents are engaged in agro-pastoralism in the Sub county. This is through the help of government through the department of agriculture and organization such as Johanniter International and German Cooperation who help in installation of irrigation facilities. Through this, locals in Nasinyono, Nanaam, Lopur and Namon are involved in sorghum farming. These farms are communally owned.

Most community members from the area of interest are also involved in charcoal and

firewood selling mainly in the refugee camp in Kakuma and other urban centres in the area. The community members mentioned that during rainy seasons the roads become impassable hence lorries from Kakuma do not collect the charcoal and firewood affecting their source of income. They therefore depend on farm produce, meat and milk from the livestock while during the dry seasons they mostly depend on income from charcoal and firewood selling. According to the Lokichoggio ward administrator, poverty rates are very high and most people especially during dry seasons depend on support from NGOs, relief food from the county government and some are involved in small scale businesses. This was echoed by focus group discussion participants who added that they get relief food from government and other development partners.

Table 9:Coordinates for farms in the project area

Name	GPS Coordinates	Location
Farm	N03.749988 E034.8543	Kakuma
Nartotapen Farm	N03.8011 E034.83681	Lopur
Namon Farm	N03.998822 E034.87275	Namon
Nasinyono Farm	N04.300279 E034.94419	Nasinyono

3.2.5 Energy

The energy sources in the project area are electricity, kerosene, solar energy, wood fuel and charcoal. Lokichoggio is the only town in Turkana West that has electricity supply.

The project area has long periods of sunny and windy conditions that are suitable for solar and wind energy generation. The Lake Turkana Wind Power Project which is the largest in Kenya is located in the nearby Marsabit County.

Solar energy is not fully utilised in the area in that only few institutions use solar energy for lighting and running electronic machines. Various social amenities such as health facilities, schools and water boreholes in the area are fitted with solar panels to provide energy. The solar panels in those institutions were installed by the government through the Ministry of Energy and Petroleum.

3.2.6 Industries

Lomidat meat processing industry is the only industry found in the project area. It is located ten kilometres from Lokichoggio town along Lokichoggio-Kakuma road. The industry's goal is to contribute towards poverty alleviation of pastoral communities in Turkana County by providing its membership and other nomadic communities in the region a steady market outlet that is cash based. Lomidat in the local language means "tastes so good that one cannot get enough of it" - hence the motto of the slaughterhouse is to supply quality meat and meat products to its esteemed customers. Their products include beef ossobucco, beef sausages, beef sirloin steak, beef strip loin, ox tail, T-bone steak, stir fries, Lomidat beef topside among other products. All products are derived from animals originating from the arid and semi-arid lands (ASALs) of Turkana and its environs.

There are also a thriving basketry and cottage industries where locals make necklaces, beads

and bungalows from locally available materials which they sell.

A number of accommodation facilities are also found in the project area: from lodges to camps and camp sites. These facilities have a wide range of on-site facilities such as restaurants, bars, indoor parking and health club with indoor swimming, pool-table and gymnasium. Most of these facilities offer self-contained double and single rooms and tented facilities that have running water, electricity and some provide Wi-Fi. Ample security is provided in these facilities.

3.2.7 Waste Management

Community members in the project have various ways of handling their domestic wastes. Most burn their wastes while some put their wastes in a dump site, however, there is no designated dumping site for the community but people have set aside an area in their homes for dumping. Some community members dump their wastes in the rivers while others dump in the farms. The project area has no identified proper waste management facilities and the nearest facility is in Kitale is a distance of about 400km from the project area.

3.2.8 Gender Issues

Gender is the socially ascribed roles and functions of men and women in society. Most of the communities in Kenya are patriarchal and Turkana West Sub county is not an exception. From the focus group discussions, community members mentioned that women are allowed to be employed hence no restrictions on their involvement in the economy. It was also mentioned that women are tasked with most of the activities at home such as taking care of children, building the manyattas, taking care of goats, fetching water using donkeys, firewood, cooking, washing clothes and also fencing the homesteads. From observation during the study it was evident that women are the ones who prepare the firewood and charcoal for selling hence providing for the family. Furthermore, women do not own or control assets even though they are the ones tasked with all the household chores.

In the project area children drop out of school for various reasons. The girls drop out due to early marriages and teenage pregnancies while the boys do not complete school because most of them are drawn from school to graze and water the animals.

3.2.9 Cultural Heritage

Turkana County is well known for its rich archaeological and paleontological record that stretches back to the Cretaceous period. Although not evidenced in the project area the Lake Turkana basin has been an active arena for biological, cultural and human behavioural research mainly due to existence of fossils in the area such as that of the Turkana boy a nearly complete skeleton of a hominid classified as either *Homo erectus* or *Homo ergaster* who died in the early Pleistocene period (NMK 2012).

There exist immovable heritage sites within the project area. Such sites include shrines such as Nakinaekir in Nanaam, where members of the public are not allowed to visit the site and only the elders are allowed by the community prophet called Emurwan who is in charge of the shrine. When the elders visit the site they are supposed to perform rituals, sacrifices, and traditional cultural prayers. In addition, when the community is faced with calamities, the elders visit the place to petition the gods. There are also few fossil finds found in areas of Mogila hills pointing to possible paleontological sites (NMK 2014). In addition, artefacts such as lithics, pottery and flakes were also found in the project area.

Although gravesites in the area are also revered places, there is no set aside gravesite for the community members but people bury their dead in the homesteads. The area has also a peace and cultural site in Kakuma town which helps to promote cultural integration, empowerment and peace education, improve communication and dialogue, alleviate tensions and foster reconciliation among communities both in the communities in the refugee camp and the local community.

3.2.10 Education

According to the Kenya National Bureau of Statistics (2009), Turkana County is ranked number 46 out of 47 counties with 18.1% population which can read and write compared to national standings of 66.4%. In Turkana West, only 20% of the population can read and write. The Assistant County Commissioner of Turkana West, reported that the literacy levels in the Sub County are below average which he largely attributes to the nomadic pastoralist nature of the community. The Deputy County Commissioner confirmed this claim indicating that over-reliance on pastoralism has promoted the constant migration of people to regions as far as Uganda and South Sudan in search of water and pasture for their livestock therefore making children to drop out of school.

3.2.11 Health

Access to health care in Turkana County is still very low due to few health facilities (TCIDP 2013). Officer-in-Charge of Public Health, Turkana County, indicated that there are 2 hospitals, 3 health centres and 12 dispensaries in Turkana West sub-county.

The constant migration practice of the local community is seen to have an impact on the access of patients to health services. One of the health sector respondents interviewed reported that the average number of patients who attended the facility depended on factors such as availability of water in the area and season of migration. They observed that there were more patients visiting the facility during the rainy season than the dry season. This is because during the dry seasons most people migrate in search of water and pasture while during the rainy season people come back to their homestead therefore increasing the number of people who visit the health facilities.

The prevalent diseases in the area as reported by the health officials in the area include: malaria, respiratory tract infections, gastroenteritis, skin diseases, eye infections, bites (snakes, spiders and scorpion) HIV/AIDS, tuberculosis, diarrhoea, trachoma and polio. Malaria is prevalent along rivers and especially in the rainy seasons. A lot of dust is said to contribute to the high respiratory tract infections (TCIDP 2013). Diarrheal diseases were reported to be as a result of poor sanitation practices and water scarcity.

3.2.12 Infrastructure

Transport network in Turkana County is made up of both air and road as expounded below. The total road network in Turkana County is approximately 5,496.2 km most of which is earth, murrum and gravel surface. Generally, the county road network is poorly developed. According to the Turkana County Development Profile 2013, the county transport sub-sector is faced with a number of challenges including seasonal rivers that cut through roads and poor soils that increase the cost of road construction and maintenance. In Turkana West project area, the only tarmacked road is from Lokichoggio through Kakuma to Lodwar while the roads leading to Nanaam, Lopur, Lokangae, Lorus, Kapalsuk, Kapatadie and Nasinyono are always rendered impassable especially during rainy seasons and during dry

season the roads become very dusty. The road to Lorus, Kapalsuk and Kapatadie are rocky hence vehicles are driven at a low speed.

Most local transit the area by foot. The locals also use donkeys to transport luggage especially during migration in search of water and pasture. There are few public service vehicles (taxis) that ply Kakuma Lokichoggio route and Kakuma, Lopur, Namon and Lokangae route.

In terms of air transport, there is an airport in Lokichoggio and an air strip in Kakuma. The Lokichoggio airport is under construction hence commercial flights are suspended.

Communication facilities in the project area consist of post office, base transmission stations and courier services. These facilities are only found in Kakuma and Lokichoggio towns in the project area. The mobile phone service providers are Safaricom, Airtel and Orange and these serve Lokichoggio and Kakuma town and areas bordering them. The rest of the project area does not have mobile phone network. The courier service providers in the area are G4S and Wells Fargo. The fact that mobile telephony coverage is limited to major urban centres/towns has greatly affected communications, investments and security as people are forced to move to the urban centres to communicate.

There are only two banks in the project area, Kenya Commercial Bank in Lokichoggio and Equity Bank in Kakuma. Other financial services in the area include agent banking and Mpesa which are also in Lokichoggio and Kakuma towns.

3.2.13 Security

Insecurity in the area is a major problem according to the locals and the stakeholders of the area. Insecurity is mainly attributed to banditry attacks and cattle rustling and competition over scarcity of water and pasture. Another source of conflicts reported by other respondents besides livestock theft is the porous state of national borders which leads to proliferation of illegal firearms. It was evident from observation that many locals in the area have firearms which they use to protect themselves from the bandits who are mainly the Toposa and Dodoth from South Sudan and Uganda. From the focus group discussion, it was established that the Toposa from South Sudan, Dodoth from Uganda and the Merille from Ethiopia attack and steal livestock from the Turkana people which escalate to conflicts. According to the Officer Commanding Station of Lokichoggio cattle's rustling in the area is regarded as a cultural event in that young men both from Toposa and Turkana raid each other in order to get cattle for dowry payment. The main hot spot areas of these attacks are the areas of Nadapal, Logole, Mogilla hills, Kapatadie and Natumamong locally known as Kosovo.

The Assistant Commissioner of Turkana West reported that there are two police stations located in Kakuma and Lokichoggio which are under the management of their respective OCS (Officer-Commanding Station). There are six other police posts in the region located at: Lokichoggio, Lomidat, Oropoi, Kalobeyei, and Kakuma refugee camps.

The OCS for Lokichoggio stated the general challenges facing the security personnel in carrying out their mandate in the region as below:

- Communities in the area have mistrust for the police officers;
- Most residents are generally ignorant of the Law due to illiteracy;
- Proliferation of illegal arms from neighboring countries that have had civil wars;
- There is breakdown in information flow as residents do not readily volunteer

information to the force; and

- The terrain is challenging due to poor infrastructure and long distances to cover.

The conflict resolution mechanism adopted by the local community depends on the nature of the conflict. The conflicts could either be intra-ethnic, that is, happening within the community boundaries. Such are mostly resolved by the council of elders who summon the warring sides to a seating and arbitrate depending on the evidence provided. Payment of fines in form of livestock was reported to be the common means of settling the conflict. The inter-communal (inter-ethnic) conflicts occur among the Turkana community and their neighboring communities which are: The Toposa (South Sudan), Merille (Ethiopia), Dodoth (Uganda). In such cases unlike the intra-community conflicts, the government has to be involved and sometimes the local NGOs such as LOKADO to settle the cases and form peace agreements (formal or informal).

3.2.14 Development agencies

Government agencies, Non-Governmental Organizations, Community Based Organization and Faith Based Organizations in an area may influence the choice of livelihood of the individual through the services offered and the regulations provided. There are many NGOs, CBO and FBOs in the project area which are involved in livelihood programs. Such organizations include Diocese of Lodwar, Friends of Lake Turkana, Saint Peters Community Network (SAPCONE), Turkana Pastoralist Development Organization (TUPADO), Oxfam, USAID, and among others. The details of some of the organizations are summarized in the annex 10.

3.2.15 Refugee Camp Infrastructure

Social and Economic Investments component of KDRDIP includes sustaining the infrastructure created for the camps. This section lists existing infrastructure within Kakuma and the new Kalobeyei refugee camp.

Infrastructure	Kakuma	Kalobeyei
Health	7 health facilities	Clinic and hospital
Water	14 operational boreholes 22 elevated water tanks	3 boreholes 25km pipeline 100,000 litre capacity elevated water tanks
Education	21 primary school 5 secondary school	2 primary schools

4 OVERVIEW OF POLICIES, PLANS, LEGAL AND INSTITUTIONAL FRAMEWORK RELATED TO KDRDIP

4.1 GENERAL OVERVIEW

This *Chapter* highlights the relevant Policies, legal and institutional frameworks that are of relevance to the KDRDIP and the ESMF.

4.2 POLICIES AND PLANS

4.2.1 *Policy Paper on Environment and Development (Sessional Paper No 6 of 1999)*

The overall goal of this Sessional Paper is to ensure that environmental concerns are integrated into the national planning and management processes and provide guidelines for environmentally sustainable development. The objectives of the Paper are to conserve and manage the natural resources of Kenya including air, land, flora, and fauna and promote environmental conservation with regard to soil fertility, soil conservation, biodiversity, and to foster afforestation activities; and to protect water catchment areas. More importantly the Policy emphasizes the enhancement of public awareness and appreciation of the essential linkages between development and environment, involving NGOs, private sector, and local communities in the management of natural resources and their living environment and ensures that an environmental impact assessment report is undertaken for all public and private projects and programmes. *The KDRDIP must ensure that it promotes this integrated approach to environmental management and development, without compromising the livelihoods of the local community.*

4.2.2 *Vision 2030*

Kenya Vision 2030 is the country's development blueprint covering the period 2008-2030. It aims to transform Kenya into a newly industrialised, "middle income country providing a high quality life to all its citizens by the year 2030". The vision was developed through an all-inclusive and participatory stakeholder consultative process with Kenyans from all parts of the country.

Vision 2030 is based on 3 key pillars namely: Economic, Social, and Political Pillars. These pillars are anchored on the following foundations: macroeconomic stability; continuity in governance reforms; enhanced equity and wealth creation opportunities for the poor; infrastructure; energy; science, technology and innovation; land reform; human resources development; security and public sector reforms.

KDRDIP Proposed Development Objective is to improve access to social services, expand economic opportunities and enhance environmental management for host and forcibly displaced households in the targeted areas of Kenya.

4.2.3 *The Kenya National Climate Change Response Strategy*

The vision of the Strategy is for a prosperous and climate change resilient Kenya. The mission is to strengthen and focus nationwide actions towards climate change adaptation and greenhouse gas (GHG) emission mitigation. The following measures are proposed in order to counter potential threats to the energy sector in Kenya:

- accelerate the development of geothermal energy;

- accelerate the development of green energy including wind, solar and renewable biomass; and
- energy efficiency.

4.2.4 Scaling-Up Renewable Energy Program (SREP) Investment Plan for Kenya

The objective of the Scaling-Up Renewable Energy Program in Low Income Countries (SREP) is to demonstrate, through pilot operations the economic, social and environmental viability of low-carbon development pathway to increasing energy access using renewable energy. The proposed Project aims at fulfilling the SREP goal.

4.2.5 National Land Policy, 2009

The National Land Policy provides for the policy actions for addressing environmental problems such as the degradation of natural resources, soil erosion and pollution of air, water and land.

The policy advocates for environmental assessment and audit as a land management tool to ensure environmental impact assessments and audits are carried out on all land developments that may degrade the environment and take appropriate actions to correct the situation. Public participation has also been indicated as key in the monitoring and protection of the environment.

4.2.6 National Environmental Policy, 2013

Kenya Vision 2030 is the country's development blueprint covering the period 2008-2030. It aims to transform Kenya into a newly industrialised, "middle income country providing a high quality life to all its citizens by the year 2030". The vision was developed through an all-inclusive and participatory stakeholder consultative process with Kenyans from all parts of the country. The objectives of this Policy are to:

- Provide a framework for an integrated approach to planning and sustainable management of Kenya's environment and natural resources.
- Strengthen the legal and institutional framework for good governance, effective coordination and management of the environment and natural resources.
- Ensure sustainable management of the environmental and natural resources such as unique terrestrial and aquatic ecosystems, for national economic growth and improved livelihoods.
- Promote and support research and capacity development as well as the use of innovative environmental management tools such as incentives, disincentives, total economic valuation, indicators of sustainable development, Strategic Environmental Assessment (SEA), Environmental Impact Assessment (EIA), Environmental Audits (EA) and Payment for Environmental Services (PES).
- Promote and enhance cooperation, collaboration, synergy, partnerships and participation in the protection, conservation, sustainable management of the environment and natural resources.
- Ensure the inclusion of cross-cutting and emerging issues such as poverty reduction, gender, disability, HIV/AIDS and other diseases in the management of the environment and natural resources.
- Promote domestication, coordination and maximization of benefit from Strategic Multilateral Environmental Agreements (MEAs).

Table 10: Relevant Policies

Policies	Brief Description	Relevance to the KDRDIP
Vision 2030	Long-term development blueprint for the country. It aims to transform Kenya into "a newly industrialized, middle-income country providing a high quality of life to all its citizens.	Contribution to economic and social development in the two counties is among the key objectives of the KDRDIP and this is in tandem with Kenya's transformation theme of Vision 2030.
National Land Policy, Sessional Paper No. 3 of 2009	The National Land Policy provides a platform for addressing current issues such as access to land, land use planning, restitution of historical injustices, environmental degradation, conflicts, unplanned proliferation of informal settlements, out-dated legal framework, institutional framework and information management.	The implementation of the KDRDIP will need to be consistent with the provisions of this Policy in order to avoid conflicts. Among the issues that will have to be addressed, are the modalities for the acquisition of land in order to accommodate activities prescribed by the KDRDIP.
Environment and Sustainable Development Policy, Sessional Paper No. 6 of 1999	This Policy aims to harmonize environmental and developmental goals for sustainability. It also provides comprehensive guidelines and strategies for government action on the environment and development.	Activities associated with the implementation of the KDRDIP could give rise to both environmental and social impacts. Therefore the specific projects within the KDRDIP should be developed in a sustainable manner.
Wildlife Policy, Sessional Paper No. 3 of 1975	This Policy governs wildlife management in Kenya and its goal is "to optimize returns from this resource, taking account of returns from other land use". The policy not only recognises economic benefits from tourism and consumptive uses but also the intangible benefits that include the aesthetic, cultural and scientific gains that accrue from conservation of habitats and the fauna within them.	Although the project intervention has no protected areas some wildlife are found in this areas due to dispersion. Potential impacts on these will need to be assessed and minimised.
Energy Policy, 2005	The Energy Policy seeks to ensure and adequate, quality, cost-effective and affordable supply of energy to meet development needs, while protecting and conserving the environment, with a bias towards the exploitation of green energy	The KDRDIP has an Alternative energy sources component (including renewable) energy that will be explored and exploited. The aim to reduce unsustainable exploitation of natural resources, including risk mitigation and other challenges faced by crisis-affected host communities.
Gender Policy, 2011	This aims at ensuring inclusion of gender related issues in all government PPP to ensure that the needs and interests of each gender are addressed.	Gender concerns will have to be mainstreamed into the KDRDIP

Policies	Brief Description	Relevance to the KDRDIP
Integrated National Transport Policy, 2009	This aim of the Transport Policy is to develop, operate and maintain an efficient, cost effective, safe, secure and integrated transport system that links the transport policy with other sectoral policies, in order to achieve national and international development objectives in a socially, economically and environmentally sustainable manner	The Social and Economic Investments component of KDRDIP will also seek to expand and improve service delivery, and infrastructure for local development Including the construction/expansion/improvement of all-weather roads in the project intervention areas
National Policy for the Sustainable Development of Northern Kenya and other Arid Lands Sessional Paper No. 8 of 2012	<p>The goal of this policy is to facilitate and fast-track sustainable development in Northern Kenya and other arid lands by increasing investment in the region and by ensuring that the use of those resources is fully reconciled with the realities of people's lives.</p> <p>The objectives of this policy are:</p> <ul style="list-style-type: none"> Strengthen the integration of Northern Kenya and other arid lands with the rest of the country and mobilise the resources necessary to ensure equity and release the region's potential. To improve the enabling environment for development in Northern Kenya and other arid lands by establishing the necessary foundations for development. To develop alternative approaches to service delivery, governance and public administration which accommodate the specific realities of Northern Kenya and pastoral areas. To strengthen the climate resilience of communities in the ASALs and ensure sustainable livelihoods. 	KDRDIP intervention areas fall in Northern Kenya counties and should conform to form this policy
Plans		
Various County Integrated Development Plans (CIDPs)	The CIDPs are development blueprints made by each of the 47 Counties in Kenya for the period between 2013 – 2017	The KDRDIP intervention areas affects 3 counties and as such the project will need to be aligned to these CIDPs

4.3 NATIONAL LEGAL FRAMEWORK

4.3.1 Administrative Framework

The main administrative structures in implementing EMCA 2015 are described in the following sections:

(a) Cabinet Secretary

The Cabinet Secretary shall –

(a) be responsible for policy formulation and directions for purposes of this Act;
(b) set national goals and objectives and determine policies and priorities for the protection of the environment;
(c) promote co-operation among public departments, local authorities, private sector, Non-Governmental Organisations and such other organizations engaged in environmental protection programmes;
(ca) provide evidence of public participation in the formulation of the policy and the environmental action plan; and
(d) perform such other functions as are assigned under this Act. [Act No. 5 of 2015, s. 6.]

(b) The National Environment Management Authority (NEMA)

The responsibility of NEMA is to exercise 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.

(c) County Environmental Committee

The County Environment Committees shall –

(a) be responsible for the proper management of the environment within the county for which it is appointed;
(b) develop a county strategic environmental action plan every five years; and
(c) perform such additional functions as are prescribed by this Act or as may, from time to time, be assigned by the Governor by notice in the Gazette. [Act No. 5 of 2015, ss. 2,19.]

(d) National Environment Complaints Committee

The functions of the National Environmental Department shall be –

(a) to investigate –

(i) any allegations or complaints against any person or against the Authority in relation to the condition of the environment in Kenya;

(ii) on its own motion, any suspected case of environmental degradation, and to make a report of its findings together with its recommendations thereon to the Council;

(b) to prepare and submit to the Council, periodic reports of its activities which report shall form part of the annual report on the state of the environment under section 9(3);

(e) (bb) undertake public interest litigation on behalf of the citizens in environmental

matters; and
(c) to perform such other functions and exercise such powers as may be assigned to it by the Council.

4.3.2 Review of Relevant Statutes

The current legal provisions for natural resource management in Kenya are contained in over seventy (70) sector-specific statutes. For a long time, the country lacked an umbrella

legislative guide for harmonious and holistic environmental management. As such resources were managed sectorally in accordance with the statutes that were in place.

