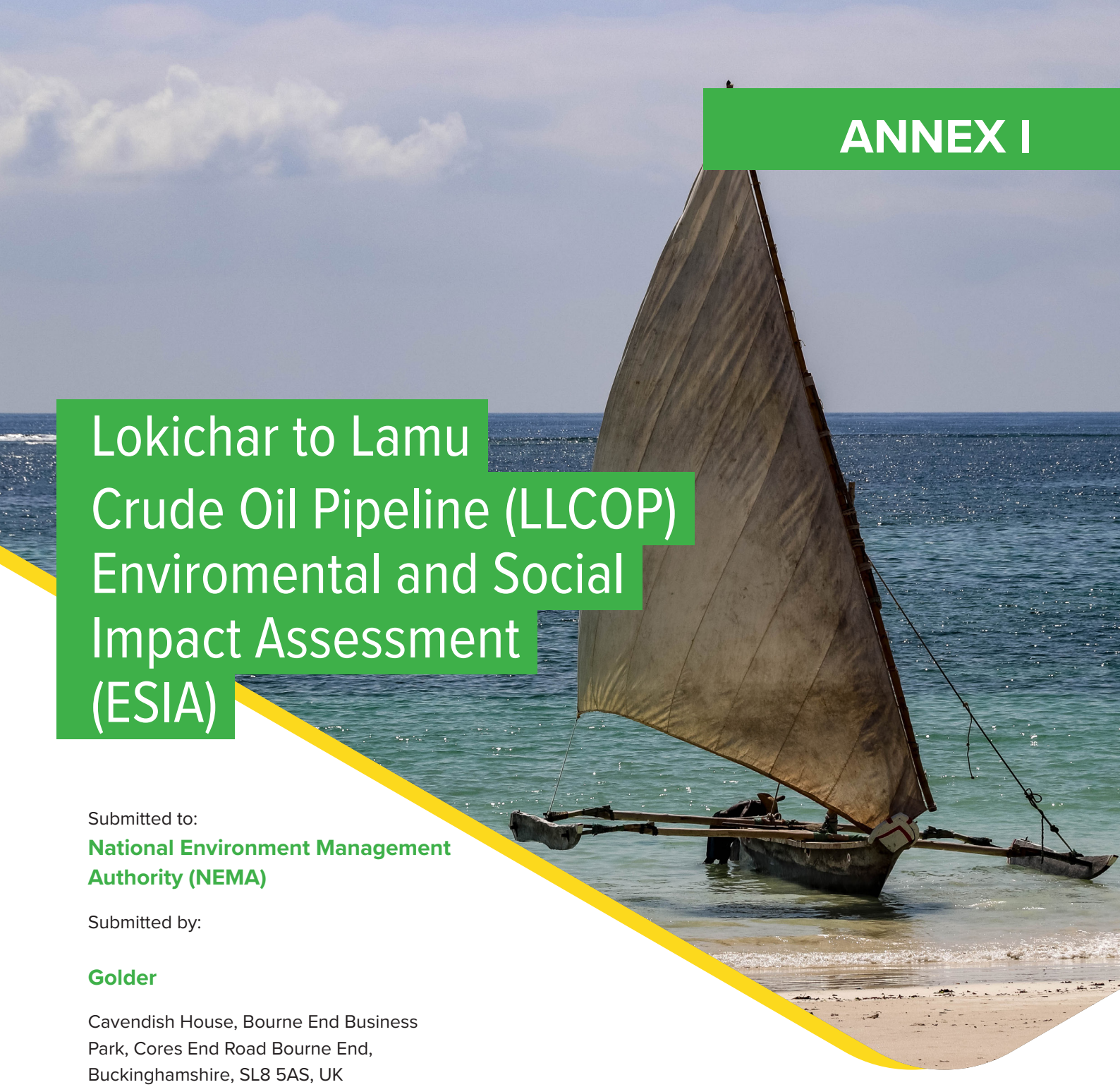


ANNEX I

Lokichar to Lamu Crude Oil Pipeline (LLCOP) Enviromental and Social Impact Assessment (ESIA)

Submitted to:

National Environment Management Authority (NEMA)

Submitted by:

Golder

Cavendish House, Bourne End Business Park, Cores End Road Bourne End, Buckinghamshire, SL8 5AS, UK

+44 (0) 1628 851851

ESF Consultants

Woodlands Office Park, 1C Suite 1st Floor, Woodlands road, Off Lenana Road. P.O.Box, 7745-00100, Nairobi, Kenya.

+254 (0) 20 3876512

October 2019

1772867.554.A1

GOLDER

ESF Consultants
Environmental Management Consultants

ANNEX I

A Project Standards

B Scoping Report and Terms of Reference

ANNEX I

Signature Page

James Kambo

NEMA EIA Lead Expert

(Registration No. 0713)

ESF Consultants

Tim Flower

Technical Director

Golder Associates (UK) Ltd

11 October 2019

ANNEX I

Project Standards

A

REPORT

Lokichar to Lamu Crude Oil Pipeline Project ESIA

Project Standards

Submitted to:

PPMT

Submitted by:

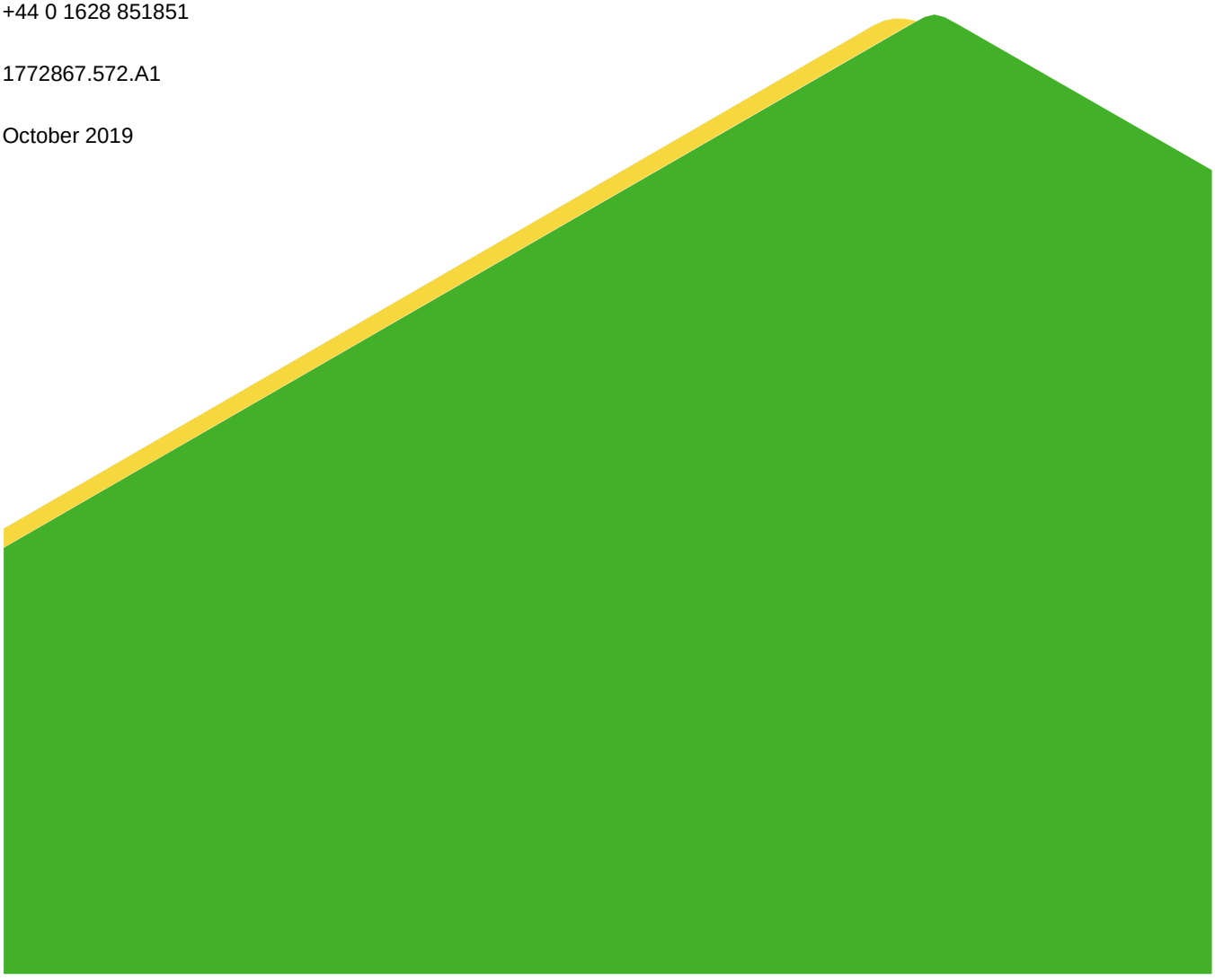
Golder Associates (UK) Ltd

Cavendish House, Bourne End Business Park, Cores End Road,
Bourne End, Buckinghamshire, SL8 5AS, UK

+44 0 1628 851851

1772867.572.A1

October 2019



Distribution List

PPMT - 1 copy pdf

Golder Associates (UK) Ltd - 1 copy pdf

Table of Contents

1.0 INTRODUCTION 1

2.0 DISCHARGES/ABSTRACTIONS FROM WATER 1

2.1 Effluent Discharge Standards to Surface Water 1

2.2 Drinking Water Quality 6

2.3 References 12

3.0 NOISE AND VIBRATION 13

3.1 Noise 13

3.2 Vibrations 15

3.3 References 16

4.0 AIR QUALITY 16

4.1 Ambient Air Quality 16

4.2 Emissions to Air 18

4.3 References 18

5.0 SOILS 19

5.1 References 19

6.0 BIODIVERSITY 20

6.1 References 21

7.0 PHYSICAL CULTURAL HERITAGE 22

7.1 References 22

TABLES

Table 1: Effluent discharge standards to the environment 2

Table 2: Drinking Water Quality Standards 6

Table 3: Noise Standards Relevant to the ESIA 13

Table 4: Vibration Standards 15

Table 5: Ambient Air Quality 16

Table 6: Emissions to Air from Small Combustion Facilities (Engine 3 to 50 MWth with Liquid Fuels) .. 18

Table 7: Biodiversity Requirements 20

1.0 INTRODUCTION

This chapter presents relevant Kenyan and International standards and guidelines which will be applied to key disciplines in the Lokichar to Lamu Crude Oil Pipeline (LLCOP) Environmental and Social Impact Assessment (ESIA).

The project standards are chosen by reviewing international and national guideline values. Where National standards are absent or are not appropriate, Golder's approach has been to refer to other internationally recognised ambient quality and discharge guidelines. These alternatives include but are not be limited to International Finance Corporation (IFC) EHS guidelines, World Bank, World Health Organization (WHO), United States Environmental Protection Agency (USEPA) and United Kingdom (UK) Environment Agency (EA) guidelines.

The proposed project standards will be compared to the baseline results and will inform the impact assessment criteria for the LLCOP ESIA.

2.0 DISCHARGES/ABSTRACTIONS FROM WATER

2.1 Effluent Discharge Standards to Surface Water

Sewage from an industrial facility should only be discharged to surface water is it meets national or local standards for sanitary wastewater discharges. Where national or local standards are absent or are not appropriate, alternative indicative guideline values provided in Table 1 are considered applicable to sanitary wastewater discharges.

Table 1: Effluent discharge standards to the environment

Parameter	Applicable International Standard [a b]	Kenyan Standard [b]	Project Standard
1,1,1-trichloroethane	-	3 mg/l	3 mg/l
1,1,2-trichloethane	-	0.06 mg/l	0.06 mg/l
1,1-dichloroethylene	-	0.2 mg/l	0.2 mg/l
1,2-dichloroethane	-	0.04 mg/l	0.04 mg/l
1,3-dichloropropene	-	0.02 mg/l	0.02 mg/l
Alkyl Mercury compounds	-	Not Detectible	Not Detectible
Ammonia, ammonium compounds, NO_3 compounds and NO_2 compounds (Sum total of ammonia-N times 4 plus nitrate-N & Nitrite-N)	-	100 mg/l	100 mg/l
Arsenic	-	0.02 mg/l	0.02 mg/l
Arsenic and its compounds	-	0.1 mg/l	0.1 mg/l
Benzene	-	0.1 mg/l	0.1 mg/l
Biochemical Oxygen Demand (BOD_5)	25 mg/l [c]	30 mg/l	25 mg/l
Boron	-	1.0 mg/l	1.0 mg/l
Boron and its compounds – non marine	-	10 mg/l	10 mg/l
Boron and its compounds – marine	-	30 mg/l	30 mg/l
Cadmium	-	0.01 mg/l	0.01 mg/l
Cadmium and its compounds	-	0.1 mg/l	0.1 mg/l
Carbon tetrachloride	-	0.02 mg/l	0.02 mg/l

Parameter	Applicable International Standard [a b]	Kenyan Standard [b]	Project Standard
Chemical Oxygen Demand (COD)	125 mg/l [a]	50 mg/l	50 mg/l
Chromium VI	-	0.05 mg/l	0.05 mg/l
Chloride	-	250 mg/l	250 mg/l
Chlorine free residue	-	0.10 mg/l	0.10 mg/l
Chromium total	-	2 mg/l	2 mg/l
Cis-1,2- dichloroethylene	-	0.4 mg/l	0.4 mg/l
Copper	-	1.0 mg/l	1.0 mg/l
Dichloromethane	-	0.2 mg/l	0.2 mg/l
Dissolved iron	-	10 mg/l	10 mg/l
Dissolved Manganese	-	10 mg/l	10 mg/l
E.coli	-	Nil Counts / 100 ml	Nil Counts / 100 ml
Fluoride	-	1.5 mg/l	1.5 mg/l
Fluoride and its compounds (marine and non-marine)	-	8 mg/l	8 mg/l
Lead	-	0.01 mg/l	0.01 mg/l
Lead and its compounds	-	0.1 mg/l	0.1 mg/l
n-Hexane extracts (animal and vegetable fats)	-	30 mg/l	30 mg/l
n-Hexane extracts (mineral oil)	-	5 mg/l	5 mg/l
Oil and grease	10 mg/l [a]	Nil	Nil

Parameter	Applicable International Standard [a b]	Kenyan Standard [b]	Project Standard
Organo-Phosphorus compounds (parathion, methyl parathion, methyl demeton and Ethyl parantrophenyl phenylphosphorothroate, EPN only)	-	1.0 mg/l	1.0 mg/l
Polychlorinated biphenyls, PCBs	-	0.003 mg/l	0.003 mg/l
pH (Hydrogen ion activity----marine)	6 – 9 (general) [a]	5.0-9.0	5.0-9.0
pH (Hydrogen ion activity--non marine)	6 – 9 (general) [a]	6.5-8.5	6.5-8.5
Phenols	-	0.001 mg/l	0.001 mg/l
Selenium	-	0.01 mg/l	0.01 mg/l
Selenium and its compounds	-	0.1 mg/l	0.1 mg/l
Hexavalent Chromium VI compounds	-	0.5 mg/l	0.5 mg/l
Sulphide	-	0.1 mg/l	0.1 mg/l
Simazine	-	0.03 mg/l	0.03 mg/l
Total Suspended Solids	35 mg/l [c]	30 mg/l	30 mg/l
Tetrachloroethylene	-	0.1 mg/l	0.1 mg/l
Thiobencarb	-	0.1 mg/l	0.1 mg/l
Temperature (in degrees Celsius) based on ambient temperature	-	± 3 degrees Celsius	± 3 degrees Celsius
Thiram	-	0.06 mg/l	0.06 mg/l
Total coliforms	400 (MPN per 100 ml) [a]	30 counts /100 ml	30 counts /100 ml
Total Cyanogen	-	ND	ND

Parameter	Applicable International Standard [a b]	Kenyan Standard [b]	Project Standard
Total Nickel	-	0.3 mg/l	0.3 mg/l
Total Dissolved solids	-	1200 mg/l	1200 mg/l
Colour in Hazen Units	-	15 HU	15 HU
Detergents	-	Nil	Nil
Total mercury	-	0.005 mg/l	0.005 mg/l
Trichloroethylene	-	0.3 mg/l	0.3 mg/l
Zinc	-	0.5 mg/l	0.5 mg/l
Total Phosphorus	2 mg/l [a]	2 mg/l (Guideline value)	2 mg/l
Total Nitrogen	10 mg/l [a]	2 mg/l (Guideline value)	2 mg/l

(a) International Finance Corporation. EHS Guidelines: Environmental 2007.

(b) Kenyan Government, 2006. The EMCA (Water Quality) Regulations (2006) Schedule 3: Standards for Effluent Discharge into the Environment.

(c) IFC EHS Guidelines for Onshore Oil and Gas Developments 2017.

2.2 Drinking Water Quality

Drinking or potable water should meet national or local standards. Where these are absent or are not appropriate, alternative indicative guideline values provided in Table 2 are considered applicable.

Table 2: Drinking Water Quality Standards

Parameter	Applicable International Standard [a] [b]	Kenyan Standard [c]	Kenya Standard for potable water - natural [d]	Project Standard
Units (unless otherwise stated)	**µg/l**	**mg/l**	**mg/l**	
Acrylamide	0.5	-	-	0.5 µg/l
Alachlor	20	-	-	20 µg/l
Aldicarb	10	-	-	10 µg/l
Aldrin and dieldrin	0.03	-	0.00003	0.00003 mg/l
Aluminium	-	-	0.2	0.2 mg/l
Antimony	20	-	-	20 µg/l
Arsenic	10 (A,T)	0.01	0.01	0.01 mg/l
Atrazine and its chloro- striazine metabolites	100	-	-	100 µg/l
Barium	700	-	0.7	0.7 mg/l
Benzene	10	-	0.01	0.01 mg/l
Benzo[a]pyrene	0.7	-	-	0.7 µg/l
Boron	2400	-	2.4	2.4400 mg/l
Bromate	10 (A,T)	-	0.01	0.01 mg/l
Bromodichloromethane	60	-	-	60 µg/l
Bromoform	100	-	-	100 µg/l
Cadmium	3	0.01	0.003	0.003 mg/l
Carbofuran	7	-	-	7 µg/l
Carbon tetrachloride	4	-	0.002	0.002 mg/l
Chlorate	700 (D)	-	-	700 µg/l (D)
Chlordane	0.2	-	0.0003	0.0003 mg/l
Chlorine	5000 (C)	-	-	5000 µg/l (C)
Residual Chlorine	-	-	Absent	Absent

Parameter	Applicable International Standard [a] [b]	Kenyan Standard [c]	Kenya Standard for potable water - natural [d]	Project Standard
Chlorite	700 (D)	-	-	700 µg/l (D)
Chloroform	300	-	0.03	0.03 mg/l
Chlorotoluron	30	-	-	30 µg/l
Chlorpyrifos	30	-	-	30 µg/l
Chromium (total)	50 (P)	-	0.05	0.05 mg/l
Copper	2000	0.05	1	0.05 mg/l
Cyanazine	0.6	-	-	0.6 µg/l
Cyanide	-	-	0.01	0.01 mg/l
2,4-D	30	-	-	30 µg/l
2,4-DB	90	-	-	90 µg/l
DDT and metabolites	1	-	0.001	0.001 mg/l
Dibromoacetonitrile	70	-	-	70 µg/l
Dibromochloromethane	100	-	-	100 µg/l
1,2-Dibromo-3- chloropropane	1	-	-	1 µg/l
1,2-Dibromoethane	0.4 (P)	-	-	0.4 µg/l (P)
Dichloroacetate	50 (D)	-	-	50 µg/l (D)
Dichloroacetonitrile	20 (P)	-	-	20 µg/l (P)
1,2-Dichlorobenzene	1000 (C)	-	-	1000 µg/l (C)
1,4-Dichlorobenzene	300 (C)	-	-	300 µg/l (C)
1,2-Dichloroethane	30	-	0.03	0.033 mg/l
1,1-Dichloroethene	-	-	0.03	0.03 mg/l
1,2-Dichloroethene	50	-	-	50 µg/l
1,1-Dichloroethylene	-	-	0.0003	0.0003 mg/l
Dichloromethane	20	-	-	20 µg/l
2,4-Dichlorophenoxyacetic acid	-	-	0.03	0.03 mg/l
1,2-Dichloropropane	40 (P)	-	-	40 µg/l (P)

Parameter	Applicable International Standard [a] [b]	Kenyan Standard [c]	Kenya Standard for potable water - natural [d]	Project Standard
1,3-Dichloropropene	20	-	-	20 µg/l
Dichlorprop	100	-	-	100 µg/l
Di(2-ethylhexyl) phthalate	8	-	-	8 µg/l
Dimethoate	6	-	-	6 µg/l
1,4-Dioxane	50	-	-	50 µg/l
Edetic acid	600	-	-	600 µg/l
Endrin	0.6	-	-	0.6 µg/l
Epichlorohydrin	0.4 (P)	-	-	0.4 µg/l (P)
Ethylbenzene	300 (C)	-	-	300 µg/l (C)
Fenoprop	9	-	-	9 µg/l
Fluoride	1500	1.5	1.5	1.5 mg/l
Heptachlor and Heptachlor Epoxide	-	-	0.00003	0.00003 mg/l
Hexachlorobenzene	-	-	0.001	0.001 mg/l
Hexachlorobutadiene	0.6	-	-	0.6 µg/l
Hydroxyatrazine	200	-	-	200 µg/l
Isoproturon	9	-	-	9 µg/l
Lead	10 (A,T)	0.05	0.01	0.01 mg/l
Lindane	2	-	0.002	0.002 mg/l
MCPA	2	-	-	2 µg/l
Mecoprop	10	-	-	10 µg/l
Mercury (total)	6	-	0.001	0.001 mg/l
Methoxychlor	20	-	0.02	0.02 mg/l
Metolachlor	10	-	-	10 µg/l
Microcystin-LR	1 (P)	-	-	1 µg/l (P)
Molinate	6	-	-	6 µg/l
Molybdenum	-	-	0.07	0.07 mg/l

Parameter	Applicable International Standard [a] [b]	Kenyan Standard [c]	Kenya Standard for potable water - natural [d]	Project Standard
Monochloramine	3000	-	-	3000 µg/l
Monochloroacetate	20	-	-	20 µg/l
Nickel	70	-	0.02	0.02 mg/l
Nitrate as NO_3	50000	10	45	10 mg/l
Nitrilotriacetic acid	200	-	-	200 µg/l
Nitrite	3000	3	0.9	0.9 mg/l
N-Nitrosodimethylamine	0.1	-	-	0.1 µg/l
Pendimethalin	20	-	-	20 µg/l
Pentachlorophenol	9 (P)	-	-	9 µg/l (P)
Phenols	-	-	0.002	0.002 mg/l
Phosphates (as PO_4)	-	-	2.2	2.2 mg/l
Selenium	40 (P)	0.01	0.01	0.01 mg/l
Simazine	2	-	-	2 µg/l
Sodium	-	-	200	200 mg/l
Sodium dichloroisocyanurate	50000	-	-	50000µg/l
Styrene	20 (C)	-	-	20 µg/l(C)
2,4,5-T	9	-	-	9 µg/l
Terbuthylazine	7	-	-	7 µg/l
Tetrachloroethene	40	-	0.04	0.04 mg/l
Toluene	700 (C)	-	0.7	0.7 mg/l
Trichloroacetate	200	-	-	200 µg/l
Trichloroethene	20 (P)	-	-	20 µg/l (P)
2,4,6-Trichlorophenol	200 (C)	-	0.2	0.2 mg/l
Trifluralin	20	-	-	20 µg/l

Parameter	Applicable International Standard [a] [b]	Kenyan Standard [c]	Kenya Standard for potable water - natural [d]	Project Standard
Trihalomethanes	The sum of the ratio of the concentration of each to its respective guideline value should not exceed 1	-	-	The sum of the ratio of the concentration of each to its respective guideline value should not exceed 1
Uranium	30 (P)	-	0.03	0.03 mg/l
Vinyl chloride	0.3	-	-	0.3 µg/l
Xylenes	500 (C)	-	0.5	0.5 mg/l
Polynuclear Aromatic Hydrocarbons	-	-	0.0007	0.0007 mg/l
Turbidity	-	-	25 NTU	25 NTU
Taste	-	-	Not objectionable	Not objectionable
Odour	-	-	Not objectionable	Not objectionable
Colour	-	-	50 true colour units max.	50 true colour units max.
pH	-	6.5-8.5	5.5-9.5	6.5-8.5
Electrical Conductivity	-	-	2500 µS/cm	2500 µS/cm
Total filterable residue	-	-	-	-
Total hardness as $CaCO_3$	-	-	600	600 mg/l
Calcium	-	-	150	150 mg/l
Magnesium	-	-	100	100 mg/l
Magnesium and Sodium	-	-	-	-
Potassium			50	50 mg/l
Sulphate (SO_4)	-	-	400	400 mg/l
Chloride	-	-	250	250 mg/l
Iron (total)	-	-	0.3	0.3 mg/l
Manganese	-	-	0.1	0.1 mg/l

Parameter	Applicable International Standard [a] [b]	Kenyan Standard [c]	Kenya Standard for potable water - natural [d]	Project Standard
Zinc	-	1.5	5	1.5 mg/l
BOD_5	-	-	-	-
Absorbed Oxygen (as $KMnO_4$)	-	-	-	-
Ammonia NH_3	-	0.5	0.5	0.5 mg/l
Total Nitrogen (excluding NO_3)	-	-	-	
Surfactants (Alkyl Benzyl Sulphonates)	-	-	-	-
Surfactants (reacting with methylene blue)	-	-	0.2	0.2 mg/l
Total viable counts at 37°C per ml	-	-	50 counts	50 counts at 37°C per ml
Total viable counts at 22°C per ml			100 counts	100 counts at 22°C per ml
Total Coliforms (CFU/100 ml)	-	-	Nil	Nil
E.coli (CFU/100 ml)	-	Nil/100	Nil	Nil/100
Pseudomonas aeruginosa fluorescence (CFU/100 ml)	-	-	Nil	Nil
Salmonella (per 100 ml)	-	-	Nil	Nil
Shigella (per 100 ml)	-	-	Nil	Nil
Giardia (per 100 ml)			Nil	Nil
Cryptosporidium (per 100 ml)			Nil	Nil
Staphylococcus aureus (CFU/100 ml)	-	-	Nil	Nil
Streptococcus faecalis (CFU/100 ml)	-	-	Nil	Nil
Sulphate reducing anaerobes (CFU/100 ml)	-	-	Nil	Nil
Phenolic substances (as Phenol)	-	Nil	-	Nil
Gross alpha activity	-	-	0.5	0.5 Bq/L
Gross beta activity	-	-	1	1 Bq/L

Parameter	Applicable International Standard [a] [b]	Kenyan Standard [c]	Kenya Standard for potable water - natural [d]	Project Standard
Suspended Solids	-	30	Nil	Nil
Total dissolved solids	-	1200	1500	1500 mg/l
Organic matter	-	-	0.003	0.003 mg/l
Alkyl benzyl sulphonates	-	0.5	-	0.5 mg/l
Permangenate (PV)	-	1	-	1 mg/l

(a) World Health Organization (WHO), 2011. Drinking Water Quality Guidelines – 4th edition.