As these statutes were contradictory at times, in 1999, the Government of Kenya enacted the Environmental Management and Co-ordination Act (EMCA) and as amended in 2015 is an umbrella legal framework under which the environment is being managed. EMCA establishes the institutional framework under which environmental management is to be coordinated. EMCA prevails over all other Sectoral laws relating to the environment in cases of conflict or contradictions. It also grants the public a *locus standi* in matters of the environment.

(a) *The Constitution of Kenya*

In the Constitution of Kenya, 2010 Part II (Environment and Natural Resources), (I) the State clearly undertakes to carry out the following:

- Ensure sustainable exploitation, utilization, management and conservation of the environment and natural resources, and ensure the equitable sharing of the accruing benefits.
 - Work to achieve and maintain a tree cover of at least ten per cent of the land area of Kenya.
 - Protect and enhance intellectual property in, and indigenous knowledge of, biodiversity and the genetic resources of the communities.
 - Encourage public participation in the management, protection and conservation of the environment.
 - Protect genetic resources and biological diversity.
 - Establish systems of environmental impact assessment, environmental audit and monitoring of the environment.
 - Eliminate processes and activities that are likely to endanger the environment.
 - Utilize the environment and natural resources for the benefit of the people of Kenya.
- (II) "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.
- Minority and marginalised people section 56

The proposed Project should observe the above stated conditions in as far as environmental protection is concerned.

(b) *Environmental Management and Coordination Act, 1999 (EMCA) revised amendments 2015*

EMCA is implemented by the guiding principle that every person has a right to a clean and healthy environment and can seek redress through the high court if this right has been, is likely to be or is being contravened.

Section 58 of the Act makes it a mandatory requirement for an integrated EIA to be carried out by proponents intending to implement projects specified in the Second Schedule of the Act and these include drilling for the purpose of utilizing ground water resources including geothermal energy. Such projects have a potential of causing significant impacts on the environment. Similarly, section 68 of the same Act requires operators of existing projects or undertakings to carry out environmental audits in order to determine the level of conformance with statements made during the EIA. The proponent is required to submit the EIA and environmental audit reports to NEMA for review and necessary action.

(c) The Environmental (Impact Assessment and Audit) Regulations, 2003

The Environmental Impact Assessment and Audit Regulations state in Regulation 3 that “the Regulations should apply to all policies, plans, programmes, projects and activities specified in Part IV, Part V and the Second Schedule of the Act. Part III of the Regulations indicates the procedures to be taken during preparation, submission and approval of the ESIA Report, i.e., this Report.

(d) The Environmental Management and Coordination (Waste Management) Regulations, 2006

These Regulations were published in the Kenya Gazette Supplement No. 69, Legislative Supplement No. 37, and Legal Notice No. 121 of 29th September, 2006. The regulations provide details on management (handling, storage, transportation, treatment and disposal) of various waste streams including:

- domestic waste;
- industrial waste;
- hazardous and toxic waste;
- pesticides and toxic substances;
- biomedical wastes; and
- radioactive wastes.

Regulation No. 4 (1) makes it an offence for any person to dispose of any waste on a public highway, street, road, recreational area or in any public place except in a designated waste receptacle. Regulation 5 (1) provides categories of cleaner production methods that should be adopted by waste generators in order to minimize the amount of waste generated and they include: Improvement of production process through:

- conserving raw materials and energy;
- eliminating the use of toxic raw materials and wastes; and
- reducing toxic emissions and wastes.

Monitoring the product cycle from beginning to end by:

- identifying and eliminating potential negative impacts of the product;
- enabling the recovery and re-use of the product where possible;
- reclamation and recycling; and
- incorporating environmental concerns in the design and disposal of a product.

Regulation 6 requires waste generators to segregate waste by separating hazardous waste from non-hazardous waste for appropriate disposal. Regulation 15 prohibits any industry from discharging or disposing of any untreated waste in any state into the environment. Regulation 17 (1) makes it an offence for any person to engage in any activity likely to generate any hazardous waste without a valid Environmental Impact Assessment license issued by NEMA.

(e) The Water Act, 2016 (No 43 of 2016)

This Act provides for the regulation, management and development of water resources and water and sewerage services in line with the Constitution. Authorities shall, in

administering or applying this Act, be guided by the principles and values set out in Articles 10, 43, 60 and 232 of the Constitution. It establishes the Water Resources Authority ("Authority"), the National Water Harvesting and Storage Authority, the Water Services Regulatory Board, the Water Sector Trust Fund and the Water Tribunal. This Act shall apply to Community land but any powers and functions conferred or imposed under this Act affecting land shall, in respect of community land, be exercised and performed subject to any written law relating to that land. The provisions of the Environmental Management and Coordination Act, 1999 relating to water resources conservation and protection and water pollution control shall be exercised subject to the relevant provision of this Act and only in the event that the Board has failed or neglected to take appropriate action to exercise its powers and functions under this Act. The Act consists of 159 sections divided into nine Parts: Preliminary (I); Ownership, Use and Management of Water Resources (II); Regulation of the Management and Use of Water Resources (III); Water Services (IV); Water Sector Trust Fund (V); Dispute Resolution (VI); Financial Provisions (VII); General Provisions (VIII); Transitional Provisions (IX). The Act is completed by four Schedules. Part III is divided into the following titles: Water Resources Authority; Basin areas; National Water Harvesting and Storage Authority; Regulation of Water Rights and Works; Ground Water; Entry on Land. The Act defines ownership of and rights in water resources of Kenya. The Authority shall serve as an agent of the national government and regulate the management and use of water resources. It may designate national public water works, i.e. a water works that is of national character. It shall include (a) water storage; (b) water works for bulk distribution and provision of water services; No. 6 of 2012. (c) inter-basin water transfer facilities; and (d) reservoirs for impounding surface run-off and for regulating stream flows to synchronize them with water demand patterns which are of strategic or national importance. A national public water works for domestic use shall take precedence over all other water works for the use of water or the drainage of land. Every person has the right to access water resources, whose administration is the function of the national government as stipulated in the Fourth Schedule to the Constitution. The Cabinet Secretary shall formulate a National Water Resource Strategy. The Authority is established as a body corporate and shall, among other things: (a) formulate and enforce standards, procedures and Regulations for the management and use of water resources and flood mitigation; (b) regulate the management and use of water resources; (c) enforce Regulations made under this Act. The Authority shall classify water resources according to criteria for the purpose of determining water resources quality objectives for each class of water resource. Criteria shall take into account trans-boundary considerations, strategic functions served by the water resource, the (potential) use for inter-basin transfers, ecological functions and vulnerability to degradation or depletion. Special measures may be applied to a vulnerable water resource or for the protection of ground water. Also the Water Storage Authority is established as a body corporate and shall be responsible for national public water works for water resources storage and flood control. The Cabinet Secretary shall by notice published in the Gazette designate basin areas and establish a basin water resources committee for each respective basin. There must be a representative of farmers or pastoralists on a committee. Each committee shall adopt a strategy for its basin. Water resource users associations may be established as associations of water resource users at the sub-basin level in accordance with Regulations prescribed by the Authority. Permits from the Authority are required for any use (there are some exemptions) of water from a water resource, the drainage of any swamp or other land, the discharge of pollutants and the any other purpose, to be carried out in or in relation to a water resource, which is prescribed by Regulations made under this Act to be a purpose for which a permit is required. The Act states that every person in Kenya has the right to clean and safe water in adequate quantities and to reasonable standards of sanitation. The Cabinet Secretary shall formulate every five years a Water Services Strategy

and may establish one or more waterworks development agencies. The principal object of the Water Services Regulatory Board is to protect the interests and rights of consumers in the provision of water services. County government shall establish water services providers, the responsibilities of which are defined by this Act. A party aggrieved by the decision of a water services provider may appeal against the decision to the Regulatory Board. Nothing in this Act shall deprive any person or community of water services on the grounds only that provision of such services is not commercially viable. The Act furthermore provides for, among other things: control of trade effluent; compulsory acquisition of land; administration and functions of the Water Sector Trust Fund (aimed mainly at developing community and rural initiatives); jurisdiction of the Water Tribunal; and abstraction of ground water and respective works (Fourth Schedule).

The proposed Project will require water for use at various stages. A possible source could be a connection to an existing water supplier in the area which are already covered by an existing permit. However, if the Project Owner plans to abstract water from underground sources such as a borehole they will have to apply for an abstraction permit from the Water Resources Authority (WRA).

(f) The Occupational Safety and Health Act, 2007

This is an Act of Parliament to provide for the safety, health and welfare of all 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.

It applies to all workplaces where any person is at work, whether temporarily or permanently.

The purpose of this Act is to:

- Secure the safety, health and welfare of persons at work.
- Protect persons other than persons at work against safety and health arising out of, or in connection with the activities of persons at work.

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

(g) The Land Act, 2012

This is an Act of Parliament intended to give effect to Article 68 of the Constitution, to revise, consolidate and rationalize land laws; to provide for the sustainable administration and management of land and land-based resources, and for connected purposes.

(h) Principles and Values to Guide Land Management and Administration

Parts 1 and 2 of section 4 of the Act outline the main guiding principles in land management and administration, binding to all land actors including state officers. These principles are to be applied when enacting, applying or interpreting any provisions of this Act; and when making or implementing public policy decisions. In discharging their functions and exercising of their powers under this Act, the Commission and any State officer or Public officer shall be guided by the following values and principles:

- equitable access to land;

- security of land rights;
- sustainable and productive management of land resources;
- transparent and cost effective administration of land;
- conservation and protection of ecologically sensitive areas;
- elimination of gender discrimination in law, customs and practices related to land and property in land;
- encouragement of communities to settle land disputes through recognized local community initiatives;
- participation, accountability and democratic decision making within communities, the public and the Government;
- technical and financial sustainability;
- affording equal opportunities to members of all ethnic groups;
- non-discrimination and protection of the marginalized;
- democracy, inclusiveness and participation of the people; and
- alternative dispute resolution mechanisms in land dispute handling and management.

Article 5 of the Land Act, lists forms of land tenure: freehold; leasehold; such forms of partial interest as may be defined under this Act and other law, including but not limited to easements; and customary land rights, where consistent with the Constitution. This article also provides for equal recognition and enforcement of land rights arising under all tenure systems and non-discrimination in ownership of, and access to land under all tenure systems. Article 56 of the land act on the power to lease land states the owner of private land may – (a) Lease that land or part of it to any person for a definite period or for the life of the lessor or of the lessee or for a period which though indefinite, may be terminated by the lessor or the lessee; and (b) Subject the lease to any conditions that may be required by this Act or any other law or that the lessor may impose .

(i) The National Land Commission Act, 2012

This is an Act of Parliament to make further provision as to the functions and powers of the National Land Commission, qualifications and procedures for appointments to the commission; to give effect to the objects and principles of devolved government in land management and administration, and for connected purposes.

The mandate of the Commission, as provided for in the Act, Pursuant to Article 67(2) of the Constitution, shall be:

- To manage public land on behalf of the national and county governments.
- To recommend a national land policy to the national government.
- To advise the national government on a comprehensive programme for the registration of Title in land throughout Kenya.
- To conduct research related to land and the use of natural resources, and make recommendations to appropriate authorities.
- To initiate investigations, on its own initiative or on a complaint, into present or historical land injustices, and recommend appropriate redress.
- To encourage the application of traditional dispute resolution mechanisms in land conflicts.
- To assess tax on land and premiums on immovable property in any area designated by law.

- To monitor and have oversight responsibilities over land use planning throughout the country.
- On behalf of, and with the consent of the national and county governments, alienate public land.
- To monitor the registration of all rights and interests in land.
- To ensure that public land and land under the management of designated state agencies are sustainably managed for their intended purpose and for future generations.
- Develop and maintain an effective land information management system at national and county levels.
- Manage and administer all unregistered trust land and unregistered community land on behalf of the county government.
- Develop and encourage alternative dispute resolution mechanisms in land dispute handling and management.

(j) The Land and Environment Court Act, 2011

This is an Act of Parliament to give effect to Article 162 (2) (b) of the Constitution; to establish a superior court to hear and determine disputes relating to the environment and the use and occupation of, and title to, land, and to make provision for its jurisdiction functions and powers, and for connected purposes. The principal objective of this Act is to enable the Court to facilitate the just, expeditious, proportionate and accessible resolution of disputes governed by this Act.

Section 13 (2) (b) of the Act outlines that in exercise of its jurisdiction under Article 162 (2) (b) of the Constitution, the Court shall have power to hear and determine disputes relating to environment and land, including disputes:

- Relating to environmental planning and protection, trade, climate issues, land use planning, title, tenure, boundaries, rates, rents, valuations, mining, minerals and other natural resources.
- Relating to compulsory acquisition of land.
- Relating to land administration and management.
- Relating to public, private and community land and contracts, chooses in action or other instruments granting any enforceable interests in land.
- Any other dispute relating to environment and land.

Section 24 (2) also states that the Chief Justice shall make rules to regulate the practice and procedure, in tribunals and subordinate courts, for matters relating to land and environment. However, the physical offices of this Court are yet to be established. As such, section 30 (1) states that all proceedings relating to the environment or to the use and occupation and title to land pending before any Court or local tribunal of competent jurisdiction shall continue to be heard and determined by the same court until the Environment and Land Court established under this Act comes into operation or as may be directed by the Chief Justice or the Chief Registrar.

(k) The Community Land Act, No. 27 of 2016

The Act came into force on 21 September 2016. The Act aims at:

- Giving effect to Article 63 of the Constitution of Kenya, 2010 (the Constitution) which provides for a classification of land known as community land. To this end, the Constitution provides that community land shall vest in and be held by communities.
- Providing for, first, the recognition, protection and registration of community land rights. Second, the management and administration of community land.
- Third, the role of county governments in relation to unregistered community land and related matters. The Act repeals the Land (Group Representatives) Act (Chapter 287 of the Laws of Kenya) and the Trust Lands Act (Chapter 288 of the Laws of Kenya).

(l) The Land Registration Act, 2012

This is an Act of Parliament intended to revise, consolidate and rationalize the registration of titles to land, to give effect to the principles and objects of devolved government in land registration, and for connected purposes.

Land Registry

Section 7(1) of the Act provides for establishment of a land registry in each registration unit which shall keep registers of the following regarding land: a land register, in the form to be determined by the Commission; the cadastral map; parcel files containing the instruments and documents that support subsisting entries in the land register. any plans which shall, after a date appointed by the Commission, be geo-referenced; the presentation book, in which shall be kept a record of all applications numbered consecutively in the order in which they are presented to the registry; an index, in alphabetical order, of the names of the proprietors; and a register and a file of powers of attorney.

Maintenance of Documents, including Land Title Deeds

Further, section 9 (1) provides that the Registrar shall maintain the register and any document required to be kept under this Act in a secure, accessible and reliable format. These documents include:

Publications, or any matter written, expressed, or inscribed on any substance by means of letters, figures or marks, or by more than one of those means, that may be used for the purpose of recording that matter.

Electronic files.

An integrated land resource register. The register, as provided for in part 2 of section 9, shall contain the following particulars;

- Name, personal identification number, national identity card number, and address of the proprietor.
- In the case of a body corporate, name, postal and physical address, certified copy of certificate of incorporation, personal identification numbers and passport size photographs of persons authorized and where necessary attesting the affixing of the common seal.

- Names and addresses of the previous proprietors.
- Size, location, user and reference number of the parcel.
- Any other particulars as the Registrar may, from time to time, determine.

(m) Physical Planning Act, 1996

This is the main Act that governs land planning and all proposed developments must be approved by the respective local authority and certificate of compliance issued accordingly.

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 (EIA).

(n) The Employment Act No 11 of 2007

The Act is enacted to consolidate the law relating to trade unions and trade disputes, to provide for the registration, regulation, management and democratization of trade unions and employers organizations and federations. Its purpose is to promote sound labour relations through freedom of association, the encouragement of effective collective bargaining and promotion of orderly and expeditious dispute the protection and promotion of settlement conducive to social justice and economic development for connected purposes. This Act is important since it provides for employer – employee relationship that is important for the activities that would promote management of the environment within the energy sector.

(o) The Refugees Act section 16 (2) of the Refugees Act, 2006

Designation of Areas as Refugee Camps 2) The Minister may, by notice in the Gazette, in consultation with the host community, designate places and areas in Kenya to be –

1. (a) transit centres for the purposes of temporarily accommodating persons who have applied for recognition as refugees or members of the refugees’ families while their applications for refugee status are being processed; or
2. (b) refugee camps.

(3) The designated areas provided for in subsection (2) shall be maintained and managed in an environmentally sound manner.

(p) Forest Conservation and Management Act, 2016 (No. 34 of 2016).

An Act of Parliament to give effect to Article 69 of the Constitution with regard to forest resources; to provide for the development and sustainable management, including conservation and rational utilization of all forest resources for the socioeconomic development of the country and for connected purposes. This Act makes provision for the conservation and management of public, community and private forests and areas of forest land that require special protection, defines the rights in forests and prescribes rules for the use of forest land. It also makes provision for community participation of forest lands by community forest association, the trade in forest products, the protection of indigenous

forests and the protection of water resources. The act repealed the timber act (cap 386) and forest act, 2005 (cap 385)

(q) Climate Change Act, 2016

This Act provides a framework for promoting climate resilient low carbon economic development. It aims to (Art 3-2):

- “mainstream climate change responses into development planning, decision making and implementation;
- build resilience and enhance adaptive capacity to the impacts of climate change;
- formulate programmes and plans to enhance the resilience and adaptive capacity of human and ecological systems to the impacts of climate change;
- mainstream and reinforce climate change disaster risk reduction in strategies and actions of public and private entities;
- mainstream intergenerational and gender equity in all aspects of climate change responses;
- provide incentives and obligations for private sector contributions to achieving low carbon climate resilient development;
- promote low carbon technologies to improve efficiency and reduce emissions intensity by facilitating approaches and uptake of technologies that support low carbon, and climate resilient development;
- facilitate capacity development for public participation in climate change responses through awareness creation, consultation, representation and access to information;
- mobilize and transparently manage public and other financial resources for climate change response;
- provide mechanisms for, and facilitate climate change research and development, training and capacity building;
- mainstream the principle of sustainable development into the planning for and decision making on climate change response; and
- integrate climate change into the exercise of power and functions of all levels of governance, and to enhance cooperative climate change governance between national government and county governments”.

The Act establishes a National Climate Change Council, chaired by the President, with Deputy President as vice-chair, that provides an overarching national climate change coordination mechanism. It also establishes the Climate Change Directorate – Secretariat to the Council and the lead agency of the government on national climate change plans and actions.

(r) National Drought Management Authority Act No. 4 of 2016

AN ACT of Parliament to establish the National Drought Management Authority, to provide for the membership, powers and functions of the Authority and for connected purposes. The Act gives the NDMA the mandate to exercise overall coordination over all matters relating to drought management including implementation of policies and programmes relating to drought management.

(s) The Natural Resources (Classes of Transactions Subject to Ratification) No 41 Act, 2016)

Article 71 of the Kenyan Constitution provides that a transaction is subject to ratification by Parliament if it:

a) involves the grant of a right or concession by or on behalf of any person, including the national government, to another person for the exploitation of any natural resource in Kenya;

b) is entered into after the effective date (in accordance with Article 263 that is, 27th August 2010).

According to Article 93(1) of the Constitution, the Kenyan Parliament is comprised of both the National Assembly and the Senate. In accordance with Article 71(2) Parliament has enacted the Natural Resources (Classes of Transactions Subject to Ratification) Act 2016, which was assented to by the President on 13th September 2016 and came into force on 4th October 2016.

Under the said Act, the class of transactions set out in Section 4(1) and set out in the Schedule to the Act will require Parliament's ratification in order to give effect to the transaction. The class of transactions which require ratification touch on: authorization to extract crude oil and gas (excludes exploration permits), mineral agreements with a threshold of US\$500 million; water resources (the extraction of sea water within the territorial sea for private commercial use), underground water resource (the extraction of underground steam within a water conservation or other water resource protected are), wildlife (export and re-export of endangered wildlife species as well as the extraction of oil, gas and minerals within a wildlife protection area), forests (long term concession of a gazetted forest resource as well as any excision or change of boundaries of gazetted public forests or nature reserves) and lastly any other transaction subject to ratification under an Act of Parliament.

Section 4(2) lists the transactions which have been exempted from the need to obtain any ratification by Parliament, namely: grant of a concession or right to exploit a natural resource through a permit, licence or other authorisation issued in accordance with the requirements of national or county government legislation (subject to the threshold set by the Cabinet Secretary under sub-paragraph (e), grant of a concession or right by a private person to exploit a natural resource through an agreement or a contract, the grant of a concession or right to exploit a natural resource for scientific purpose, educational or other non-commercial purposes unless the exploitation involves taking the natural resource or any portion of it outside Kenya; the exploitation of a natural resource by a Kenyan for subsistence purposes (in circumstances in which the law does not require that a permit, license or other authorization be obtained; and lastly the exploitation of a natural resource in quantities falling below a threshold prescribed by the Cabinet Secretary by notice in the Gazette. A beneficiary of a transaction (touching on a natural resource subject to ratification) has a duty to submit the agreement or other instrument evidencing the transaction within fourteen (14) days to the Cabinet Secretary responsible for the natural resource. The Cabinet Secretary has seven (7) days to then submit the agreement for ratification to Parliament (which is supposed to be an open process, unless the Cabinet Secretary has acceded to a request for portions of the agreement to be treated as confidential in nature in which said case the ratification process will be conducted in camera).An agreement subject to ratification shall only take effect once it is so ratified (although the transitional provisions provide that agreement which was entered into after the effective date but before the coming into force of this Act shall be deemed valid – which is a welcome relief for all beneficiaries of such agreements who were concerned about the legality of such agreements in light of Article 71 of the Constitution).The timelines within which both houses of Parliament are to ratify those classes of transactions is sixty (60) days of receiving the agreement in accordance with the laid down procedures.

(t) The Protection of Traditional Knowledge and Cultural Expressions Act, 2016

The Act is intended to give effect to Articles 11, 40 and 69(1) (c) of the Constitution. Article 11 recognises culture as the foundation of the nation and as the cumulative civilization of the Kenyan people and provides that Parliament shall enact legislation to ensure that communities receive compensation or royalties for the use of their cultures and cultural heritage. Article 40 (5) obliges the state to support, promote and protect the intellectual property rights of the people of Kenya. In the same breath, Art. 69(1) (c) and (e) mandates the state to protect and enhance intellectual property, traditional or indigenous knowledge of biodiversity and the genetic resources of the communities and protect genetic resources and biological diversity.