(b) P = provisional guideline value, as there is evidence of a hazard, but the available information on health effects is limited. T = provisional guideline value because calculated guideline value is below the level that can be achieved through practical treatment methods, source protection, etc. A = provisional guideline value because calculated guideline value is below the achievable quantification level. D = provisional guideline value because disinfection is likely to result in the guideline value being exceeded. C = concentrations of the substance at or below the health-based guideline value may affect the appearance, taste or odour of the water, leading to consumer complaints.

(c) Kenyan Government, 2006. Environmental Management and Coordination Act (Water Quality Regulation) Schedule 1: Quality Standards for Sources of Domestic Water.

(d) Kenya Bureau of Standards (KEBS), 2018. Kenya Standard KS EAS 12:2018 (ISC 13.060.20). Potable Water – Specification. Second Edition. The standard for natural potable water has been included for the purposes of screening natural baseline groundwater and surface water quality.

(e) Kenya standard for boric acid (H3BO3). WHO standard for boron selected for comparison to water quality results for boron.

(f) Under conditions of epidemic diseases, it may be necessary to increase the residual chlorine temporarily.

2.3 References

- Kenya Bureau of Standards (KEBS), 2018. Kenya Standard KS EAS 12:2018 (ISC 13.060.20). Drinking Potable Water – Specification. Third Second Edition.
- Kenyan Government, 2006. Environmental Management and Coordination Act (Water Quality Regulation) Schedule 1: Quality Standards for Sources of Domestic Water.
- Kenyan Government, 2006. The EMCA (Water Quality) Regulations (2006) Schedule 3: Standards for Effluent Discharge into the Environment.
- World Health Organization (WHO), 2017. Drinking Water Quality Guidelines – 4th edition.

3.0 NOISE AND VIBRATION

3.1 Noise

Golder carried out a review of the IFC Noise Guideline and Kenya Noise Regulations, recommending the use of the IFC Noise Guideline for Project operation (Golder tech memo 1654017.511). This was subsequently confirmed with NEMA in a minuted meeting that the IFC Noise Guideline could be used as Project standards for the Upstream EOPS Phase II ESIA and has been adopted for the LLCOP Project ESIA also. The IFC Noise Guideline does not provide construction noise level limits and therefore the approach is to use construction limits provided in the Kenya Noise Regulations.

Table 3: Noise Standards Relevant to the ESIA

Receptor Classification	Applicable International Standard [a]	Kenyan Standard [b]	Project Standard
Residential, Institutionaland Educational Receptors	■ Daytime (7:00 to 22:00): ▪ 55 dBA $L_{eq,1hr}$ ■ Night-time (22:00 to 7:00): ▪ 45 dBA $L_{eq,1hr}$ Noise impacts should not exceed the levels presented above or result in a maximum increase in background levels of 3 dB at the nearest receptor location off-site.	■ Residential (indoor): ▪ Daytime (06:00 to 20:00): – 45 dBA L_{eq},14hr ▪ Nighttime (20:00 to 06:00): – 35 dBA L_{eq},10hr ■ Residential (outdoor): ▪ Daytime (06:00 to 20:00): – 50 dBA L_{eq},14hr ▪ Nighttime (20:00 to 06:00): – 35 dBA L_{eq},10hr	■ Residential (outdoor): ▪ Daytime (07:00 to 22:00): – 55 dBA L_{eq},1hr ■ Residential (outdoor): ▪ Nighttime (22:00 to 07:00): – 45 dBA L_{eq},1hr ▪ Nighttime (20:00 to 06:00): – 35 dBA L_{eq},10hr ■ OR exceed 3 dB increase over background levels at nearest receptor location off-site

Receptor Classification	Applicable International Standard [a]	Kenyan Standard [b]	Project Standard
Construction Sites – Residential	-	■ Daytime (06:00 to 18:00): ▪ 60 dBA L_{eq},12hr ■ Nighttime (18:00 to 06:00): ▪ 35 dBA L_{eq},12hr	■ Daytime (06:00 to 18:00): ▪ 60 dBA $L_{eq,}$ 12hr ■ Nighttime (18:00 to 06:00): ▪ 35 dBA L_{eq},12hr
Construction Sites – Other	-	■ Daytime (06:00 to 18:00): ▪ 75 dBA L_{eq},12hr ■ Nighttime (18:00 to 06:00): ▪ 65 dBA L_{eq},12hr	■ Daytime (06:00 to 18:00): ▪ 75 dBA L_{eq},12hr ■ Nighttime (18:00 to 06:00): ▪ 65 dBA L_{eq},12hr

(a) IFC, 2007. EHS Guidelines: Environmental – Noise.

(b) Kenyan Government, 2009. The Environmental Management and Coordination (Noise and Excessive Vibration Pollution) Regulations.

3.2 Vibrations

In the absence of detailed Kenyan standards for vibration an alternative international equivalent has been chosen and presented in Table 4.

Table 4: Vibration Standards

<table>
<tr><th>Receptor Classification</th><th colspan="4">Applicable International Standard [a] [b]</th><th>Kenyan Standard [c]</th><th colspan="2">Project Standard</th></tr>
<tr><td>Unreinforced or light- framed structures</td><td colspan="4">British Standard BS5228-2:2009
Peak component particle velocity (PPV) in frequency range of predominant pulse – transient vibration guide values for cosmetic damage.</td><td rowspan="2">5 mm/s beyond any source property boundary</td><td colspan="2">Peak component particle velocity (PPV) in frequency range of predominant pulse.</td></tr>
<tr><td>Residential or light commercial buildings</td><td colspan="2">4 Hz to 15 Hz
15 mm/s at 4 Hz and above, increasing to 20 mm/s at 15 Hz.</td><td colspan="2">15 Hz and above
20 mm/s at 15 Hz, increasing to 50 mm/s at 40 Hz and above.</td><td>4 Hz to 15 Hz
15 mm/s at 4 Hz and above, increasing to 20 mm/s at 15 Hz.</td><td>15 Hz and above 20 mm/s at 15 Hz
increasing to 50 mm/s at 40 Hz and above.</td></tr>
<tr><td rowspan="4">Continuous ground-borne vibration; people in residential buildings</td><td colspan="4">BS.6472:2008 Evaluation of human exposure to vibration in buildings [1 Hz to 80 Hz].
Vibration dose values [m/s$^{1.75}$] above which various degrees of adverse comment may be expected in residential buildings.</td><td rowspan="4">-</td><td colspan="2" rowspan="2">Daytime (06:00 – 22:00) 0.6 m/s$^{1.75}$</td></tr>
<tr><td>Period</td><td>Low probability of adverse comment</td><td>Adverse comment possible</td><td>Adverse comment probable</td></tr>
<tr><td>Daytime, 16hr</td><td>0.2 – 0.4</td><td>0.4 – 0.8</td><td>0.8 – 1.6</td><td colspan="2">Night-time (22:00 – 06:00) 0.3 m/s$^{1.75}$</td></tr>
<tr><td>Night-time, 8hr</td><td>0.1 – 0.2</td><td>0.2 – 0.4</td><td>0.4 – 0.8</td><td colspan="2"></td></tr>
</table>

(a) British Standards Institution, 2008. BS 5228-2:2009+A1:2014 - Code of practice for noise and vibration control on construction and open sites. Vibration Noise. 2014 revision. London, United Kingdom

(b) British Standards Institution, 2008. BS 6472-1:2008 Guide to evaluation of human exposure to vibration in buildings. Vibration sources other than blasting London, United Kingdom

(c) NEMA Noise and Excessive Vibration Pollution (2009).

3.3 References

- British Standards Institution, 1993. BS 7385-2:1993 Evaluation and measurement for vibration in buildings. Guide to damage levels from ground-borne vibration London, United Kingdom.
- British Standards Institution, 2008. BS 5228-2:2009+A1:2014 - Code of practice for noise and vibration control on construction and open sites. Vibration Noise. 2014 revision. London, United Kingdom.
- British Standards Institution, 2008. BS 6472-1:2008 Guide to evaluation of human exposure to vibration in buildings. Vibration sources other than blasting London, United Kingdom.
- Health and Safety Executive, 2005. Control of Vibration at Work Regulations 2005 United Kingdom. IFC, 2007. EHS Guidelines: Environmental – Noise.
- IFC, 2007. EHS Guidelines: Occupational Health and Safety.
- Kenyan Government, 2009. The Environmental Management and Coordination (Noise and Excessive Vibration Pollution) Regulations.

4.0 AIR QUALITY

4.1 Ambient Air Quality

Ambient air quality should meet national or local standards. Where these are absent or international guidelines are more stringent, alternative indicative guideline values are considered appropriate.

Table 5: Ambient Air Quality

Parameter	Average	Applicable International Standard [a]	Kenyan Standard [b]		Project Standard
			At boundary	Off-Site (rural)	
Sulphur Dioxide (SO_2)	Annual mean	-	50 µg/m³ (c)	50 µg/m³ (c)	50 µg/m³ (c)
	24-hour mean	20 µg/m³	125 µg/m³ (c)	80 µg/m³ (c)	20 µg/m³
	10-minute mean	500 µg/m³	-		500 µg/m³
Nitrogen Dioxide (NO_2)	Annual mean	40 µg/m³	-	0.05 ppm (94 µg/m³)	40 µg/m³
	24-hour mean	-	-	0.1 ppm (188 µg/m³)	0.1 ppm (188 µg/m³)
	1-hour mean	200 µg/m³	-	0.2 ppm (376 µg/m³)	200 µg/m³
Nitrogen Oxides (NO_x)	Annual mean	-	80 µg/m³	60 µg/m³	60 µg/m³
	24-hour mean	-	150 µg/m³	80 µg/m³	80 µg/m³
Total Particulate Matter (TPM)	Annual mean	-	-	140 µg/m³	140 µg/m³
	24-hour mean	-	-	200 µg/m³	200 µg/m³
Particulate	Annual mean	20 µg/m³ (guideline)	50 µg/m³	50 µg/m³	20 µg/m³

Parameter	Average	Applicable International Standard [a]	Kenyan Standard [b]		Project Standard
			At boundary	Off-Site (rural)	
Matter (PM_{10})		70 µg/m³ Interim Target 1(d) 50 µg/m³ Interim Target 2(d) 30 µg/m³ Interim Target 3(d)			
	24-hour mean	50 µg/m³ (guideline) 150 µg/m³ Interim Target 1(d) 100 µg/m³ Interim Target 2(d) 75 µg/m³ Interim Target 3(d)	70 µg/m³	100 µg/m³	50 µg/m³
Particulate Matter ($PM_{2.5}$)	Annual mean	10 µg/m³ (guideline) 35 µg/m³ Interim Target 1(d) 25 µg/m³ Interim Target 2(d) 15 µg/m³ Interim Target 3(d)	35 µg/m³		10 µg/m³
	24-hour mean	25 µg/m³ (guideline) 75 µg/m³ Interim Target 1(d) 50 µg/m³ Interim Target 2(d) 37.5 µg/m³ Interim Target 3(d)	75 µg/m³		25 µg/m³
Ozone (O_3)	8-hour mean	100 µg/m³	120 µg/m³	1.25 ppm (2,450 µg/m³, instant peak)	100 µg/m³
	1-hour mean	-	200 µg/m³	0.12 ppm (235 µg/m³)	0.12 ppm (235 µg/m³)
Carbon monoxide (CO)/Carbon Dioxide (CO_2)	8-hour mean	-	5 mg/m³	2.0 mg/m³	2.0 mg/m³
	1-hour mean	-	10 mg/m³	4.0 mg/m³	4.0 mg/m³
Lead (Pb)	Annual mean	-	0.5- 2.0 µg/m³	0.75 µg/m³	0.75 µg/m³
	24-hour mean	-	0.5- 2.0 µg/m³	1.00 µg/m³	1.00 µg/m3

(a) IFC (2007). EHS Guideline: Air Emissions and Ambient Air Quality / WHO, 2005. Air Quality Guidelines Global. Guidelines on the standards that should be achieved for air, in the absence of national guidelines.

(b) Kenyan Government, 2014. The Environmental Management and Co-ordination (Air Quality) Regulations, 2014.

(c) Standards for Sulphur Oxides (SO_x) but will be considered as SO_2.

(d) IFC Interim targets are provided in recognition of the need for a staged approach to achieving the recommended guidelines.

4.2 Emissions to Air

Ambient air quality should meet national or local standards. Where these are absent or international guidelines are more stringent, alternative indicative guideline values are considered appropriate.

Table 6: Emissions to Air from Small Combustion Facilities (Engine 3 to 50 MWth with Liquid Fuels)

Parameter	Applicable International Standard [a]	Kenyan Standard [b]	Project Standard
Particulate Matter (PM)	50 mg/Nm^3 or up to 100 if justified by environmental assessment	50 mg/Nm^3	50 mg/Nm^3
Sulphur Dioxide (SO2)	1.5% to 3% Sulphur if justified by project specific considerations	1.5% - 3% Sulphur fuel	1.5% Sulphur
Nitrogen Oxides (NOx)	Bore size diameter (mm) <400: 1,460 mg/Nm^3 (or up to 1,600 if justified to maintain high energy efficiency) Bore size diameter (mm) >400: 1,850 mg/Nm^3	Bore size diameter (mm) <400: 1,460 mg/Nm^3 (or up to 1,600 if justified to maintain high energy efficiency) Bore size diameter (mm) >400: 1,850 mg/Nm^3	1,600 mg/Nm^3
Dry Gas, Excess O2 Content (%)	15%	-	15%

(a) IFC (2007). EHS Guideline: Air Emissions and Ambient Air Quality / WHO, 2005. Air Quality Guidelines Global. Guidelines on the standards that should be achieved for air, in the absence of national guidelines.

(b) Kenyan Government (2014). The Environmental Management and Co-ordination (Air Quality) Regulations, 2014.

4.3 References

- IFC, 2007. EHS Guideline: Air Emissions and Ambient Air Quality.
- Kenyan Government, 2014. The Environmental Management and Co-ordination (Air Quality) Regulations, 2014.
- WHO, 2005. Air Quality Guidelines Global. Guidelines on the standards that should be achieved for air, in the absence of national guidelines.

5.0 SOILS

There are no specific guidelines that are expected to be followed to conduct these evaluations of the soil and terrain properties; therefore, Golder best practice, based on pedologic principles and research literature, will be adopted.

To classify the soils for the LLCOP project, the Food and Agriculture Organization (FAO) of the United Nations soil classification system will be used, which is a common classification system for describing natural soils in Africa (FAO, 2006; FAO, 2007; FAO, 2014) and the United States Department of Agriculture Soil Taxonomy Classification System (USDA, 1993; USDA, 1999). The soil field survey will follow the Guidelines for Soil Survey and Land Evaluation in Ecological Research (Breimer et al, 1986).

5.1 References

- Breimer, R.F., A.J. van Kekem and H van Reuler. 1986. Guidelines for Soil Survey and land Evaluation in Ecological Research, MAB Technical Note 17, Prepared in Co-operation with the International Soil Reference and Information Centre (ISRIC), Published by the United Nations Educational, Scientific and Cultural Organization (UNESCO), ISBN 92-3-3102366-7.
- FAO. 1976. A Framework for Land Evaluation, FAO Soils Bulletin #32, Food and Agriculture Organization of the UN, Rome, Italy.
- FAO (1983) Soil resources development and conservation service "Guidelines: land evaluation for rainfed agriculture". FAO Soils Bulletin 52, FAO, Rome.
- FAO (1984) Land evaluation for forestry FAO Forestry Paper 48, FAO, Rome.
- FAO (1991) Soil resources development and conservation service "*Guidelines: land evaluation for extensive grazing*". FAO Soils Bulletin 58, FAO, Rome. Specific guidelines for evaluating land for extensive grazing, based on the FAO framework.
- FAO. 2006. Soil Description Guidelines. 4th edition. Rome, Italy.
- FAO. 2007. World Reference Base for Soil Resources. IUSS Working Group WRB. World Soil Resources Reports No. 103. FAO, Rome, Italy.
- FAO. 2014. World Reference Base for Soil Resources. IUSS Working Group WRB. World Soil Resources Reports No. 106. FAO, Rome, Italy. (Update 2015).
- USDA. 1993. Soil survey manual. U.S. Department of Agriculture Handbook 18.
- USDA. 1999. Soil Taxonomy A Basic System of Soil Classification for Making and Interpreting Soil Surveys.
- U.S. Department of Agriculture Handbook 436.

6.0 BIODIVERSITY

Table 7: Biodiversity Requirements

Aspect	Applicable International Standard	Kenyan Standard	Project Standard
Protected Areas		Prohibition of disturbance or harming flora and fauna in National Park[(a).]	Project should aim to avoid any direct impacts on protected areas.
Wildlife and ecosystems		Wildlife Conservation and Management Act (2013) - strong emphasis on protection of wildlife both within and outside protected areas.	Wildlife Conservation and Management Act (2013) - strong emphasis on protection of wildlife both within and outside protected areas.
Conflicts between people and wildlife		Wildlife Conservation and Management Act (2013) Part IX deals with human-wildlife conflict, including problem animals and unlawful wounding of animals.	Project must endeavour to ensure that no animals are unlawfully wounded or killed as a result of construction and operation activities.
Ecosystem Services	Standards include: Landsberg et al (2013); IPIECA (2005; 2007; 2010); IPIECA (2016); and Secretariat of the Convention on Biological Diversity (2012).	Kenya NBSAP (produced as an obligation to commitments under the CBD) key objectives include provisions for sustainable utilisation of biodiversity resources. The County Wildlife Conservation and Compensation committees instituted by the Kenya Wildlife Conservation and Management Act (2013) ensure that benefits derived from the use of wildlife resources are distributed in accordance with the provisions of the Act.	No residual significant impacts on land cover types/vegetation communities that provide priority Ecosystem services to local beneficiaries should be sustained as a result of Project impact. Management of biodiversity and ecosystem services (BES) impacts, dependencies, risks and identification of opportunities in the oil and gas sector.
Wetlands	Convention on Wetlands of International Importance (the Ramsar Convention 1971). CSBI (2015). Secretariat of the Convention on Biological Diversity (2006).	According to The EMCA (Wetlands, River Banks, Lake Shores and Sea Shore Management Plan) Regulations (2009) in non-specifically protected wetlands, Environmental impact assessment and environmental audits as required under the Act shall be mandatory for all activities likely to have an	Any potential effects on wetlands must be covered by the environmental impact assessment.

Aspect	Applicable International Standard	Kenyan Standard	Project Standard
		adverse impact on the wetland. The Wetlands Policy (2013) seeks to regulate, protect, manage and conserve all wetlands including those within public, private and community land in line with the Constitution.	

(a) The Republic of Kenya, 2013. The Wildlife Conservation and Management Act.

6.1 References

Agreement on the Conservation of African-Eurasian Migratory Water birds (AEWA), 1992. Convention on Biological Diversity.

Convention on International Trade in Endangered Species (CITES).

Gullison, R.E., J. Hardner, S. Anstee, M. Meyer. 2015. Good Practices for the Collection of Biodiversity Baseline Data. Prepared for the Multilateral Financing Institutions Biodiversity Working Group & Cross-Sector Biodiversity Initiative.

International Petroleum Industry Environmental Conservation Association and the International Association of Oil and Gas Producers, 2005. A guide to developing biodiversity action plans for the oil and gas sector. IPIECA and OGP.

International Petroleum Industry Environmental Conservation Association and the International Association of Oil and Gas Producers, 2007. An ecosystem approach to oil and gas industry biodiversity conservation.

IPIECA and OGP International Petroleum Industry Environmental Conservation Association, 2010. Alien invasive species and the oil and gas industry Guidance for prevention and management.

International Petroleum Industry Environmental Conservation Association, 2016. Biodiversity and ecosystem services fundamentals. Guidance document for the oil and gas industry. prepared by the BES Fundamentals Task Force, under the auspices of the IPIECA-IOGP Biodiversity and Ecosystem Services Working Group, with assistance from Edward Pollard and The Biodiversity Consultancy (TBC).

Kenyan Government, 2000. The Kenya National Biodiversity Strategy and Action Plan (NBSAP). Landsberg, et al, 2013. Weaving Ecosystem Services into Impact Assessment, World Resources Institute. Ramsar, 1971. Convention on Wetlands of International Importance especially as Waterfowl Habitat.

Secretariat of the Convention on Biological Diversity, Netherlands Commission for Environmental Assessment, 2006. Biodiversity in Impact Assessment, Background Document to CBD Decision VIII/28: Voluntary Guidelines on Biodiversity-Inclusive Impact Assessment, Montreal, Canada.

Secretariat of the Convention on Biological Diversity and the United Nations Environment Programme-World Conservation Monitoring Centre, 2012. Best policy guidance for the integration of biodiversity and ecosystem services in standards. Montreal, Technical Series No. 73, 52 pages.

The Republic of Kenya, 2009. The Environmental Management and Co-ordination Act (Wetlands, River Banks, Lake Shore and Sea Shore Management) Regulations.

The Republic of Kenya, 2013. The Wildlife Conservation and Management Act. The Republic of Kenya, 2013. The Wetland Policy.

The Energy and Biodiversity Initiative, 2007. Good practice in the prevention and mitigation of Primary and Secondary Biodiversity Impacts.

The Energy and Biodiversity Initiative, 2006. Biodiversity indicators for monitoring impacts and conservation actions.

7.0 PHYSICAL CULTURAL HERITAGE

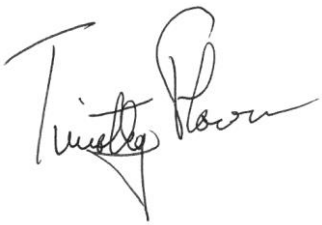
For physical cultural heritage, the National Museums and Heritage Act (2006) represents the national standard.

7.1 References

The Republic of Kenya, 2006.The National Museums and Heritage. Act.

Signature Page

Golder Associates (UK) Ltd



Rachel Lansley
Environmental Consultant

Tim Flower
Technical Director

AG+RL/TGF/es

Date: 09 October 2019

golder.com

ANNEX I

B

Scoping Report and Terms of Reference

REPORT

ESIA Terms of Reference

ESIA for the Lokichar to Lamu Crude Oil Pipeline Project

Submitted to:

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)

Popo Road,
South C,
off Mombasa Road

P.O.BOX 67839-00200,
Nairobi
Kenya

Submitted by:

Golder Associates (UK) Ltd and ESF Consultants

Woodlands Office Park,
1C Suite 1st Floor, Woodlands road, Off Lenana Road.
P.O. Box, 7745-00100, Nairobi, Kenya

Cavendish House, Bourne End Business Park, Cores End Road,
Bourne End, Buckinghamshire, SL8 5AS, UK

Kenya: +254 736100205

UK: +44 0 1628 851851

1772867.523.A.1

October 2018

Distribution List

NEMA - 3 print copy; 1 copy pdf

PPMT / Tullow Oil K.V. - 1 copy pdf

ESF Consultants - 1 copy pdf

Golder Associates (UK) Limited - 1 copy

Glossary of Terms

AGI	Above Ground Infrastructure
AOI	Area of Interest
BAT	Best Available Technology
Bopd	Barrels of oil per day
CBO	Community Based Organisation
CPF	Central Processing Facility
CSO	Civil Society Organisation
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
FEED	Front End Engineering Design
GIS	Geographic Information System
HDD	Horizontal Directional Drilling
HG	Hunter - gatherer
ICP	Informed Consultation and Participation
JDA	Joint Development Agreement
LAPSSET	Lamu Port, South Sudan, Ethiopia Transport Corridor
LCDA	LAPSSET Corridor Development Authority
LLCOP	Lokichar to Lamu Crude Oil Pipeline
LLTS	Long Line Trace System
LOF	Load- Out Facility
NEMA	National Environment Management Authority
NGO	Non - Government Organisation
NLC	National Land Commission
PPMT	Pipeline Project Management Team
RAP	Resettlement Action Plan
ROA	Right of Access
SEA	Strategic Environmental Assessment
SEP	Stakeholder Engagement Plan
SSEC	Senior Stakeholder Engagement Coordinator
ToR	Terms of Reference
VLCC	Very Large Crude Carrier
ZTF	Zone of Theoretical Visibility

Table of Contents

1.0 INTRODUCTION 1

2.0 PROJECT PROPONENT 1

3.0 PROJECT DESCRIPTION 2

3.1 Key Design Parameters 4

3.2 Pipeline Construction 6

4.0 APPROACH TO THE ESIA 7

4.1 The LLCOP ESIA 7

5.0 FIELD ACTIVITIES UNDERTAKEN DURING SCOPING STAGE 8

5.1 Advanced Baseline 8

5.2 Stakeholder Consultation 8

6.0 LAND ACQUISITION PROCESS 8

7.0 ESIA STAKEHOLDER ENGAGEMENT 9

7.1 Approach 9

7.2 Notification Methods 12

7.3 Engagement Methods 13

7.4 Documentation of Stakeholder Engagement 13

7.5 Grievance Mechanism 14

7.6 Approach to Vulnerable and Marginal Groups 14

8.0 FIELD BASELINE STUDIES 16

8.1 Area of Influence and Field Study Areas 16

8.2 Use of Satellite Data 16

8.3 Sector A: Turkana 16

8.4 Sector B: Kerio River 17

8.5 Sector C: Suguta River 17

8.6 Sector D: Suguta to Baragoi Area 19

8.7 Sector E: Baragoi to Wamba 19

8.8 Sector F: Wamba to Archers Post 21

8.9 Sector G: Ewaso Ngiro River 21

8.10 Sector H: Kula Mawe to Garba Tula 23

8.11 Sector I: Rahole Park Northern Boundary 25
8.12 Sector J: Sankuri Area – North West of Garissa 25
8.13 Sector K: Garissa towards Ijara 27
8.14 Sector L: Inland Lamu and Coastal Forest 27
8.15 Sector M: Lamu Port and Lamu Marine Area 27
9.0 IMPACT ASSESSMENT ISSUES 29
9.1 Terrestrial Oil Spill/Release 29
9.2 Marine Oil Spill/Release 29
9.3 Pipeline Construction Camps 29
9.3.1 Pipeline Laydown Areas 29
9.3.2 Pipeline Treatment and Coating Facilities 29
9.3.3 Material Transportation Routes 29
9.3.4 Hydrotest Water 30
9.3.5 Waste Management 30
9.3.6 Emergency Response 30
9.3.7 Security Management 31
10.0 SUMMARY OF IMPACTS & APPROACH TO ASSESSMENT 31
11.0 DRAFT TABLE OF CONTENTS FOR ESIA 39
12.0 ESIA TEAM 40
13.0 CLOSURE AND APPROVAL 54

TABLES

Table 1: List of Vulnerable and Marginalized Groups as per the New Kenyan Constitution 13
Table 2: Summary of Potential Effects and Planned Assessment Approach 32
Table 3: LLCOP ESIA Technical Experts 39

FIGURES

Figure 1: Map of Proposed LLCOP Route 3
Figure 2: Schematic Representation of Key Design Elements of LLCOP 5
Figure 3: Proposed Layout Options for the LLCOP at Lamu Port. 6
Figure 4: Typical Pipeline Construction Sequence 6
Figure 5: Proposed Stakeholder and Community Engagement Locations 11

Figure 6: Process of Notification for Community-Level Stakeholder Engagement 13
Figure 7: Route Baseline Sectors - Turkana to Baragoi.....18
Figure 8: Route Baseline Sectors - Suguta to South of Wamba.....20
Figure 9: Route Baseline Sectors - Wamba, Archers Post and Ewaso Ngiro crossing into Meru 22
Figure 10: Route Baseline Sectors - Kula Mawe to Garba Tula 24
Figure 11: Route Baseline Sectors - Sankuri to South of Garissa 26
Figure 12: Route Baseline Sectors - South of Garissa to the Lamu Marine Area.....28

APPENDICES

ANNEX A
Stakeholder Engagement Plan.