The Act states that “Cultural Expressions” shall refer to means any forms, whether tangible or intangible, in which traditional culture and knowledge are expressed, appear or are manifested, whether verbally as in case of stories, epics, legends, poetry, riddles; other narratives; words, signs, names, expressions by movement, including dances, plays, rituals or other performances. It may also refer to tangible expressions, including productions of art, drawings, designs, paintings, including body-painting, carvings, sculptures, pottery, terracotta, mosaic, woodwork, metal ware, jewellery, basketry, needlework, textiles, glassware, carpets, costumes; handicrafts; musical instruments; and architectural forms.

“Traditional Knowledge” is defined in the Act as any knowledge originating from a local or traditional community that is the result of intellectual activity and insight in a traditional context, including know-how, skills, innovations, practices and learning, where the knowledge is embodied in the traditional lifestyle of a community, or contained in the codified knowledge systems passed on from one generation to another. The term shall not be limited to a specific technical field, and may include agricultural, environmental or medical knowledge, and knowledge associated with genetic resources.

The Act provides that every community shall have the exclusive right to (a) authorize the exploitation of their traditional knowledge; and (b) prevent any person from exploiting their traditional knowledge without their prior informed consent. In addition to all other rights, remedies and action available, the owners shall have the right to institute legal proceedings against any person who exploits traditional knowledge without the owner’s permission. Furthermore, the Act stipulates that a person who uses traditional knowledge or cultural expressions beyond its traditional context shall acknowledge the owner of the knowledge, indicate the source of the knowledge or expression and where possible, the origin of the knowledge or expression, and use such knowledge or expression in a manner that respects the cultural values of the holders.

Finally, the Act provides that where protected traditional knowledge is not being sufficiently exploited by the owner or rights holder, or where the owner or holder of rights in traditional knowledge refuses to grant licenses for exploitation, the Cabinet Secretary may, with prior informed consent of the owners, grant a compulsory licence for exploitation subject to Article 40(3) (b) of the Constitution.

4.4 INTERNATIONAL CONVENTIONS AND TREATIES

As Kenya is a signatory to various international conventions and laws, it is important that national projects are in line with these laws and for this reason some of the relevant international conventions are reviewed in this section and a table is provided in annex 11.

Environmental Conventions

United National Convention of Biological Diversity (CBD)

The three goals of the CBD are to promote the conservation of biodiversity, the sustainable use of its components, and the fair and equitable sharing of benefits arising from the use of genetic resources. Kenya, as a signatory of this convention, is supposed to work towards achieving the three goals.

This convention has been domesticated in The Environmental Management and Co-Ordination (Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit Sharing) Regulations, 2006.

Convention on the Conservation of Migratory Species

The convention on migratory species (CMS) was adopted to conserve migratory species of wild animals given that migratory species are seen as an international resource. Such species may be terrestrial or marine. The convention's agreement on the conservation of African-Eurasian migratory water birds is specific on the need to protect the feeding, breeding, and wintering habitats, the main ones being wetlands and open water bodies.

This convention has been domesticated in the Wildlife (Management and Conservation) Act (2013).

United Nations Framework for Convention on Climate Change (UNFCCC)

Signed in 1992 at UNICED, the convention addresses the principles of common but differentiated responsibility and precautionary action. Its main objective is to achieve the stabilization of greenhouse gas concentrations in the atmosphere at a level that prevents dangerous anthropogenic interference with climate systems and within a specific timeframe which will allow ecosystems to adapt naturally to climate change, to ensure that food

Paris Agreement

Kenya ratified the Paris Agreement. The agreement sets out a global action plan to put the world on track to avoid dangerous climate change by limiting global warming to well below 2°C. The Paris Agreement is a bridge between today's policies and climate-neutrality before the end of the century. Governments agreed;

- a long-term goal of keeping the increase in global average temperature to well below 2°C above pre-industrial levels;
- to aim to limit the increase to 1.5°C, since this would significantly reduce risks and the impacts of climate change;
- on the need for global emissions to peak as soon as possible, recognizing that this will take longer for developing countries;
- to undertake rapid reductions thereafter in accordance with the best available

science.

The United Nations Convention to Combat Desertification (UNCCD)

This Convention was adopted on 17th June 1994 in Paris and came into force on 26th December 1996. Its purpose is to address the problem of the degradation of land by desertification and the impact of drought, particularly in arid, semi-arid and dry semi-humid areas. Kenya ratified the Convention on 24th June 1997. The provisions are domesticated in several Acts of Parliament. Section 46 of EMCA requires District Environment Committees to identify areas that require re-forestation or afforestation as well as to mobilize local communities to carry out these activities. The Contractor will ensure that only necessary land clearing is undertaken during road construction.

4.5 INSTITUTIONAL FRAMEWORK

A County Integrated Project Management Unit (CIPMU) is proposed which will be headed by a dedicated coordinator and will have representation from county and national governments, CSOs, representatives of beneficiary groups, and key UN partners with strong on the ground presence such as UNHCR, UNICEF and WFP. The CIPMU will ensure effective coordination of project activities with other operations supported by the World Bank and other development partners with the County Integrated Development Plan. It will also approve and monitor community sub projects following established protocols and develop consolidated county work plans, budgets, request funds releases, and track implementation and results as well as expenditure. The CIPMU will also monitor compliance with social and environmental safeguards. At the national level, it is proposed that an inter-ministerial department headed by a Principal Administrative Secretary supported by representatives from concerned line-ministries and consultants will be established at the Executive Office of the President to provide broad oversight and promote coordination for all operations under the NEDI. National Inter-Ministerial Department (NID) will prepare consolidated annual work plans and budgets based on inputs received from the 3 participating CIPMUs and recommend release of funds to counties. This NID will also prepare relevant project manuals and reporting formats which will be agreed during project appraisal and provide oversight for social and environmental safeguards. Finally, it will be responsible for coordinating with the World Bank and other key stakeholders and provide timely updates on project performance, funds utilization and audits.

A joint project steering committee headed by Chief of Staff, Executive Office of the President or his nominee is proposed for providing strategic oversight. This committee will have membership from county governments, line ministries, the National Treasury at a senior most level, Civil Society, and UNHCR. The project steering committee will approve annual work plans and budgets and ensure effective coordination between counties and different line-departments of the national government.

Table 11: Institutions Relevant to the KDRDIP

Institutions	Responsibility	Relevance to the KDRDIP
Executive Office of the President for the Northern Kenya Development Initiative	The office is charged with development of infrastructure, the planning of settlements, strengthening livestock marketing and livestock related industries, water supply and irrigation, natural resource management, mineral resources exploration, opening up the arid lands for tourism, human resources development and tapping solar and wind energy to fuel development in northern Kenya.	KDRDIP implementing agency
Ministry of Lands and Physical Planning	The Directorate of Land is charged with the responsibility of ensuring efficient administration and sustainable management of the land resource in the country, while the Housing Directorate is responsible for policy formulation, coordination and monitoring of programmes concerning all issues of urban development	The MoLPP is responsible for, among others: lands policy management, physical planning, land transactions, land adjudication, settlement matters, land registration, as well as land and property valuation services which is important in acquisition and resettlement issues for the KDRDIP, as well as urban planning.
Ministry of Interior and Coordination of National Government	This Ministry is charged with the responsibility of public administration, internal security, printing of Government documents, Immigration and Registration of Persons, Betting Control Probation Services, Prison Services and championing campaign against drug and substance abuse.	The secretariat for refugee affairs falls under this ministry. KDRDIP will look at impacts of refugees on host community and also impact of repatriation.

Institutions	Responsibility	Relevance to the KDRDIP
Ministry of Environment and Natural Resource and Ministry of Water and Irrigation	This Ministry is responsible for policies and programmes aimed at improving, maintaining, protecting, conserving and managing the Country's natural resources (water, forestry, wildlife and environment). It is also responsible for ensuring access to clean, safe, adequate and reliable water supply	The KDRDIP will have to align with the policies and programs of this Ministries
Ministry of Devolution and Planning	This Ministry includes the Department of Devolution as well as the Department of Planning that national development planning and economic policy management	The KDRDIP will have to align with the policies and programs of this Ministry, with specific regard to the Department of Devolution
Government Institutions and Authorities		
National Environment Management Authority (NEMA)	The responsibility of 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.	Regulation and licensing of the project specific EIAs
Kenya National Highways Authority (KeNHA)	Development and maintenance of highways	KeNHA will be responsible for the construction, upgrading, rehabilitating and maintaining of highways in the intervention counties.
Kenya Urban Roads Authority (KURA)	Development and maintenance of the urban road network	KURA will be responsible for the construction, upgrading, rehabilitating and maintaining of urban roads in the intervention counties
Kenya Rural Roads Authority (KeRRA)	Development and maintenance of the rural road network	KeRRA will be responsible for the construction, upgrading, rehabilitating and maintaining of the rural roads in the intervention counties

Institutions	Responsibility	Relevance to the KDRDIP
Water Resources Management Authority (WRMA)	WRMA is the lead agency in nationwide water resources management.	Wetlands and water resources located in the intervention counties fall under the mandate of WRMA. If some development works are planned to be conducted inside of those catchments or water to be abstracted for use, a special permit shall be obtained from WRMA.
County Government Northern Water Services Board	Responsible for county legislation as well as county development Northern Water Services Board (NWSB) is a regional state corporation created under the Water Act 2002 to ensure availability of sufficient potable water and sanitation services for the people of the region through agents called Water Services Providers. The Board covers seven (7) arid/semiarid Counties i.e. Isiolo, Laikipia, Garissa, Mandera, Marsabit, Samburu and Wajir; all of which have a total area of approx, 244,860 Km ² (about 43% of Kenya). This area has a population of about 3.4 million people (2009) census and over 4.5million livestock.	The KDRDIP will be cover 3 counties. Four of the project sub counties fall within the NSWB zones

Institutions	Responsibility	Relevance to the KDRDIP
The National Land Commission	<p>The National Land Commission:</p> <ul style="list-style-type: none"> • Manages public land on behalf of the national and county governments; • Advises the national government on a comprehensive programme for the registration of land titles; • Investigates present or historical land injustices, and recommends appropriate redress; • Encourages the application of traditional dispute resolution mechanisms in land conflicts; • Monitors/oversees land use planning throughout the country; • Ensures that public land/land under the management of designated state agencies is sustainably managed; • Manages and administers all unregistered trust land and unregistered community land on behalf of the county government; and <p>Develops and encourages alternative dispute resolution mechanisms in land dispute handling and management.</p>	This Commission will be integral in the land acquisition and compensation processes as the entire procedure will be coordinated by it.
Other Institutions		

Institutions	Responsibility	Relevance to the KDRDIP
The Frontier Counties Development Council (FCDC)	A block comprising of seven (7) counties in Kenya namely: Lamu, Tana River, Garissa, Wajir, Mandera, Marsabit and Isiolo with the ultimate aim of forging a common approach to achieve sustainable development for their respective Counties	Two of KDRDIP intervention counties fall within FCDC counties

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

The Project has been assigned an EA Category B, given the overall limited potential environmental and social impacts. The project has primarily triggered the following World Bank's environmental and social safeguard policies;

- OP/BP 4.01: Environmental Assessment,
- OP 4.09: Pest Management,
- OP/BP 4.10: Indigenous Peoples,
- OP/BP 4.12: Involuntary Resettlement,
- OP/BP 4.11: Physical Cultural Resources,
- OP/BP 4.37: Safety of Dams, and
- OP/BP 7.50 Projects on International Waterways.

The following documents have been prepared for KDRDIP: (i) an Environmental and Social Management Framework (presented herein); (ii) a Resettlement Policy Framework (RPF); and (iii) a Stakeholder Assessment process to be followed. The objective of the ESMF is to outline the mandatory procedures to be applied to the World Bank- financed Project investments to ensure the effective management of associated environmental and social issues. It seeks to both enhance environmental and social development benefits of the project and mitigate any adverse impacts, in line with GoK and World Bank policies and guidelines on management of environmental and social issues.

- Both the World Bank safeguards policies and GoK laws are generally aligned in principle and objective:
- Both require screening of sub project investments in order to determine if further environmental assessments (ESIAs) is needed.
- Both require ESIA before project design and implementation (which also includes an assessment of social impacts).
- Both require public disclosure of ESIA reports.
- EMCA recognizes other sectoral laws while WB has safeguards for specific interests.
- The Bank requires that stakeholder consultations be undertaken during planning, implementation and operation phases of the project, which is equivalent to the EMCA requirements.
- Additionally, statutory annual environmental audits are required by EMCA.

The national provisions for the management of resettlement related issues are not as fully developed and therefore not at par with the World Bank safeguard policy requirements. Thus, it is expected that the WB OP 4.12 will be mostly applied under the KDRDIP and a separate document to guide the process, i.e. a Resettlement Policy Framework (RPF) document will be prepared as a standalone report to support the social management and acceptability of the projects. In Kenya, it is a mandatory requirement under EMCA 1999 for all proposed development projects to be preceded by an ESIA study. However, prior to developing an ESIA, a project proponent is required to prepare a project report to aid NEMA in making a

determination whether a full scale 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 and the required follow up actions. Project reports will be prepared for all the sub project investments under the KDRDIP to determine if they require a full scale 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.

Since the precise locations and potential impacts of future subprojects are not known, and cannot be identified prior to appraisal, the ESMF provides the basis for the environmental and social preparation needed for the subproject investments to be supported under Component 1,2 and 3.

Regarding resettlement, since the extent and location of project investments is not known at this time, and any potential resettlement will only be identified when sub-projects are being assessed, the RPF establishes the resettlement objectives and principles, organizational arrangements and funding mechanisms for any resettlement associated with the World Bank-financed Project.

All World Bank safeguard policies are listed below with descriptions for policies triggered by the Project:

Safeguard Policies	Triggered?	Explanation
Environmental Assessment OP/BP 4.01	Yes	Implementation of the activities outlined under Components 1-3 namely expansion and improvement of service delivery, including small-scale infrastructure; construction or rehabilitation of physical structures for soils and water conservation, and water catchment management; other landscape restorative activities such as afforestation/reforestation, eradication of noxious plant species; land-based livelihood support activities; etc.; could result in environmental risks and social impacts, albeit these may be reversible, localized, and easily and cost-effectively mitigated
Natural Habitats OP/BP 4.04	No	The ESMF has provided detailed procedures to screen program activities/subprojects for potential adverse environmental and social impacts, and to take measures to avoid, minimize and mitigate impacts on forests. Project funds will not finance any activities that could result in adverse risk to ecologically sensitive and fragile ecosystems and natural habitats.
Forests OP/BP 4.36	No	Activities under Component 2 are likely to have a positive impact on forests with the implementation of physical and biological measures for soil and water conservation and afforestation. The ESMF has provided detailed procedures to screen program activities/subprojects for potential adverse environmental and social impacts, and to take measures to avoid, minimize and mitigate impacts on forests. Project funds will not finance any activities that could result in the conversion of naturally-occurring forests into man-made plantations or logging and harvesting of

		forests of all types.
Pest Management OP 4.09	Yes	This policy is triggered on the assumption that the project will support activities under Component 2 and 3 that are likely to be forestry and agriculture-based and that may increase the application of agrochemicals (insecticides, herbicides, fungicides and fertilizers). Therefore, the ESMF has included guidelines for integrated pest management to address related environmental and social impacts of the project.
Physical Cultural Resources OP/BP 4.11	Yes	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/ESMPs appropriate plans and measures that will be put in place during the implementation of the project so as to protect PCRs. The EA 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.
Indigenous Peoples OP/BP 4.10	Yes	The project will be implemented in Turkana, Wajir and Garissa which are marginalized counties. The project will be implemented in counties with presence of vulnerable and marginalized communities. A social assessment has been undertaken and a social management plan/Indigenous Peoples Development Framework prepared that would include provision of free prior and informed consultations and a grievance-redress mechanism. The identified mitigating measures have been incorporated into the project design.
Involuntary Resettlement OP/BP 4.12	Yes	The project will involve the construction of small-scale infrastructure that might affect land holdings on community land. While these interventions are yet to be identified, the project has prepared, consulted upon and disclosed a resettlement policy framework (RPF) prior to appraisal to address any issues which might arise from physical and economic displacement and/or restriction of access to communal natural resources.
Safety of Dams OP/BP 4.37	Yes	The policy has been triggered under the assumption that Component 2 may support small dam construction and water harvesting structures such as semi-circular contour bunds, diversions, pans, check dams, sand dams, rock catchments. To respond to requirements under this Policy, the ESMF has included provisions under the Bank Policy 4.01, Annex B - Application of EA to Dam and Reservoir Projects, which requires that the Borrower ensures and engages independent, recognized experts or firms, whose qualifications and terms of reference are acceptable to the Bank, to supervise the design and construction and the carrying out of environmental reconnaissance that includes (a) identifying

		the potential environmental and social impacts of the project; (b) ascertaining the scope of the EA, including any resettlement and IP concerns; (c) assessing the borrower's capacity to manage the EA process; and (d) advising on the need for an independent environmental advisory panel. Since the dams to be supported by this Project are expected to be small in size and capacity generic dam safety measures designed by qualified engineers may be adequate, In addition, the Project has referred to the 2010 FAO "Manual on Small Earth Dams, A Guide to Siting, Design and Construction" http://www.fao.org/docrep/012/i1531e/i1531e.pdf .
Projects on International Waterways OP/BP 7.50	Yes	The project will finance small-scale irrigation investments that would be through groundwater abstraction of aquifers such as Merty aquifer which serves Wajir, Garissa and Issiolo and parts of Marsabit counties. Merty aquifer straddles between these counties and Somalia. This policy is triggered under the assumption that water from the Merty aquifer may be abstracted for irrigation purposes. Through the new Water and Sanitation Project (P156634) Kenya has officially notified Somalia about the project, in accordance with Bank policy requirements.
Projects in Disputed Areas OP/BP 7.60	No	The project will not support or implement activities in disputed areas.

Whenever applicable, the Environmental and Social Impact Assessments/Environmental and Social Management Plans (ESIAs/ESMPs), Resettlement Action Plan (RAPs), Integrated Pest Management Plans (IPMPs) and Vulnerable and Marginalized Group Plans (VMGPs) would be developed for individual sub-projects during project implementation. The relevant World Bank Group Environmental Health and Safety Guidelines are applicable to subprojects.

http://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/ifc+sustainability/our+approach/risk+management/ehsguidelines

6 IMPACT ANALYSIS AND PROPOSED MITIGATION MEASURES FOR KDRDIP

6.1 ENVIRONMENTAL AND SOCIAL RISK LEVELS

Assessment of risk for KDRDIP subproject will be determined according to their **environmental risk** level. The risk level is to be estimated based on the intrinsic environmental and social risk associated with (i) the type of intervention to be carried out (e.g., maintenance, expansion, upgrading, new infrastructure); and (ii) the specific type of infrastructure proposed. Where a single sub-project includes multiple types of activities/interventions or infrastructure, the risk rating is assigned based on the highest level of risk applicable for any component of the sub-project.

The environmental risk levels are defined as follows:

Risk level III-A: sub-projects with particularly high environmental, indigenous peoples, cultural heritage, or resettlement risks, as determined by an analysis of the nature and scope of civil works proposed and the ecological and socio-cultural sensitivity of the project site.

Risk level III-B: sub-projects with moderately high environmental or social risk. The proposal presents some risks due to the sensitivity of the setting and the nature and scope of civil works planned. However, mitigation measures are readily available and the sub-project will not have a major impact that places the natural environment, its biodiversity, society, or its cultural property at risk.

Risk level II: sub-projects with moderate environmental, indigenous peoples, cultural heritage, or resettlement risks. The proposal presents some risks given the civil works planned, but its potential adverse impacts are less adverse than those of Risk level III projects. These impacts are site-specific; few if any of them are irreversible; and in most cases mitigation measures can be designed more readily than for Risk level III projects.

Risk level I: sub-projects likely to have minimal or no adverse environmental or social impacts.

KDRDIP has been classified as Environmental Assessment Category B in accordance with World Bank safeguard policies. The overall environmental impacts of the project are expected to be positive. Significant positive impacts to the natural and socioeconomic environments will be achieved by reduced greenhouse gases emissions, increased agricultural productivity and profitability leading to improved livelihoods, promotion of sustainable agricultural practices and reduced vulnerabilities of targeted rural communities. The activities envisaged under subprojects cumulatively may have negative impacts if not well implemented and therefore the use of this framework, with subsequent preparation of the subproject ESIA/ESMPs will be very important at all implementation levels. The following table (**Table 12**) presents likely environmental and social concerns potential sub- projects under components 1, 2, 3 and 4.