ANNEX B
Relevant extracts from the Joint Development Agreement for LLCOP

1.0 INTRODUCTION

This Terms of Reference (ToR) has been prepared based on the outcomes of the Lokichar to Lamu Crude Oil Pipeline (LLCOP) Project Environmental and Social Impact Assessment (ESIA) Scoping Report[1]. The ToR presents the proposed baseline studies, impact assessment and mitigation planning activities that are considered necessary for the successful delivery of the LLCOP ESIA.

This ToR has been prepared to comply with the requirements of the *Environmental (Impact Assessment & Audit) Regulations 2003* (as amended).

This ToR does not include any additional non-statutory activities that will be undertaken on a voluntary basis by the LLCOP to meet the internal requirements of the Joint Development Agreement (JDA) Partners or for project financing purposes. All such activities will be undertaken in coordination with the development of the ESIA for Kenyan regulatory compliance purposes and will be reported separately in a *Supplemental Assessment*. The ToR and subsequent reports for such additional actions will be disclosed by the LLCOP in accordance with the LLCOP ESIA Stakeholder Engagement Plan.

A list of potential effects and planned assessment approach for each of the technical topics has been identified and prepared during the Scoping Stage and is presented in Section 3 of this document. This information incorporates the latest LLCOP Project-related activities and infrastructure design information.

An indicative table of contents for the ESIA is presented in Section 4. The contents address all relevant technical disciplines as stipulated in the Kenyan ESIA regulatory framework.

A list of key experts who will undertake the LLCOP ESIA is presented in Section 5.

The Project SEP (Stakeholder Engagement Plan) is included in Annex 1.

Relevant extracts from the Joint Development Agreement (JDA) which provides the governance framework for the LLCOP is presented in Annex 2.

This document is intended to be a stand-alone document in addition to the submitted Scoping Report and includes all information requested by NEMA.

2.0 PROJECT PROPONENT

The purpose of the Project is to design and construct an 820km long pipeline for transporting crude oil from the proposed oil fields near Lokichar in Turkana to a Project Storage and Load-out Facility at the new Port currently under construction in Lamu.

The LLCOP Project is a stand-alone element of the LAPSSET strategic corridor programme (Lamu Port, South Sudan, Ethiopia Transport Corridor), a key component of the Kenya 2030 strategic vision

In October 2017, the following four parties executed a Joint Development Agreement (JDA) for the purpose of design (see Annex 2: JDA for the LLCOP), assessment and permitting of the Lokichar Lamu Crude Oil Pipeline (LLCOP):

[1] Note that the terms environmental and social impact assessment (ESIA) and environmental impact assessment (EIA) are used interchangeably in this ToR to mean the scope of assessment required to prepare an approvals document for review and approval by NEMA to meet Kenyan regulatory requirements.

- The Government of Kenya, represented by The Ministry of Energy (now Ministry of Petroleum and Mining);
- Maersk Oil (now TOTAL OIL);
- Africa Oil; and
- Tullow Oil.

The scope of work contained within the JDA includes the preparation of the ESIA for the LLCOP. The implementing body established to deliver the JDA scope of work is the Pipeline Project Management Team (PPMT), which is the proponent for this ESIA as the representative of the parties to the JDA listed above.

As the PPMT is a project delivery mechanism, the Project Proponent is the JDA Partners. This means that the four members of the JDA are jointly responsible for the effective implementation of the approved Environmental and Social Management Plan (ESMP) and environmental license conditions.

3.0 PROJECT DESCRIPTION

The LLCOP Project is designed to provide transportation, storage and export facilities for the heavy and waxy crude oil from the Lokichar oil fields. The Project consists of a pipeline approximately 820km long and an export Load-Out Facility at the Port of Lamu. The pipeline will be buried throughout its length but will have a number of above ground structures (AGI) at suitable locations. The construction time will be approximately two to three years.

The Lokichar to Lamu Crude Oil Pipeline (LLCOP) will be routed for all of its length within the proposed Lamu Port, South Sudan, Ethiopia, Transport Corridor (LAPSSET), LAPSSET is a linear land corridor selected by the Government of Kenya for strategic infrastructure development and is a major initiative for Kenya and the East African region. The export facilities at Lamu will include an oil storage area within the Lamu Port facility and a single berth at the Port itself dedicated to transferring the oil onto appropriate vessels.

Land required for the proposed pipeline will be acquired by the Government and leased to the Project. The proposed pipeline will need a 30m Right of Access (ROA) width for construction and 6m width for operations.

Figure 1 shows the proposed pipeline route.

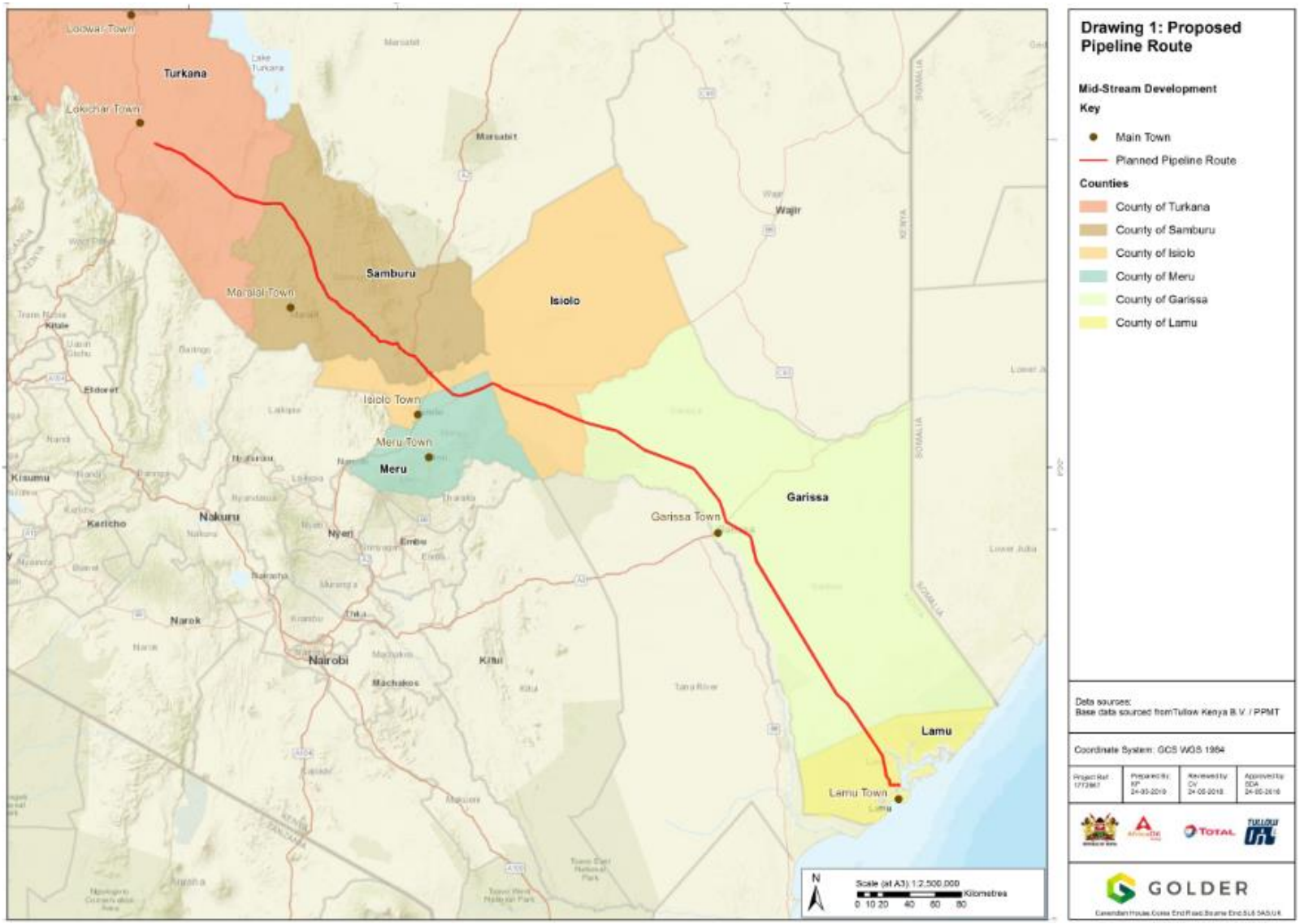


Figure 1: Map of Proposed LLCOP Route

The LLCOP will pass through six Counties (Turkana, Samburu, Isiolo, Meru, Garissa and Lamu). As far as possible, the selected route option avoids settlements and sensitive areas of biodiversity and community importance.

3.1 Key Design Parameters

The key design Parameters for this Project include the following:

- Project infrastructure has a design life in excess of 30 years for continuous oil transportation over this period;
- The pipeline will be buried for the approximately 820 km route reducing the footprint of the Project;
- The expected construction technique will be conventional trench and back fill;
- Main rivers will be crossed using trenchless construction techniques such as Horizontal Directional Drilling (HDD), micro-tunneling or similar methods;
- 17 AGIs are planned along the route (co-located or stand-alone) including block valves, pig launcher/receiver stations, pressure reduction stations, pumping stations and electrical generation stations;
- A planned 18” diameter pipeline based on a flowrate of 60 – 80 thousand bopd (barrels of oil per day);
- Due to the waxy nature of the crude oil from the South Lokichar fields the pipeline system will require thermal insulation and electrical trace heating to maintain the crude oil at an optimum temperature for pumping. The Trace Heating System used will be a Long Line Trace System (LLTS);
- Maximum peak operational power demand is 23MW;
- The Lokichar Central Processing facility (CPF) will provide the stabilised crude for the pipeline;
- The main Pump Station (PS1) will be located within the confines of the Lokichar CPF;
- Two additional Pump Stations (PS2 and PS3) will be along the pipeline;
- There will be one pressure reduction station along the pipeline;
- Up to six different Construction teams are envisaged for the pipeline construction implementation operating out of county-based centres;
- Pipeline construction will likely radiate from construction centres in a simultaneous programme;
- The crude oil will be stored before shipment at Lamu Port in one of two options:
  - Option 1 – Onshore floating roof storage tanks (3 x 500,000 bbls);or
  - Option 2 – Floating vessel storage (VLCC);
  - Crude will be transferred directly to a Suezmax-size tanker for export in both options;
- Two loading lines from the onshore storage to the Load-Out Facility (LOF);
- The connection from the potential on-shore storage terminal will either be across the causeway or sub-sea;
- The LOF for crude oil export will be designed for Suezmax-size type tankers for transportation in batches of 1MM bbl;

- Where applicable, Project facilities will be designed using closed drain systems that will collect discharge from pipework and equipment within AGIs during routine operations and maintenance and direct any discharges to a dedicated storage vessel to prevent discharge to the environment;
- Best Available Technology (BAT) will be used - the Project will be designed so that all emissions and discharges meet applicable environmental standards; and
- The Project, and construction activities will be designed in line with the environmental mitigation measures defined in the ESIA.

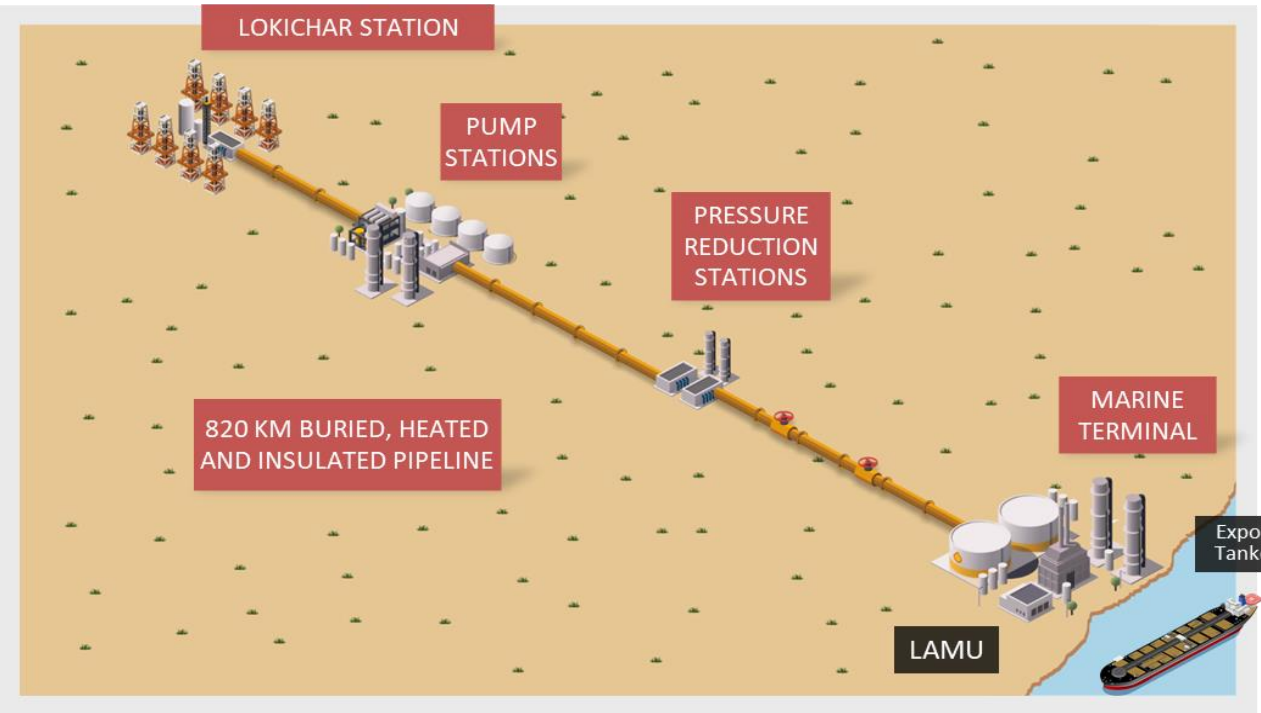


Figure 2: Schematic Representation of Key Design Elements of LLCOP

The AGIs will be constructed in securely fenced compounds and most will operate automatically being controlled remotely from the main pipeline operational management control centre. The majority will be block structures (buildings), with the equipment enclosed within the unit. Operational design and performance standards for the AGIs will be finalised by the FEED designer and their potential impact on the surrounding environment will be assessed in the Impact Assessment.

At Lamu Port, the Pipeline will arrive at a crude oil storage facility. Two options are currently being evaluated; a land side Marine Storage Terminal consisting of three above ground floating roof storage tanks (3 x 500,000 bbl) or a floating Storage Option consisting of a leased permanently moored VLCC located at the berth, with product transferred directly from the VLCC via the Load-out Facility to a Suezmax-size tanker for transportation in batches of 1MM bbl;

There will be two loading lines to the Load-Out Facility (LOF). This will either be a jetty and trestle or a sub-sea option.

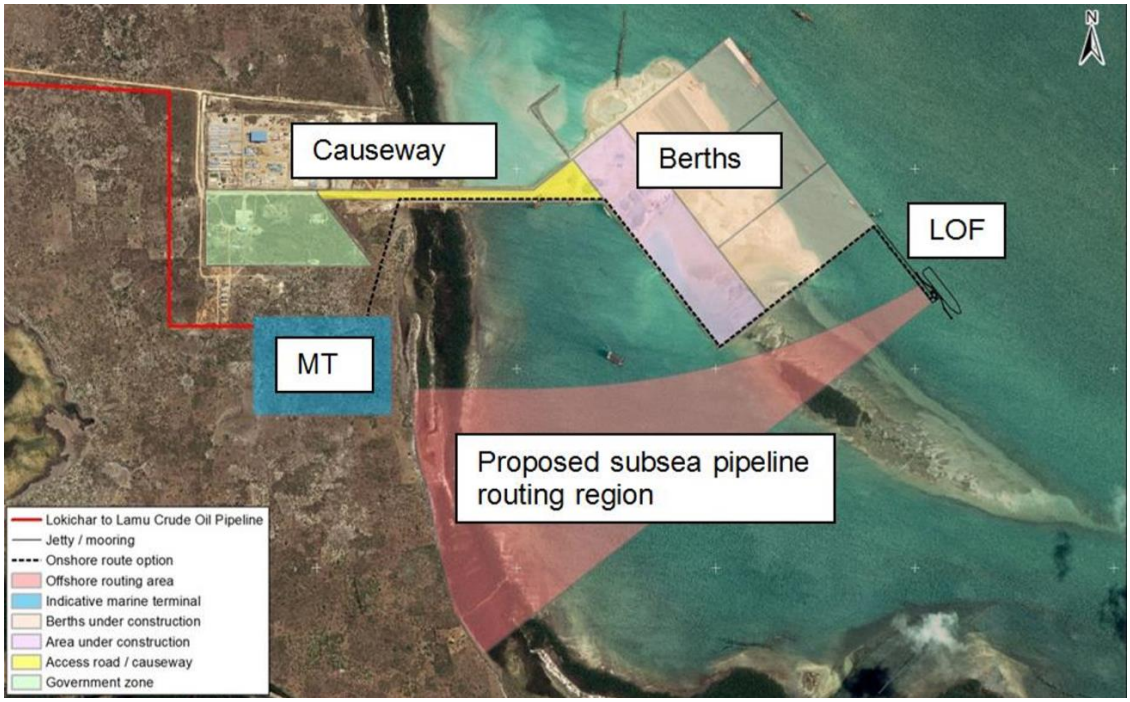


Figure 3: Proposed Layout Options for the LLCOP at Lamu Port.

3.2 Pipeline Construction

Pipeline construction is a sequential process and comprises a number of distinct operations which are described below. Final construction techniques are to be determined during the detailed design. Typically, construction activities at any one pipeline construction site can move forward at the rate of approximately 600 m per day, although this will be dependent on the nature of the ground and the weather.

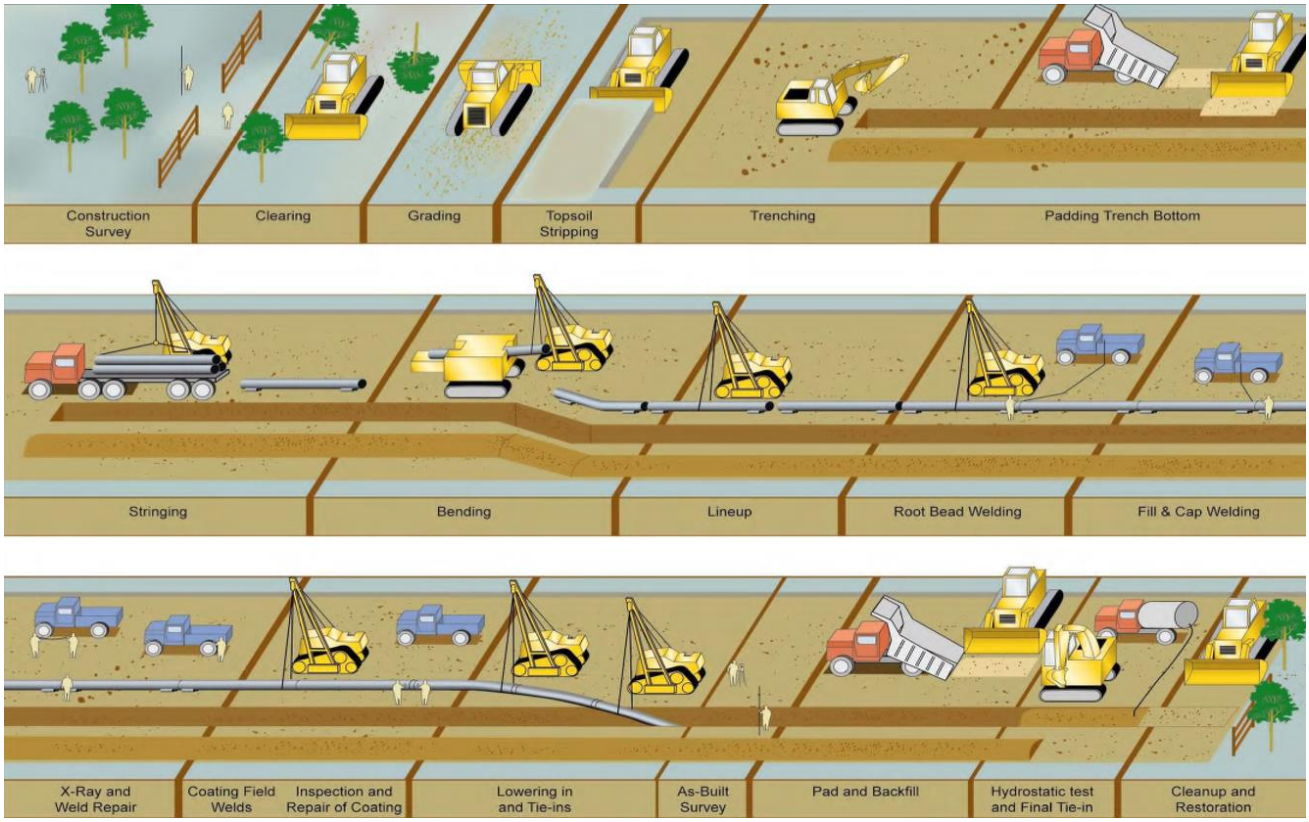


Figure 4: Typical Pipeline Construction Sequence

The majority of the route is expected to be constructed using conventional excavation and back-fill, which involves the digging of the trench directly into the surface ground layer. Laying of the pipes, burying the pipe and back–filling the trench back to the previous ground level. The objective will be to return the ground to its previous condition and characteristics as quickly as possible. Original soil and earth structures will be used as far as possible to minimise introduction of new or invasive species. The proposed conventional trench and backfill construction technique will be used for the majority of the route and will be undertaken within the approximately 30 m wide construction wayleave. This working width is adequate to allow the safe working of the expected construction plant and provision of a parallel vehicle access route. Proposals for the reclamation of the 30 m construction easement down to the required 6 m operational strip following the construction phase, will be assessed in the ESIA.

For major river crossings the Horizontal Directional Drilling (HDD) methodology is preferred. The use of HDD at the crossing points will be determined through advanced geotechnical survey boreholes at each location. Should HDD not be applicable, micro-tunelling will be used as an alternative construction method.

The construction compounds will be temporary work compounds, only existing for the duration of time the construction teams are in the field. A typical size compound is expected to house around 350 workers at any time plus equipment, with maintenance capability, stores, pipe warehousing and worker support facilities such as canteens, washing facilities and accommodation. The construction camps will be provided with the full range of facilities and amenities for worker's welfare, including sleeping, catering, medical and hygiene facilities. They will have independent power sources and controlled water supplies including waste, waste water and surface water runoff handling capacity to minimise detrimental environmental effects.

The pipeline laydown areas are likely to be extensive in area although not complex in potential impact. Construction camps will be temporary and only existing to support the construction activities for their targeted construction segment. Surface grading, soil removal and installation of drainage infrastructure for these areas is expected.

Proposed plans for the reclamation of the construction camps and laydown areas following the construction phase will be assessed in the ESIA.

4.0 APPROACH TO THE ESIA

The following sections provide an overview of the planned approaches, key issues and locations proposed for investigation for the baseline studies of the LLCOP ESIA. It also highlights selected specific elements for impact assessment which will be considered in the ESIA, based on the studies to date, informing this Scoping Report.

4.1 The LLCOP ESIA

This ESIA is focused on the LLCOP Project, and the full LAPSSET Corridor programme is not within its remit. The LAPSSET Corridor has been subject to a separate Strategic Environmental Assessment (SEA) which has been reviewed and approved by the Kenyan National Environment Management Agency (NEMA). Further developments within the framework of LAPSSET will be subject to component-specific ESIAs by the respective Proponent.