Table 12: Environmental and social concerns for sub projects

Type of Sub-project	Potential Environmental positive/negative impacts	Potential social positive/negative impacts
Livestock production - component 3 livelihood program		
Large scale livestock production (e.g. > 500 head of livestock)	Proper siting of animal sheds/pens regarding drinking water supply, homestead health issues related to animals	<ul style="list-style-type: none"> • Risk of livestock falling on a dug soil and water conservation structure • Inequality issues on resource accessibility and use; • Increase in wealth and produce
Medium scale livestock production	Health issues	
Small scale animal husbandry	<p>Increased pressure on carrying capacity and resulting to degradation of environment</p> <p>Potential misuse in management and application of animal health chemicals and vaccines</p>	
Agriculture related projects - component 3 livelihood program		
Water management projects for small-, micro- and household-scale irrigation schemes The project will finance small-scale irrigation investments that would be through groundwater abstraction of aquifers such as Merti aquifer	<p>Water pollution and water quality, water; natural habitats, species loss, land degradation.</p> <p>Clearance of vegetation</p> <p>Depletion of underground aquifers</p> <p>Contamination ground water by sewage & latrines (minerals etc.</p> <p>Salinity ingress</p> <p>Declining yields with use Collapse of borehole under pressure head Noise during sinking would be a nuisance to residents</p> <p>Salinization of the irrigation</p> <p>Eutrophication due to use fertilizers</p> <p>Introduction of invasive species</p>	<ul style="list-style-type: none"> • extraction and water rights, land loss, • Competition for land between crops and livestock • Inequality issues on resource accessibility and use; • Ownership; and tenure security • Gender disparities; • Leadership issues; • HIV/AIDS • Land subdivision and fencing • Conflict with pastoral communities • Population influx • Impact on Health and sanitation • Rise of income leading to improvement of livelihoods • Potential for child labour
Small scale monoculture (cash and food crops)	<p>Water pollution and water quality, water; extraction and water rights, land loss and resettlement, natural habitats, species loss, land degradation</p> <p>Potential misuse of pesticides</p>	
Field production of vegetables (Organic production)	No Biophysical risk	
Field production of vegetables	Contamination due to disposal of pesticides/insecticides containers,	

(Conventional production)	Health and Safety, uncontrolled cultivation of genetically modified varieties, crop residual disposal, waste generation and disposal including plastics and non-biodegradables	
Fertilizer supply	Eutrophication, water quality impacts, soil acidification, salinity changes	
<i>Agro processing - component 3 livelihood program</i>		
Manufacture of dairy products	General good housekeeping standards and best practice, EMS for large organizations, worker safety, proper emissions and discharge control, potential air, surface and groundwater contamination, processing and solid waste disposal Clearing vegetation for fodder production and establishment of fattening pens Waste management	<ul style="list-style-type: none"> • Inequality issues on resource accessibility and use; • Ownership; and tenure security/tenure • Gender disparities; • Leadership issues; • HIV/AIDS • Governance • Waste from micro processing plants
Beekeeping, honey processing		
Livestock market		
Storage facilities		
<i>Sustainable environmental management component 2</i>		
Constructing or rehabilitating physical structures for water catchment management such as check-dams, and water harvesting structures; and biological measures like afforestation. In addition, alternative (including renewable) energy sources will be explored and exploited.	<p>Reduced greenhouse gases emissions, increased agricultural productivity and profitability leading to improved livelihoods, promotion of sustainable agricultural practices and reduced vulnerabilities of targeted rural communities</p> <p>Environmental degradation as result of soil excavation to create water pans, potential breed sited for water borne diseases, Erosion along stock roots, vegetation clearance, livestock diseases and deaths during transportation</p> <p>Sustainable supply of energy sources, degradation of natural vegetation, pressure to convert more land to energy crops, food security</p> <p>Proper siting, noise, bird and bat mortality, access roads</p> <p>disruption to fragmented wildlife</p>	<ul style="list-style-type: none"> • Shared watering points are potential source of human and livestock disease spread • Conflicts between agro-pastoral and pastoral communities along cultivated (cropped) stock routes • Competition for land between crops and livestock • Risk of livestock falling on a dug soil and water conservation structure • Inequality issues on resource accessibility and use; • Ownership and tenure security; • Gender disparities; • Leadership issues; • governance • HIV/AIDS • Increased service close to people

	corridors change in local micro climate	
<i>Infrastructure projects – component 1 and 2</i>		
construction of schools, health centers, water supply, small dams and all-weather roads	<p>Proper siting, construction safety, traffic safety, interference with hydrology, drainage on adjacent areas, dam safety</p> <p>Safety of dams</p> <p>Health and safety impacts;</p> <ul style="list-style-type: none"> • Dust emission • Air quality • Nuisance irritants related to air emissions • Air pollutants 	<ul style="list-style-type: none"> • Inequality issues on resource accessibility and use; • Ownership and tenure security; • Gender disparities; • Leadership issues; • Presence of VMGs and social inclusion processes; etc.; • Disruption of utility services; • Restriction of access to livelihood and other assets; • Minor land/asset acquisition impacts; • Delays in compensation (if any); and provision of alternative means of livelihood; • Community disputes; transparency and accountability issues etc.; • 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, flood management, dams or irrigation schemes). •
<i>Project Management, and Monitoring and Evaluation component 4</i>		
Project Management		<ul style="list-style-type: none"> • Conflicts, e.g. friction during mapping of roles of county and national representation; • Project coordination office and implementing agencies; Inter-intra community conflicts
Monitoring & Evaluation and Impact Evaluation	Non-compliance with environmental laws; Failure to implement EMPs, ESMPs, IPPs, RAPs	Non-participatory M&E

Contingency Emergency Response	Unintentional environmental impact	Unintentional social impacts
--------------------------------	------------------------------------	------------------------------

The Environmental Management and Coordination Act (EMCA, as amended in 2015) provides in Schedule II an inclusion list of undertakings categorized into low risk, medium risk and high risk projects. The listed projects must undergo mandatory EIA. EMCA does not provide an exclusion list hence projects not included in Schedule II of EMCA need to be subjected to screening in order to determine the type of environmental assessment required to ensure compliance;

6.1.1 Environmental Management and Monitoring Plan (EMMP)

As part of the environmental review process, an EMMP would be designed to ensure that during project implementation, mitigation measures are taken to protect the environment from adverse impacts that may occur. The EMMP includes monitoring and mitigation measures that would be undertaken to restore and maintain environmental and social parameters to acceptable levels.

KDRDIP PCU shall have the responsibility of ensuring the effectiveness of the proposed measures. The purpose of the EMMP is to:

- Describe methods and procedures to detect environmental changes at an early stage of the sub-project, including any changes that may not have been predicted in the environmental impact analysis;
- Provide a feedback mechanism to KDRDIP by giving data and information on environmental impacts gathered through project monitoring
- Demonstrate to the community KDRDIP commitment to monitor potential impacts;
- Provide quantitative data relating to environmental and social impacts to demonstrate proponent's compliance with agreed WB funding conditions;
- Accumulate data obtained from environmental monitoring that may be used to support or defend KDRDIP against unjustified allegations of environmental damage.

6.2 ENVIRONMENTAL & SOCIAL MANAGEMENT PROCESS

This ESMF contains potential mitigation measures and monitoring indicators (see annex 9.) The ESMP is a tool through which the adverse impacts for specific sub project investments may be mitigated. 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.

6.2.1 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.

6.2.2 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.

Impacts	Description of mitigation measure
Physical environment	
Waste disposal	<p>Solid nontoxic waste: 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 worker's Final disposal should be at dumpsites approved by the NEMA</p> <p>Waste oil /fuel: Spent or waste oil from vehicles and equipment should be collected and temporarily stored in drums or containers at site</p> <p>Waste oil should be disposed of by oil marketing companies or agents approved or recognized and have the capacity to undertake oil disposal</p>
Air Pollution	<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</p>

	<p>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 ≤ 50km/hr on unpaved roads and near or at project site should be ≤ 30 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. 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 ≤ 30 km/hr) to minimize noise generation created through activities such as unnecessary acceleration and breaking squeal. Engines of vehicles/trucks and earth-moving equipment should be switched off when not in use.</p>
Impacts on Landscape and Visual Receptors	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 use	<p>Obtain water abstraction permits from the Water Resources Authority (WRA)</p> <p>Awareness on proper use of water/ water conservation</p> <p>Capacity building in operation and maintenance of the water infrastructure facilities</p>

Water pollution	<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> <p>For project investments where pesticides are used e.g. irrigation, an Integrated Pest Management Plan (IPMP) prepared as part of ESMF should be used.</p>
Soil and Land degradation	<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>
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 Action 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 Action Plan should be prepared for this area with the RPF as a guide</p>
Loss of employment and livelihood	<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>
Loss of land and other	<p>Due process should be followed to establish the true owner of any</p>

assets	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 structure on project site to be used, 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> <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 to land among communities living in the project areas	<p>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.</p> <p>Prior to project implementation a community land resolution form should be signed and it should have evidence of community consultation with at least 2/3 of community representation as per the community land act 2016 requirements.</p>
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 Only road worthy vehicles/trucks should be used 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. Adequate sanitary facilities will be available for workers and open range defecation will not be countenanced. 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 minimize accidents Construction workers</p>

	<p>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> <p>Community safety during construction of small dams by fencing</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 minimize 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 related issues	<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>
Waste pollution from construction in camps	<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>
Impacts on vulnerable and marginalized groups (orphans, child and women headed households, the sick, elderly etc.)	<p>The project will ensure that all the vulnerable and marginalized groups are identified and profiled and through social assessments specific plans are designed for each investment to consider the wellbeing of the vulnerable and marginalized groups identified.</p>
HIV/AIDS Spread and other related	<p>Design HIV/AIDS awareness, sensitization and prevention program for each project that extends to the communities as a whole;</p>

communicable Public health diseases – Water borne diseases etc.	Design programs for reducing the spread of water borne diseases like Malaria, Bilharzia etc. in collaboration with the Ministry of Health
Construction Camp Impacts	Where appropriate, additional measures such as to promote/support the establishment of a joint stakeholder forum for the broader Project area to discuss and address matters of common concern should be developed to address any additional environmental and social issues (e.g. cumulative and induced impacts, community relations and health and safety) that may arise during construction..
Labour and employment related Impacts	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

6.3 MONITORING PLANS AND INDICATORS

6.3.1 Monitoring of Environmental and Social Indicators

The goal of monitoring is to measure the success rate of the project, 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.

(a) Monitoring Levels-Overall Project Level

The implementing agency will be responsible for monitoring and reporting on compliance with the ESMF. They will ensure that sub projects investments are screened, their safeguard instruments prepared, cleared and disclosed prior to sub project implementation. Further, they 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.

Within the implementing agency, monitoring and surveillance of all the sub project investments will be undertaken by the PMU that will be established for the project. The implementing agency 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 PMU but no investment will be ignored in this high level monitoring.

(b) 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 PMU. The Bank will further undertake monitoring during its scheduled project supervision missions.

Specifically, for each year that the agreement is in effect, sub project executing agencies will be required to submit to the PMU all the monitoring reports and the PMU 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.

(c) 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 PMU for review and analysis. The higher level monitoring at the PMU 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.

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.	Implementing agent County officers Consultant
Project Level Investment	Preparation of environmental and social impact assessment report Environmental permitting	Independent consultants hired to prepare ESIA and/ RAP documents Environmental Permits for sub projects Environmental Management Plans,	Line Ministries, County officers Consultants Investor, Line Ministries, NEMA

6.3.2 Monitoring Roles and Responsibilities

(a) 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 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.

(b) KDRDIP/PCU -Environmental and Social Specialist

The KDRDIP will recruit environmental and social safeguard specialists who will provide oversight, screening of sub projects, and preparation of ToRs for ESIA's, facilitation, coordination, review of ESIA's, monitoring and evaluation of all the sub projects.

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

7 SCREENING, APPRAISAL, MONITORING AND REPORTING

7.1 SCREENING AND REVIEW PROCESS

In overall KDRDIP is expected to produce net benefits in terms of natural resources management and conservation as well as positive impacts on the livelihoods of host communities. However certain project activities may have environmental and social impacts that will require mitigation. The screening and review process will help determine which of the safeguard policies and environmental regulations are triggered and what measures will need to be taken to prevent and/or address the potential adverse impacts. Screening will further ensure that subprojects that may have potential adverse impacts are recommended for more detailed studies either through preparation of Project Reports (PR) or full Environmental and Social Impact Assessment (ESIA/EIA).

Prior to commencement of sub-projects, the proponents will fill out the screening checklist attached to this report (Annex 1). The screening checklist would be completed by the KDRDIP Technical Coordinators (TCs) who will be trained in the use of the checklist and fundamentals of what could constitute environmental and social risks.

The screening checklist will also be used for larger infrastructure subprojects such as construction works. The following outcomes are expected from the screening process:

Should the screening process reveal no impact then the project would be flagged off to continue.

In the event that there are likely to be moderate or significant adverse impacts as established from screening the proponent would be required to prepare an Project Reports (PR) project and submit it to NEMA county offices for review. NEMA may approve the project to commence at this stage or require the proponent to prepare Terms of Reference (ToR) and proceed to EIA study. Preparation of Project Reports (PR) and ESIA/EIA study reports are undertaken by consultants registered by NEMA.

7.1.1 Preparation of Project Reports (PRs)

Project Reports (PRs) are prepared as a means of informing NEMA of the activities, geographical area and potential impacts of the proposed development. A PR would give a description of the project, baseline information of project area, potential impacts and mitigation measures associated with the project. Preparation of a PR will be the responsibility of the proponent who would hire a NEMA registered expert for this purpose. After receipt of the project report NEMA shall send copies of the report to Lead Agencies with interest in the proposed project and give them 21 days to comment on the report. Upon expiry of this period NEMA compliance officers shall visit the proposed project site, interview the proponents and stakeholders, and assess the project's impacts in view of their observations at the site and the concerns raised by stakeholders. After review of the report NEMA can approve the proposed project and issue an ESIA/EIA license or advise for an ESIA study to be undertaken within 30 days from the time of submission of the report. Please refer to annex 8 For NEMA notice.

The Environmental Management and Coordination Act (EMCA) require that all sub projects be subjected to a review and screening process in order to determine whether an ESIA is necessary or otherwise. Sub projects 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/EIA 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 KDRDIP 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.

(a) 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 Access to Information stipulates that the following consultation and disclosure requirements be utilized for all Category B sub projects:

During the EA process, the applicant shall consult groups affected by the subproject and local NGOs about the subproject's environmental and social 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/EIA report including a detailed summary of the ESIA/EIA conclusions available at a public place accessible to groups affected by the subproject and local NGOs.

Table below illustrates the typical process and time taken to process an PR through NEMA as per Legal Notice 101 of EMCA. The statutory review period is maximum 30 days effective the date of receipt of a Project Report by NEMA.

Steps	Action	Actor	Time requirement
1	Preparation and submission of PR to NEMA. NEMA receives EPR, issues a receipt and acknowledgement.	KDRDIP, EIA Expert	Depends on Complexity of Project, may take 10-15 days
2	NEMA sends copies of PR to Lead	NEMA	7 days assuming all

	Agencies for comments		requirements are fulfilled
3	Lead agencies review PR and issue comments	Lead Agencies	15 days (minimum) after receipt of PR from NEMA.
4	Review of PR by NEMA	NEMA	Within 20 days of PR receipt
5	Communication of findings from NEMA review to KDRDIP	NEMA	Within 30 days of PR receipt

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

Where NEMA and Lead Agencies ascertain that a project report has disclosed adequate mitigation for identified impacts, NEMA would issue an EIA License authorizing the project to proceed. The license would specify conditions to be met by the proponent for during construction and operation of the project. Typical conditions include:

- Period after issuance of license within which the subproject must commence, usually 24 months;
- The proponent must seek written approval from NEMA for any operational changes;
- The period after commencement of the project within which the proponent should undertake an Environmental Audit and submit an EA report to NEMA;
- NEMA to take appropriate action against the proponent in the event of breach of any of the conditions of EIA license.

In the event that the PR does not disclose adequate mitigation measures or that the project has significant irreversible environmental and social impacts the proponent will be required to undertake an ESIA study. NEMA will write to the proponent to undertake scoping, prepare Terms of Reference (ToR) for ESIA study and submit these for approval prior to commencement of the study.

7.2 ESIA STUDY

The stages in preparation of an ESIA/EIA Study report are as follows:

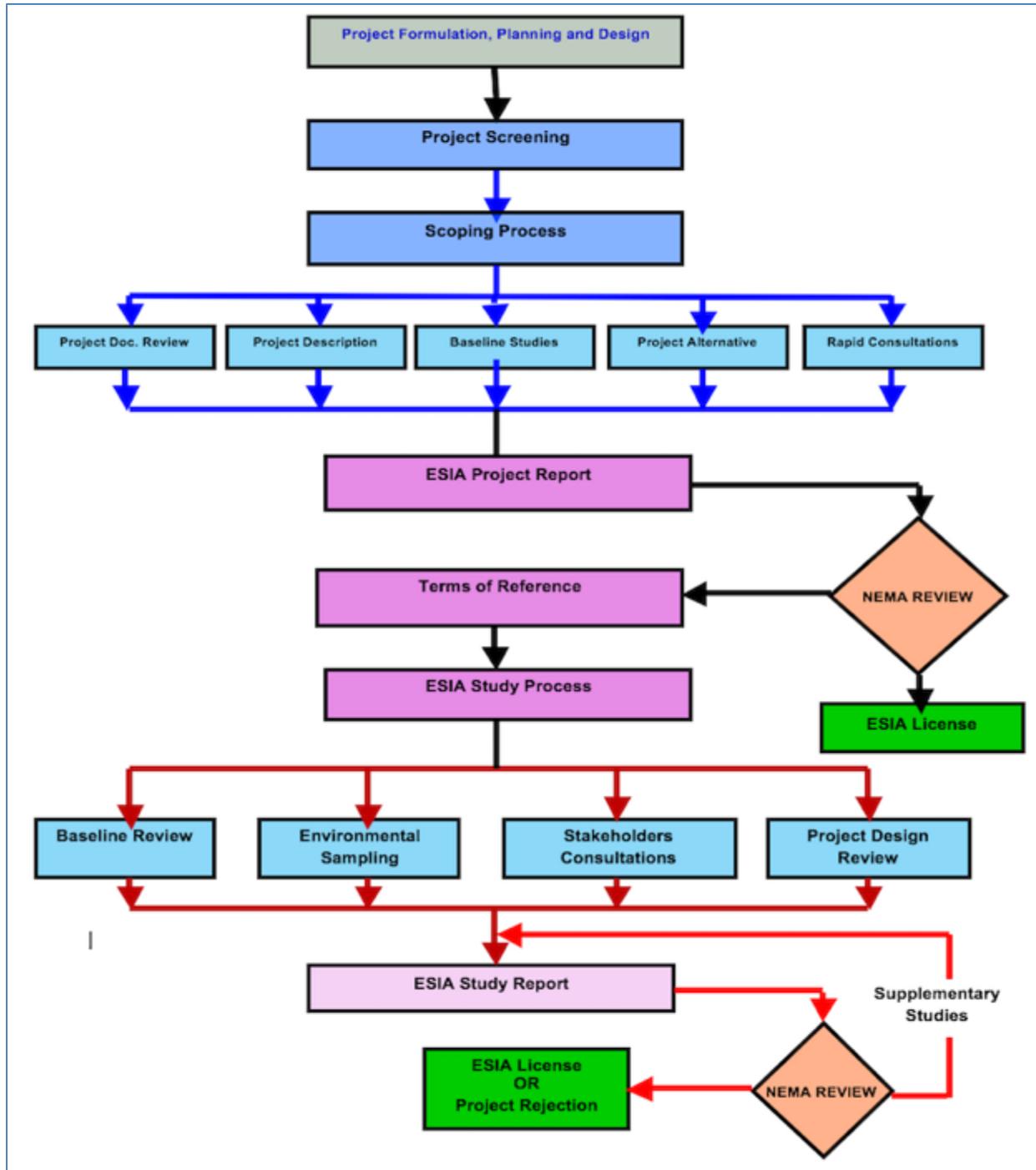


Figure 12: stages in preparation of an ESIA/EIA Study

7.2.1 Scoping Report

Scoping provides a mechanism for consulting with NEMA and Lead Agencies and agreeing on the content and methodology of EIA at an early stage in the process. Key objectives of preparing a scoping report are to:

- Give a project description and its area of influence;
- Identify the topics and issues to be addressed in the EIA;
- Define the approach and methodologies for conducting baseline studies;
- Define the approach to and methodologies for predicting environmental impacts and for evaluating the significance and severity of environmental effects;
- Identify the methods to be adopted for incorporation of mitigation measures and other environmentally driven modifications into the project;
- Define the consultation strategy to be applied during the EIA process;
- Seek comments from key stakeholders on the scope of the EIA, the approach and work plan.

The Scoping Report will therefore contain a description of project site and project activities, methodology and scope of EIA, the composition of the EIA team (including their experience and field of expertise), project budget and timelines.

7.2.2 ESIA/EIA Study Report

Upon review and approval of the Scoping Report, NEMA will advise that an ESIA/EIA Study be undertaken. The ESIA Study will entail a systematic investigation of all impact areas as identified in the scoping report, and will entail the following:

- Project Description: A description of key components of the proposed project, the implementing agents, a brief history of the project and its justification; Baseline information;
- Baseline environmental information comprising physical, biological and socio-economic conditions of the site to be assembled and evaluated;
- A description of the pertinent legislation, regulations and standards, as well as environmental policies applicable to the proposed project and the appropriate authority jurisdictions;
- Identification of impacts related to project elements and an analysis of severity and duration of impacts;
- Prescription of mitigation measures and development of an environmental management plan to neutralize the effects of negative impacts;
- Development of a monitoring plan to ensure that the proposed mitigation measures are implemented and the desired remediation effects achieved;
- Public consultation and documentation of stakeholder views.

All the information gathered will be compiled into an ESIA/EIA Report prepared in the same format as the PR and submitted to NEMA headquarters for review and decision making. The review process will entail advertising of the project in the media and may include a public hearing meeting. The review period may take a maximum of 90 days.

7.2.3 Public Review of the ESIA/EIA Report

Upon review of the ESIA/EIA report, NEMA will prepare a summary of the report and advertise it in the press for public review. The purpose of this is to allow all stakeholders to read and understand how they would be affected by the project. The public review period lasts a minimum of 60 days. After expiry of the public review period, NEMA will collate the comments

submitted from the public and hand them over to the proponent highlighting which key issues require to be addressed. The proponent in liaison with the ESIA/EIA expert will prepare written responses either into an additional chapter or an addendum to the ESIA report. This chapter will clearly explain how each of the comments and concerns raised by the public have been addressed and resolved.

Once NEMA is satisfied that the revised ESIA/EIA Study report addresses all the issues raised by stakeholders it would issue an ESIA/EIA license.

World Bank safeguard policies require that environmental reports for projects are made available to project affected groups, local NGOs, and the public at large. Public disclosure of EIA reports is also a requirement of the national EIA procedures in line with the provisions of EMCA, 1999 as elaborated in the Environmental Impact Assessment and Audit Regulations, 2003.

Disclosure of EIA study reports prepared in line with EMCA provisions should follow the same procedure. EMCA does not require disclosure of final environmental project reports. However, in order to meet WB disclosure requirements, environmental project reports (PRs).

The approved version of the report should be posted at NEMA websites as well as WB Info Shop to ensure all interested parties can access it.

8 STAKEHOLDER CONSULTATION AND INFORMATION DISCLOSURE

The purpose of Stakeholder Consultation and Information Disclosure Mechanism is to:

- Inform: Promote stakeholder understanding of issues, problems, alternatives, opportunities and solutions through balanced and objective information sharing;
- consult: To obtain feedback and acknowledge concerns and aspirations of stakeholders on analysis, alternatives, and decisions with regard to KDRDIP projects;
- Engage: Work directly with stakeholders to ensure that their concerns and aspirations are understood and considered and to assure them that their concerns / aspirations would be directly reflected in the developed alternatives; and that feedback will be provided on how their input influenced the final decision.
- Empower: Make stakeholders partners in each aspect of the decision, including development of alternatives and identification of preferred solution so as to ensure ownership of sub-projects at grassroots level.

8.1 STAKEHOLDER IDENTIFICATION

Selection of stakeholders for consultation was based on three criteria as follows:

- Participation in the KDRDIP either at PCU or at Agency level;
- Potential to be impacted by proposed sub-projects;
- Special interests in the programme either as government sector, UNHCR, FCDC, UNHCR, NDMA, NGO or CBO, etc.