This ESIA ToR summarises the approaches detailed in the accompanying Scoping Report. Following approval of this ToR by NEMA a detailed work plan for the ESIA activities will be finalised for internal planning purposes.

5.0 FIELD ACTIVITIES UNDERTAKEN DURING SCOPING STAGE

This section sets out baseline data collection and stakeholder consultation activities undertaken during the scoping stage for the ESIA.

5.1 Advanced Baseline

Advanced baseline studies have been undertaken prior to submission of the ESIA TOR and in parallel with the ESIA Scoping Stage. This was considered necessary, in order, for the ESIA team to undertake biodiversity surveys in the period of the long rains of 2018. These studies were undertaken in May and June 2018. Areas for investigation were selected after consideration of Critical Habitat Screening, key areas where physical habitat responses to the rains are likely to be pronounced and also related to physical access and security considerations for field teams.

The biodiversity studies were performed by the ESIA Biodiversity Team, who have prepared a range of field reports. This informs the accompanying Scoping Report and this ToR, as well as providing wet season data sets for the main baseline.

Water quality sampling of the water in the marine area around Lamu Port was also undertaken during this period.

5.2 Stakeholder Consultation

A stakeholder consultation exercise was carried out along the LLCOP route to support the scoping for this ESIA. The important point to note for the LLCOP ESIA ToR is that key concerns raised by national and county-level stakeholders during these sessions have been noted and documented. and it is the intention of this ESIA to examine these concerns to provide further information for Project design and planning purposes.

The LLCOP ESIA Team is aware of the recent Court Judgement concerning the Lamu Port EIA[2]. Together with the PPMT, the ESIA Team will co-ordinate stakeholder engagement and communications throughout the ESIA process with the intention of ensuring transparency in approach through an ongoing process of consultation and engagement within each County along the LLCOP route.

6.0 LAND ACQUISITION PROCESS

The LLCOP will be constructed wholly within the LAPSSET Corridor. The land acquisition for the LAPSSET corridor is managed under a separate Government-led process independent of the LLCOP. As such, all land within the LAPSSET Corridor alignments will be acquired by the Ministry of Land & Physical Planning working with the National Land Commission (NLC) and will then be transferred to the LAPSSET Corridor Development Authority (LCDA) under the process set out in the Land Act (No 6 of 2012). As the registered land owner, LAPSSET will then grant a lease to LLCOP.

On 29 June 2016 the LAPSSET Corridor Development Authority submitted to the National Land Commission a request for issuance of land title deeds to LCDA (as the Trustee of all LAPSSET Corridor Project implementers) for all LAPSSET Corridor Project Component areas and investment areas along the LAPSSET Corridor.

The process of acquiring land for the LAPSSET Corridor is underway and is being led by the Ministry of Lands and Physical Planning. This process is running concurrently with the ESIA.

[2] Petition No 22 of 2012

As LLCOP will not be acquiring the land, there is therefore no requirement for the LLCOP to prepare a Resettlement Action Plan (RAP) which is the mandate of the NLC. However, this ESIA will examine the impact of LLCOP on livelihoods and present recommended mitigation methods.

If during the ESIA process there is any requirement to make minor alterations to the LLCOP route outside the existing LAPSSET corridor to avoid sensitive receptors, the LAPSSET corridor will be redefined in accordance with Kenyan regulatory requirements to include these areas. This will be reported in the ESIA report.

7.0 ESIA STAKEHOLDER ENGAGEMENT

The approach to stakeholder consultation will be to use an Informed Consultation & Participation (ICP) process for affected communities. This will be supported by a series of community engagement meetings along the entire length of the LLCOP route, which will be undertaken by the ESIA Stakeholder Engagement Team in conjunction with the PPMT and LAPSSET.

The Scoping Study has instigated and reported a two-tier approach to stakeholder engagement, with meetings held for national-level stakeholders in Nairobi for parliamentarians and NGO representatives, and county-level stakeholder meetings (for both state and non-state actors) were held in each respective county headquarters. Results and findings have been reported in a stand-alone Scoping Consultation Report.

The next stages of ESIA stakeholder consultations will build on this approach, together with a third tier which will be focused on community-level engagement. While there will be continued engagement at the national and county levels, more intensive and extensive engagements are proposed with affected communities. This will focus on identifying and engaging stakeholders at the community level to inform them of the proposed Project and to receive comments and feedback from local stakeholders for consideration within the ESIA process.

7.1 Approach

The stakeholder approach at the national level will include multi-stakeholder workshops and, where necessary, one-on-one meetings, while that for the county and community levels will focus on a wide range of different types of engagement methods to ensure coverage of relevant stakeholders across all counties.

During the Scoping exercise, stakeholders and stakeholder groups were identified. A mapping exercise was then undertaken to understand the nature and degree of interest or influence these stakeholders have on the Project. The approach to stakeholder engagement for this ESIA segments the stakeholders into:

- National Government and Government agencies, National Level Non-State Actors (NGOs, CSOs, Religious Organizations, Private Sector entities);
- County-level Governance and county level Non-state actors; and
- Communities (community members along AOI, specific interest community groupings such as user type associations e.g. beekeeping, Self-help groups, pastoralists, women, youth and community associations)

The ESIA Stakeholder Engagement Team will be coordinated by the National Stakeholder Lead who will deliver the national level workshops and oversee all other consultations. The county-level and community-level consultations will be undertaken under the leadership of ESIA Regional Stakeholder Coordinators accompanied by county-based support teams. Each county will have an ESIA County Coordinator and approximately 3 support persons. The teams, led by Kenyan experts, will have a full team briefing in methodologies, reporting and project information prior to the field programme.

The ESIA Regional Stakeholder Coordinators are all from the respective regions and are well versed with the language, dynamics and circumstances within each county, ensuring a robust and effective approach to consultation.

A GIS-based mapping exercise will be used, in conjunction with consultation, to delineate within the Project AoI which settlements will be identified as potentially project-affected. Based on this, and in consultation with appropriate stakeholders, suitable locations for community *barazas* will be identified. The programme will be implemented in October /November 2018 across the entire LLCOP route. Centres proposed for Baraza's are given in Figure 5 below. The consultation programme will finish with workshops for the Parliamentarians and NGO Groups in Nairobi where the opportunity will be taken to inform and update the audiences of key findings to date. Given limiting factors, principally security and access, this exercise will aim to ensure that as far as practicable all community-level stakeholders can access community *barazas*. Towns in the potential Project AoI are shown in Figure 5.

Follow up meetings have been allowed for after this exercise to cater for the eventuality that some mobile groups have not been engaged in the above programme due to seasonal migration. These groups will be identified during the community engagements and with the local leadership.

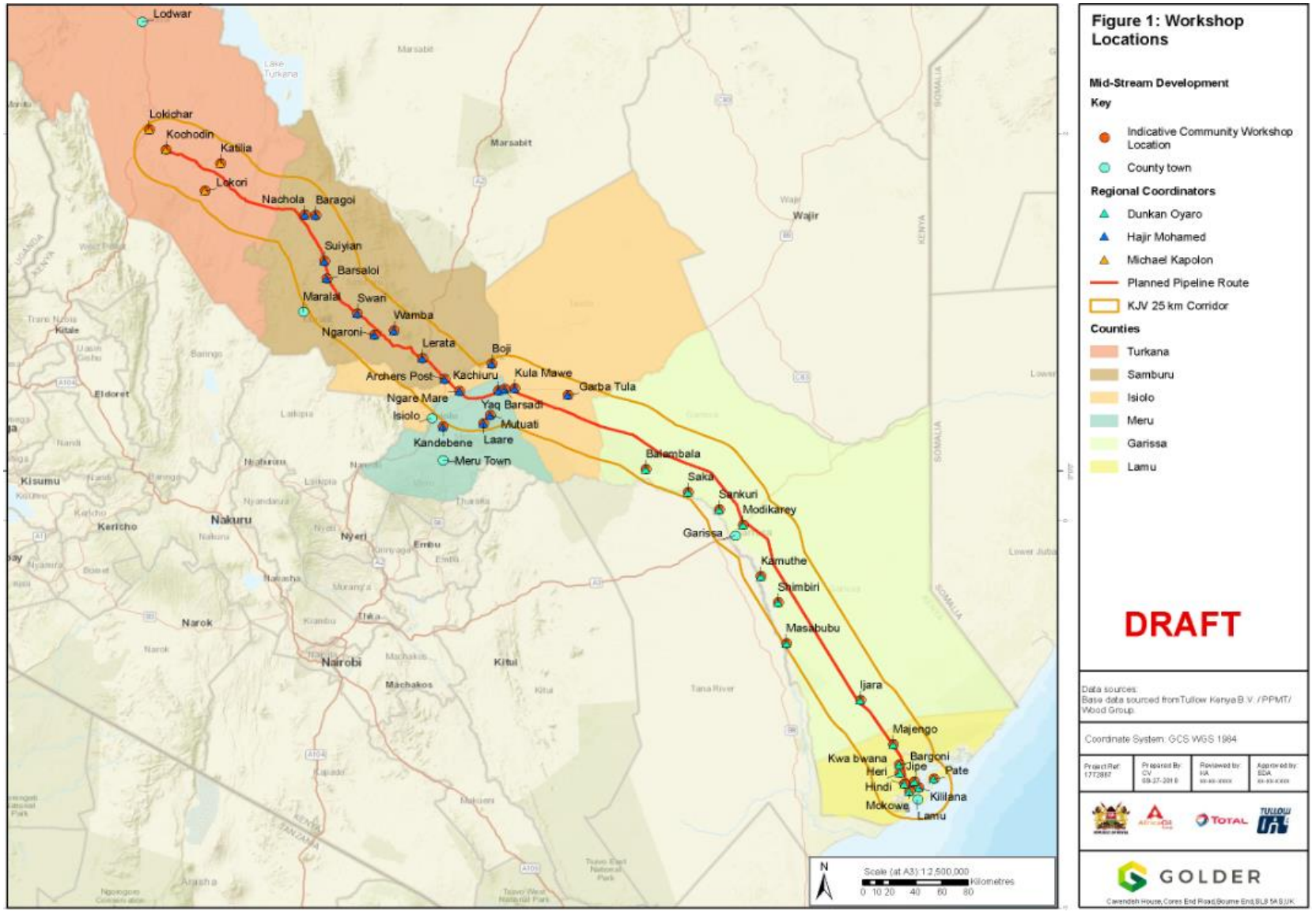


Figure 5: Proposed Stakeholder and Community Engagement Locations

The Stakeholder Engagement team will be organised into three parallel teams that will deliver the engagement programme in the counties as follows:

- Team 1 – Lamu and Garissa;
- Team 2 – Isiolo, Meru and Samburu; and
- Team 3 – Turkana.

The reason for this structure is to use experts who are well versed in the particularities of each regions social and cultural context. The Stakeholder Engagement Plan (updated) is presented in Annex 1 of this Report.

7.2 Notification Methods

The ESIA Stakeholder Engagement Team will carry out a notification exercise with the relevant stakeholders prior to all planned stakeholder meetings. The location and category of stakeholders will define the approach adopted for this notification. The Notifications will be delivered in English, Swahili and local languages as appropriate. It will be designed to ensure that adequate notice and information is provided, so that affected and interested parties are aware of and able to attend these meetings if they so wish. Notice will be given to stakeholders in compliance with the statutory requirement of 7 days as a minimum. Notifications will be implemented using a combination of letters, email, posters in strategic locations and radio advertisements as appropriate.

The key notification methods that will be used for different types of stakeholder meetings are summarised below:

- National level workshops: formal letters, emails and telephone follow-up;
- County level workshops: formal letters, emails and telephone follow-up; and
- Community *Barazas*: posters in strategic places such as marketplaces, chief's offices or churches/mosques; radio advertisements on local radio stations and verbal announcements from chiefs in other local forums.

The process of notification for community-level engagements is illustrated in Figure 6:

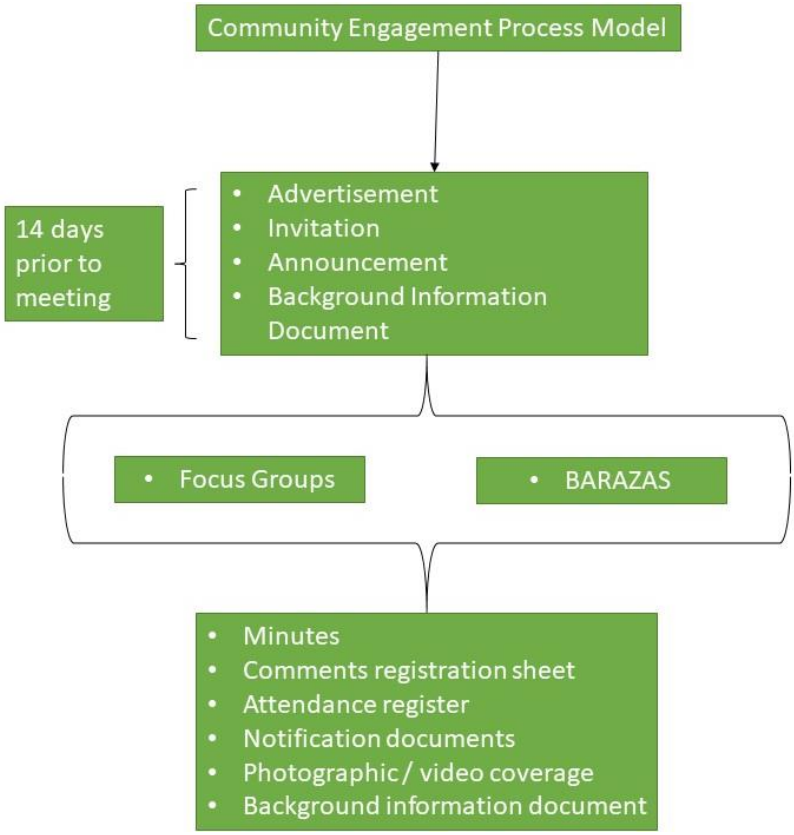


Figure 6: Process of Notification for Community-Level Stakeholder Engagement

7.3 Engagement Methods

A range of stakeholder engagement methods will be used. These will include, but not necessarily be limited to, the following:

- **Workshops**: These will be used for structured meetings at the national and county levels of engagement. They will offer an opportunity to inform stakeholders on project details, respond to queries and receive comments;
- **Individual consultations**: These will focus on key resource institutions and individuals with the intention of receiving informed opinions as well as strategic knowledge such as empirical monitoring and other data, community-based knowledge, policy and programme positions;
- **Public *barazas***: These will be held in community zones within optimal areas for invited participants comfort and easy access. The *barazas* will either be held in the open air or within appropriate community buildings such as halls or schools and will provide a forum for the ESIA team to inform community members of the Project and its attributes as well as to receive community feedback and comments on the Project; and
- **Focus group meetings**: These meetings will target special interest groups and vulnerable groups identified by the ESIA team for focused issue-specific consultation (e.g. women, bee keeping groups, fishermen).

7.4 Documentation of Stakeholder Engagement

Records will be made of all notification exercises as well as all stakeholder engagements (workshops, meetings etc). These meeting minutes will form an appendix to the Stakeholder Engagement Report that will form part of the ESIA report. Records of the meetings will include (as appropriate):

- Notification documentation;
- Background Information Document;
- Register of attendance;
- Comments sheets;
- Photographic/video coverage; and
- Minutes of meeting.

7.5 Grievance Mechanism

A grievance mechanism is being set up by the LLCOP in parallel to the ESIA. This will be developed further following the ESIA completion to address the needs of the construction and operations phases.

While the LLCOP ESIA will undertake stakeholder engagement related to the ESIA, the PPMT will be the ultimate "owner" of the relationship with local communities. These relationships will then be maintained throughout the Project life.

The LLCOP Community Relations Plan will set out how LLCOP will engage with local communities and will include a grievance management system. This will be supported by:

- County Commissioners and networks of local chiefs acting as a two-way channel for information;
- Monthly visits by LAPSSET Regional Coordinators;
- Bi-monthly visits by PPMT;
- Regular visits by SSEC (in support of LAPSSET and PPMT); and
- ESIA team activities.

7.6 Approach to Vulnerable and Marginal Groups

Vulnerable and Marginalised Groups will be considered using the approach and methodology set out in the World Bank publication *Country Social Analysis of Vulnerable and Marginalised Groups in Kenya*[3]. In practice, this will:

- Use the Vulnerable and Marginalised Group mapping in the publication to identify potential areas where vulnerable and marginalised groups may be affected by the project; and
- Undertake field-based verification and key informant interviews to confirm the presence and location of affected Vulnerable and Marginalised Groups.

Based on the above approach the ESIA will apply a consistent engagement framework across all identified vulnerable and marginal communities. Table 1 below is taken from the above referenced Report and presents the vulnerable and marginalised groups recognised by the Kenyan Constitution.

[3] World Bank Group. 2016. Country Social Analysis of Vulnerable and Marginalised Groups in Kenya: Guidance for Applying the World Bank Operational Policy 4.10 on Indigenous Peoples. World Bank, Washington, DC.

Table 1: List of Vulnerable and Marginalised Groups as per the New Kenyan Constitution

Name	Other Names Usually derogatory	Estimated Population[4]	Livelihood[5]	Administrative Location Counties[6]
Sengwer		50,000	HG/Farmers	Trans-Nzoia; Uasin-Gishu; West Pokot; Keiyo-Marakwet
Ogiek	Dorobo	40,000	HG/Farmers	Nakuru; Baringo; Uasin Gishu; Bomet; Kericho; Narok; Nandi
Waatha	Wasanye	13,000	HG/Farmers	Kwale; Tana River; Marsabit, Kilifi
Aweer	Boni	7,000	HG	Lamu, Tana River
Yiaaku	Dorobo	4,000	HG/Farmers	Laikipia
El Molo		2,900	Fishing	Marsabit, Samburu
Ilchamus		33,000	Fishing/Farmers/ Livestock Keeper	Baringo
Endorois	Dorobo	60,000	Fishing/Farmers/ Livestock Keeper	Baringo, Laikipia
Borana		136,936	Pastoralists	Marsabit, Wajir
Gabra		31,000	Pastoralists	Marsabit, Samburu
Rendille		62,000	Pastoralists	Marsabit, Samburu
Turkana		1,008,463	Pastoralists	Turkana, Baringo, Laikipia
Pokot		662,000	Pastoralists	West Pokot /Baringo
Maasai		666,000	Pastoralists	Narok, Kajiado

Source: ERMIS Africa Ethnographic Survey of Marginalized Groups, 2005-2012

This approach will document the engagement process with affected communities during the LLCOP ESIA stakeholder engagement programme and provide records of community meetings and barazas at which the affected communities were given the opportunity to provide their views.

[4] Internet based – several sites
[5] Source: ERMIS Africa Ethnographic Survey of Marginalized Groups, 2005-2012
[6] Ibid.

8.0 FIELD BASELINE STUDIES

For the field baseline studies, the ESIA ToR divides the route into sectors, within which baseline field studies will be managed and undertaken. These sectors are of differing lengths and area, and are defined by local characteristics, access or homogeneity and may cross county boundaries.

8.1 Area of Influence and Field Study Areas

The sector maps in this ToR are for location information only and are of a certain size for graphic representation on a map of this scale and do not necessarily coincide with the Project AoI. The field surveys will concentrate on the route centre line and will cover appropriate distances either side of that centre line. Where appropriate (as discussed in the Scoping Report) AoIs for wider areas (often defined by the presence of identified receptors) may be applied where considered appropriate.

8.2 Use of Satellite Data

Given the nature of the physical and security environment in certain sectors, there are challenges in ensuring appropriate coverage by the field teams for the complete route. The ToR proposes to minimise this issue by using detailed satellite imagery (ortho-mosaic) collected by PPMT for the entire route and which provides a 50 cm ground resolution and covers approximately 2.5 km either side of LLCOP route centreline. This will supplement the field studies to provide continuity of the ESIA baseline along the full LLCOP route.

It is planned that field teams will undertake surveys of all key characteristic/representative areas along the LLCOP route as well as any areas which scoping may indicate the potential for sensitive environments to be present. The ESIA detailed work plan which will be prepared based on the ToR will include the visit schedule and logistics arrangements for all areas to be visited. As noted in Section 7.2 of the Scoping Report, security conditions prevailing at the time of the baseline visits will be a key factor in determining schedule, access, logistics and field team composition.

The following sections present the ESIA baseline sector maps and give an introduction to the ESIA baseline approach for each sector. For each sector, a brief summary is provided as follows:

- **Characteristics**: This is a brief overview of the physical typology of the entire sector;
- **Field visit rating**: An estimate of likelihood of field team gaining suitable (and safe) access to the area;
- **Key Teams**: Priority field teams for surveying within each sector. Social Engagement team activities and access along the route is considered in Section 2.3 of this ToR Report. The teams have been identified in response to the findings of the Scoping Studies with the objective of filling data/knowledge gaps and/or seasonal difference; and
- **Notes**: Any particular points relevant to the ToR planning for the sector.

8.3 Sector A: Turkana

Characteristics: semiarid / arid environment, sparsely populated.

Field Visit Rating: 95%.

Key Teams:

- Biodiversity: mammals / birds / aquatic ecosystems/herpetology/invertebrates/flora;
- Cultural Heritage: survey of route for Pastoral Neolithic and hunter gatherer artefacts/areas of interest; and
- Social: socio-economic information, livelihoods, community health safety & security, stakeholder engagement.

Notes:

Field visits for biodiversity in this sector for the advanced baseline surveys had to be postponed in June 2018, as a result of community activism at the time of the planned visit. It is anticipated that this work will be able to be undertaken as part of the main ESIA baseline studies.

8.4 Sector B: Kerio River

Characteristics: key major river (permanent) in semi-arid area, sparsely populated.

Field Visit Rating: 95%.

Key Teams:

- Biodiversity: mammals/birds /aquatic ecosystems/herpetology/invertebrates/flora;
- Cultural Heritage: rock paintings from Neolithic periods and potential early pastoralist/hunter-gatherer finds;
- Water Quality: sampling and measurement of river and key water regime characteristics; and
- Social: socio-economic information, livelihoods, community health safety & security, stakeholder engagement.

Notes: Access routes into the area from Lokori.

8.5 Sector C: Suguta River

Characteristics: Major permanent river with important indicators, unique habitats and migratory routes; exposed lava rock habitats and sand dunes within valley area;

Field Visit Rating: 95%.

Key Teams:

- Biodiversity: mammals/birds/aquatic ecosystems/herpetology/invertebrates/flora;
- Water Quality: sampling and measurement of river and key water regime characteristics. and
- Social: socio-economic information, livelihoods, community health safety & security, stakeholder engagement.

Notes: Access routes for eastern side bank of the river valley from the Baragoi area. Closest overland access to the western bank without specialist access equipment is circa 27 km. The ESIA team is considering options or access from the western bank.

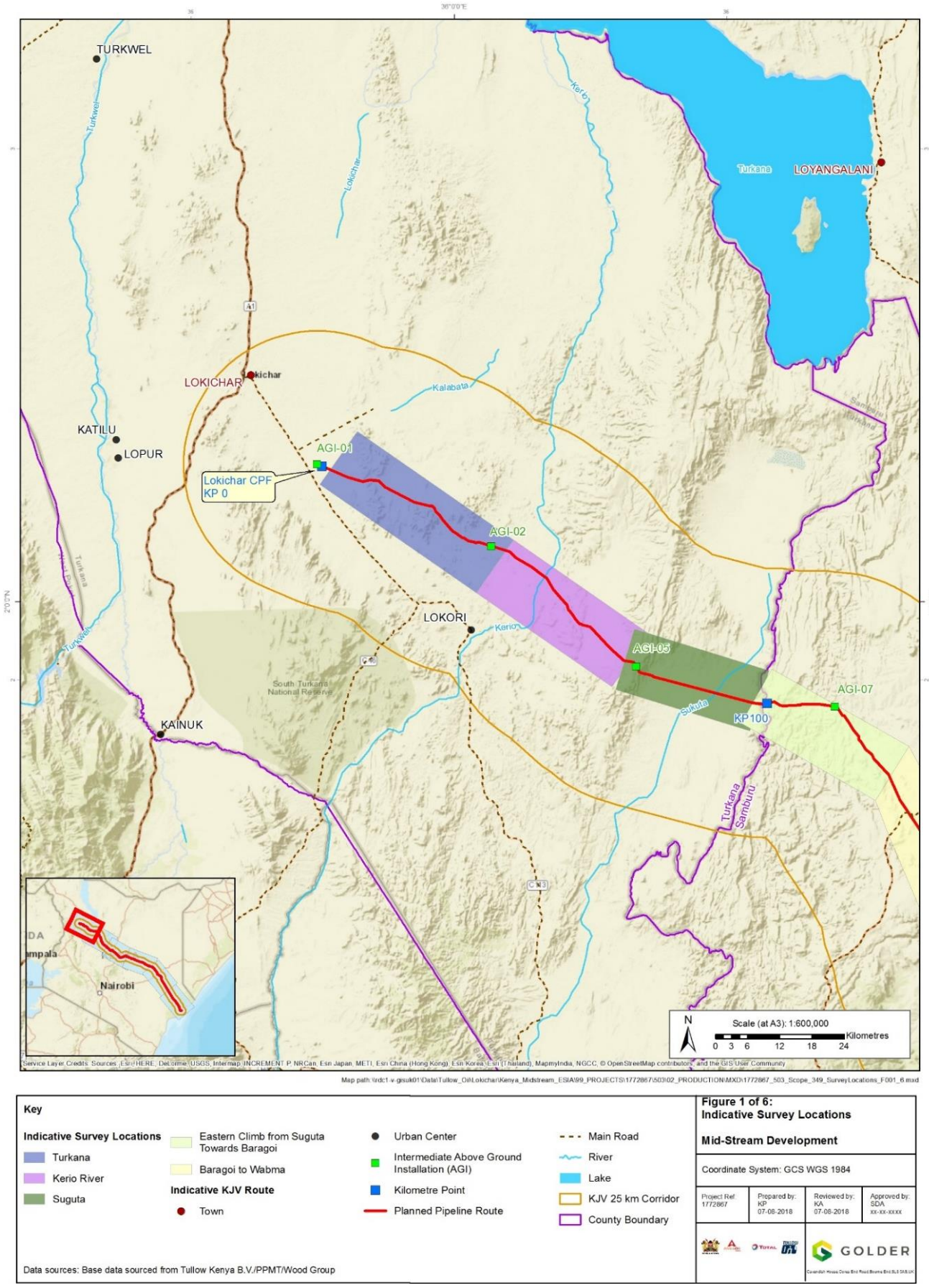


Figure 7: Route Baseline Sectors - Turkana to Baragoi

8.6 Sector D: Suguta to Baragoi Area

Characteristics: The main climb along the LLCOP route, through lava rocks and approximately a 950m increase in elevation up to the plateau.