Using the above criteria, the following individuals and institutions were meaningfully engaged:

- Government institutions responsible for management of natural resources such as KWS, KEFRI, Ministry of Lands and Housing among others
- County Government
- Influential individuals or groups operating in the area where the target natural resources are located, with specific focus on community groups;
- Vulnerable and marginalized groups that may need special attention such as women, the poor and youth groups.

8.2 APPROACH TO STAKEHOLDER CONSULTATION

Consultations were held at 3 levels, summary of this meetings and list of participants are found on annex 5 and 6: -

8.2.1 National Level:

The ESMF consultant held briefing meetings with Department of refugee affairs, NDMA, FCDC, MPs, UNHCR Nairobi, County Governors, and the World Bank..

8.2.2 County Level:

Consultations were held with County coordinators of the various ministry departments (social development, agriculture, education, health, environment, and energy), National Government representatives such as county commissioners. The ESMF consultant took advantage of such consultations to better understand the local priority intervention areas, the selection process and criteria, as well as availability of capacity for management of the social and environmental mitigation process. One of the main outcomes of Agency level consultations was that most subprojects are still at proposal / identification stage in which case specific impacts would be difficult to describe in detail at this stage.

8.2.3 Sub County and Community Level:

Consultations were held with local opinion leaders, NGO representatives, political and ward leadership, clan leadership, chiefs and assistant chiefs. Kenyans who have registered as refugees were also interviewed on issues like the planned relocation, their risks and fears.

During visits to selected intervention Sub counties the ESMF consultant was able to perceive the scope and diversity of potential social and environmental impacts anticipated from proposed subprojects through a system of rapid assessment of potential receptors. Indeed, it is from such visits that some of the potential triggers to WB safeguards were either confirmed or ruled out.

9 HANDLING OF PROJECT GRIEVANCES AND COMPLAINTS

9.1 INTRODUCTION

The World Bank standards outline requirements for a grievance redress mechanism for all 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.

Like any other development programme KDRDIP is likely to elicit complaints from the project beneficiaries and the public. The complaints may be diverse ranging from aspects of location of the subprojects, sharing of benefits and how the project is implemented. Handling of grievances is significant since it helps to manage operational risk during implementation. The Project Appraisal Document (PAD), Strategy Documents, Environment Impact Assessment (EIA) reports and project management plans may have interrogated and identified numerous project risks and potential sources of grievances.

ESMF therefore is part of the risk analysis and is important as a fundamental step towards getting ready for grievances redress management. Other elements are the understanding of the capacity available for Grievance Redress Mechanism (GRM) at the level of institutions and personnel as well as instruments and tools for GRM and designing the plan.

The following sections describe the procedures that will be followed by KDRDIP to address complaints or concerns submitted by people who may benefit from or impacted by KDRDIP sub- projects. It intends to provide clarity and predictability on how complaints will be received, assessed, sorted, resolved and monitored. Specific activities are described for each of these steps.

9.2 GRIEVANCE REDRESS COMMITTEE (GRC)

In order to adequately address and manage the risk related to the grievances emanating from the project, KDRDIP should establish a Grievance Redress Committee (GRC), building on existing community GRM and those local institutions involved in management of such resources and mainstreaming into the legislative grievance redress mechanism as discussed earlier.

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 established primarily for the sub project investment and will have no legal mandate. The GRC will be established under the guidance of project subcommittee level and comprise of:

- Project Affected Persons representative
- Environmental and Social Specialists from the KDRDIP Executing Agency

- NEMA County representative
- County Government representatives
- Sub county level representatives
- Community structures
- Representatives from relevant line ministries
- Contractor/Engineers
- Women and Youth Representatives

Representation of active NGOs or CBOs in project area

9.3 KDRDIP PROCEDURES FOR ADDRESSING COMPLAINTS

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) by county project coordinator	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	4-14 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	4-7 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 KDRDIP/PMU Coordinator
-----------------	---	----------	---

9.3.1 Complaint uptake

Project staff would have primary role in resolving complaints as part of their day to day activities as they interact with community members. Complaints can be submitted by phone, SMS or verbally to contractor staff or client staff. For site- specific projects, especially in remote areas a staff member, such as a Community Liaison Officer, will receive complaints in person from citizens who live close to the project site. Staff members who receive complaints verbally must put them in writing for them to be considered. Anonymous complaints will be accepted by phone and in writing.

Information on these various channels for submitting complaints will be publicly displayed at project site or on notice board at county offices or via flyers. Complaints received will be assigned a number that will help the complainant track progress. Where possible, complainants will be handed a receipt (see Annex 4) and a flyer that describes the GRM procedures, which will be read to them in a comprehensible language at their request.

9.3.2 Assessment, acknowledgment, and response

On the spot resolution is encouraged but emphasis would be on recording incidents and responses and maintaining centrally held grievance register. All complaints that cannot be responded to on the spot will be remitted to KDRDIP who will take at most 14days to assess them and provide a written response to the complainant, acknowledging receipt and detailing the next steps it will take. Options are:

- The complaint falls under the mandate of KDRDIP and resolution can be offered immediately according to the request made by the complainant. The response will describe how and when resolution will be provided by KDRDIP implementing agency and the name and contact information of the staff member responsible for it.
- The complaint falls under the mandate of KDRDIP IA but various options for resolution can be considered and/or extraordinary resources are required. The response will invite the complainant to a meeting with KDRDIP IA to discuss these options.
- The complaint does not fall or partially falls under the mandate of KDRDIP IA. The response will indicate that the complaint has been referred to the appropriate body (e.g. Complaints related to forestry will be forwarded to KFS, those related to water WRMA or County, etc.), that will continue communications with the complainant.

9.3.3 Sign off closure form

Where there is an agreement between the complainant and the KDRDIP IA on how the complaint will be resolved, minutes will be drafted and signed by both parties. After due implementation of it, new minutes will be signed stating that the complaint has been resolved.

Where an agreement has not been reached, the complainant will be offered the option of an independent mediation process at an alternative arbitration body such as local administration, local council elders, Ombudsman office, PCC, KHRC etc.. Relevant institutional arrangements, such as MoU should be made with any of these or other mediation services at the beginning of the project.

- If the complainant accepts the mediation option and an agreement is reached, due implementation will be monitored by the mediation agency and minutes will be prepared and signed signalling the complaint has been resolved.
- If the complainant does not accept the mediation option or if he/she does but an agreement is not reached, the case will be closed. The complainant may seek redress through courts or other mechanisms available at the national level. All supporting documents of meetings needed to achieve resolution should be part of the file related to the complaint.

9.3.4 Registry and Monitoring

All complaints received will be entered into a publicly accessible system that will allow complaints to be tracked and monitored. The system will also present a database showing:

- No of complaints received.
- No and % of complaints that have reached agreement.
- No and % of complaints that have been resolved.
- No and % of complaints that have gone to mediation
- No and % of complaints that have not reached agreement.

The database should also show the issues and geographic areas most complaints circle around. The information provided by the database is expected to help KDRDIP IA to improve the Grievance Redress Mechanism and better understand and address the social impacts of the project.

9.3.5 Responsibility and Resources

KDRDIP implementing agency will be responsible for the operation of this GRM. Responsibilities include:

- Maintaining the grievance redress process, including the procedures;
- Registration of complaints;
- Outreach and external communications;

- Tracking performance and monthly reporting.
- Provision of resources to cover the operational costs of the GRM. Quarterly, grievance register/reports will be made publicly available.

9.3.6 National Environment department

The NED 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 NED will serve as the first stop for getting redress and if this fails then the National Environmental Tribunal (NET) another organ set up by EMCA to resolve environmental and social disputes on investments will form the next avenue for redress.

9.3.7 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 CAPACITY BUILDING

Effective implementation of the Environmental and Social Management Framework will require capacity development for KDRDIP PCU, the implementing institutions as well those responsible for implementing sub-projects at grass-root levels. Implementers need to understand inherent social and environmental issues and values and be able to clearly identify indicators of these.

10.1 TRAINING OBJECTIVES

The overall objective of the training was to mainstream environmental and social consideration into participatory processes of sub-project identification, planning, implementation and mitigation as well as monitoring of the mitigation activities in the sub-projects and main projects activities. The specific objectives of the training included:

- To ensure that key stakeholders understand the ESMF, how to apply it to sub-projects and other activities of KDRDIP;
- To actively involve stakeholders and projects affected communities in the screening of environmental and social aspects of KDRDIP projects from design, planning, monitoring and implementation;
- Domesticating the ESMF to fast track the implementation of the associated subprojects.
- Manage environmentaland manage environmental and social risk during project implementation.

10.2 SCOPE OF THE ESMF TRAINING

While undertaking this study a capacity needs assessment identified requirement to strengthen capacity on social and environmental evaluation, screening, mitigation and monitoring. It was established that knowledge of environmental management of implementing institutions is still inadequate. KDRDIP aims to enhance capacity to enable it have dedicated staff who can follow on social and environmental challenges of the project to ensure maximum benefits.

The capacity building exercise took into consideration the integration and fulfilment of the requirements of World Bank Environmental and Social Safeguards as well as those of Kenya's Environmental Management and Coordination Act (EMCA, 1999) and applicable policies and regulations. The programme involved training directly linked to the implementation of the ESMF as well as training on aspects influencing success of ESMF, and was clustered to cater for various target groups. Topics to be covered included:

- Background of the KDRDIP project – its objectives, target groups and footprints;
- Role of ESMF in implementation of KDRDIP sub-projects;
- EMCA 1999 and relevant environmental regulations;
- World Bank Environmental and Social Safeguards;
- Project screening methods;
- Environmental Impact Assessment (EIA) and Environmental Audit (EA) procedures;
- Project activities and their potential environmental and social impacts
- Development of environmental management/mitigation plans;

- Responsibilities for ESMF implementation, monitoring and reporting;
- Use of Standardized EMPs by Communities
- Stakeholder engagement and GRM

10.3 TARGET GROUPS

The training targeted key stakeholders involved in project interventions. Key stakeholders trained included:

- The Project Coordinating Unit (PCU);
- KDRDIP Community Liaison Officers (CLOs);
- Relevant Officers from implementing agencies including Environmental and Social Safeguards Officers (ESSO), County Environment Officers (CEOs)
- Government agencies responsible for natural resource management in Fisheries, Wildlife Service, Heritage, Forest Services, Regional Development and Water Resources Authority.;
- Community Based Organizations (CBOs), and Non-Governmental Organizations active in subproject areas;
- Representatives of Vulnerable and Marginalized Groups (VMGs) in subproject areas.

The training scope and emphasis vary for the different groups and therefore the need for separation in the training should be observed. In order to integrate existing technical expertise, officers with relevant knowledge and experience in particular fields should be co-opted into the training exercise.

Training Aspect	National Govt	County Govt	Private Sector	NGO/CBO	Community
Role of ESMF in KDRDIP	A	S	S	S	S
Identification of Indicators and data TS 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 S Management policies & guidelines, WB safeguards, implementation and enforcement	T	S	S	S	S
Use and application of ESMF tools T (Screening checklists, ESIA/EIA, 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*

11 ESMF IMPLEMENTATION BUDGET

The ESMF implementation costs outlined here are for activities aimed at ensuring that KDRDIP sub-projects activities align with procedures recommended in this ESMF, and to support a capacity-building program for key actors. This costs are to be included in the sub project budget funds.

Table 13:ESMF Implementation Budget

Mitigation & Amendment of KDRDIP Project Approaches

Activity	Item Description	Total Cost (USD)
Capacity Building on ESMF		
Training Key Stakeholders on ESMF	Training workshop on mainstreaming ESMF and sensitization of key stakeholders (PCU, CM's, TC's ESSO's CLO's CDE's Communities) on their roles in KDRDIP ESMF implementation process.	26,650
EIAs for Component Projects		
KDRDIP sub component.	Undertaking EIAs and submitting reports to NEMA for approval through short term consultancies	300,000
Monitoring by ESSO's and NEMA		
Monitoring and reporting of ESMF implementation	Field visits for project activities monitoring every quarter	26,470
Other Activities		
Compliance of Community projects with ESMF	Activities to comply with EMP's such as waste management, personal protective equipment, laboratory tests among other costs. Short term consultancy to travel to site and carry out project reports	55,300
Annual Audits		
Annual Environmental and Social Review	Hire a consultant to undertake the reviews (2)	85,706
PPE use and training		
Training needs on application and management of pesticides for crops and animal health.	To be conducted by an extension officer from the Ministry of Agriculture and Livestock	10,000
Contractor Induction on Chance find procedures		
Brief training for contractors on chance find procedures prior to mobilization	To be conducted by an officer from the National Museums of Kenya	5000
Total		509,126

12 REFERENCES

Ericksen, P.; Said, M.; de Leeuw, J.; Silvestri, S.; Zaibet, L.; Kifugo, S.; Sijmons, K.; Kinoti, J.; Ng'ang'a, L.; Landsberg, F.; Stickler, M. Mapping and Valuing Ecosystem Services in the Ewaso Ng'iro Watershed; International Livestock Research Institute (ILRI): Nairobi, Kenya, 2011.

Ericksen, P.; Said, M.; de Leeuw, J.; Sylvestri, S.; Zaibet, L. Mapping ecosystem services in the Ewaso Ng'iro catchment. *Int. J. Biodivers. Sci. Ecosyst. Serv. Manag.* 2012, 8, 122-134.

Georgiades, N.J. Introduction: Conserving Wildlife in Kenya's Ewaso landscape. 2011, Smithsonian Digital Repository. Available online: <http://si-pddr.si.edu/jspui/handle/10088/16705> (accessed on 4 December 2012).

Government of Kenya (1999): Environmental Management and Coordination Act, 1999. Nairobi, Government Printer

Government of Kenya, (2009): Kenya Population Census of 2009, Government Printer, Nairobi Kenya.

Turkana County Government (2013) First County Integrated Development Plan, 2013/14 - 2017/18.

Wajir County Government (2013) County Integrated Development Plan, 2013/14 - 2017/18.

Garissa County Government (2013) County Integrated Development Plan, 2013/14 - 2017/18.

GIBB Africa Ltd. Study of the Merti Aquifer Final Report, Volume I – Main Report; GIBB Africa Ltd.: Nairobi, Kenya, 2004.

Swarzenski, W.V.; Mundorff, M.J. Geo-Hydrology of North Eastern Province, Kenya; USGS Water Supply Paper 1757-N; USGS (U.S. Geological Survey): Reston, VA, USA, 1977.

Mutiga, J.K.; Su, Z.; T. Woldai, T. Impacts of agricultural intensification through upscaling of suitable rainwater harvesting technologies in the upper Ewaso Ng'iro North basin, Kenya. *Hydrol. Earth Syst. Sci. Discuss.* 2011, 8, 2477-2501. *Water* 2012, 4

FAO-UNEP, 1977. Assessing Soil Degradation. FAO Soils Bulletin 34, FAO, Rome.

FAO-UNESCO, 1997. Soil Map of the World; revised legend with corrections and updates, ISRIC, Wageningen, 1997.

ADBG, (2009). Socio-Economic Analysis and Public Consultation of Lake Turkana Communities in Northern Kenya: Final Draft Report of African Development Bank Group, chapter 3, pp.64-133.

National Environment Management Authority, Turkana District Environmental Action Plan 2009-2013 www.nema.go.ke/index.php?option=com...turkanapdf...

Enghoff, M. et al (2010), In Search of Protection and Livelihoods: Socio-economic and Environmental Impacts of Dadaab Refugee Camps on Host Communities, Norwegian Refugee Council and Danish Refugee Council, <http://www.ncg.no/novus/upload/file/2010-HostCommunities-Kenya3009.pdf>.

Government of Kenya, BMZ Germany Conflict Sensitive and Food Security Baseline and Household Survey. Dadaab, Fafi and Wajir Districts of Kenya. April 2012.

A publication of the Refugee Consortium of Kenya with the support of the Danish Refugee Asylum Under Threat: Assessing the protection of Somali refugees in Dadaab refugee camps and along the migration corridor. Nairobi. 2012.

ACF International, AECD Dadaab and Fafi Districts Host Community Assessment, Garissa County, North Eastern Province, Kenya. June-August 2012.

Sombroek, W.G., Braun H.M.H. and Van der Pouw B.J.A., 1982. Exploratory Soil Map and Agroclimatic Zone Map of Kenya. Kenya Soil Survey, Ministry of Agriculture, Nairobi. Report No. E1.

Survey of Kenya, 1977. National Atlas of Kenya. 3rd edition., Nairobi.

Emsn-011: Analysis of Environmental Degradation Around Dadaab Refugee Camps, Kenya. Indra, 2014

Polly Ericksen , Jan de Leeuw , Mohammed Said , Silvia Silvestri & Lokman Zaibet (2012) Mapping ecosystem services in the Ewaso Ng'iro catchment, International Journal of Biodiversity Science, Ecosystem Services & Management, 8:1-2, 122-134, DOI: 10.1080/21513732.2011.651487

Fox, J. and Kamau, C. (2013), The Dadaab Dilemma: A Study on Livelihood Activities and Opportunities for Dadaab Refugees. Danish Refugee Council, https://drc.dk/media/1654297/dadaab_livelihood_study_final_report.pdf.

UNHCR (2014), Global Strategy for Safe Access to Fuel and Energy (SAFE), A UNHCR Strategy 2014-2018, <http://www.unhcr.org/530f11ee6.html>.

UNHCR (2015), 'Camp Population Statistics - Dadaab, Kenya', April 2015, [https://data.unhcr.org/horn-of-africa/documents.php?page=3&view=grid&Country\[\]=110](https://data.unhcr.org/horn-of-africa/documents.php?page=3&view=grid&Country[]=110).

Advanced Survey of Groundwater Resources of Northern and Central Turkana County, Kenya. RTI, 2013

13 ANNEXES

ANNEX 1: ENVIRONMENTAL AND SOCIAL SCREENING CHECKLIST

Sub-Projects Screening Checklist (Prototype)

(Sub-projects screening process by benefitting communities/Agencies)

Section A: Background information

Name of County.....	
Name of CSU/Monitoring Officer/Researcher	
Sub-project location.....	
Name of CBO/Institution.....	
Postal Address:.....	
Contact Person.....Cell phone:.....	
Sub-project name.....	
Estimated cost (KShs.).....	
Approximate size of land area available for the sub-project.....	
Objectives of the subproject.....	
.....	
.....	
.....	
Activities/enterprises undertaken.....	
How was the sub-project chosen?.....	
Expected subproject duration:.....	

Section B: Environmental Issues

Will the sub-project:	Yes	No
Create a risk of increased soil erosion?	<input type="checkbox"/>	<input type="checkbox"/>
Create a risk of increased deforestation?	<input type="checkbox"/>	<input type="checkbox"/>
Create a risk of increasing any other soil degradation	<input type="checkbox"/>	<input type="checkbox"/>
Affect soil salinity and alkalinity?	<input type="checkbox"/>	<input type="checkbox"/>
Divert the water resource from its natural course/location?	<input type="checkbox"/>	<input type="checkbox"/>
Cause pollution of aquatic ecosystems by sedimentation and agro-chemicals, oil spillage, effluents, etc.?	<input type="checkbox"/>	<input type="checkbox"/>
Introduce exotic plants or animals?	<input type="checkbox"/>	<input type="checkbox"/>

Involve drainage of wetlands or other permanently flooded areas?	<input type="checkbox"/>	<input type="checkbox"/>
Cause poor water drainage and increase the risk of water-related diseases such as malaria?	<input type="checkbox"/>	<input type="checkbox"/>
Reduce the quantity of water for the downstream users?	<input type="checkbox"/>	<input type="checkbox"/>
Result in the lowering of groundwater level or depletion of groundwater?	<input type="checkbox"/>	<input type="checkbox"/>
Create waste that could adversely affect local soils, vegetation, rivers and streams or groundwater?	<input type="checkbox"/>	<input type="checkbox"/>
Reduce various types of livestock production?	<input type="checkbox"/>	<input type="checkbox"/>
Affect any watershed?	<input type="checkbox"/>	<input type="checkbox"/>
Focus on biomass/bio-fuel energy generation?	<input type="checkbox"/>	<input type="checkbox"/>

If the answers to any of the above is 'yes', please include an ESMP with sub-project application.

Section C: Socio-economic Issues

Will the sub-project:	Yes	No
Displace people from their current settlement?	<input type="checkbox"/>	<input type="checkbox"/>
Interfere with the normal health and safety of the worker/employee?	<input type="checkbox"/>	<input type="checkbox"/>
Reduce the employment opportunities for the surrounding communities?	<input type="checkbox"/>	<input type="checkbox"/>
Reduce settlement (no further area allocated to settlements)?	<input type="checkbox"/>	<input type="checkbox"/>
Reduce income for the local communities?	<input type="checkbox"/>	<input type="checkbox"/>
Increase insecurity due to introduction of the project?	<input type="checkbox"/>	<input type="checkbox"/>
Increase exposure of the community to communicable diseases such as HIV/AIDS?	<input type="checkbox"/>	<input type="checkbox"/>
Induce conflict?	<input type="checkbox"/>	<input type="checkbox"/>
Have machinery and/or equipment installed for value addition?	<input type="checkbox"/>	<input type="checkbox"/>
Introduce new practices and habits?	<input type="checkbox"/>	<input type="checkbox"/>
Lead to child delinquency (school drop-outs, child abuse, child labour, etc.)?	<input type="checkbox"/>	<input type="checkbox"/>
Lead to gender disparity?	<input type="checkbox"/>	<input type="checkbox"/>
Lead to poor diets?	<input type="checkbox"/>	<input type="checkbox"/>
Lead to social evils (drug abuse, excessive alcohol consumption, crime, etc.)?	<input type="checkbox"/>	<input type="checkbox"/>

Section D: Natural Habitats

Will the sub-project:		
Be located within or near environmentally sensitive areas (e.g. intact natural	<input type="checkbox"/>	<input type="checkbox"/>

forests, mangroves, wetlands) or threatened species? <i>NB: If the answer is yes, the sub-project should not proceed.</i>		
Adversely affect environmentally sensitive areas or critical habitats - wetlands, woodlots, natural forests, rivers, protected areas including national parks, reserves or local sanctuaries, etc.)? <i>NB: If the answer is yes, the sub-project should not proceed.</i>	<input type="checkbox"/>	<input type="checkbox"/>
Affect the indigenous and endangered/threatened biodiversity (flora and fauna)? <i>NB: If the answer is yes, the sub-project should not proceed.</i>	<input type="checkbox"/>	<input type="checkbox"/>
Cause any loss or degradation of any natural habitats, either directly (through project works) or indirectly? <i>NB: If the answer is yes, the sub-project should not proceed.</i>	<input type="checkbox"/>	<input type="checkbox"/>
Affect the aesthetic quality of the landscape?	<input type="checkbox"/>	<input type="checkbox"/>
Reduce people's access to the pasture, water, public services or other resources that they depend on?	<input type="checkbox"/>	<input type="checkbox"/>
Increase human-wildlife conflicts?	<input type="checkbox"/>	<input type="checkbox"/>
Use irrigation system in its implementation? <i>NB: If the answers to any of the above is 'yes', please include an ESMP with sub-project application.</i>	<input type="checkbox"/>	<input type="checkbox"/>
SECTION E: Pesticides and Agriculture Chemicals		
Will the sub-project:	<input type="checkbox"/>	<input type="checkbox"/>
Involve the use of pesticides or other agricultural chemicals, or increase existing use?	<input type="checkbox"/>	<input type="checkbox"/>
Cause contamination of watercourses by chemicals and pesticides?	<input type="checkbox"/>	<input type="checkbox"/>
Cause contamination of soil by agrochemicals and pesticides?	<input type="checkbox"/>	<input type="checkbox"/>
Experience effluent and/or emissions discharge?	<input type="checkbox"/>	<input type="checkbox"/>
Export produce? Involve annual inspections of the producers and unannounced inspections?	<input type="checkbox"/>	<input type="checkbox"/>
Require scheduled chemical applications?	<input type="checkbox"/>	<input type="checkbox"/>
Require chemical application even to areas distant away from the focus?	<input type="checkbox"/>	<input type="checkbox"/>
Require chemical application to be done by vulnerable group (pregnant mothers, chemically allergic persons, elderly, etc.)?	<input type="checkbox"/>	<input type="checkbox"/>
SECTION E: Pesticides and Agriculture Chemicals		

If the answer to the above is 'yes', please consult the IPM guideline that has been prepared for the project.

Section F: Vulnerable and Marginalized Groups meeting requirements for OP 4.10

Are there:		
People who meet requirements for OP 4.10 living within the boundaries of, or near the project?	<input type="checkbox"/>	<input type="checkbox"/>
Members of these VMGs in the area who could benefit from the project?	<input type="checkbox"/>	<input type="checkbox"/>
VMGs livelihoods to be affected by the subproject?	<input type="checkbox"/>	<input type="checkbox"/>

If the answer to any of the above is 'yes', please consult the VMGF that has been prepared for the project.

Section G: Land Acquisition and Access to Resources

Will the sub-project:	Yes	No
Require that land (public or private) be acquired (temporarily or permanently) for its development?	<input type="checkbox"/>	<input type="checkbox"/>
Use land that is currently occupied or regularly used for productive purposes (e.g. gardening, farming, pasture, fishing locations, forests)	<input type="checkbox"/>	<input type="checkbox"/>
Displace individuals, families or businesses?	<input type="checkbox"/>	<input type="checkbox"/>
Result in temporary or permanent loss of crops, fruit trees and pasture land?	<input type="checkbox"/>	<input type="checkbox"/>
Adversely affect small communal cultural property such as funeral and burial sites, or sacred groves?	<input type="checkbox"/>	<input type="checkbox"/>
Result in involuntary restriction of access by people to legally designated parks and protected areas?	<input type="checkbox"/>	<input type="checkbox"/>
Be on monoculture cropping?	<input type="checkbox"/>	<input type="checkbox"/>

If the answer to any of the above is 'yes', please consult the mitigation measures in the ESMF, and if needed prepare a (Resettlement Action Plan) RAP.

Section H: Proposed action

(i) Summarize the above:	(ii) Guidance
<input type="checkbox"/> All the above answers are 'No'	<ul style="list-style-type: none"> • If all the above answers are 'No', there is no need for further action; • If there is at least one 'Yes', please describe your recommended course of action (see
<input type="checkbox"/> There is at least one 'Yes'	

below).

(iii) Recommended Course of Action

If there is at least one 'Yes', which course of action do you recommend?

CSU⁸s and CDE will provide detailed guidance on mitigation measures as outlined in the ESMF; and

Specific advice is required from CDE⁹, Lead Officer and CSUs regarding sub-project specific EIA(s) and also in the following area(s)

[type here]

All sub-project applications/proposals MUST include a completed ESMF checklist. The KCSA-CSU and CDE will review the sub-project applications/proposals and the CDEs will sign off;

The proposals will then be submitted to KDRDIP PIU for clearance for implementation by communities in the proposed subprojects.

Expert Advice

The National Government through the Department of Monuments and Sites of the National Museums of Kenya can assist in identifying and, mapping of monuments and archaeological sites; and

Sub-project specific EIAs, if recommended, must be carried out by experts registered with NEMA and be followed by monitoring and review. During the process of conducting an EIA the proponent shall seek views of persons who may be affected by the sub-project. The WB policy set out in OP 4.01 requires consultation of sub-project affected groups and disclosure of EIA's conclusions. In seeking views of the public after

⁸ Project County Coordinating Unit

⁹ County Director of Environment and the County Technical Team

the approval of the sub-project, the proponent shall avail the draft EIA report at a public place accessible to project-affected groups and local NGOs/CSOs.

Completed by: [type here]

Name: [type here]

Position / Community: [type here]

Date: [type here]

Field Appraisal Officer (CDE): [type here]

Signature: [type here]

Date: [type here]

Note:

Project category	Characteristics
A	Full and extensive ESIA/EIA needed- irreversible environmental impacts; impacts not easy to pick or isolate and mitigation cost expensive; ESMP design not easily done; Must have the EIA done and future annual EAs instituted
B	Site specific environmental impacts envisaged; mitigation measures easy to pick, not costly and ESMP design readily done; need an ESIA and future EAs
C	Have minimal or occasionally NO adverse environmental impacts; exempted from further environmental processes save environmental audits

ANNEX 2: GUIDELINES FOR PREPARATION OF INTEGRATED PEST MANAGEMENT PLAN

Integrated Pest Management (IPM) approaches involve control of pest populations through biological control or cultural practices. IPM refers to a mix of ecologically based pest control practices that seek to reduce reliance on synthetic chemical pesticides. It involves:

- Managing pest populations (keeping them below economically damaging levels) rather than seeking to eradicate them;
 - Relying on nonchemical measures to keep pest populations low; and
 - Selecting and applying pesticides, when they have to be used, in a way that minimizes adverse effects on beneficial organisms, humans, and the environment.
- The following options are available as part of IPM for tsetse fly control:

Use of Approved Pesticides

The Bank may finance the purchase of pesticides when their use is justified under an IPM approach. . As per O.P 4.09, this project will restrict the use of formulated products that fall in WHO classes IA and IB, or formulations of products in Class II, if (a) the country lacks restrictions on their distribution and use; or (b) they are likely to be used by, or be accessible to, lay personnel, farmers, or others without training, equipment, and facilities to handle, store, and apply these products properly. The lists of pesticide products authorized for procurement in Kenya as well as the list of banned products and restricted ones are found in the website of the pest control agency, Pest Control Products Board, www.pcpb.or.ke.

Procedures for Safe Use of Pesticides

Most pesticides will cause adverse effects if intentionally or accidentally ingested or if they are in contact with the skin for a long time. Pesticide particles may be inhaled with the air while they are being sprayed. An additional risk is the contamination of drinking-water, food or soil. Special precautions must be taken during transport, storage and handling

Safe use of pesticides involves use of methods that are ecologically effective and pose lowest risk to the human health and the environment. The following approaches are proposed:

Personnel Safety

- Avoid contact with the pesticide by wearing all designated personal equipment. Designated PPE for chemicals include long sleeved shirt & long pants of tightly woven material, Waterproofed boots, goggles, hard hats and unlined nitrile gloves
- Promptly clear all drips and spills
- Keep hands away from eyes and mouth
- Carefully wash hands before eating drinking smoking or visiting toilet
- People who handle pesticides should receive proper training in their safe use.

In case of accidental contact:

- Clean the body parts contacted Immediately, and thoroughly
- Change clothes if necessary
- Apply First-Aid, if necessary
- If pesticide was swallowed, if it has gotten into the eyes, or if the person contacted is showing any symptoms resulting from the contact – get him or her to a doctor immediately

Transportation of Pesticides

- Do not carry pesticides in the passenger compartment of a vehicle;
- Do not carry mixed loads - herbicides need to be carried separately from insecticides from fungicides, etc.
- Tie containers down to avoid bouncing them around.

Storage

- Store pesticides in a separate room from that occupied by people;
- Spray equipment should be regularly cleaned and maintained to prevent leaks;
- Storage area should be locked and access should be strictly limited;
- Pesticides should be stacked separately and, ideally be separated by product type;
- A current inventory should be available at the dispatcher's desk informing of stock levels;
- Hazard warning signage should be accurate.

Environmental Concerns

Where the Bank may decide to fund use of pesticides under the IPM approach, supervision by relevant qualified personnel such from Ministry of Agriculture must be included in the use of such substances. The Material Safety Data Sheets (MSDS) for the applied pesticide should be available to guide the process to ensure environmental safety. The following should also be part of the emergency response plan

- Have in place a spill response plan with contacts of local doctors and emergency response team phone numbers and locations;
- Spill response plan has to be typed, legible and updated, and always available at dispatcher's desk for ready access in the event of an emergency;
- The plan should contain telephone numbers of people to notify and people or organizations who can provide assistance;
- In the event of a spill the three step emergency action is:
 - take care of injured personnel first!
 - Contain the spill;
 - Get appropriate help.
- Update the plan for each ongoing project to include details such as labels & MSDSs of the product in use
- Caution must be taken to avoid drift, leaching, runoff, and other forms of off-site movement
- Spill kit to be on board trucks transporting pesticides.

Disposal

- All obsolete pesticides and empty pesticide containers must be collected in separate receptacles which are properly labeled; and disposed in accordance with the requirements of L.N. 121: Waste Management Regulations, 2006; A NEMA licensed transporter for hazardous waste must be appointed by the project to collect hazardous pesticide waste;

ANNEX 3: CHANCE FIND PROCEDURE

Physical cultural resources (PCR) within Environmental Assessment

The Client addresses impacts on PCR as an integral part of the EA process by undertaking an initial screening, developing terms of reference, collecting baseline data, conducting the impact assessment, and formulating mitigating measures and a management plan for PCR. As part of the public consultations required in the EA process, the consultative process for the PCR component of the project will include relevant project-affected groups, concerned government authorities, and relevant nongovernmental organizations in documenting the presence and significance of PCRs, assessing potential impacts, and exploring avoidance and mitigation options. Normally, the findings of the physical cultural resources component of the EA are disclosed as part of, and in the same manner as, the EA report. However, exceptions to such disclosure would be considered when the Client, in consultation with the Bank and persons with relevant expertise, determines that disclosure would compromise or jeopardize the safety and integrity of the physical cultural resources involved or would endanger the source of information about the PCRs. In such cases, sensitive information relating to these particular aspects may be omitted from the EA report.

The national agency responsible for cultural matters in Kenya is the National Museums of Kenya (NMK).

Prior to commencement of projects in culturally sensitive areas the proponent would contact NMK who would send representatives to review the site and prepare a report. The report would entail advice on professional approach to the proposed works to ensure minimal damage to the encountered items. In the event that chance finds are encountered the following procedure shall apply:

Role of the contractor and Client

- Reporting of chance finds: The contractor or officer supervising the project would report the finds to the local administration such as the local chief or the Assistant County Commissioner;
- The local administration would then report the find to NMK.
- The contractor would report back to client who would notify NMK in the event that further artifacts are encountered
- The client will make budget available for training the contractor and his/her staff and workers on how to go about reporting PCRs and safeguarding these properties until NMK is alerted and further processing of the announcement is made vis-a-vis the formulation and implementation of appropriate avoidance and/or mitigating measures.

Role of NMK

- NMK would temporarily stop the works to conduct an assessment and prepare a report. The period of stoppage is from 10 days to 21 days depending on the complexity of the project; Retrieve movable artifacts and preserve immovable ones;
- NMK would also map out the area to be preserved during the investigation period and arbitrate between the community and developers in the event of dispute;

- NMK to Circulate the cultural impact assessment report to the developer, NEMA, relevant lead agencies and the community.

Measures for Care of Chance Finds

Upon retrieval of movable artifacts and conservation of immovable ones, NMK would proceed with segregation and dating of the artifacts and determination of their significance; Segregated artifacts would be stored in the NMK archeological stores according to their size and dates, and labelled with the geographical area where found; The artifacts may be displayed in an exhibition when required or published to enrich the cultural heritage.

ANNEX 4: GRM PROCEDURES

Grievances may arise from members of communities who are dissatisfied with: (a) the eligibility criteria, (b) community planning measures, (c) approval of CAPs and allocation of funds or (d) actual implementation.

This section sets out the measures to be used to manage grievances. The overall process of grievance handling is as follows;

- Compensation committees including representatives of PAPs will establish the compensation rates.
- During the initial stages of the valuation process, the affected persons are given copies of grievance procedures as a guide/sensitization on how to handle the grievances/sensitization of PAPs.
- The process of grievance redress will start with registration of the grievances to be addressed for reference, and to enable progress updates of the cases.
- The project will use a local mechanism, which includes peers and local leaders of the affected people through committees. These will ensure equity across cases; they eliminate nuisance claims and satisfy legitimate claimants at low cost.
- The response time will depend on the issue to be addressed. Compensation will be paid to individual PAPs only after a written consent of the PAPs is received
- Should a PAP decline the compensation suggested, he/she could appeal to the County project coordinator
- A Compensation Committee (CC) and local Land Control Board at the local level will first revise his/her case.
- Then the CC will draft its inclusions and submit them to the implementing agencies (IAs) for deliberation in the aim of settling the differences.

And when these have failed the individual PAP has the right to take his case to the civil courts for litigation.

In order to deal with the grievance that may rise during the implementation of the RAP, there is need to incorporate a grievance redress process with IAs and with PAPs representative's committee to hear the complaints and provide solutions, and reduce unnecessary litigation by resolving disputes through mediations.

Grievance Redress Process

At the time the individual resettlement plans are approved and individual compensation contracts are signed, affected individuals and homesteads would have been informed of the process for expressing dissatisfaction and to seek redress. The grievance procedure will be simple, administered as far as possible at the local levels to facilitate access, flexibility and open to various scrutiny. The Resettlement sub Committee being a party to the contract would not be the best office to receive, handle and rule on disputes. Therefore, taking these concerns into account, all grievances concerning non-fulfilment of contracts, levels of compensation, or seizure of assets without compensation should be addressed to the County Lands Officer, assisted by the local Land Control Board.

If the verdict rendered by the chief is not acceptable to either the individual affected or the management committee, then the parties in their compensation contract would appeal to a Court of Law as provided for by law, notwithstanding that the grievance redress mechanism accepts that the compensation and resettlement plans will be (contracts) binding under the laws of Kenya.

The grievance redress mechanisms are designed with the objective of solving disputes at the earliest possible time which will be in the interest of all parties concerned and therefore implicitly discourages referring such matters to the Courts which would otherwise take a considerably longer time.

Grievance procedures may be invoked at any time, depending on the complaint. No person or community from whom land or other productive assets are to be taken will be required to surrender those assets until any complaints s/he has about the method or value of the assets or proposed measures are satisfactorily resolved.

All attempts would be made to settle grievances. Those seeking redress and wishing to state grievances would do so by notifying their area chief. The chief will inform and consult with the Resettlement Committee, the IA, the local Land Control Board and PAP and other records to determine a claim's validity. If valid, the chief will notify the complainant and s/he will be settled. If the complainants claim is rejected, then the matter will be brought before the County Land Registrar and local Land Control Board. If the PAP is dissatisfied with their decision, then s/he will be free to seek the determination by a Court of Law as provided in the Constitution. The decision of the High Court would be final and all such decisions must be reached within a full growing season after the complaint is lodged.

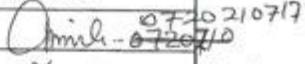
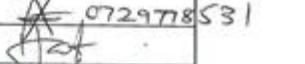
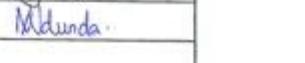
If a complaint pattern emerges, the IAs, the local Land Control Board and the local Chief will discuss possible remediation. The local leaders will be required to give advice concerning the need for revisions to procedures. Once they agree on necessary and appropriate changes, then a written description of the changed process will be made. The IA and the local Land Control Board will be responsible for communicating any changes to future potential PAPs when the consultation process with them begins.

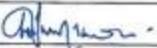
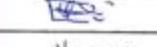
ANNEX 5: LIST OF STAKEHOLDERS CONSULTED

Kenya Development Response to Displacement Impacts Project (P161067)		Stakeholder Consultation Meeting Register			
Technical Assistance to the Executive Office of the President for the Northern Kenya Development Initiative for the preparation of Environmental and Social Management Framework (ESMF) and Resettlement Policy Framework (RPF)		Date	13/12/2016		
		Venue	LOKADO HQ OFFICE		
		Time started	3:30 PM	Time ended	
		Name	Organization	Designation	Email Address
Akron Kenya Peter	LOKADO	Region official	AKKEN@LOKADO.KE	13126863	<i>[Signature]</i>
Paul Esekon	LOKADO		Paul.Keysereka	29779579	<i>[Signature]</i>
EZEKIEL BIDA	LOKADO	Prog. officer	ezekielbida@yahoo.co.uk	13648887	<i>[Signature]</i>
NATALIE NDUNDA	UNHCR	Sr. Environment Assoc.	NDUNDA@unhcr.org		<i>[Signature]</i>
VICTOR EMMUNDI	LOKADO	livelihood officer	victoremundi@gmail	24576528	<i>[Signature]</i>

Kenya Development Response to Displacement Impacts Project (P161067)		Stakeholder Consultation Meeting Register			
Technical Assistance to the Executive Office of the President for the Northern Kenya Development Initiative for the preparation of Environmental and Social Management Framework (ESMF) and Resettlement Policy Framework (RPF)		Date	14 / 12 / 2016		
		Venue	CHIEF'S OFFICE (KAKUMA LOCATION)		
		Time started	15:34	Time ended	
		Name	Organization	Designation	Email Address
JOSHUA E. KIBUYI	UNHCR	Community Liaison	ebonyo@unhcr.org	22423576	
COSMAS NAKHAT	GOV (GOK)	CHIEF-KAKUMA	esigumcosmas@gmail	12909203	
FLUID ESINYEN	ENVIRONMENTAL	E-OFFICER	esinyen2013@gmail	29255277	
CECILIA KALES	ENV. OFFICER-KAKUMA	"	CeciliaKales@gmail	26068337	
KWIKI STEPHEN		YOUTH leader	kwikistephen@yahoo.com	26596091	
ETOT VICTOR SRENTO	D.P.O / INTERIM	INTERIM	etovictor@gmail.com	32806999	
FLORENCE EKITAN	DISASTER PREPARATION OFFICER - T.M.T.G	D.P.O - T.MERT	florenceekitan@gmail.com	23682321	
JOYCE EMWATA	#HOST	CHY	"	21751374	
NATALIE NDUNDA	UNHCR	Gov. Environment Liaison	Ndunanda@unhcr.org	28142807	
HARVEY ARMES	WR CONSULTANT	CONSULTANT	hharv@twidant.com	280050	

Kenya Development Response to Displacement Impacts Project (P161067)		Stakeholder Consultation Meeting Register				
Technical Assistance to the Executive Office of the President for the Northern Kenya Development Initiative for the preparation of Environmental and Social Management Framework (ESMF) and Resettlement Policy Framework (RPF)		Date	Thursday 15/12/2016			
		Venue	Assistant County Commissioners Office - Lokichoggio			
		Time started	10:00AM	Time ended		
Name	Organization	Designation	Email Address	ID No	Signature	
Danson Wairihana	GOK-ODP	ACC - LOKI	mburud83@yahoo.com	22904031		071412646
JAMES OGOLA	GOK-ODP	ACC - NAWAN	jdennisogola@gmail.com	27167169		072583159
Natalie Ndunda	UNITED	Env. Environment Associate	NDUNDA@unitd.org	28742877		
HAROUR ATHMAN	WB	CONSULTANT	hathman@worldbank.org	22000911		
Benson Ekono Eloo	SOPA	Project officer	benson@sopa.or.ke	23290578		
Emmanuel O. Othman	SOPA	Agri. Project officer	emmanuel@sopa.or.ke	29482368		
Jaketha Rugumal	SOPA	Admin officer	jacky.alwasili@sopa.or.ke	10977178		07234086
Gerald Abuya	TADO	Enterprise Manager	gadol@tadok.com	24467092		071417126

Kenya Development Response to Displacement Impacts Project (P161067)		Stakeholder Consultation Meeting Register			
Technical Assistance to the Executive Office of the President for the Northern Kenya Development Initiative for the preparation of Environmental and Social Management Framework (ESMF) and Resettlement Policy Framework (RPF)		Date	16/02/2016 - Friday		
		Venue	Deputy County Commissioner's office - Kakuma		
		Time started	9:30 AM	Time ended	10:45 AM
		Name	Organization	Designation	Email Address
DANIEL KONGERE	DCC TWSO	HRM O. (HQ)	kongeredaniel@gmail	09175138	
RICHARD KIMUTIAH	NGAD ACC - ORPOI	ACC - ORPOI	Kimutiarichard@gmail	24074702 2729778531	
HAROLD ATHUMBA	WR	CONSULTANT	hharold@worldbank.org	2300515	
Natalie Ndunda	UNHCR	Sr. Environmental Assaick	NDUNDANO@unhcr.org	28142847	

Kenya Development Response to Displacement Impacts Project (P161067)		Stakeholder Consultation Meeting Register			
Technical Assistance to the Executive Office of the President for the Northern Kenya Development Initiative for the preparation of Environmental and Social Management Framework (ESMF) and Resettlement Policy Framework (RPF)		Date	16/12/2016 - Friday		
		Venue	Sub County Administrators Office - Kakuma		
		Time started	10:45 AM	Time ended	
		Name	Organization	Designation	Email Address
Lokakwan Simoi	Turkana County	Land Administrator	lokakwan.simoi	24301247	
Jepmah Louduah	Turkana County	enforcement officer	ajepmah@com	14448976	
Eyame degen	Resident	-	-	20039771	
HARVEY ANTON	WB	Consultant	hanton@worldbank.org	2350091	
DAVIDESIVIN	-	-	-	27236308	
EMURIA JOSHUA	Resident	-	EMURIA.joshua@oi.com	31214953	
Natalie Ndunda	UNHCR	Gov. Government Research	NDUNDAN@unhcr.org	28142847	