Field Visit Rating: 95%.

Key Teams:

- Biodiversity: mammals/birds/aquatic ecosystems/herpetology/invertebrates/flora;
- Cultural Heritage: potential Nakali collection influence area; and
- Social: socio-economic information, livelihoods, community health safety & security, stakeholder engagement.

Notes: Access from Baragoi area.

8.7 Sector E: Baragoi to Wamba

Characteristics: semi-arid zone, the LLCOP route is dissected by many seasonal luggas and sparsely populated; area of potential erosional impacts; are of potential wildlife migration routes.

Field Visit Rating: 95%.

Key Teams:

- Biodiversity – mammals/birds/herpetology/invertebrates/flora;
- Air Quality and Noise: ambient monitoring for air and noise;
- Water Quality: Seasonal luggas investigated during wet season conditions (first phase undertaken during Advanced Baseline Studies);
- Soils: potential environmental impacts from increase in rates of erosion; and
- Social: socio-economic information, livelihoods, community health safety & security, stakeholder engagement.

Notes: Field teams to build on understanding from advanced baseline field work for dry season.

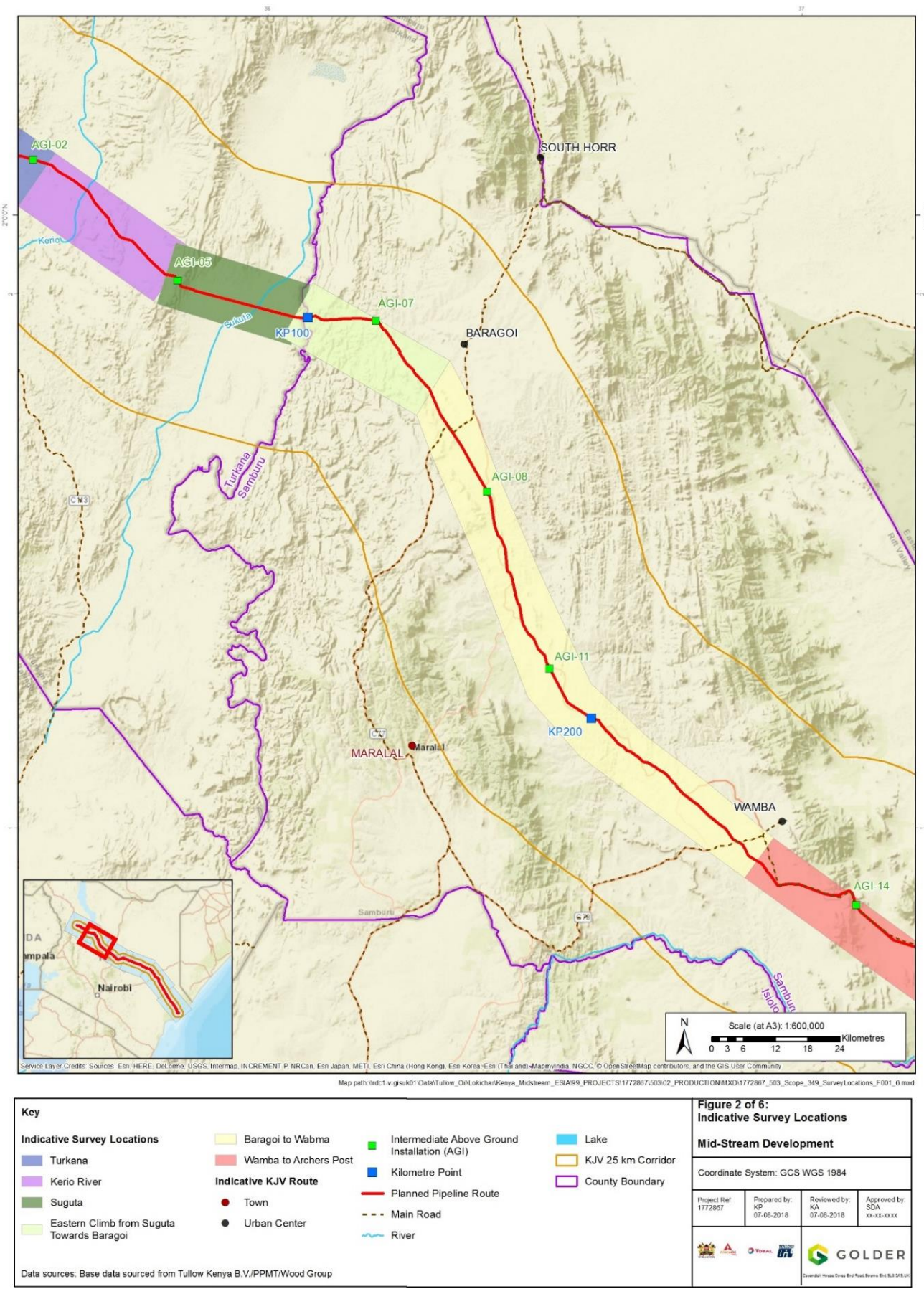


Figure 8: Route Baseline Sectors - Suguta to South of Wamba

8.8 Sector F: Wamba to Archers Post

Characteristics: A key LLCOP route sector including a constrained pass section below the Matthews Range; proximity to Conservancies and National Parks; modified landscapes on LLCOP route; population centres of Wamba and Archers Post within Project AoI.

Field Visit Rating: 100%.

Key Teams:

- Biodiversity – mammals/birds/herpetology/invertebrates/flora;
- Air Quality and Noise: ambient monitoring for air and noise;
- Cultural Heritage: Late Stone Age site potential on Ewaso Ngiro plains; and
- Social: socio-economic information, livelihoods, community health safety & security, stakeholder engagement.

Notes: LLCOP route area in proximity to human populations and areas of biodiversity importance; LLCOP construction activities and impacts will be noticeable and noted by local communities and land users; important protected biodiversity areas nearby and key tourist and transport hub of Archers Post.

8.9 Sector G: Ewaso Ngiro River

Characteristics: Major permanent river draining west to east; important for biodiversity and population in close proximity vicinity of the pipeline route.

Field Visit Rating: 100%.

Key Teams:

- Biodiversity: mammals/birds/aquatic ecosystems/herpetology/invertebrates/flora;
- Air Quality and Noise: ambient monitoring near Archers Post;
- Water Quality: sampling and measurement of river and key water regime characteristics; and
- Social: socio-economic information, livelihoods, community health safety & security, stakeholder engagement.

Notes: Important river crossing albeit in disturbed and/or modified area; likely high-profile construction activity and interaction of construction teams with local community; likely to be one of the most publicly visible areas for LLCOP construction activities, impacts and mitigation.

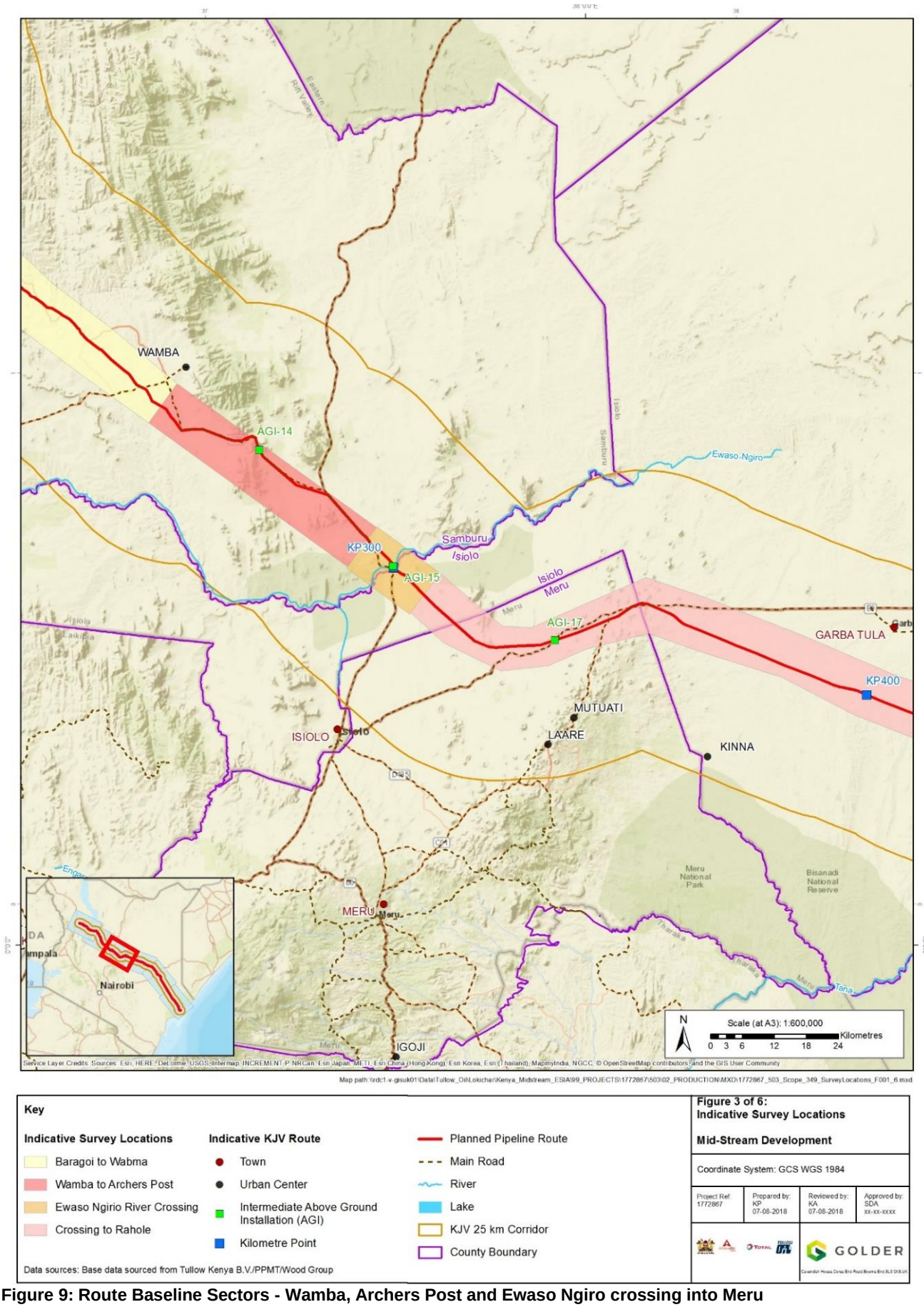


Figure 9: Route Baseline Sectors - Wamba, Archers Post and Ewaso Ngiro crossing into Meru

8.10 Sector H: Kula Mawe to Garba Tula

Characteristics: semi-arid acacia landscape; sparse population along route but proximity to populated areas in Isiolo and Meru.

Field Visit Rating: 95%.

Key Teams:

- Biodiversity: mammals/birds/aquatic ecosystems/herpetology/invertebrates/flora;
- Air Quality and Noise: Ambient monitoring for air and noise; and
- Social: socio-economic information, livelihoods, community health safety & security, stakeholder engagement.

Notes: Field teams will avoid military areas along the southern proximity of the LLCOP route in this area.

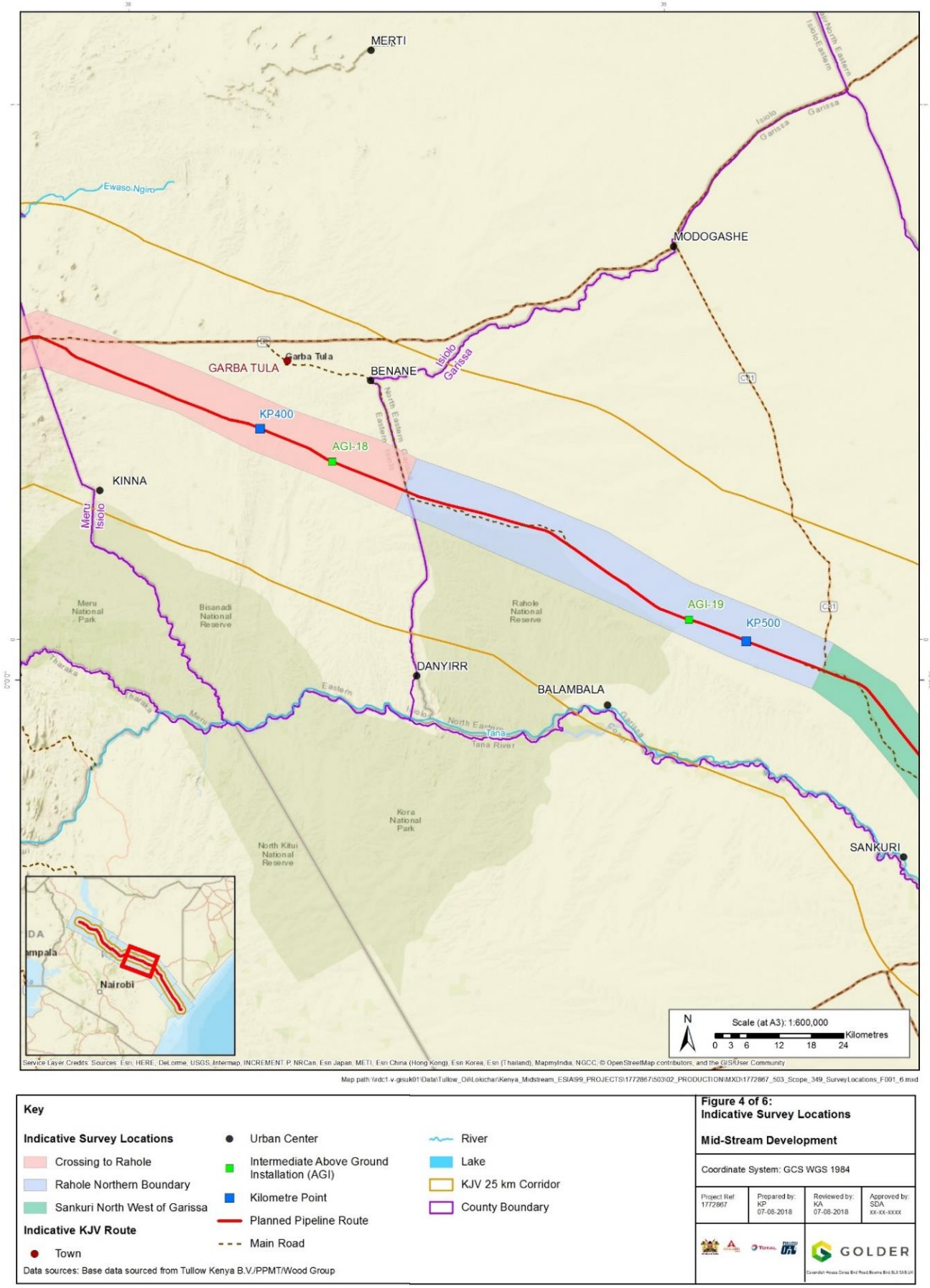


Figure 10: Route Baseline Sectors - Kula Mawe to Garba Tula

8.11 Sector I: Rahole Park Northern Boundary

Characteristics: semi-arid acacia landscapes with sparse population.

Field Visit Rating: 60%.

Key Teams:

- Biodiversity: mammals/birds/aquatic ecosystems/herpetology/invertebrates/flora;
- Air Quality and Noise: ambient monitoring for air and noise; and
- Social: socio-economic information, livelihoods, community health safety & security, stakeholder engagement.

Notes: This sector is identified for potential security access limitations for field teams.

8.12 Sector J: Sankuri Area – North West of Garissa

Characteristics: semi-arid acacia landscapes with sparse population.

Field Visit Rating: 65%.

Key Teams:

- Biodiversity: mammals/birds/aquatic ecosystems/herpetology/invertebrates/flora;
- Cultural heritage – Scoping Report indicates cultural sites such as cairns could be present in the Sankuri area; and
- Social: socio-economic information, livelihoods, community health safety & security, stakeholder engagement.

Notes: The Sankuri area is often subject to additional security measures and field visits are dependent on the situation at the time.

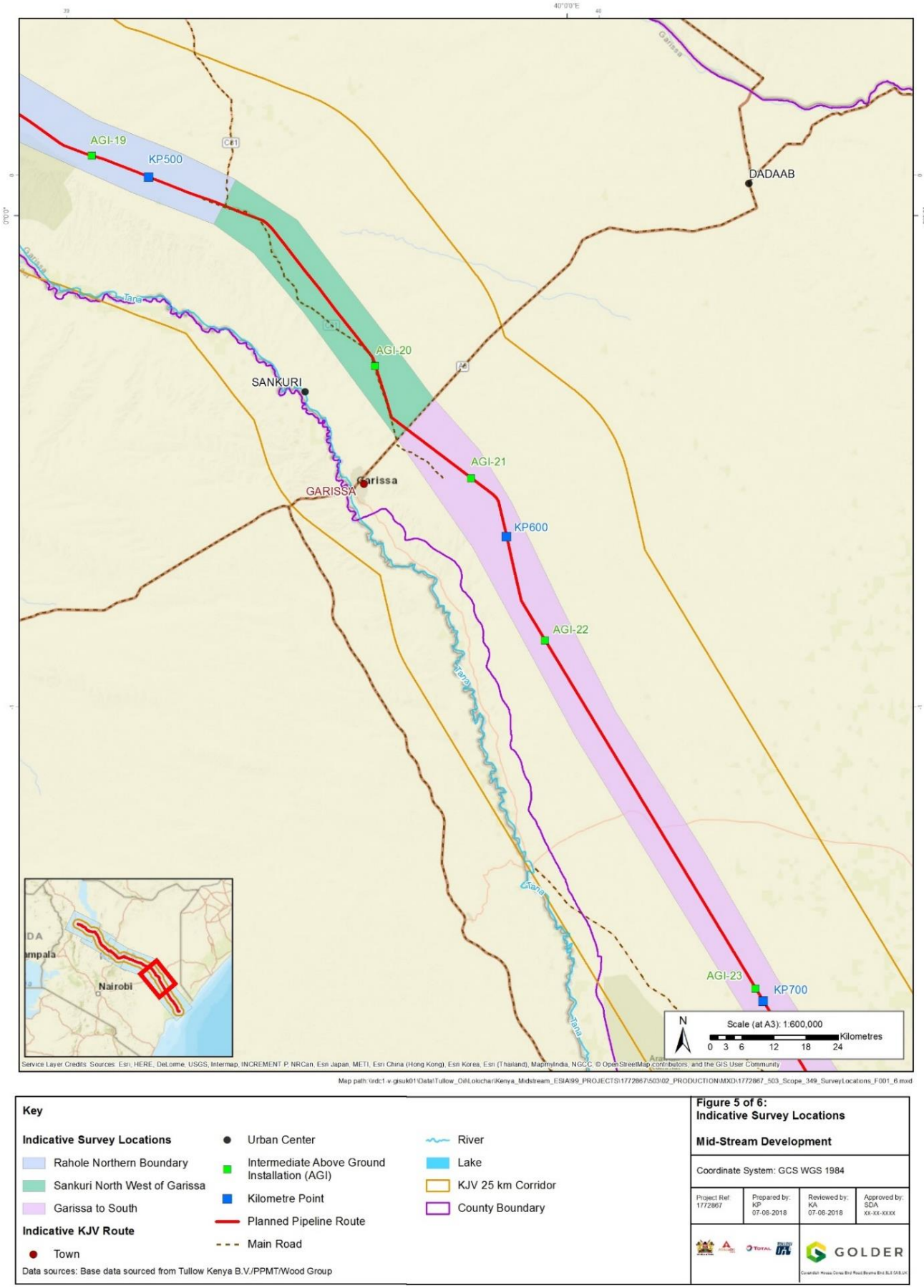


Figure 11: Route Baseline Sectors - Sankuri to South of Garissa

8.13 Sector K: Garissa towards Ijara

Characteristics: semi-arid area with sparse population.

Field Visit Rating: 50%.

Key Teams:

- Biodiversity: mammals/birds/aquatic ecosystems/herpetology/invertebrates/flora;
- Air Quality and Noise: ambient monitoring for air and noise; and
- Social: socio-economic information, livelihoods, community health safety & security, stakeholder engagement.

Notes: Indications are that satellite data should provide a good understanding of most of route in this sector. However, some field studies for mammals in particular will be a key objective; conservation measures for Hirola during construction will be required; data sets for Hirola will be obtained from KWS to supplement field studies.

8.14 Sector L: Inland Lamu and Coastal Forest

Characteristics: Increasing density of coastal forest and areas of standing water present sensitive ecosystems; increased population with some permanent settlements and agriculture.

Field Visit Rating: 50%.

Key Teams:

- Biodiversity: mammals/birds /aquatic ecosystems/herpetology/invertebrates/flora;
- Air Quality and Noise: ambient monitoring for air and noise; and
- Social: socio-economic information, livelihoods, community health safety & security, stakeholder engagement.

Notes: The area inland of Lamu is subject to incursions and social tensions, making it an area of risk for outside visitors and survey teams; the ESIA team has been discussing the options to undertake limited survey on the LLCOP route (selected points) in this area, supported by high security measures and this is being investigated further; it is likely that important assemblages of flora and fauna will be found in this area.

8.15 Sector M: Lamu Port and Lamu Marine Area

Characteristics: coastal littoral habitats, important mangrove habitats and turtle breeding grounds, important artisanal fisheries with settlements and the main town of Lamu are in close proximity.

Field Visit Rating: 95%.

Key Teams:

- Biodiversity: mangroves/turtles/marine surveys/dugongs/cetaceans/birds;
- Cultural Heritage: Swahili origin culture and Lamu old Town UNESCO World Heritage site;
- Air Quality and Noise: ambient monitoring for Marine Terminal Storage Area and LOF;
- Water Quality: sampling and measurement of key water characteristics in Lamu Port Marine Area; and
- Social: socio-economic information, livelihoods, community health safety & security, stakeholder engagement.

Notes: Key baseline area for marine impact assessment, particularly with reference to LOF and maritime transport; potential for significant oil spills.

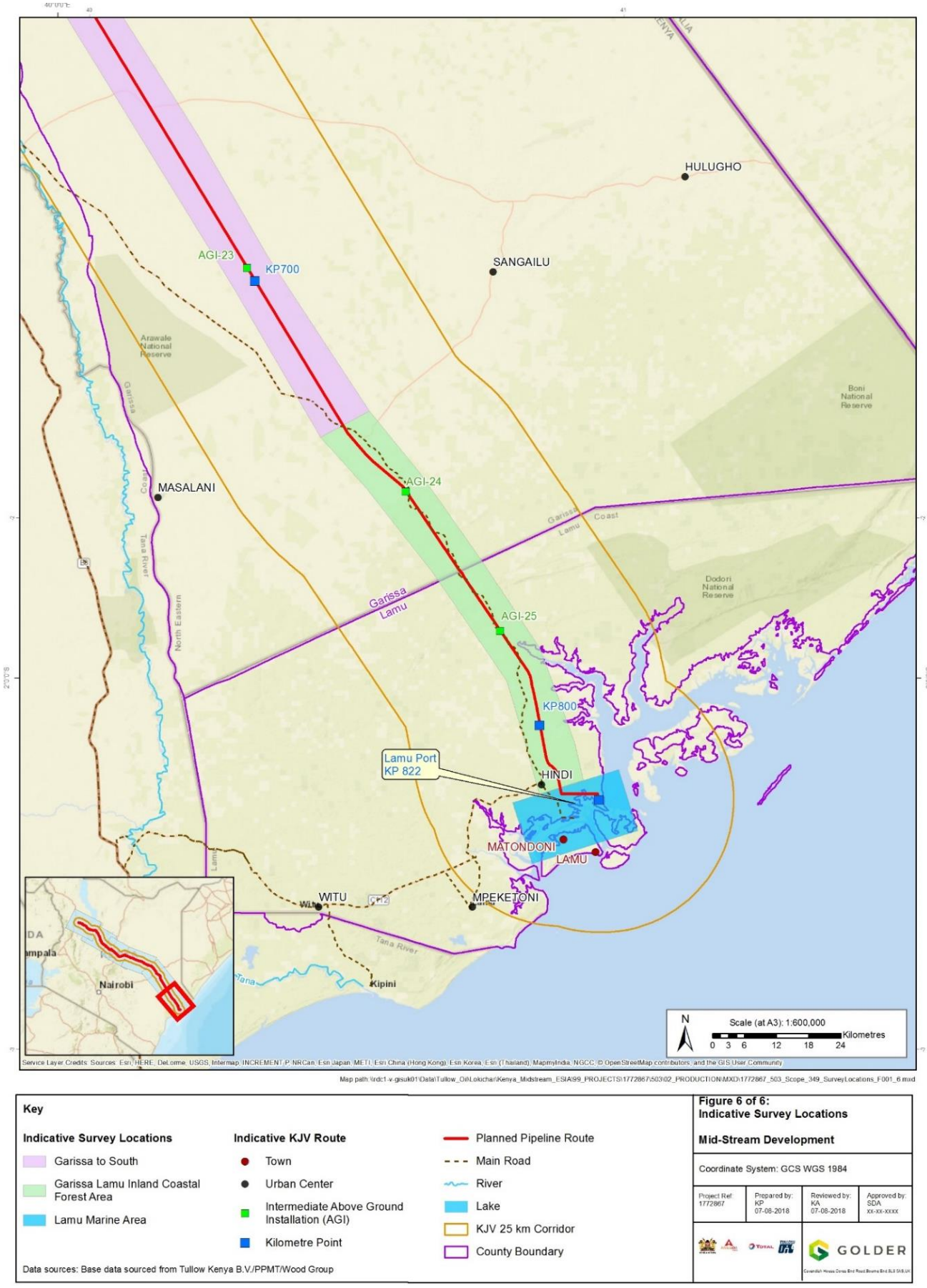


Figure 12: Route Baseline Sectors - South of Garissa to the Lamu Marine Area

9.0 IMPACT ASSESSMENT ISSUES

The above discussion covers the LLCOP route to be assessed. However, in addition to assessment of potential construction and operational impacts along LLCOP route there are further issues of additional significance for the ESIA which will be considered in the impact assessment and for which further specialist modelling or other studies may be required.

9.1 Terrestrial Oil Spill/Release

Leakage and /or spills of crude oil from the pipeline along the LLCOP route will be considered in the ESIA. This will include consideration of the characteristics of the crude oil and its behaviour in the receiving marine environment, specifically:

- Soils and groundwater surrounding and/or adjacent to the pipeline;
- Permanent rivers crossed by the pipeline; and
- Seasonal luggas crossed by the pipeline.

9.2 Marine Oil Spill/Release

Leakage and /or spills of crude oil from the LLCOP pipeline, storage facilities and marine offloading facility will be considered in the ESIA. This will include consideration of the characteristics of the crude oil and its behaviour in the receiving marine environment. This will include spill dispersion modelling of potential release scenarios and development of appropriate mitigation measures, oil spill sensitivity mapping and emergency response plans.

9.3 Pipeline Construction Camps

The construction camps, although temporary, have the potential to create local impacts through disruption to local economies, communities and pressure on local resources etc. The proposed locations for the construction camps will be considered by the ESIA team and will be supported by an assessment of proposed locations, analysis of specific potential issues at particular camp locations and the environmental and social mitigation measures proposed to control any such impacts.

9.3.1 Pipeline Laydown Areas

The pipeline laydown areas are likely to be extensive in area although not associated with complex potential impacts. Like the construction camps they will be temporary and only existing to support the construction activities for their targeted construction segment. Surface grading, soil removal and drainage infrastructure for these areas is expected.

9.3.2 Pipeline Treatment and Coating Facilities

Imported pipe lengths will require treatment and coating prior to transport to the pipeline laydown areas. These will be considered by the ESIA.

9.3.3 Material Transportation Routes

The LLCOP Project will also require a large quantity of materials, pipes, machinery, consumables etc. This will need to be transported to the laydown areas and then to pipeline construction areas prior to use. This may involve significant volumes of road transport from a receiving area to move the materials to the laydown areas and the sector of the pipeline route where they will be used. Some of these routes may be through sensitive and/or populated areas, both of which could be subjected to adverse impact from these activities. New access routes may be required to be constructed and/or existing routes improved.

9.3.4 Hydrotest Water

Once the pipeline has been installed, it will need to be tested for leaks or other issues by being pressure tested with water. The sources of this water and potential impacts will be considered. Treatment and disposal of hydrotest water will be considered and opportunities for the minimisation of water consumption will be considered.

9.3.5 Waste Management

Construction of the pipeline will generate a variety of waste streams. A waste inventory will be developed, waste management strategies for each waste stream identified based on the waste management hierarchy, and a waste management plan will be developed.

Waste streams will likely arise from the construction camps, including effluents, catering, and domestic wastes arising from the concentration of a large volume of workers based in a single location over the construction period. Waste management measures and management requirements for such temporary construction camps are a well understood issue.

Hydrocarbon wastes from the LLCOP itself are not expected as a significant waste stream although waste oils, lubricants, storage and disposal of such materials used in supporting heavy equipment and machinery will be an important component of the waste management plan.

The main waste streams from the LLCOP are expected to arise from construction packaging, consumables and domestic wastes. The capacity to store and dispose of all wastes will be assessed against the capacity of the local waste management facilities or disposed safely in alternative options.

The ESIA will examine potential for waste generation for all LLCOP activities and will provide appropriate mitigation and management measures.

9.3.6 Emergency Response

Emergency scenarios will be identified in conjunction with the FEED team and emergency response plans will be developed. The crude oil from the Lokichar upstream fields is a viscous oil which is why the LLCOP will require heating along its length. Analysis of the behaviours of this oil type for potential accidental release in luggas, river crossings and groundwater seepage will be considered in the ESIA. The potential impact of the crude oil from an uncontrolled leakage or spill into the Lamu Marine Area will also be modelled. This will take into account the behaviours of the oil in sea water and its dispersal and distribution parameters.

Management of unplanned events which require an element of environmental or social risk management will be incorporated into the ESIA and its associated Management Plans. The Management Plans will include an Emergency Response and Preparedness Plan, and will:

- Identify and quantify both the likelihood of the occurrence of unplanned events and their environmental and social consequences (i.e. level of hazard should the event occur); and
- Specify both measures for avoiding/minimising risks of occurrence through design, training and allocation of resources and operational procedures, as well as responses to be implemented in the event of an occurrence.

The above approach will meet the requirements of national legislation and international good practice as well commitments within the policies of the JDA partners and provide clear guidelines on the avoidance, response to and management of high consequence, low probability unplanned events.

9.3.7 Security Management

The ESIA will describe in outline the security management solution adopted by LLCOP and LAPSSET and identify any potential environmental and social impacts for assessment and mitigation planning by the ESIA.

10.0 SUMMARY OF IMPACTS & APPROACH TO ASSESSMENT

The following table is based on the information and analysis set out in the Scoping Report and presents a summary of the planned approach to the ESIA baseline and impact assessment for each technical area to be considered within the scope of the ESIA. If any changes to these approaches are required, based on additional information developed as part of the baseline and impact assessment process, this will be documented in the ESIA report.

Table 2: Summary of Potential Effects and Planned Assessment Approach

Topic	Potential Significant Effects	Planned Assessment Approach
Social	■ Changes in crime and social ills. ■ Changes in ethnic conflict. ■ Changes in expectations. ■ Changes in health and safety aspects. ■ Changes in infrastructure. ■ Changes in livelihoods. ■ Changes in local economic and commerce opportunities (positive and negative). ■ Changes in local employment opportunities. ■ Changes in population through the introduction of outsiders (contractors). ■ Changes in social capital, influenced by education, capacity building, skills development, awareness and so forth. ■ Changes in livelihoods, socioeconomic and cultural practices of vulnerable groups and pastoralists. ■ Occupational health of LLCOP workforce.	**Integrated stakeholder and social assessment process.** The stakeholder engagement and social process will be integrated in that the social information will largely be sourced through the stakeholder engagement process. The focus is in filling the information gaps identified and verification of available information. Primary research will take place through issue-based site-specific surveys, semi structured interviews, community mapping and collating the results from the stakeholder engagement process. Secondary research will be based on issue-based literature research and the feedback from the integrated stakeholder engagement process. The integrated stakeholder engagement process will: ■ Engage with local communities and stakeholders, including vulnerable and marginalised groups, on the basis of informed consultation and participation; ■ Engage with other stakeholders on the basis of timely and transparent engagement and disclosure of relevant project information; ■ Developing an understanding of directly impacted stakeholders and their issues at grassroots level; ■ Engaging community using Barazas, focus groups, key informant interviews in the community and County levels; and ■ Engage issue-based stakeholders such as government institutions, NGOs at national and County level and CBOs. Occupational health effects will be considered in terms of defining relevant occupational health standards to be adopted.

Topic	Potential Significant Effects	Planned Assessment Approach
		Engagement with Vulnerable and Marginalised Groups Identify groups based on the methodology set out in the World Bank publication *Country Social Analysis of Vulnerable and Marginalised Groups in Kenya*[7]. ■ Use the Vulnerable and Marginalised Group Listings in the publication to identify potential areas where Vulnerable and Marginalised Groups may be affected by the project; and ■ Undertake field-based verification and key informant interviews to confirm the presence and location of affected vulnerable and marginalised Groups. **Impact Assessment** A social impact assessment and a community health and safety assessment will be undertaken. The aim will be to: ■ Identify anticipated socioeconomic and health impacts and analyse these in consultation with the affected stakeholders and the respective specialist teams.

[7] World Bank Group. 2016. Country Social Analysis of Vulnerable and Marginalised Groups in Kenya: Guidance for Applying the World Bank Operational Policy 4.10 on Indigenous Peoples. World Bank, Washington, DC.

Topic	Potential Significant Effects	Planned Assessment Approach
Biodiversity and Ecology	■ Direct loss/conversion of natural habitats. ■ Indirect loss, conversion or disturbance of natural habitats. ■ Introduction of invasive species, pests or diseases. ■ Barriers to movement. ■ Contamination. ■ Population influx (Harvesting of plants, fibre and wood; bushmeat hunting).	**Baseline:** ■ Vegetation mapping including mapping of modified and natural habitat. Seasonal bird surveys; ■ Seasonal herpetofauna surveys; ■ Seasonal terrestrial invertebrate surveys; ■ Seasonal large mammal transect surveys; ■ Remote camera trapping survey across the AoI as required; ■ Seasonal small mammal trapping surveys; ■ Seasonal bat acoustic monitoring surveys; and ■ Long wet season fish, macro invertebrate and wetland surveys. **Impact Assessment:** ■ Habitat-area based impact analysis using selected ecosystem or community-level indicators or biodiversity features using GIS; ■ Quantification of effects relative to baseline conditions by association of particular species or species groups with mapped vegetation communities or habitat types identified as indicators; ■ Specific analysis will be conducted for species of concern identified in the baseline; and ■ Analysis of predicted changes to any areas identified as Critical Habitat.

Topic	Potential Significant Effects	Planned Assessment Approach
Soil and Terrain	■ Change in topographic assemblages. ■ Erosion of soils. ■ Compaction of soils. ■ Change in soil quality.	**Baseline:** ■ Soil sampling and analysis of characteristics; and ■ Terrain descriptions (topography, slope gradient, surface expression). **Impact Assessment:** ■ GIS soil mapping and land suitability mapping; and ■ Analysis of changes to soil quality.
Water Resources	■ Change in flow and quality of surface water. ■ Change in flow and quality of groundwater. ■ Degradation from oil spill into marine waters.	**Baseline:** ■ Water sampling and analysis; ■ Surface water flow and rainfall-runoff characterisation; ■ Groundwater levels; and ■ Marine water sampling (water quality, bathymetry, tidal flow characteristics). **Impact Assessment:** ■ Assessment of impact on quality and quantity in watercourses; ■ Potential risk from accidental spill; and ■ Spatial analysis of local water users and potential assessment of impacts to water environment.

Topic	Potential Significant Effects	Planned Assessment Approach
Geology and Geohazards	■ Built structures. ■ Infrastructure.	**Baseline:** ■ Desk based review of regional earthquake hazard. **Impact Assessment:** ■ Description of potential impacts and risks to be managed in an emergency preparedness plan.
Air and Climate	■ Change in air quality. ■ Fugitive dust deposition from construction. ■ Air emissions from the AGIs. ■ Odour nuisance. ■ Contribution to global emissions of greenhouse gases.	**Baseline:** ■ Air quality monitoring of ambient conditions. **Impact Assessment:** ■ Evaluate impact to air quality of proposed construction activities through a qualitative assessment; ■ Evaluate impact of risk dust deposition; ■ Evaluate impact of odour emissions and sources; and ■ Quantification of greenhouse gas emissions.
Noise and Vibration	■ Change in noise for human and ecological receptors including. livestock (loss of amenity/sleep disturbance). ■ Vibration causing structural damage.	**Baseline:** ■ Ambient noise levels at representative locations including diurnal variation. **Impact Assessment:** ■ Evaluate effects on noise environment of proposed construction and operation activities; and ■ Identification of potential vibration sources and prediction of vibration levels.

Topic	Potential Significant Effects	Planned Assessment Approach
Landscape and Visual	■ Changes to existing views and visual amenity of receptors. ■ Physical changes to the character and aesthetics of the existing landscape.	**Baseline:** ■ Preparation of ZTV (Zone of Theoretical Visibility) to define the study area (based on preliminary scheme design) where appropriate for human community receptors; ■ Mapping the location and type of visual receptors, using aerial imagery and field observations; and ■ If required, photographic recording of receptors and key views during a site visit. **Impact Assessment:** ■ Updated ZTV's where appropriate based on final scheme design. Visual and landscape impact analysis.
Cultural Heritage	■ Loss or damage to surface or buried remains and/or above-ground features. ■ Loss of previously unknown features and sites revealed during project related activities. ■ Loss or damage to sacred or historic places and/or impacts on their setting.	**Baseline**: ■ Field survey of development footprint in key areas of find potential; and ■ Consultations with local communities and leaders to identify culturally or historically significant sites and traditional practices and beliefs. **Impact Assessment:** ■ Evaluate effects based on baseline findings and develop cultural heritage management plan; and ■ Intangible impact analysis will inform the socio-economic impact analysis.

Topic	Potential Significant Effects	Planned Assessment Approach
Waste Management	■ Uncontrolled discharge of waste streams from construction camps into receptor environments eg effluents, catering, domestic wastes. ■ Hazardous wastes from construction and operational activities e.g. lubricants, waste oils, chemicals and contaminated materials etc. creating pollution and legacy hazards. ■ Disposal of packaging, containers, consumables from construction process etc. into receptor environments. ■ Strain on capacity of local waste management to handle project waste streams.	■ Develop waste inventory for LLCOP construction and operation phases. ■ Recommend effective Waste management plans and control mechanisms.
Emergency Response	■ Accidental release of crude oil into receptor environments ■ Deliberate third party actions to release crude oil into receptor environments ■ Impacts of combustion of release of crude oil on receptor environments ■ Construction EHS hazards for workforce	■ Model behaviours of the crude oil in the event of accidental release into the marine environment at Lamu ■ Model behaviour of accidental release into riverine environment ■ Assess potential impact of crude oil release into the marine environment at Lamu (biodiversity and social impacts) ■ Develop emergency response and preparedness plan ■ International operator response to Tier 1 /2/3 incident levels ■ Develop appropriate standards for final designs and management controls ■ Safety distances from the pipeline will be part of the mitigation in the ESIA

11.0 DRAFT TABLE OF CONTENTS FOR ESIA

The following is an indicative table of contents for the ESIA report for the LLCOP project:

- Non-Technical Executive Summary;
- Introduction;
- Project Description;
- Project Need and Alternatives;
- Approach to the ESIA;
- Scoping;
- Policy, Legal and Institutional Framework;
- Stakeholder Engagement;
- Environmental, including:
  - Geology and Geohazards;
  - Soils and Geomorphology;
  - Air Quality and Climate;
  - Noise and Vibration;
  - Water Resources and Water Quality;
  - Marine Environment;
  - Landscape and Visual; and
  - Biodiversity and Ecology;
- Social, including:
  - Administrative Divisions and Governance Structure;
  - Demographics;
  - Infrastructure and Services;
  - Economics, Employment and Livelihoods;
  - Land Use and Ownership;
  - Community Health and Safety;
  - Education;
  - Social Maladies;
  - Social Capital and Conflict; and
  - Cultural Heritage;
- Ecosystem Services;
- Waste Management;
- Occupational Health;

- Emergency, Accidental and Non-Routine Events Accidents;
- Summary of Impacts and Proposed Mitigation;
- Cumulative Impact Assessment;
- Conclusions; and
- Environmental and Social Management Plans.

12.0 ESIA TEAM

This section presents the ESIA technical experts who will be delivering the LLCOP ESIA. The experts will guide, observe and develop all the plans for baseline investigations and impact assessment and proposed mitigation measures. The majority will be closely involved in field studies and participating in activities along the pipeline route to ensure that route characteristics and potential impacts for receptors are fully understood.

The team is strong on Kenyan expertise and knowledge including local languages and the understanding of cultural dynamics that will influence the successful gathering of data and communications with communities along the LLCOP route. The international team will be working throughout with the national experts to assist with project facilitation and final delivery.

Mr James Kambo as the Kenyan Project lead and his team from ESF Consultants will play the lead role in the local and national interfaces with the communities and officials that the Project will interact with. This will ensure in-depth knowledge of the Kenyan societies along the LLCOP route and the appropriate behaviours required during the social engagement activities.

Table 3: LLCOP ESIA Technical Experts

Project Team	Experience
James Kambo, Benv ESIA Practitioner Environmentalistes Sans Frontiers (ESF) **Project Role:** In country Leader / Consultation Coordinator	James Kambo is a Director of ESF and an EIA specialist with more than 15 years' experience of working in Kenya and East Africa. He has provided environment and social governance services to private investors, governments, financial institutions and non-governmental clients in Energy, Oil and Gas, mining, infrastructure, agriculture and manufacturing industry. James has been providing technical and leadership support in environmental and social performance within Africa and the Islands Region for well over a decade. James is a Lead EIA and Audit Expert for National Environmental Management Authority (NEMA): No. 0713, and a Lead Expert for the Petroleum Institute of East Africa. He has been involved in numerous IFC and Equator Banks projects in Kenya and East Africa. He has worked with Tullow (plus ENI, Anadarko, Apache and Fugro) on EIA for Seismic surveys.
Bernard Odera Agwanda, MSc **Project Role:** In - Country Biodiversity Lead	Mr. Agwanda has worked on ecological impact assessment on development activities particularly wind power development and oil operations. An animal ecologist by training, he has also worked on biodiversity research projects focusing on mammals. He has worked with Tullow Oil, Turkana wind power and the IUCN.
Dickens Odeny, PhD. **Project Role:** Aquatic Specialist	Mr. Odeny is a research scientist with the National museums of Kenya. He has worked with institutions such as KEFRI, KETRACO, Nature Kenya and Kurrent Technologies. He has skills in software application for geospatial analysis, modelling, statistics and design. He has also been involved in spatial modelling publications.
Philista Malaki, PhD **Project Role:** Ornithologist	Ms. Philista Malaki is a researcher and ornithologist with years of experience. She works with the National Museums of Kenya and has been involved in different projects such as the Kipeto wind farm project in bird and bat survey and monitoring. She has also worked with Lewa downs and IUCN. She is also involved in a number of publications relating to biodiversity studies.
Morris Mutua, PhD **Project Role:** Invertebrates Specialist	Dr. Morris Mutua is a researcher in zoological fields with more than a decade of experience. He has worked in the National Museums of Kenya as a senior research technologist and Thuiya development and environmental consultants prior to that. He has been involved in publication of journals and newsletters relating to invertebrates.

Project Team	Experience
John Kimeu, PhD **Project Role:** Botany Specialist	Mr. John Kimeu is a researcher in the field of botany. He has worked with Tullow BV Kenya and Nanyuki base camp as an environmental and social impact assessment expert. He has also been involved in several publications.
Victor Wasonga, MSc **Project Role:** Biodiversity Specialist	Mr. Wasonga is a research scientist with over decades experience specializing in the field of herpetology. He has worked with Italian corporation and Nile basin initiative. He works with National Museums of Kenya, GEF and Laikipia Nature conservancy. He has done impact assessment and monitoring on multiple projects and has also been involved in a number of publications.
Quentin Luke **Project Role:** Biodiversity Specialist	Quentin Luke is a renowned botanist who was born in Limuru, Kiambu County within Kenya. Mr Luke is currently a Senior Research Associate, at the National Museums of Kenya, he is also appointed “Chair” IUCN SSC East African Plant Red Listing Authority (EAPRLA). Between 2004 and 2016 Mr Luke was elected Alternate Africa Representative to CITES Plants Committee and he is also an appointed Research Associate, Missouri Botanical Garden, USA. In 2014 Mr Luke was awarded the David Fairchild Medal for Plant Exploration awarded by the National Tropical Botanic Garden, USA, in 2014 he was Elected Fellow of the Linnean Society and in 2015 he was awarded the Harry Messel Award for Conservation Leadership by the IUCN. Quentin Luke has authored or co-authored over 40 scientific papers concerning botany with considerable onus on African and specifically Kenyan floral and habitat composition.
Harrison Onganda, MSc **Project Role:** Marine Ecologist Specialist	Harrison Ongánda holds a master’s degree in applied marine ecology with more than 20 years’ experience in marine resources and mapping along Kenyan coast and offshore. He has undertaken numerous studies on marine environment including mapping of sensitive ecosystems along the Kenyan coast, mapping of coastal forests, mapping of priority conservation areas, and assessing potential impacts of hydrocarbon exploration offshore Kenya among many more. Harrison is also an expert in GIS.
Judith Okello, PhD **Project Role:** Marine Ecologist Specialist	Dr. Okello is a researcher and marine ecologist with more than 10 years of experience. She has worked with JICA and ministry of transport and infrastructure as a researcher and impact assessment expert.

Project Team	Experience
Bernard Kibet Kirui Yebei, PhD	Dr. Kirui is lecturer in Egerton University as well as chairman of the Natural resource department. He has years of experience in the field of environment working with KEMFRI among other institutions. He has been involved in USAID, UNEP and Lafarge projects.
Project Role: Mangrove Ecologist specialist	
Handa Collins, PhD	Dr. Collins is a lecturer at the technical university of Kenya and has worked as a research scientist with the National Museums of Kenya. He is affiliated with several associations and has vast experience working as a consultant in wetland and biodiversity assessments.
Project Role: Wetland specialist	
Michael Kapolon, BSc	Mr. Kapolon has worked on ESIA projects with Tullow Oil. Additionally, he has work on food security and drought resilience programmes and has served in the Turkana county government as a consultant. He has worked with Oxfam as a consultant and Feinstein International Centre as a research assistant.
Consultant	
Golder Associates	
Project Role: Turkana Regional Co-ordinator	
Duncan Oyaro, BEnv and MSc	Mr. Oyaro has worked as an ESIA consultant on multiple projects centering on mining, oil and gas as well as transport projects. He has working experience with ARM limestone mining, USTDA, Zarara Oil and Gas, KWS, Tullow Oil among other prominent institutions.
Lead EIA expert	
ESF consultants	
Project Role: In - Country ESIA Expert and Lamu Regional Co-ordinator	
Shidhe Mohamed Shukri, BSc	Mr. Shidhe has worked mainly in Garsen constituency office in the capacities of Field officer and constituency office manager. Additionally, he has worked at KNBS as a researcher and Kenya red cross as a logistics assistant.
Project Role: Garissa Regional Co-ordinator	
Hajir Mohammed	Hajir holds a Diploma in Conflict studies with experience in community engagements, conflict resolution and social assessment. He has 10 years of experience working in marginalised and conflict zones within East Africa.
Project Role: Isiolo - Meru and Samburu Regional Co-ordinator	
Christine Ogola, PhD	Dr. Christine Ogola is an archaeologist and research scientist that has years of experience in the field of archaeology and cultural heritage. She has worked with Tullow Oil, National Museums of Kenya and Koitalel Samoei Nandi Mausoleum. She has also published quite a number of academic reports relating to archaeology.
Project Role: Cultural Heritage Specialist	

Project Team	Experience
Joyce Olenja, PhD	Prof. Olenja is a professor in the school of public health in the university of Nairobi. She has vast experience in the field of anthropology spanning over two decades. She has experience in several projects such as working with KAVI, UNFPA UNAIDS and the EU. She has published in a number of journals, books and editorials.
Project Role: Sociologist/ Social expert	
Darlington Akkabwai	Mr. Akkabwai has worked as a researcher for several years mainly dealing with issues relating to security. He has worked on different publications to the same effect and has worked with the Government of Kenya in the role of a researcher as well as Golder and Tufts Team associates.
Project Role: Security Specialist	
Milka Owuor, MSc	Ms. Milka Owuor has experience in the medical field serving as a public health consultant for more than half a decade. She has also worked as a researcher and medical officer. She works with SHAPE consulting and has previously worked for IFAKARA and Vihiga district and Kakamega provincial hospitals.
Project Role: Health Specialist	
Samson Obiyo, MSc	Mr. Obiyo is an environmental consultant with over ten years of experience in environmental management. He has worked with Bamburi Cement, Tullow and Golder associates.
Project Role: Air quality and Noise specialist	
Dan Odero, MSc	Mr. Odero is a hydrogeologist who has worked with the ministry of water, APEC consortium Ltd as well as SWAS consultants. He has worked in projects with the Northern water services board, the government of Southern Sudan and Zambia water Authority.
Project Role: Water Specialist	
Monica Wanjiku Mucheru-Muna, PhD	Dr. Monica is a senior lecturer at Kenyatta University with over 10 years of experience in the field of environment and soils science. She is a member of several societies and has experience in different projects working as an environmental compliance auditor. She has been involved in book publications, journal articles and technical publications.
Project Role: Land Use specialist	
Casty Mbae, MSc	Ms. Mbae is a consultant in the ministry of urban and regional planning and has previously worked as a physical planner and valuer in the ministry of lands. She has worked as a consultant in Bahari wind farm project and feasibility study for pipeline way leave from Kenya to Uganda among other projects.
Project Role: Land Value Specialist	
Fridah Mugo, PhD	Dr. Mugo is a senior lecturer at the university of Nairobi working as a consultant in different capacities for T-DEC

Project Team	Experience
Project Role: Land Use Specialist	consultants and ICRAF. She has also worked for the ministry of energy and is a member of several associations. She has also been involved in a number of publications.
Joshua Maviti, MSc	Mr Maviti holds a Master of Science Degree in Geographic Information Systems from the Manchester Metropolitan University which he has combined with over ten years' work experience. He has worked in data and database Management, Desktop GIS and Mapping, Training and Capacity building, Communication, Participatory Project Management, Urban Assessments, Environmental Impact Assessments (EIA) and Project Coordination. Some of the projects in which he has worked a GIS consultant include: Sustainable Maseru Project under UN-HABITAT; Mombasa Slum Upgrading Programme (MSUP); Lake Victoria Urban Planning and Infrastructure Investment Project; Lake Victoria City Development Strategies (CDS) Project, and the Nairobi River Basin Project (NRBP).
Project Role: GIS Specialist	

Table 4: LLCOP ESIA Project Management Team and International Experts

Project Team	Experience
Simon Aldrich, MA	Simon Aldrich is a senior ESIA and ESDD practitioner with over 20 years' experience in international environmental development (Africa, Asia, EU, Russia, South and North America, Middle East) and the delivery of Environmental projects for the oil and gas, transportation and infrastructure sectors. His project experience includes the reporting and scoping of environmental risks for project investors to meet various international standards criteria including IFC, EU, Espoo and other requirements and the management of environmental risk to protect investment structures. He has been responsible for the successful delivery of high profile signature projects, EIA, ESIA and SEA as well as corporate strategic programmes for environmental investment for financial organisations. He has been a lead advisor on environmental and sustainability policy, structures and implementation for international organisations, national Governments and His Royal Highness the Prince of Wales.
ESIA Practitioner	
Golder Associates	
Project Role: Project Manager	

Project Team	Experience
Andrew Morsley, MSc ESIA Practitioner /Associate Golder Associates **Project Role:** Project Director	Andrew Morsley is a Chartered Scientist, ESIA project manager/director and water resources specialist. Andrew is an Associate, who leads the ESIA team in the UK, is the South Lokichar Upstream ESIA Project Manager and Tullow client sponsor at Golder. Andrew has over 15 years of experience in engineering and environmental assessment. He has provided surface water and physical sciences technical input and project management to ESIAs (baseline, impact assessment and management plans) to IFC performance standards, closure plans, Asset Retirement Obligation studies, third party review of ESIA to IFC PSs, hydrological studies. Andrew has extensive experience in diverse environments including Kenya, South America, Africa, Easter Europe, Canada and UK.
Tim Flower BSc, MSc, MCIWEM. CWEM Technical Director Golder Associates **Project Role:** Technical Reviewer	Tim Flower is an environmental professional with over 30 years' experience in a broad range of environmental management issues. He has significant project management and technical experience in environmental and social impact assessment & mitigation, environmental and social due diligence, governance & compliance and pollution risk assessment & management. Tim's forte is the direction and delivery of large, complex and challenging ESIA projects in a wide variety of sectors. Tim is proficient in managing and integrating inputs from varied technical disciplines into impact assessments for a wide range of clients. Tim's track record has been built upon work for both the public and private sectors, in the UK and internationally. His experience demonstrates his capacity for mediating the engineering-environmental management and regulator-industry interfaces. Tim is proficient in managing health and safety risks on projects and providing advice on risks associated with international travel and field survey work, particularly in harsh, remote and hostile environments. Tim has extensive overseas experience gained in the following countries: Algeria, Morocco, Tunisia, Egypt; Qatar; Saudi Arabia, United Arab Emirates; Oman, Yemen, Jordan; Turkey; Iran, Georgia; Russian Federation; Poland; Romania; Kazakhstan; Kyrgyzstan; Pakistan; India; Ghana; Mauritius South Africa, Thailand; Japan; USA; France; Belgium; Germany; Italy; and Ireland.