07144306

Kenya Development Response to Displacement Impacts Project (P161067)		Stakeholder Consultation Meeting Register			
Technical Assistance to the Executive Office of the President for the Northern Kenya Development Initiative for the preparation of Environmental and Social Management Framework (ESMF) and Resettlement Policy Framework (RPF)		Date	19/12/16		
		Venue	Ban Ki Moon Hall 1 VNIER Compound W. DADAAB.		
		Time started	08:00 PM	Time ended	
Name	Organization	Designation	Email Address	ID No	Signature
1	SULEIMAN A.O. / Garissa County govt	Sub-county Admin	Suleyman@yahoo.com	23441201	
2	Abdelmalik Hassan / Dadab	Ward Manager	Sheikhaw10@gmail.com	036266	
3	HUSSEIN M DUAH / Dadab	Ward manager	hussainduaah@gmail.com	12912201	
4	Abdisalam Coradi / Fafi Hos. com	FDce. SICA/FAFI	Abdisalamcoradi@gmail.com	24462346	
5	Mohamed Idnis / Garissa County	Sub-county officer	Idnis mohamed@gmail.com	23989903	
6	Abdulwali Hassan / Fafi Host	FDce	Abdulwali.hassan@gmail.com	25570703	
7	Mutawo Mhamed / Fafi Host	FDce		25326939	
8	MUSSEF DUAH / DADAAB	Security champion		0849993	
9	Idnis G. NOOR / Dadab	DDs Const. Offic	ugadgira@gmail.com	27832277	
10	DEUDA, GABRIEL / World Bank	Consultant	gabrieldeuda@gmail.com	23543747	
11	MARY N. AMUNGO / WORLD BANK	CONSULTANT	maryamungo@gmail.com	3277067	

EAFI
0723090891

Kenya Development Response to Displacement Impacts Project (PI61067)		Stakeholder Consultation Meeting Register			
Technical Assistance to the Executive Office of the President for the Northern Kenya Development Initiative for the preparation of Environmental and Social Management Framework (ESMF) and Resettlement Policy Framework (RPF)		Date			
		Venue			
		Time started		Time ended	
		Name	Organization	Designation	Email Address
DOLA MUKHUNO		DRDIP		F21599657	
ALI BAKUR		DRDIP	hire@unhcr.org	2814220	
Muhammed Gurban	UNHCR	CHD	gurban@unhcr.org	22936139	
Hassan Ahmed	LRS	CONSULTANT	hassan@lrs.org	2322515	
Yusuf Mhamed	H-C	H-C			
Abdullahi Osman	H-C	"			
Hassan Hamud	H-C	"			
Khadid Mhamed	H-C	"			
Osman Mhamed	H-C	"			

Kenya Development Response to Displacement Impacts Project (P161067)		Stakeholder Consultation Meeting Register - CLAN ELDERS				
Technical Assistance to the Executive Office of the President for the Northern Kenya Development Initiative for the preparation of Environmental and Social Management Framework (ESMF) and Resettlement Policy Framework (RPF)		Date	21/12/16			
		Venue	DARFUR WPT. R. SOUTH			
		Time started	10.00	Time ended	12.27	
Name	Organization	Designation	Email Address	ID No	Signature	Contacts
MUHAMMAD MUHAMMAD BASHIR	CLAN ELDERS					070737772
ADEN ABDI GANI	ELDERS					070737772
ISMAEL ABU MUHAMMAD	ELDERS					076632688
ADEN ABDI NIGIR	"			10117653		079778099
MUHAMMAD MUHAMMAD BASHIR	"			1267156		
MUHAMMAD ABDI GANI	"					
MUHAMMAD MUHAMMAD BASHIR	"					

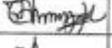
Kenya Development Response to Displacement Impacts Project (P161067)		Stakeholder Consultation Meeting Register				
Technical Assistance to the Executive Office of the President for the Northern Kenya Development Initiative for the preparation of Environmental and Social Management Framework (ESMF) and Resettlement Policy Framework (RPF)		Date	21/12/2016			
		Venue	DARFUR			
		Time started	11:00am	Time ended	12:12pm	
Name	Organization	Designation	Email Address	ID No	Signature	Contacts
1	HIBO Mohamed Abdi	Women	-	-		0795311174
2	HAWA ADAN KEROW	Women	-	1264061		-
3	SAHARA BURELE HUSSEIN	Women	-	9749842		0714589143
4	DOLL OSMAN NOOR	Women	-	27657261		0707713187
5	SHAMISA JELE MAALIM	Women	-	27083253		0716652588
6	HABIBA ALI MAALIM	Women	-	13403844		0703912001
7	HAWA KASSIM SHEKH	Women	-	25481469		0715419124
8	HAMSIHA NOOR MUKHED	Women	-	21645253		0726953720
9	SAADIA ISMAEL AHMED	Women	-	32052836		-
10	GIAMANA JELE	Women	-	24325241		0714071361
11	HALIMA HUSSEIN MAALIM	Women	-	27018672		0728744621
12	DEKA MATHAF-TARE	Women	-	26992144		0729628559

Kenya Development Response to Displacement Impacts Project (P161067)		Stakeholder Consultation Meeting Register					
Technical Assistance to the Executive Office of the President for the Northern Kenya Development Initiative for the preparation of Environmental and Social Management Framework (ESMF) and Resettlement Policy Framework (RPF)		Date	21/12/2016				
		Venue	DARFUR				
		Time started	11:00am	Time ended	12:12am		
Name	Organization	Designation	Email Address	ID No	Signature	Contacts	
13	HALIMA HASSAN DERE	-	Women	-	8495727		0708658488
14	DAHABA KASSIM SHEKH	-	Women	-	25335504		0792161625
15	KALJUMA DEGIOW	-	Women	-	27015160		0718944475
16	SALABA MOHAMMED	-	Women	-	9747759		0797146107
17	MARIAM MOHAMMED	-	Women	-	27016088		0721541312
18	FARHATA AHMED MOHAMMED	-	Women	-	-		0719744834
19	SAHAR ABUKAR	-	Women	-	-		0716247586
	HALIMA AHMED	-	Women	-	-		0719284242
	KHADIJA ABDI	-	Women	-	0055197		-
	KHADIJA ABDI	-	Women	-	20413414		-
	DOFA ABDIKADIR	-	Women	-	22170907		0719844072

Kenya Development Response to Displacement Impacts Project (P161067)		Stakeholder Consultation Meeting Register				
Technical Assistance to the Executive Office of the President for the Northern Kenya Development Initiative for the preparation of Environmental and Social Management Framework (ESMF) and Resettlement Policy Framework (RPF)		Date	21.12.2016			
		Venue	SUB COUNTY OFFICE - JADAAA			
		Time started	15.00	Time ended	15.53	
Name	Organization	Designation	Email Address	ID No	Signature	Contacts
BECHAM ASH SHAI	County Government	Sub-county Govt Officer	ibrowshai@subc...	26735817		0725629707
Mohamed Khis mad	County gov't	sub-county officer	idnismohammed@gmail.com	23989903		0720857895
Hazara Asimen	WBS	CONSULTANT	hazara@wbs.org	23000911		072314418

Kenya Development Response to Displacement Impacts Project (P161067)		Stakeholder Consultation Meeting Register				
Technical Assistance to the Executive Office of the President for the Northern Kenya Development Initiative for the preparation of Environmental and Social Management Framework (ESMF) and Resettlement Policy Framework (RPF)		Date	21/12/16			
		Venue	RRDO offices			
		Time started	16.09	Time ended		
Name	Organization	Designation	Email Address	ID No	Signature	Contacts
Meshaik Sikiin	RRDO	Program Manager	Meshaik.Meshaik	21634022		0727781220
HASAN AHMED	RRDO	Finance officer	@yahoo.com			
GERALD GITAU	RRDO	ENERGY OFFICER	ghassantush@gmail.com	25165858		0722161862
			gerald.choge	3119148		0721321671
			gitau@gmail.com			

Kenya Development Response to Displacement Impacts Project (P161067)		Stakeholder Consultation Meeting Register				
Technical Assistance to the Executive Office of the President for the Northern Kenya Development Initiative for the preparation of Environmental and Social Management Framework (ESMF) and Resettlement Policy Framework (RPF)		Date	22/12/16			
		Venue	ALANJIGUR FAFI SUB COUNTY			
		Time started	10.00 am	Time ended	11.00 am	
		Name	Organization	Designation	Email Address	ID No
Ahmed Yarow						
Hussein Alan						
Yakub Mohamed						0714948551
Barshir Hassan						0700353532
Abd Mohamed				1738524		0706572817
Ahmed Sufat				3518090		0710454904
Ahmed Sheikh Ibrahim				9084424		0711820280
Haret Hudle				0048354		0729880986
Gehi Alan						
Mohamed Hussein				13121096		0705247853

Kenya Development Response to Displacement Impacts Project (P161067)		Stakeholder Consultation Meeting Register				
Technical Assistance to the Executive Office of the President for the Northern Kenya Development Initiative for the preparation of Environmental and Social Management Framework (ESMF) and Resettlement Policy Framework (RPF)		Date	22/12/2016			
		Venue	FAIDA OFFICE - ALLIANTIQUE FMP SUB COUNTY			
		Time started	10:56	Time ended		
Name	Organization	Designation	Email Address	ID No	Signature	Contacts
Hassan Is Farah	FAIDA	Environmental Assisite	Hsfaah@faida.kenya.org	23681403		072211799
Silas Otieno	FAIDA	Environment Officer	Sasaka@faidakenya.org	13828434		072031240

Kenya Development Response to Displacement Impacts Project (P161067)		Stakeholder Consultation Meeting Register					
Technical Assistance to the Executive Office of the President for the Northern Kenya Development Initiative for the preparation of Environmental and Social Management Framework (ESMF) and Resettlement Policy Framework (RPF)		Date	22/12/2016				
		Venue	ALINJUGUR - WOMEN FED - FAFI				
		Time started	10:48	Time ended	12:10 am		
		Name	Organization	Designation	Email Address	ID No	Signature
1	AMINA HASSAN ALI		Women	-	22983302		0714202775
2	KAMAR SHEUKH FARAH		Women	-	-		-
3	NATHEFO HASSAN BARE		Women	-	-		-
4	SALATHO ADEN ALI		Women	-	-		-
5	Ebla HASSAN DICISA		Women	-	-	-	-
6	Ebla ALI AHMED		Women	-	-	-	-
7	FARAH ABUILLAH OMER		Women	-	-	-	0716629672

Kenya Development Response to Displacement Impacts Project (P161067)		Stakeholder Consultation Meeting Register					
Technical Assistance to the Executive Office of the President for the Northern Kenya Development Initiative for the preparation of Environmental and Social Management Framework (ESMF) and Resettlement Policy Framework (RPF)		Date	23/12/16				
		Venue	WESTON HOTEL NAROKI				
		Time started	15.00	Time ended			
		Name	Organization	Designation	Email Address	ID No	Signature
Abdirasman Mohamed	Ministry of Commerce (Chen)	Principal	elmojeren@gmail.com	201142423	[Signature]	07123-65007	
Abdi Gedi Abdi	County govt of Garissa	Principal Liason officer	abdgeda75@gmail.com	13120631	[Signature]	0723552377	

ANNEX 6: Summary of comments from stakeholder consultations	
Turkana West Sub County	
Stakeholder and Venue	Summary of main comments
LOKADO (Local Host Community NGO) Office, Kakuma 1530hrs 13th Dec 2016	Project should support high impact long term projects like construction of vocational institute to provide skills in masonry, welding, mechanic; Support ICT growth in Turkana West; Support water harvesting measures especially in mountainous Mt Moroto area. As environmental degradation is a big concern the project should support capacity building, carry out campaigns, fund tree nurseries, support expansion of green belt zones; Support solid waste management by filling the numerous pits in the refugee camps; Support pastoralists to find good markets for camels; Support projects for aquifer regeneration in Turkana West as the high population of refugees has diminished the water resource
Meeting with Opinion leaders at chief's office Kakuma 1534hrs 14th Dec 2016	<p>Chief - Livelihood before coming of refugees was mainly pastoralism and the main challenges was availability of water, grazing area and livestock diseases. After introduction of refugees there was increase in population. This brought about new diseases, street children and prostitution. Food security is now an issue.</p> <p>County Environmental officer- County government program on environment include; Solid waste management, natural resource management, tree nursery program in all wards. KDRDIP can expand this programs and assist in hazardous waste disposal created by Oil exploration activities.</p> <p>Women representatives - KDRDIP can support agricultural programs by damming the Tarach river flash floods and rock catchment projects near Ugandan border. Currently many interventions focus on bore drilling which is not sustainable. On education KDRDIP can assist in setting up rehabilitation centres for the drug addict youths in Kakuma. On health the project should provide medicine and support equip existing facilities. On girl child mistreatment of host community by refugees, early pregnancy/ marriages is a big problem. The project support should be extended to this group by constructing vocational centres to train them on special skills. On infrastructure the priority should be on the main highway between Kakuma and Lodwar which is a very state. The project should also support peace/sport activities</p> <p>Women Representative - school drop outs due to lack of fees is a big problem and the project should support by providing education funds and empowering women through business enterprise support.</p>
Meeting with Assistant County Commissioners for Lokichigio and Nanam Divisions At Assistant County Commissioner's Office Lokichigio 1000hrs 15th Dec 2016	<p>Biggest problem in Lokichogio and Nanam division is; water scarcity. Most boreholes are dry.; Cattle rustling and conflicts, Pastoralism has become unsustainable due to climate change, cattle raids/ rustling have become more dangerous</p> <p>Ongoing projects; Oil exploration activities conducted by CEPSA; Plans to set up Lotikipi game reserve in Nanam Division on an area covering 3000 square kilometres ;Lapsset corridor planned in Turkana west.</p> <p>Opportunities in the area; Nasinyono irrigation scheme, Lokecherea kupe rock catchment</p> <p>Proposed intervention projects by KDRDIP; Education sector - equip schools, provide infrastructure, employ teachers, build boarding facilities, mobile schools for nomads Health - AIC hospital in Lokichogio lacking equipment; Provision of shed nets instead of greenhouse Livelihood support by constructing slaughter house/abattoirs tanning hides and skins, meat processing</p> <p>Community engagement in project identification through community entry and Kraal based intervention</p>

<p>Meeting with Oropoi Division Assistant Sub County Commissioner at Deputy County Commissioner Office Kakuma 0930 Hrs 16th Dec 2016</p>	<p>Literacy levels are very low in Turkana west county and health facilities in Oloropi and Kalobeyei lack personnel and medicine. KDRDIP funding channel should be direct rather than through treasury</p>
<p>Meeting with Turkana West Sub County Land Administrator At Kakuma County Lands Office 1045hrs 16th Dec 2016</p>	<p>Head land administration office in Turkana West Sub County in charge of Kakuma, Lopur, Letea, Kalobeyei, Lungot, Kokichogio, and Nanam Ward. Deals with approval permits and planning Turkana county has a land allotment policy. Process for land acquisition; Step 1 - request community Step 2 - obtain consent Step 3 - conduct a meeting and pass a resolution to be signed by community representatives Step 4- pay the required fee into exchequer revenue account as per Turkana finance act Step 5 - land survey is carried out and demarcation done Step 6 - allotment letter is issued Currently there is a land regulation bill at Turkana county assembly for adoption. This bill will regulate how residents/ public and private investors can acquire land.</p>
<p>Dadaab, Lagdera, Fafi and Wajir South Sub Counties</p>	

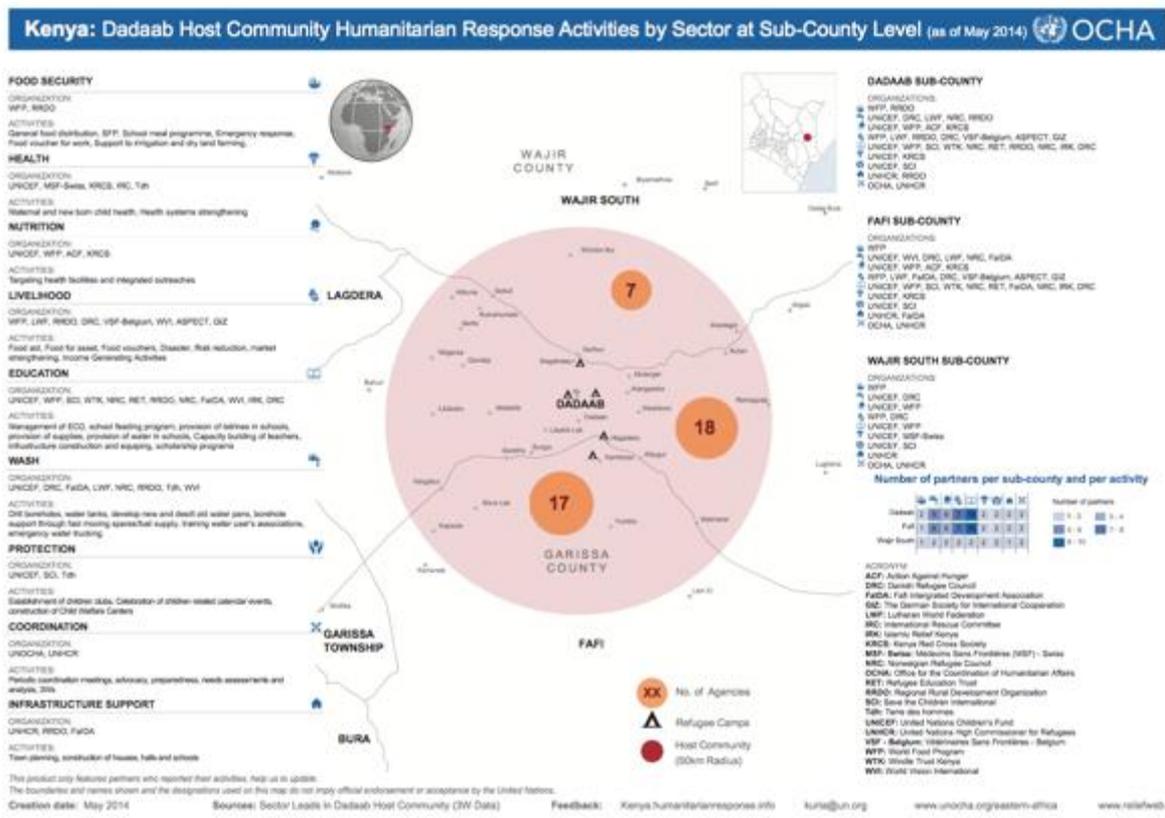
<p>Meeting with Host Community representatives at Banki Moon Hall UNHCR Compound Dadaab 1500hrs 19th Dec 2016</p>	<p>Host communities have hosted the refugees for 25 years. The refugees have caused massive environmental degradation by cutting down trees to produce charcoal for sale to supplement food ration, house construction. Before the refugees there was vegetation cover and wildlife. Refugees have degraded the environment, water resource in the area have been depleted due to the numerous boreholes.</p> <p>Refugees keep large number of livestock leading to competition of the scarce resource. Climate change has brought about constant famine and drought leading to new centres forming along the roads mainly made up pastoral drop outs. Host communities have registered as refugees, IDPS, with no purchasing power, no shelter, school dropouts, radicalization. The road to Garissa is getting unmotorable due to damage caused by the heavy trucks supplying relief food to the refugee camps.</p> <p>The host community have lost their livelihood leading to conflicts insecurity and pastoralist drop outs.’</p> <p>Refugees are a burden to the host communities</p> <p>Priority projects by KDRDIP;</p> <p>The funds should come through local implementing partners for it to be community driven and not the national government to avert corruption and mismanagement.; Infrastructure upgrade is the priority number 1 The project should divert the funds on upgrading to bitumen standards of the Garrisa to Liboi A3 road.</p> <p>Dry land farming; Millennium project; Irrigation farming; Social programs; Cash transfers</p> <p>On Repatriation; Repatriation will be stopped if Kenyans registered as refugees are not removed from database. There is protracted game between Jubaland and Kenyan government as the jubaland administration will demand facilities. The community also feel discrimination as non-Somali refugees are moved to Kakuma.</p> <p>Post repatriation task force through department of intergovernmental affairs with mandate of post repatriation plans; Rehabilitation, Camp clean-up, Land asset subcommittee Handover to host community Latrines back fill; National government to provide security for facilities like schools and health centres against vandalism. KDRDIP should start as soon as possible to ease tension between host and refugees</p>
<p>Meeting with Kadhi (Judicial officer Kadhis court) Dadaab 1000hrs 23rd Dec 2016</p>	<p>Role of Kadhi;</p> <p>Administers marriages and divorce, inheritance matters, and mediation in the Dadaab area covering all the refugee camps</p> <p>Many cases of intermarriage between refugee and host community. Repatriation will impact these families and may lead to divorce and children cases and family disintegration</p> <p>On repatriation of refugees is not voluntary as the government has given deadlines and this is forceful eviction.</p> <p>Locals registered as refugees because of hunger. If the Kenyan government has looked after its own people, then there will no Kenyans in refugee database.</p> <p>On pastoralism people no longer care about pastoral life and majority have settling in sedentary lifestyle due to environmental degradation and poverty.</p> <p>There are more divorce cases due to drug abuse, poverty and cultural erosion</p> <p>Women bear the most burden after divorces and become vulnerable because mostly they are left with the children</p>

<p>Meeting with Garissa County Community Liasion Officer at Weston Hotel Nairobi 1500 Hrs 23rd Dec 2016</p>	<p>The 50km host community radius is a wrong measure of host community affected by the refugee crisis Refugees have caused massive environmental degradation to the fragile ecosystem area where the camps are located mainly due to overstocking, overgrazing, destruction of vegetation for charcoal production, fencing, and construction of shelters Refugees have better opportunities when compared to host community as they enjoy free health care, free water, free education and free food. Refugees also have businesses and get remittances from their relative abroad. Refugees buy goods without taxes and trade with relatives from Somalia. This creates inequality and pulls the host communities to the camp. High expectation from the host community for compensation when refugees are repatriated KDRDIP intervention areas should be on areas where there is need and not settlements. DRC livelihood projects have better level of trust among the host community National level functions and county level functions for the KDRDIP should be closely monitored and evaluated. KDRDIP should not focus on political interests by MPS KDRDIP livelihood component can be best implemented by DRC and environmental component can be implemented by red cross On Repatriation; Repatriation should be done voluntary and in a humane manner without timetables and deadlines. Plans for mitigation measures and restoration should go hand in hand with repatriation programme.</p>
---	--