Project Team	Experience
Kevin Arbizu, MSc **ESIA practitioner / Social Scientist** **Project Role:** Project Coordinator	Kevin Arbizu is an ESIA Practitioner with an MSc in Development Economics whose role is to assist in the delivery of EIA and ESIA projects including coordinating projects, undertaking stakeholder engagement tasks and completing technical work for EIA and ESIA projects. His experience includes working with multidisciplinary teams as a project coordinator, with additional roles in database analysis, development of community relationship plans, economic valuation of environmental impacts, field sampling, identification of ecosystem services and their economic valuation. Participation and leading of workshops in rural communities close to extractive projects and development of ESIA for up to 6 projects in the extractive industry.
Dr David De Waal, DLitt et Phil Africa Lead, Social Management and Specialist Services Golder Associates **Project Role:** Social and Stakeholder Engagement Lead and Senior Review.	David has more than 30 years of experience in his field of practice. He advises and practices in the areas of social due diligences, social assessment and management processes, social baseline studies, human rights assessments, integrated environmental governance and institutional conflict management. David has extensive African experience including projects requiring compliance with IFC and World Bank standards. He has led social management and related processes in Kenya, Botswana, Ghana, Mozambique, Rwanda, Seychelles, South Africa, Swaziland, Uganda and Zambia. He has worked on linear projects (pipelines, road networks, electricity lines) large-scale infrastructure (including mining, oil and gas, industry and housing) waste management, relocation, RAP assessment and social recipient studies.

Table 5: LLCOP ESIA International Review Experts

Project Team Lead	Experience
Mervyn Mason, MSc, CEnvP Associate, Biodiversity Specialist Golder Associates **Project Role:** Biodiversity and Ecosystem Services Specialist	Mervyn is an impact assessment and biodiversity specialist. He has over 20 years' experience across the resource development and infrastructure sectors in Africa, the Middle East, the Asia-Pacific region and North America. Mervyn has scoped, designed, conducted and reviewed biodiversity and ecosystem services baseline studies and impact assessments to lender standards for oil and gas, mining, and infrastructure projects in Uganda, Kenya, Ethiopia, Malawi, Mozambique, Democratic Republic of the Congo, Uzbekistan, Iran, the Philippines, Fiji, the Solomon Islands, Papua New Guinea, Laos, India, Canada, and Australia. Many of these projects have involved pipelines. He has led teams of local specialists to deliver projects to meet IFC's Performance Standards (PSs), including the determination of critical habitat (CH) and assessing impacts to CH.
Giovanni Torchia, BSc Senior Project Manager and Project Director Golder Associates **Project Role:** Marine Biodiversity Specialist	Giovanni Torchia is a marine biologist with 25 years of working experience in environmental services. From 1990 to 2000, Giovanni worked at the Marine Biology and Animal Ecology Laboratory at the University of Genoa. From 2000 to 2003, he worked for the UNEP-RAC/SPA of Tunis (Tunisia) as Expert Marine Biologist. From 2003 to summer 2009, he held the position of Manager and Scientific Director of the Cooperative Nautilus (a private company specialized in environmental sciences and geophysical / marine biological services). In 2009, he joined Golder where he currently directs Environmental and Social Impact Assessments (ESIA), ecological studies, coastal/marine surveys (including geophysical campaigns) and environmental monitoring activities. Giovanni is senior Project Manager and Project Director. His areas of primary expertise include: biodiversity, marine and coastal.
Freddy Brookes, MSc **Project Role:** Biodiversity Specialist	Freddy joined Golder in June 2010 and since then he has delivered technical inputs and project management both domestically and internationally to a diverse suite of ESIA/EIA projects under IFI and National legislative standards. Freddy has over twelve years of experience of working within the consultancy sector on large mining, gas, power and land development projects. He has practical experience of devising and delivering biodiversity offsetting projects where on site mitigation has proved to be inadequate in isolation and net gains for critical habitat (IFC, 2012) features are required. Freddy has undertaken a

Project Team Lead	Experience
	number of critical habitat assessments and is expert in undertaking biodiversity impact assessment of EIA/ESIA projects in the UK, Kenya and Overseas in order to facilitate lender financial support to project proposals. Recently, Freddy has been engaged by the EBRD to deliver ESIA biodiversity capacity building training to government, consultants and NGO's in central Asia and the Caucuses as part of a capacity building programme. In addition to specialising in delivery of high quality terrestrial and aquatic biodiversity training and impact assessments he also undertakes ecosystem services baseline and impact assessments to relevant IFI standards. Freddy is also a Full member of the Chartered Institute of Ecology and Environmental Management (MCIEEM); Full member if the Institute of Fisheries Management MIFM and Licenced bat worker (Mitigation and Survey) (UK).
Neil Cousins, MBA **Project Role:** Marine specialist	Neil is the founder of Bluedot Associates Ltd, a specialist coastal and marine biodiversity company providing advisory services globally to address risks, build capacity, develop simple solutions for complex issues and support research and conservation. Neil has over 19 years' experience of coastal and marine biodiversity screening, assessments (e.g. critical habitat assessments); baseline studies, implementing measures across the mitigation hierarchy; and supporting coastal and marine integrated planning. He has also led many wider ESIA studies internationally. Neil has been resident as a senior environmental scientist in the UK, Hong Kong and Oman; and worked on projects in a wide range of other countries, including Europe (Georgia, Pan European studies), Middle East (UAE, Saudi Arabia, Qatar, Bahrain), Africa (Cape Verde, Guinea, Sudan, Gabon, Sierra Leone, Liberia, Nigeria, Ghana, Angola, Kenya, Mozambique, Tanzania, Tunisia), SE Asia (Vietnam, Laos), East Asia (Japan) and the Pacific Rim (Australia and New Zealand). Neil has worked in academic, government and consultancy organisations. He has operated in a leading role within both small and very large multi-national corporations. Neil is a visiting lecturer at the University of Swansea UK, University of Exeter UK (Falmouth campus) and University of West England in the UK. He also provides training internationally, which has included mainstreaming biodiversity training arranged by IAIA in the USA.

Project Team Lead	Experience
Linda Havers, MSc Senior Social Specialist Golder Associates **Project Role:** Social Specialist	Linda Havers possesses over 20 years of experience that combines community development and social program planning, social impact analysis, gender-based social analysis and public and stakeholder consultation. She has taken the lead role in developing social baselines and conducting social impact assessments of projects in the nuclear energy sector and in mining, oil sands development and linear developments in contexts as diverse as Vietnam, Tanzania, Guinea, eastern Europe, rural Washington, Canada's Arctic and Greenland. Ms. Havers has worked within many regulatory frameworks including those of Canada's as well as NEPA in the U.S.A. and the IFC World Bank. Ms. Havers also recently held the role of senior technical advisor on a proposed mining project in Guinea, West Africa. This project involved Human Rights Risk Assessment and planning for in-migration and other potential social effects of the project including resettlement. Ms. Havers' role at Golder has expanded to provide senior technical advice on projects requiring adherence to Equator Principles, IFC policy and Performance Standards and providing due diligence audits of social components of mines. Due diligence work has been carried out in Guyana, Greenland and Nunavut, Canada.
Antoinette Pietersen, BA Senior Stakeholder Engagement Specialist / Trainer Golder Associates **Project Role:** Stakeholder Engagement Specialist	Antoinette Pietersen has worked for Golder Associates for six years; prior to Golder, Antoinette worked as an independent consultant to the mining, government/policy development, infrastructure and energy industries. She has been a stakeholder engagement lead on projects in Tanzania, Democratic Republic of Congo, Republic of Congo, Malawi and South Africa. Recently, Antoinette has led the stakeholder engagement processes for Shell's proposed shale gas exploration project in the Karoo, South Africa and oil and gas exploration for SacOil in Malawi. Antoinette is an internationally certified trainer in public participation and has presented the course in several countries in Africa with participants from across the globe (Africa, USA, Australasia and Europe). She is one of a limited number of highly skilled members of global trainers certified to deliver the Emotion, Outrage and Public Participation course.

Project Team Lead	Experience
Richard Boak, BSc Independent Senior Water Resources Manager **Project Role:** Senior Water Resources Specialist	Richard is an independent senior water resources specialist with 36 years' experience in the extractive industry. Richard has spent the last 4 years working for Tullow in Nairobi, however became independent in December 2017. At Tullow he was responsible for developing & implementing a water resources management plan for field operations, community water supply, and future oil production in Turkana, including management of the in-country Water Resources team. Previously he has held the roles of regional manager Europe & Africa, Schlumberger Water Services and UK Operations Manager for Water Management Consultants Ltd and has a wealth of technical expertise on Water resources projects all over the world including Angola, Azerbaijan, Bahamas, Botswana, Georgia, India, Kenya, Libya, Malawi, Mauritius, Netherlands, Niger, Oman, South Africa, Tanzania, Uganda, United Kingdom, Zambia. His native tongue is English, but speaks very good Swahili.
Samantha Arnold, PhD Senior Atmospheric Scientist Golder Associates **Project Role:** Climate, Air Quality Specialist	Dr Samantha Arnold leads the air team in the UK and is the representative for European air services for Golder globally. Samantha has completed many air quality impact assessments for EIAs, planning and PPC applications. These assessments have included detailed Air Dispersion Models (utilising AERMOD, ADMS, ADMS-ROADS, and GasSim), meteorological forecasting, climate change, ambient air monitoring and qualitative amenity loss assessments. The technical assessments are supported by expert advice, stakeholder engagement and public meetings. Samantha has undertaken multi-disciplinary projects for power, waste, manufacturing, transportation and oil and gas clients in the UK and internationally. She has co-ordinated and worked on overseas projects including sites in France, the European Alps, the Falkland Islands, Guinea, Kazakhstan, Liberia, Slovakia, South Africa and Uzbekistan. Samantha maintains an active research position through ongoing CPD. Dr Arnold acts as an advisor for air queries and writes and reviews reports pertaining to air dispersion and air quality for peer reviewed journals, governmental bodies (DEFRA, Environment Agency, Ministry of Defence, Home Office), university consortium and industry.

Project Team Lead	Experience
Danny de Silva, BSc Noise Specialist Golder Associates **Project Role:** Noise and Vibration Specialist	Danny da Silva is a Principal based in Golder's Toronto, Ontario office. He is the leader of Golder's Toronto-area Environmental Planning and Permitting Division. Danny is a recognized expert in acoustics, noise and vibration by the Ontario Municipal Board, Alberta Utilities Commission and the Joint Review Panel for the Deep Geologic Repository. Danny has led numerous successful EA and permitting projects in Ontario's power sector. In addition, Danny has been involved in international EIA's governed by the IFC.
Dennis O'Leary, BA, P.Ag. Associate, Senior Terrain Scientist Golder Associates **Project Role:** Geology, Soils and Contamination Specialist	Dennis O'Leary is an Associate at Golder and brings over 37 years of earth sciences experience to the Project team. He is a professional terrain scientist and a member of the Association of Professional Geohazards. He has worked around the world including most recently in Guinea on a large mine and 650 km long rail project. Dennis has completed baseline soils, terrain and geohazards mapping as well as Environmental Impact Assessments for most of Canada's major pipeline projects, including the 1,500 km long Energy East pipeline project and the nearly 1,200 km long Northern Gateway pipeline project. He has assembled a team of local and international specialists to deal with geology, including seismology, soils and contamination, all with experience in the Project area, including seismological investigations in the East African Rift Valley in both Uganda and Tanzania.
Izak Olivier, Dr Independent Health Consultant and Medical Practitioner SHAPE Consulting Limited **Project Role:** Health Specialist	Dr Izak Oliver is a qualified medical practitioner with post graduate qualifications in occupational health, travel health and incapacity management. He has international experience in both community and occupational health with a specific focus on the extractive industry. In the course, of his work in the international arena, he has become skilled in stakeholder engagement, program development and management and is adept at managing and working as part of diverse, multi-disciplinary and multi-cultural teams. Izak has participated in the conduct of several large-scale health impact assessments in a variety of African countries and has assisted clients with the development, implementation and monitoring of health management plans for both community and workforce health. This includes the development of IEC and BCC programs in both community and workforce settings as part of both HSE and corporate social responsibility requirements. As a result, he is very

Project Team Lead	Experience
	cognizant to the inherent interdependency between these two distinct disciplines.
Paul Wheelhouse, BA Senior Cultural Heritage Specialist Golder Associates **Project Role:** Cultural heritage Specialist	Paul Wheelhouse is a Senior Archaeologist with over nineteen years' experience in archaeological and cultural heritage fieldwork, consultancy and research. Paul has over twelve years' experience in archaeological excavation, post-excavation analysis, project management and publication. Paul is a Member of the Institute of Field Archaeologists and is responsible for the coordination and project management of archaeological work for Golder's clients, in Africa, United Kingdom and Europe. Paul designs and formulates archaeological solutions, creates management strategies, and oversees the implementation of archaeological research and mitigating field investigations including geophysical surveys, trial and detailed excavations, in a coordinating and monitoring role. Paul coordinates cultural heritage ESIA chapters, managing reconnaissance surveys and the evaluation of archaeological sites for international projects, including mine sites in Africa: Central African Republic, Guinea, Liberia, Malawi, Sierra Leone, and Togo; preparing work instructions and recording systems for local sub-contracted archaeologists to use, and working closely with the mine operators to ensure protection of sites identified in the field.
Kyriki Petroulaki, MSc **Project Role:** GIS Specialist	Kyriaki Petroulaki is a GIS Analyst and Remote sensing. She holds a Postgraduate Degree in Geography and Applied Geo - informatics in Environmental and Risk Management and an undergraduate degree in Natural Resources and Environmental Engineering. She worked as a Research assistant at Manchester Metropolitan University regarding the applications of Remote Sensing for studying land degradation in South African Savannahs. Subsequently, she worked as a GIS Technician for British Telecoms to produce technical reports containing cartographic representations and notes for the field engineers. Currently, she is working for Golder Associates (UK) and Supporting the Senior GIS analyst in data management, data analysis, data integration, map production, spatial analysis and contour generation for projects in the UK and overseas.

13.0 CLOSURE AND APPROVAL

The ESIA team (Golder and ESF) trust that the contents of the ToR and the Scoping Report meet with the approval of NEMA. This ToR is submitted on behalf of the ESIA team by Mr James Kambo EIA Lead expert - License No. 0713 of ESF Consultants EIA Firm of Experts - License No. 0204.

ESF Consultants:

Woodlands Office Park,

1C Suite 1st Floor,

Woodlands road, Off Lenana Road.

P.O. Box, 7745-00100,

Nairobi, Kenya

Signature Page

James Kambo
Registered NEMA EIA Lead Expert
ESF Consultants

Simon Aldrich
Project Manager
Golder Associates (UK) Ltd

JK/SDA/kc

3 October 2018

ANNEX 1

Stakeholder Engagement Plan.

REPORT

LOKICHAR TO LAMU CRUDE OIL PIPELINE PROJECT

Stakeholder Engagement Plan

Submitted to:

Tullow Kenya B.V./Pipeline Project Management Team
7th Floor West End Towers
Waiyaki Rd
Nairobi
Kenya

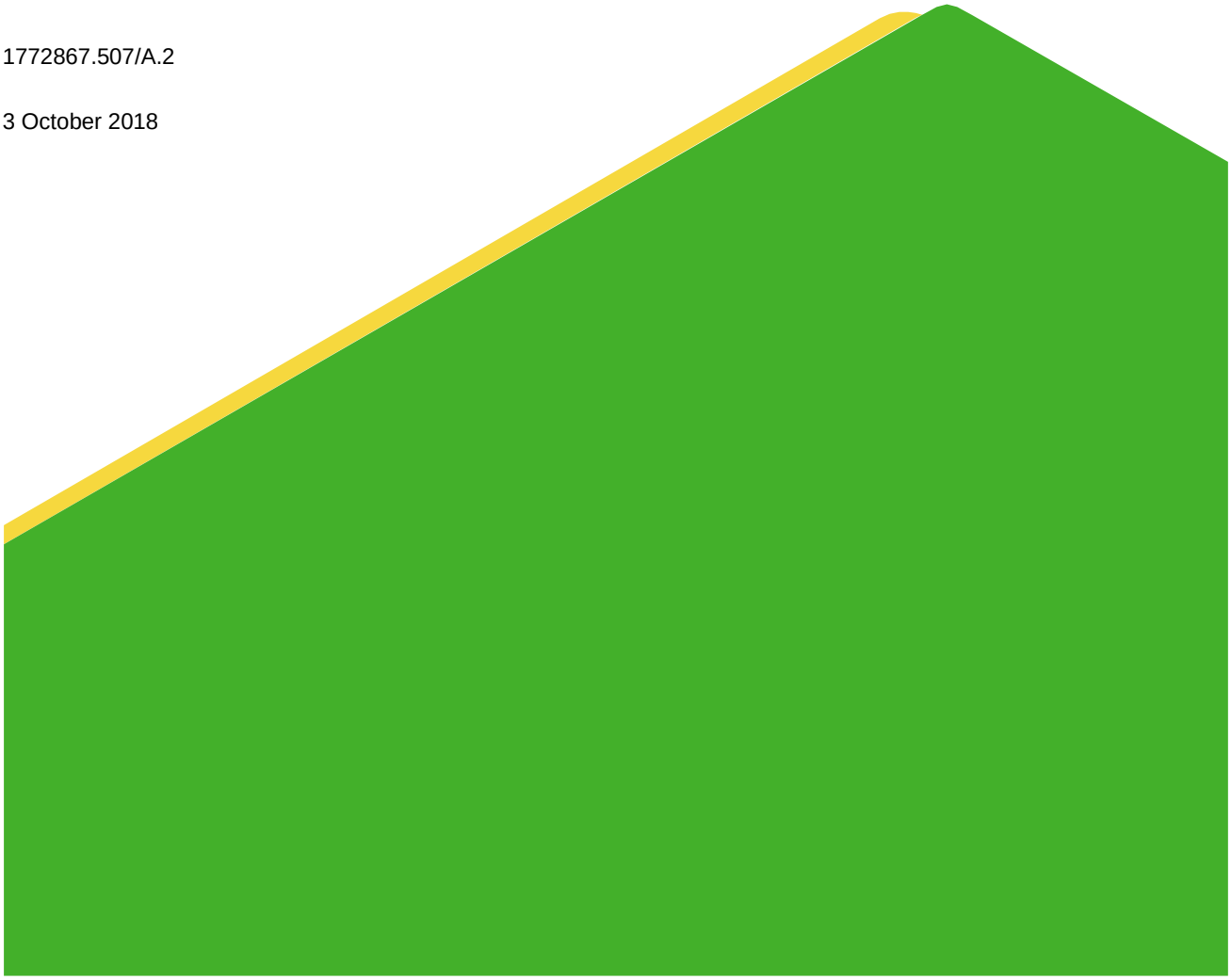
Submitted by:

Golder Associates (UK) Ltd
Cavendish House Bourne End Business Park Cores End Road
Bourne End Buckinghamshire SL8 5AS UK

+44 0 1628 851851

1772867.507/A.2

3 October 2018



Distribution List

Pipeline Project Management Team/ Tullow Oil Kenya B.V. - 1 pdf

Golder UK - 1 pdf

Table of Contents

1.0 INTRODUCTION 1

1.1 Background 1

1.2 Project location 1

1.3 Project Description 3

1.3.1 Key Design Parameters 3

1.3.2 Pipeline Construction 5

2.0 REGULATIONS AND REQUIREMENTS 7

2.1 Kenya Legislative Framework 7

2.1.1 The Constitution of Kenya 7

2.1.2 Environment Management and Coordination Act of 1999 7

2.1.3 The Petroleum (Exploration and Production) Act of 1968, amended in 2005. 7

2.1.4 The Wildlife Conservation and Management Act, Act No. 47 of 2013 7

2.1.5 The Kenya Water Act, Act No. 43 of 2016 8

2.1.6 Occupational Health and Safety Act, 2007. 8

2.1.7 Prevention, Protection and Assistance of Internally Displaced personas and Affected Communities Act, Act No 56 of 2012. 8

2.1.8 The Public Health Act, *Act No. 12 of 2012*. 8

2.1.9 National Museums and Heritage Act. Act No. 6 of 2006 8

2.1.10 The Draft Environmental Management and Coordination (Strategic Assessment, Integrated Impact Assessment and Audit) Regulations, 2018 8

2.2 Kenya Policy and Regulatory Framework 8

2.2.1 Kenya Vision 2030 9

2.2.2 The National Environment Policy - 2013 9

2.2.3 National Disaster Management Policy 9

2.2.4 National Policy for the Sustainable Development of Northern Kenya and other Arid Lands 2016 9

2.2.5 The Kenya National Land Policy 9

2.2.6 Environmental (Impact Assessment & Audit) Regulations (2003) 9

2.3 IFC Performance Standards 9

2.4 The Equator Principles. 10

3.0 SUMMARY OF PREVIOUS AND ONGOING STAKEHOLDER ENGAGEMENT ACTIVITIES 10

3.1 Previous Engagement 10

3.1.1 Issues Raised 10

3.1.1.1 Summary of Potential Benefits and Opportunities 10

3.1.1.2 Summary of Potential Adverse Impacts and Issues 11

3.1.1.3 Potential Risks to Stakeholder Engagement 12

3.2 Engagements Carried Out During ESIA Scoping Stage 12

3.2.1 Issues Raised 13

3.2.2 Categorisation of Issues 15

4.0 PROJECT STAKEHOLDERS 17

4.1 Stakeholder identification 17

4.2 Stakeholder groups 18

4.3 Stakeholder Mapping 18

4.4 Stakeholder Analysis 20

5.0 VULNERABLE AND MARGINALISED GROUPS ALONG THE LAPSSET CORRIDOR 24

5.1 Approach to Engaging Vulnerable and Marginalised Groups during the ESIA 25

6.0 STAKEHOLDER ENGAGEMENT PROCESS 26

6.1 Objectives 26

6.2 Stakeholder Engagement Schedule 27

6.3 Methods and Techniques of Engagement 28

7.0 STAKEHOLDER ENGAGEMENT VALUES 29

7.1 Engagement Principles 29

7.2 Process Commitments 29

7.3 Stakeholder Engagement Protocol 30

7.4 General Arrangements 30

8.0 STAKEHOLDER ENGAGEMENT – ROLES AND RESPONSIBILITIES 31

8.1 PPMT 31

8.2 LAPSSET 31

8.3 ESIA Stakeholder Engagement Team 32

9.0 PROCESS RECORD-KEEPING 32

10.0 EVALUATION AND MONITORING 33

11.0 TRAINING 35

12.0 GRIEVANCE MECHANISM AND COMMUNITY RELATIONS PLAN 35

12.1 LLCOP Community Relations Plan 35

12.2 Approach to Grievance Management 35

12.3 Principles for a Grievance Mechanism 36

12.4 The Grievance Mechanism Process 37

12.5 Grievance Recording and Reporting 38

13.0 PLANNED ACTIVITIES FOR ENGAGEMENT DURING ESIA 38

13.1 Notification 38

13.2 Team Mobilisation 40

13.3 Planned Community Barazas 40

14.0 REFERENCES 42

TABLES

Table 1: ESIA Scoping Meetings – Total Attendees 12

Table 2: Summary of Issues Raised at Scoping Consultation Meetings 14

Table 3: Categorisation of Issues 15

Table 4: Stakeholder analysis 20

Table 5: Guidelines on levels of engagement 22

Table 6: List of Vulnerable and Marginalized Groups as per the New Kenyan Constitution 24

Table 7: Evaluation and monitoring methods 33

Table 8: Radio, TV and print media available in counties along LLCOP. 38

FIGURES

Figure 1: Preliminary alignment of the pipeline corridor 2

Figure 2: Schematic Representation of Key Design Elements of LLCOP 4

Figure 3: Proposed Layout Options for the LLCOP at Lamu Port. 5

Figure 4: Typical Pipeline Construction Sequence 6

Figure 5: Mapping of stakeholder groupings 19

Figure 6: Overview of Information Dissemination and Grievance Management process 36

Figure 7: Grievance redress process 37

Figure 8: Organogram for Regional Teams 40

Figure 9: Indicative locations for SE along LLCOP route 41

APPENDICES

APPENDIX A
Preliminary Stakeholder Engagement Schedule

APPENDIX B
Stakeholder Engagement Database

Table of Abbreviations

ASAL	Arid and semi-arid land
EIA	Environmental Impact Assessments
EIS	Environmental impact study
EMCA	Environment Management and Coordination Act of 1999
ESF	Environmentalistes Sans Frontieres (ESF) Consultants
ESIA	Environment and Social Impact Assessment
FPIC	Free, Prior, and Informed Consent
IFC	International Finance Corporation
KFS	Kenya Forest Service
KWS	Kenya Wildlife Service
LAPSSET	Lamu Port-South Sudan-Ethiopia-Transport Corridor
LCDA	LAPSSET Corridor Development Authority
LLCOP	Lokichar to Lamu Crude Oil Pipeline
NEMA	National Environment Management Authority
NGO	Non-government Organisation
NLC	National Land Commission
PPMT	Pipeline Project Management Team
SEA	Strategic Environmental Assessment
SEP	Stakeholder Engagement Plan
ToR	Terms of Reference

1.0 INTRODUCTION

1.1 Background

The LAPSSET Corridor Programme is a regional project projected to provide seamless transport and logistics infrastructure between the Eastern African Countries of Kenya, Ethiopia and South Sudan[1]. The LAPSSET Corridor connects a population of 160 million people in the three countries, connecting the East African coast from Lamu Port to the West coast of Africa at Douala Port[2].