<p>Meeting MP for Dadaab Mohamed Dahir Duale at Savannah Café Nairobi 0830 hrs 12th Jan 2017</p>	<p>KDRDIP possible support areas; Restoration and rehabilitation of the highly degraded environment in Dadaab Constituency. Support education by equipping and staffing of existing of schools Support creation of vocational training institutes Refugees keep huge number of livestock competing with host community livestock's leading to overgrazing. Livelihood support for host communities may reduce over dependence on pastoralism If refugees are repatriated the huge infrastructure investments within the camps should be handed back to relevant authorities, the project should support continuity of services offered by this facility to the host communities On repatriation of refugees Kenyans who have registered as refugees may opt to continue residing within the camp On KDRDIP implementation the structure should include civil society organization local NGOs county government On mineral resources in Dadaab Constituency there are huge deposits of good quality gypsum at Saredo and Hagarbur On wildlife and protected areas: there are no protected areas but wildlife is present in the constituency and there many reported cases of wildlife conflicts in the areas mainly hyenas attacking livestock.</p>
<p>Meeting with Garisaa county Governor Nadhif Jama at Lilian Towers Nairobi on 12th Jan 2017 1100 hrs</p>	<p>Refugees have been a burden to the host community for over 25yrs. Previously Dadaab was an area covered with dense vegetation but refugees have cleared this leaving the land bare. KDRDIP should invest in restoration and rehabilitation of the environment especially around refugee camps. Water resource utilization on the shared Ewaso Nyiro catchment is not sustainable, the population leaving in the lower catchment are receiving less due to over abstraction in the upper catchment zones for irrigation and horticultural farming. This is illegal and WARMA has no capacity to monitor this. KDRDIP project will be allocated land for projects within the county. Proposed project support areas; Construct water pans in the drought affected Lagdera sub county as the groundwater is saline Drill boreholes in Dadaab as the water is not saline. Support education for the girl child Support construction of technical institutes</p>

<p>Meeting with MP for Wajir South Constituency at Panafric Flame tree restaurant on 13th Dec 2016 0800hrs</p>	<p>Wajir Sub-county is one the largest sub counties in Kenya onl. Main problems in the sub county include; water scarcity, health personnel, Borehole management is facing management challenges due to corruption and mismanagement by the WUAs, the project can support digging water pans as they have less management requirements. Water pans can be done in grazing areas, stock routes and along laggas. KDRDIP can also support urban water distribution and sanitation in Habaswein town On health sector the project can fund equipping of health by supporting employment of personnel and provision of drugs and equipment. On education the project can support staffing, water connection to schools and provision of books and stationeries On livelihood support the index based livelihood insurance uptake has been very low due to lack of awareness the project can support its sensitization. On proliferation of new settlement. Pastoralism as a way of living is not sustainable and most pastoralists are now opting to settle down in areas where they can get access to services. The project can support livestock breeding to have better milk meat producing breeds. The project can also support veterinary services like tick control The project can also support agricultural projects around new settlement as a livelihood support for ex Injir farm in Habaswein Local industry supports like gam Arabica harvesting, bee keeping and fuel efficient stoves Skill training support by constructing vocational institutes. The project should also support setting up of renewable energy centres in new settlements.</p>
--	--

ANNEX 7: NGOS OPERATING IN DADAAB



ANNEX 8: NEMA NOTICE ON REVIEW OF PROCESSES AND LEVIES

SPECIAL ISSUE

2549

Kenya Gazette Supplement No. 137

19th August, 2016

(Legislative Supplement No. 63)

LEGAL NOTICE NO. 149

THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT

(No. 8 of 1999)

IN EXERCISE of the powers conferred by section 147 of the Environmental Management and Coordination Act, 1999, the Cabinet Secretary for Environment, Natural Resources and Regional Development Authorities makes the following Regulations—

THE ENVIRONMENTAL (IMPACT ASSESSMENT AND AUDIT) (AMENDMENT) REGULATIONS, 2016

1. These Regulations may be cited as the Environment (Impact Assessment and Audit) (Amendment) Regulations, 2016. Citation.

2. Regulation 9 of the Environmental (Impact Assessment and Audit) Regulations, 2003, in these Regulations referred to as the "principal Regulations" is amended— Sub-leg.

(a) in sub-regulation (1)—

(i) by deleting the word "seven" and substituting therefor the word "five";

(ii) by deleting the words "twenty one" and substituting therefor the word "fourteen" in paragraph (c);

(b) in sub-regulation (2) by deleting the words "thirty" and substituting therefor the word "fourteen".

3. Regulation 10 (1) of the principal Regulations is amended by deleting the words "forty-five" and substituting therefor the word "thirty".

4. The principal Regulations are amended by deleting the Fifth Schedule and substituting therefor the following new Schedule—

FIFTH SCHEDULE

FEEES

1. Application for registration as an Environmental Impact Assessment/Audit expert

Category	Citizen (KSh.)	Non-Citizen (KSh.)
(a) Associate expert	4,000	12,000
(b) Lead expert	6,000	18,000
(c) Firm of experts	10,000	30,000

ANNEX 9: GENERAL ENVIRONMENTAL AND SOCIAL MITIGATION PLAN

Impacts	Mitigation Measures	Responsibility	Time Frame		
			ST	MT	LT
Physical Environment					
Waste disposal	<ul style="list-style-type: none"> • Provision of waste receptacles and facilities • Separation of waste at source • Training and awareness on Safe Waste Disposal in construction camps for all workers • NEMA approvals on final waste disposal • Collection and temporal storage of Waste oil /fuel from vehicles and equipment. • Contract NEMA approved waste collector & transport • Waste oil disposal by NEMA approved oil marketing companies or agents. 	Beneficiary Community Members, County Governments, NGOs , CBO's, Community Members, NEMA, Ministry of Environment and Natural Resources, Research Institutions, KDRDIP.	✓		
Air pollution	<ul style="list-style-type: none"> • Operation of well-maintained machineries by the contractors. • Routine maintenance program for all equipment and machineries on site. • Use of good quality fuel and lubricants only. • Wetting of operational sites to reduce dust raising 	Beneficiary community Members, NEMA, County Government, National Government National Government, NGOs, CBOs, Contractors, Research Institutions, Community Members, KDRDIP		✓	
Noise and vibration	<ul style="list-style-type: none"> • Maintaining daytime working hours (8am to 7pm). • Use well-conditioned and maintained equipment and vehicles with some noise suppression equipment (e.g. mufflers, noise baffles) intact and in working order. • Ear covers for noise level control • Ensure contractual agreements with the construction contractors on noise and vibration mitigation. • Implementation of best driving practices when approaching and leaving the site (speed limit of ≤30 km/hr) to minimize noise generation. • Switching off Engines of vehicles/trucks and earth-moving equipment and other machineries when not in use. 	Beneficiary community Members, Ministry of Environment & Natural Resources, NEMA, Ministry of Public Works, Department of Physical Planning, Ministry of Roads & Transportation, KDRDIP. County Government	✓		

Interference with the visual landscape	<ul style="list-style-type: none"> • Landscape installation after construction and restoration of disturbed areas e.g. borrow pits for visual aesthetics • Rehabilitation of degraded sites 	Beneficiary community Members, County Government, National Government, Ministry of Environment and Natural Resources, NEMA, Department of Physical Planning, KDRDIP, CBOs, NGOs.			✓
Uncontrolled water use	<ul style="list-style-type: none"> • Issuance of water abstraction permits from the relevant authorities. • Judicious use of water 	Beneficiary community Members, Water Resources Management Authority (WRMA), Ministry of Water and Irrigation, NEMA, Ministry of Environment & Natural Resources			✓
Water pollution	<ul style="list-style-type: none"> • Banning of garbage/refuse, oily wastes, fuels/waste oils into drains or onto site grounds • Proper securing of fuel storage tanks/sites to contain any spillage • Complying with water quality regulation • Maintenance and cleaning of vehicles, trucks and equipment far from project sites or close to water bodies. • Adequate provision of Toilet facilities at the construction sites avoids indiscriminate defecation. • Application of Integrated Pest Management Plan (IPMP) where necessary. 	Beneficiary community Members, County Government, Ministry of Environment & Natural Resources, WRMA, Research Institutions, Ministry of Roads & Transport, NEMA, Ministry of Public Health & Medical Services, KDRDIP.		✓	
Soil and Land Degradation	<ul style="list-style-type: none"> • Minimal land clearing • Rehabilitation of degraded areas • Minimal construction work during rainy season 	Beneficiary community Members, County Government, KFS, Ministry of Public Works, NEMA, Ministry of Environment and Natural Resources, KDRDIP. County Government			✓
Interference and destruction of Faunal habitats	<ul style="list-style-type: none"> • Avoidance or minimal disturbance on sensitive habitat areas. • Regular inspection and monitoring on identified or suspected sensitive habitats (swamps/ wetlands), 	National Government, KWS, KFS, NEMA, Ministry of Environment and Natural Resources, WARMA, relevant NGOs & CBOs,			

	<p>prior to start and during work.</p> <ul style="list-style-type: none"> • Species assessment 	KDRDIP.			
Contamination of inland water bodies and destruction of aquatic lives and habitats.	<ul style="list-style-type: none"> • Implementation of a hazardous materials management plan by the contractor for the proposed investments. • Identification of sensitive aquatic mammals during pre-installation and installation of project facilities. • Execution of mitigation measures upon discovery of these species in the vicinity of the work area to avoid destruction or disturbance. • Provision for water flow reserves and appropriate reservoir filling schedules • Immediate reporting of any injured or dead aquatic life during project operations including the date and location and the description of the animal/strike. • Availing the above report to the NEMA or KWS. • Educating the Project workforce and local communities on the project to ensure environmental protection and conservation. • Compliance with wetland regulation 	NEMA, County Government, National Government, Ministry of Agriculture livestock & fisheries, WARMA, Ministry of Environment & Natural Resources, KWS, KFS, KEFRI, Ministry of Information, Communication and Technology, Ministry of Lands and Physical Planning, KDRDIP.			✓
Loss of employment and livelihoods	<ul style="list-style-type: none"> • Assisting the affected through livelihood assistance and provision of new jobs to avoid interrupted income flow. • Use of local labour as much as possible and where available. • Compliance with labour & employment law 	Beneficiary community members, Ministry of Agriculture, Livestock & Fisheries, County Government, National Government, Ministry of Lands and Physical Planning Department, KDRDIP.	✓		
Land and property loss	<ul style="list-style-type: none"> • Due process should be followed to establish the true owner of any land, be it family or communal land. • Proper valuation of properties to be lost. • Community land donation or asset contribution in accordance with an established protocol (e.g. Annex 3) • Appropriate compensation of acquired land in accordance with the resettlement policy framework (RPF) and RAP , ARAP 	Beneficiary community members, GoK, Ministry of Agriculture, Livestock & Fisheries, County Government, Ministry of Lands and Physical Planning, KDRDIP.	✓		

<p>Impacts on human health/ traffic safety and sanitation</p>	<ul style="list-style-type: none"> • Proper covering of trucks carrying construction materials with polythene material from or to project site. • Use of road worthy vehicles/trucks should be used on sites with qualified and experienced drivers. • Marking of active construction areas with high-visibility tape or fence to reduce the risks and accidents involving pedestrians and vehicles. • Immediate backfilling of open trenches and excavated areas as soon as possible after a construction. • Securing of open trenches and excavated areas to prevent pedestrians or vehicles from falling in. • Availing adequate sanitary facilities for workers and open range defecation will not be countenanced. • Provision of protective equipment to the construction workers and necessary education on suitable Personal Protective Equipment. • Enforce use of PPEs for all workers to minimize accidents • Strict adherence to basic rules with regard to protection of public health such as proper hygiene and disease (HIV/ AIDS) prevention. • Occupational safety 	<p>Beneficiary community members, Ministry of Health, Ministry of Roads and Transport, County Government, Contractors, Physical Planning Department, NEMA, Ministry of Public Health, OHS department KDRDIP.</p>	<p>✓</p>		
<p>Erosion and interference of cultural heritage / archaeological interest / existing ecologically sensitive areas</p>	<ul style="list-style-type: none"> • Carrying out re-construction surveys to identify and document cultural heritage resources and existing ecologically sensitive. • Implementation of a chance find procedure and reporting system by contractors upon encountering a cultural heritage feature or ecologically sensitive item/ issue. • Delineation and gazettement of ESA & heritage sites • Awareness creation • Archaeological assessment and documentation • Comply with Heritage Act 	<p>Beneficiary community members, Ministry of Gender and Social Service, Ministry of Environment & Natural Resources, NEMA, NMK, Ministry of Agriculture, Livestock & Fisheries, Ministry of Public works, Relevant CBOs & NGOs KDRDIP.</p>			<p>✓</p>

Impacts on public safety	<ul style="list-style-type: none"> • Implementation of an Environmental, Health and Safety (EHS) plan being that of contractual agreement by the contractors in order to outline procedures for avoiding health and safety incidents and for emergency medical treatment. • The EHS Plan will be prepared by the Contractor and submitted to the Supervising Engineer for approval by the main implementing agency prior to start of works. • Wearing of suitable Personal Protective Equipment (PPE) by contractors in accordance with the EHS plan. • Enforcement of use of PPEs by all to minimize accidents. • Sufficient training to all contractors and workers on safe methods pertaining to their area of work to avoid injuries. • Sensitization sessions for the communities to enhance their understanding of the risks related to construction. 	Beneficiary community Members, Ministry of Public Health and Medical Services, Ministry of Lands & Physical planning, Ministry of Agriculture, Livestock & Fisheries, County Government, KDRDIP, NGOs, CBOs, Financial institutions.		✓	
Labour related issues	<ul style="list-style-type: none"> • Preparation of redundancy plans and packages for the affected workers which will include re- training and re- tooling of the affected and avoidance of labour strife. • Avoid child labour • Compliance to labour laws and regulation • Information on rights • Safe and healthy working condition • Equity • Right to association • GRM for employee • Worker protection 	GoK, Ministry of Gender and Social Services, Ministry of Agriculture, Livestock & Fisheries, Ministry of Labour, NGOs, CBOs, KDRDIP. Contractor , County government	✓		
Waste pollution from construction camps	<ul style="list-style-type: none"> • Preparation of site specific Waste Disposal Plan. • Strategic installation of waste disposal receptacles and signs within the construction camps. • Provision of training and awareness on clean 	County Governments, Ministry of Agriculture, Livestock & Fisheries, Ministry of Environment and Natural		✓	

	<p>environment.</p> <ul style="list-style-type: none"> • Provision of adequate toilets and efficient sewer system within construction camps • 3 R s (reduce, reuse, recycle) 	Resources, WARMA, NEMA, Ministry of Public health and Medical Services, KDRDIP.			
Impact on gender access to water for household use and household plots	<ul style="list-style-type: none"> • Consideration of diverse needs for water and accessibility modes to be effected for each groups. • Recommendation of appropriate mitigation measures for the affected. • Recommendation of group specific appropriate measures to specific impacts as per the project's specific social assessment. • Improve access to safe and clean drinking • Improve quality of Water resources / • Making water affordable 	Beneficiary community Members, Ministry of Gender and Social Services, Ministry of Labour, Ministry of Water & Irrigation, WRMA, NGOs, CBOs, Ministry of Agriculture, Livestock and Fisheries.			✓
Impact of gender access	<ul style="list-style-type: none"> • Improve access to water for domestic use in pastoralist • Segregate water for watering livestock & domestic • Improve access to benefits from livestock 	NDMA, County Government, WRMA, National Government, NGOs and CBOs, Cooperatives, organizations. Service Providers and Private Sector			
Impacts on vulnerable and marginalized groups	<ul style="list-style-type: none"> • Identification and profiling of vulnerable and marginalized groups through Vulnerable and Marginalized Groups Framework (VMGF). • Designing of investment specific plans targeting VMGs 	Beneficiary community Members, Ministry of Agriculture livestock & fisheries, County Government, Ministry of Labour, Relevant NGOs & CBOs, Private financial institutions, KDRDIP.		✓	
HIV/AIDS prevalence Spread and other related public health diseases – Water borne diseases and other communicable diseases etc.	<ul style="list-style-type: none"> • Designing and conducting of HIV/AIDS awareness, sensitisation and prevention program for each project with the entire community coverage. • Designing of programs targeting reduction of the spread of water borne diseases in collaboration with Ministry of Health 	Beneficiary community Members, Ministry of Agriculture livestock & fisheries Ministry of Devolution and Planning, County Government, Ministry of Public Health and Medical Services, NEMA, Ministry of Water and Irrigation, WARMA, Ministry of Public Works, Relevant CBOs & NGOs, Research Institutions,			✓

		KDRDIP.			
Downstream Impacts of dams, dykes and weirs and other water infrastructure e.g. irrigation investments, bulk water supply,	<ul style="list-style-type: none"> • Maintenance of environmental flow reserves for the river to 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 Proper designing of dams by qualified personnel; • Instituting dam safety panel and development of a dam safety plan. • Catchment conservation activities • Proper Standard Operation Procedures for operation and maintenance for infrastructure 	Ministry of Environment & Natural Resources, Ministry of Water and Irrigation, WARMA, Ministry of Agriculture livestock & fisheries, Ministry of Devolution and Planning, County Government, Ministry of Public Works, Research Institutions, Financial institutions, NGOs, CBOs, KDRDIP.NEMA			✓
Impacts on community employment, skills and knowledge	<ul style="list-style-type: none"> • Prioritization of local communities in matters of employment and training (skilled) to for sustainable work force in the project e.g. operation and maintenance 	Beneficiary community Members, Ministry of Labour, Ministry of Agriculture, Livestock & Fisheries, Ministry of Devolution & Planning, County Government, CBOs, NGOs, KDRDIP.			✓
Fruit and vegetable products can become contaminated through: Contaminated raw products having been received from the farm, chemical residues, and from contamination of other raw ingredients e.g. dioxins, pesticides; Poor food hygiene standards within the processing operations, e.g. unclean machines, unhygienic	<ul style="list-style-type: none"> • Implement a food safety Program to improve food hygiene standards in accordance with Kenyas national food safety policy. • Minimise storage time for raw materials to reduce losses from decay and consider use of enclosed/covered storage to prevent damage to materials stored outdoors and emissions of dust and odour; 	Beneficiary community Members, Ministry of Labour, Ministry of Agriculture livestock & fisheries, Ministry of Devolution & Planning, County Government, CBO's, NGO's, KDRDIP.			✓

handling; Failure in the processing operation, e.g. under cooking, failure to maintain chilled conditions, sterilisation failure, and poor seals on vacuum packs etc.					
---	--	--	--	--	--

ANNEX 10. DEVELOPMENT AGENCIES IN TURKANA WEST SUB COUNTY

Organization	Thematic Areas	Summary on Areas of interest
Turkana Pastoralist Development Organisation (TUPADO)	<ul style="list-style-type: none"> • Peace building and conflict resolution • Livestock marketing • Reproductive health • Water program 	<ul style="list-style-type: none"> • Peace building and conflict mitigation tied with natural resource management in Turkana County. • Strengthening livestock marketing majorly in Turkana west at Lopur; Kakuma; Lokichogio and also involves development of the associated infrastructure. • Behaviour change communication in reproductive health in Turkana County • Water harvesting especially dams and shallow wells.
Lotus Kenya Action For Development (LOKADO)	<ul style="list-style-type: none"> • Peace building • Development Projects 	<ul style="list-style-type: none"> • Promotes Peace building and ensures fair governance in Turkana County • Implements projects on energy and environment
Friends of Lake Turkana	<ul style="list-style-type: none"> • Conservation and protection of Lake Turkana • Land advocacy • Research • Environmental conservation policies 	<ul style="list-style-type: none"> • The organization undertakes activities to ensure conservation and protection of Lake Turkana. • Advocating for land for the community. • Engaging in research on issues affecting the Turkana Basin and advising the community on the environmental conservation policies.
V.S.F Germany	<ul style="list-style-type: none"> • Pastoralist Development Projects 	<ul style="list-style-type: none"> • Offers veterinary services • Provision of potable water to the residents and livestock • Provision of food and food vouchers to the locals.
Saint Peters Community Network (SAPCONE)	<ul style="list-style-type: none"> • Peace building • Fair governance • Environmental conservation 	<ul style="list-style-type: none"> • Peace building, conflict mitigation and fair governance in Turkana County. • Environmental conservation where they engage in tree planting.
Diocese of Lodwar	<ul style="list-style-type: none"> • Bursary program • Nomadic program • Water and irrigation program 	<ul style="list-style-type: none"> • The organization has partnered with Tullow and the County Government to assist in allocation of bursary funds in schools in Turkana County. • Initiated a nomadic program which is meant to assist pastoralists in the area. • Water and Irrigation program which include drilling of boreholes and constructing hand pumps.
MADICO Project	<ul style="list-style-type: none"> • Education • Development Projects 	<ul style="list-style-type: none"> • Focuses on the Girl child education and HIV/ AIDs awareness programmes

Organization	Thematic Areas	Summary on Areas of interest
		<ul style="list-style-type: none"> • Deals with Sanitation by offering sanitary towels to the girls • Educates on food security programmes to the people
Windle Trust Kenya	<ul style="list-style-type: none"> • Education 	<ul style="list-style-type: none"> • Provide , promote and help in coordinating of quality education mostly for the needy Kenyans and refugees communities
Child Fund Kenya	<ul style="list-style-type: none"> • Sponsorship Program, Health and Nutrition Program • Education • Water and Sanitation Program • Livelihood Development • Irrigation Program • 	<ul style="list-style-type: none"> • Sponsorship program is the main source of revenue for the organization. Health and nutrition programs during emergencies. • Education program helps improve infrastructure in schools, such as provision of water and sanitation facilities, school bursaries, construction of classrooms, latrines, and dormitories for the girl child. • Irrigation program helps communities create their own assets through a sub program called Food for Assets such as rain water harvesting and creating water pans.
International Organization for Migration	<ul style="list-style-type: none"> • Refugee safe migration • Peace building initiatives • Livelihood development • 	<ul style="list-style-type: none"> • Ensure safe settlement of refugees. • Peace building initiatives; IOM together with five other organizations (UNICEF, ILO, WHO, FAO and UNDP) have been funded to help with peace building in the area. • In addition, IOM deals with livelihood development and human trafficking
IGPAF, ELIZABETH GLASER PAEDIATRIC	<ul style="list-style-type: none"> • Paediatric HIV Program • HIV/ AIDS program 	<ul style="list-style-type: none"> • Elimination of Paediatric HIV • Supporting the government in the implementation of HIV/ AIDS programs in the community
Help Age International	<ul style="list-style-type: none"> • The organization mainly targets the elderly in the community. 	<ul style="list-style-type: none"> • The organization offers emergency services during droughts and flooding and also healthcare for the immune compromised, and social protection for the elderly.
United Nations High Commissioner for Refugees (UNHCR)	<ul style="list-style-type: none"> • Protection to the refugees 	<ul style="list-style-type: none"> • Safeguarding the rights and well-being of refugees • They are mandated to lead and co-ordinate international action to protect refugees and resolve refugee problems worldwide