The Lokichar to Lamu Crude Oil Pipeline (LLCOP)) is a sub-component of the broader LAPSSET Corridor Project. The LLCOP will be jointly developed by the Pipeline Project Management Team (PPMT) in conjunction with the LAPSSET Corridor Development Authority (LCDA)[3].

It is accepted practice that stakeholders should be engaged regarding projects and processes that influence their lives. This engagement is essential to build strong, constructive and mutually responsive relationships with these stakeholders. [4]

The Environment and Social Impact Assessment (ESIA) Contractor has prepared thiss Stakeholder Engagement Plan (SEP). The SEP sets out how the Project Proponent and the ESIA Contractor will engage wjth stakeholders regarding the proposed project. It indicates the “when, how, and with whom” of how the stakeholder engagement will take place.[5] This SEP broadly follows the framework provided by the IFC in Appendix 3 of the Stakeholder Engagement: A Good Practice Handbook for Companies Doing Business in Emerging Markets [6].

1.2 Project location

The LLCOP ranges approximately 820km from the oil fields (Central Processing Facility) in Lokichar to the port of Lamu, which is still under construction. The LLCOP extends from Lamu and will traverse the Counties of Lamu, Garissa, Meru, Isiolo, Samburu and Turkana.

This corridor has been refined to approximately 1 km wide before in-field baseline surveys. This represents the LAPSSET Corridor which has been revised to align as far as possible with the preferred pipeline alignment. Please refer to Figure 1 for the preliminary alignment of the pipeline corridor.

[1] Government of the Republic of Kenya, *Kenya Vision 2030: The Popular Version* (Nairobi, 2007).

[2] Lapsset Corridor Development Authority, Brief on Lapsset Corridor Project (Nairobi, 2016).

3 Pipeline Project Management Team, South Lokichar to Lamu Pipeline Project: ESIA Guidelines to Contractors (Nairobi, 2018).

4 International Finance Corporation, Performance Standards on Environmental and Social Sustainability - Overview of Performance Standards on Environmental and Social Sustainability (Washington, DC, 2012).

5 UNDP, Guidance Note UNDP Social and Environmental Standards (SES) UNDP Guidance Notes on the Social and Environmental Standards (SES) (Washington, DC, 2017).

6 International Finance Corporation, ‘Stakeholder Engagement : A Good Practice Handbook for Companies Doing Business in Emerging Markets’, *International Finance Corporation*, 2007, 201 <https://doi.org/10.1007/s10551-007-9509-y>.

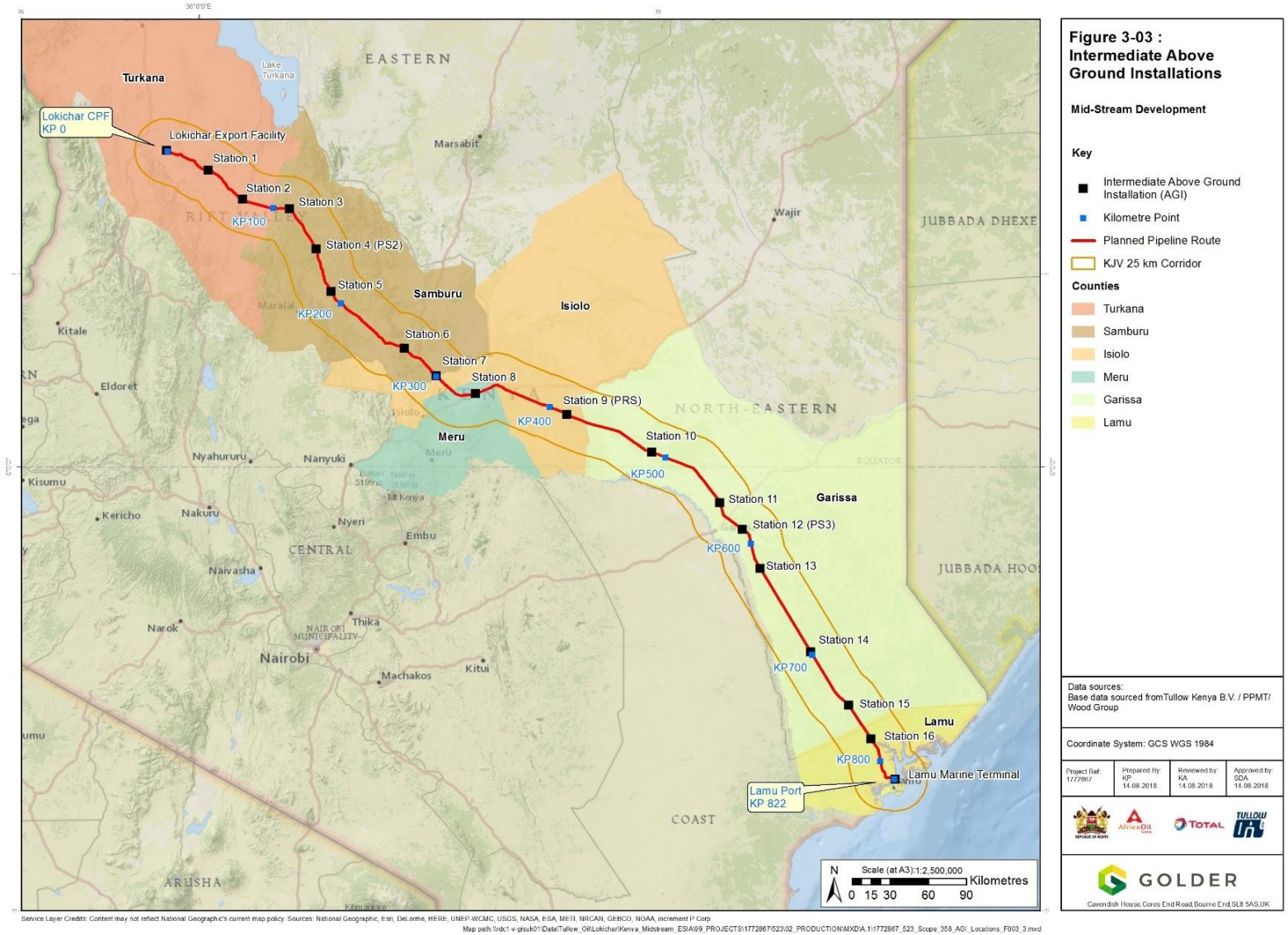


Figure 1: Preliminary alignment of the pipeline corridor

1.3 Project Description

The LLCOP Project is designed to provide transportation, storage and export facilities for the heavy and waxy crude oil from the Lokichar oil fields. The Project consists of a pipeline approximately 820km long and an export Load-Out Facility at the Port of Lamu. The pipeline will be buried throughout its length but will have a number of above ground structures (AGI) at suitable locations. The construction time will be approximately two to three years.

The Lokichar to Lamu Crude Oil Pipeline (LLCOP) will be routed for all of its length within the proposed Lamu Port, South Sudan, Ethiopia, Transport Corridor (LAPSSET), LAPSSET is a linear land corridor selected by the Government of Kenya for strategic infrastructure development and is a major initiative for Kenya and the East African region. The export facilities at Lamu will include an oil storage area within the Lamu Port facility and a single berth at the Port itself dedicated to transferring the oil onto appropriate vessels.

Land required for the proposed pipeline will be acquired by the government and leased to the project. The proposed pipeline will need a 30m Right of Access (ROA) width for construction and 6m width for operations.

The LLCOP will pass through six Counties (Turkana, Samburu, Isiolo, Meru, Garissa and Lamu). As far as possible the selected route option avoids settlements and sensitive areas of biodiversity, and community importance.

1.3.1 Key Design Parameters

The key design Parameters for this Project include the following:

- Project infrastructure has a design life in excess of 30 years for continuous oil transportation over this period;
- The pipeline will be buried for the approximately 820 km route reducing the footprint of the Project;
- The expected construction technique will be conventional trench and back fill;
- Main rivers will be crossed using trenchless construction techniques such as Horizontal Directional Drilling (HDD), micro-tunneling or similar methods;
- 17 AGIs are planned along the route (co-located or stand-alone) including block valves, pig launcher/receiver stations, pressure reduction stations, pumping stations and electrical generation stations;
- A planned 18” diameter pipeline based on a flowrate of 60 – 80 thousand bopd (barrels of oil per day);
- Due to the waxy nature of the crude oil from the South Lokichar fields the pipeline system will require thermal insulation and electrical trace heating to maintain the crude oil at an optimum temperature for pumping. The Trace Heating System used will be a Long Line Trace System (LLTS);
- Maximum peak operational power demand is 23MW;
- The Lokichar Central Processing facility (CPF) will provide the stabilised crude for the pipeline;
- The main Pump Station (PS1) will be located within the confines of the Lokichar CPF;
- Two additional Pump Stations (PS2 and PS3) will be along the pipeline;
- There will be one pressure reduction station along the pipeline;
- Up to six different Construction teams are envisaged for the pipeline construction implementation operating out of county-based centres;

- Construction will likely radiate from construction centres in a simultaneous programme;
- The crude oil will be stored before shipment at Lamu Port in one of two options:
  - Option 1 – Onshore floating roof storage tanks (3 x 500,000 bbls);
  - Option 2 – Floating vessel storage (VLCC); or
  - Crude will be transferred directly to a Suezmax size tanker in both options;
- Two loading lines from the onshore storage to the Load-Out Facility (LOF); the connection from the potential on-shore storage terminal will either be across the causeway or sub-sea;
- The LOF for crude oil export will be designed for Suezmax-size type tankers for transportation in batches of 1MM bbl;
- Where applicable, Project facilities will be designed using closed drain systems that will collect discharge from pipework and equipment within AGIs during routine operations and maintenance and direct any discharges to a dedicated storage vessel to prevent discharge to the environment;
- Best Available Technology (BAT) will be used - the Project is designed so that all emissions and discharges meet applicable environmental standards; and
- The Project, and construction activities will be designed in line with the environmental mitigation measures defined in the ESIA.

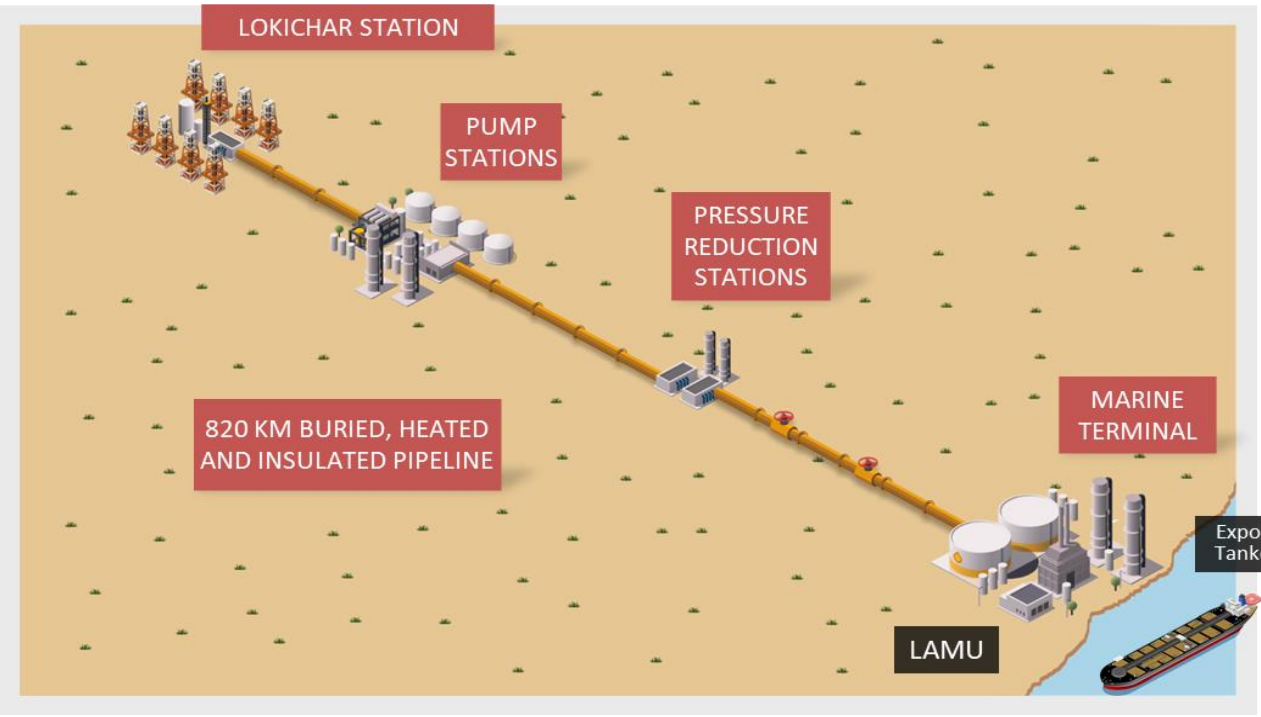


Figure 2: Schematic Representation of Key Design Elements of LLCOP

The AGIs will be constructed in securely fenced compounds and most will operate automatically being controlled remotely from the main pipeline operational management control centre. The majority will be block structures, with the equipment enclosed within the unit. Operational design and performance standards for the AGIs will be finalised by the FEED designer and their potential impact on the surrounding environment will be assessed in the Impact Assessment.

At Lamu Port, the Pipeline will arrive at a crude oil storage facility. Two options are currently being evaluated; a land side Marine Storage Terminal consisting of three above ground floating roof storage tanks (3 x 500,000 bbl) or a floating Storage Option consisting of a leased permanently moored VLCC located at the berth, with product transferred directly from the VLCC via the Load-out Facility to a Suezmax type tanker for transportation in batches of 1MM bbl;

There will be two loading lines to the Load-Out Facility (LOF). This will either be a jetty and trestle or a sub-sea option.

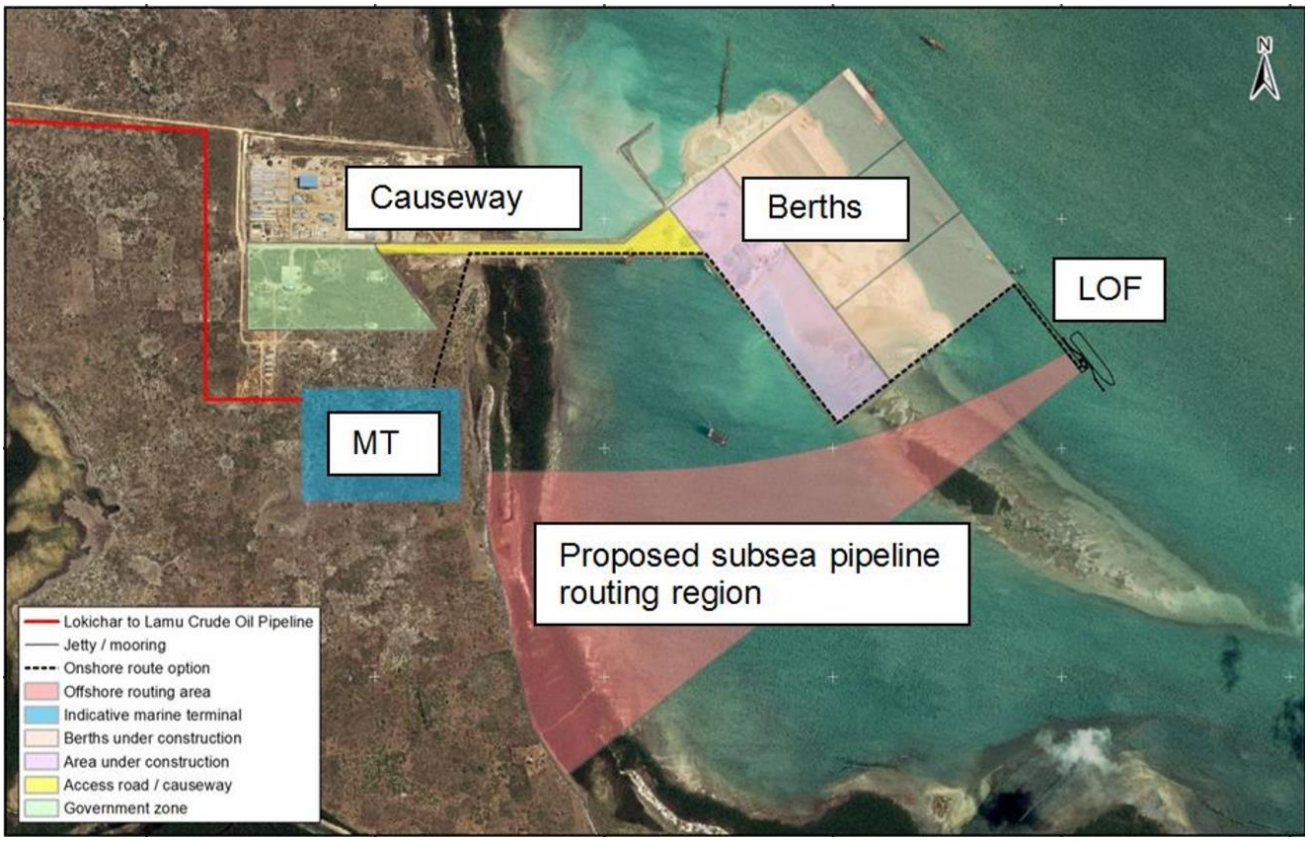


Figure 3: Proposed Layout Options for the LLCOP at Lamu Port.

1.3.2 Pipeline Construction

Pipeline construction is a sequential process and comprises a number of distinct operations which are described below. Final construction techniques are to be determined during the detailed design. Typically, construction activities at any one pipeline construction site can move forward at the rate of approximately 600 m per day, although this will be dependent on the nature of the ground and the weather.

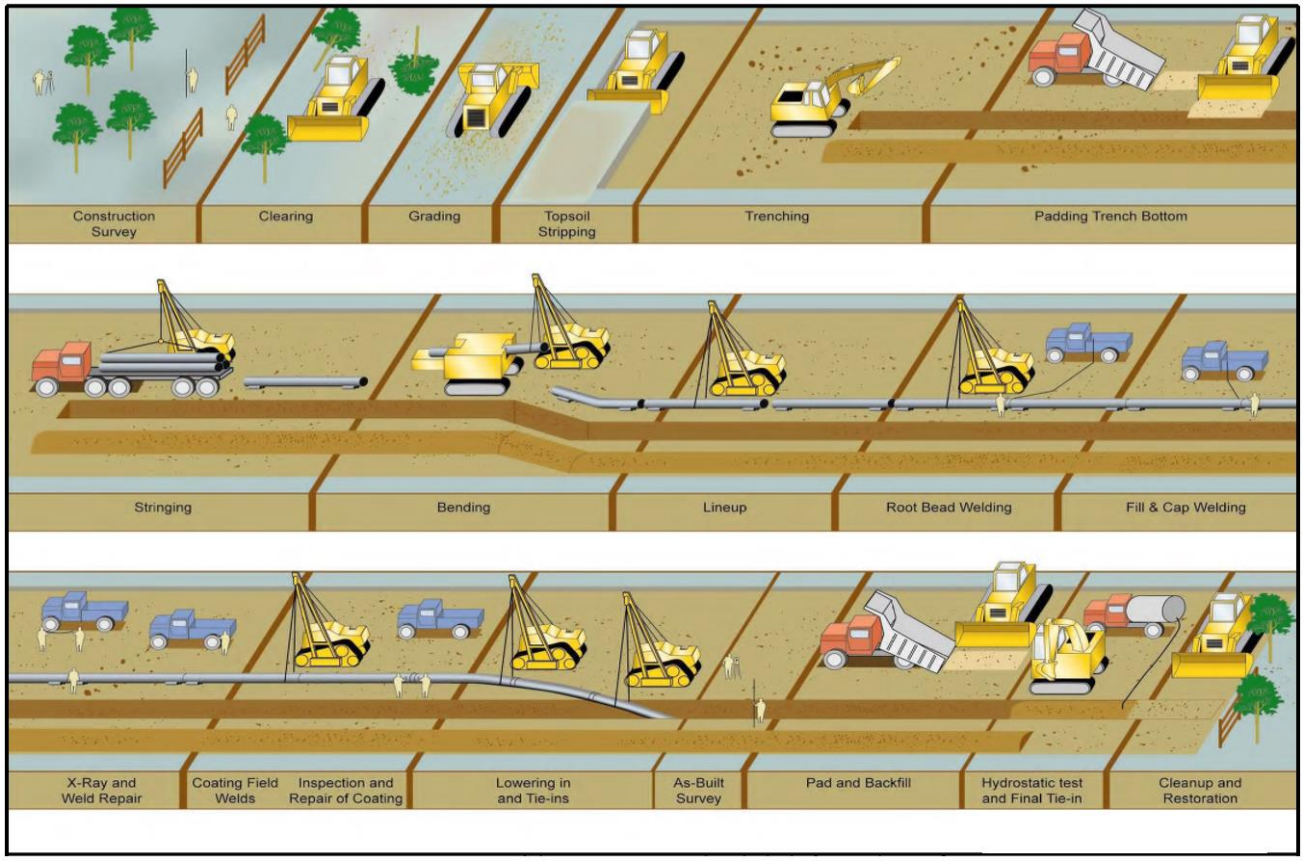


Figure 4: Typical Pipeline Construction Sequence

The majority of the route is expected to be constructed using conventional excavation and back-fill, which involves the digging of the trench directly into the surface ground layer. Laying of the pipes, burying the pipe and back–filling the trench back to the previous ground level. The objective will be to return the ground to its previous condition and characteristics as quickly as possible. Original soil and earth structures will be used as far as possible to minimise introduction of new or invasive species. The proposed conventional trench and backfill construction technique will be used for the majority of the route and will be undertaken within the approximately 30 m wide construction wayleave. This working width is adequate to allow the safe working of the expected construction plant and provision of a parallel vehicle access route. Proposals for the reclamation of the 30 m construction easement down to the required 6 m operational strip following the construction phase, will be assessed in the ESIA.

For major river crossings the Horizontal Directional Drilling (HDD) methodology is preferred. The use of HDD at the crossing points will be determined through advanced geotechnical survey boreholes at each location. Should HDD not be applicable, micro-tunelling will be used as an alternative construction method.

The construction compounds will be temporary work compounds, only existing for the duration of time the construction teams are in the field. A typical size compound is expected to house around 350 workers at any one time plus equipment, with maintenance capability, stores, pipe warehousing and worker support facilities such as canteens, washing facilities and accommodation. The construction camps will be provided with the full range of facilities and amenities for worker's welfare, including sleeping, catering, medical and hygiene facilities. They will have independent power sources and controlled water supplies including waste, waste water and surface water runoff handling capacity to minimise detrimental environmental effects.

The pipeline laydown areas are likely to be extensive in area although not complex in potential impact. Construction camps will be temporary and only existing to support the construction activities for their targeted

construction segment. Surface grading, soil removal and installation of drainage infrastructure for these areas is expected.

Proposed plans for the reclamation of the construction camps and laydown areas following the construction phase will be assessed in the ESIA.

2.0 REGULATIONS AND REQUIREMENTS

The environmental and social assessment and the associated stakeholder engagement processes must comply with Kenyan legislative, regulatory and policy requirements, as well as conforming to the requirements of IFC Performance Standards. The following sections indicate the Kenyan legislative framework with the policies and regulations.

2.1 Kenya Legislative Framework

The development of the LLCOP will be governed by legislation that defines the method and process of establishing the project. Some of the key legislation are briefly highlighted in the following section.

2.1.1 The Constitution of Kenya

Promulgated on the 27 August 2010, the Constitution of Kenya declares in its preamble that the people of Kenya must be respectful of the environment, which is part of their heritage[7].

- The constitution states in Article 42 that every person has a right to a clean and healthy environment. Subsection 1 adds that this includes the protection of the environment for the benefit of present and future generations through legislative and other measures.
- Article 43 follows declaring the economic and social rights of every Kenyan and details them in subsections: (a) the right to the highest attainable standard of health, (b) which includes the right to health care services, (c) including reproductive health care and (d) the right to clean and safe water in adequate quantities.

2.1.2 Environment Management and Coordination Act of 1999

Environmental management in Kenya is directed under a number of laws, prime of which is the Environment Management and Coordination Act of 1999 (EMCA). The EMCA provides detailed guidelines on Environmental Impact Assessments (EIAs) in Kenya. The Act states that all new projects that are likely to affect the environment in any way must undertake an EIA, and the EIA report should then be submitted to NEMA for review and approval. Schedule 2 comprises a list of specific activities that require an EIA. Among them is Item 6(j), which states *"...exploitation for the production of petroleum in any form*". The Act also establishes the requirement for public participation in, among others, within the EIA process.

2.1.3 The Petroleum (Exploration and Production) Act of 1968, amended in 2005.

This Act vests all natural petroleum resources of Kenya in the State. The Act also regulates the exploration or exploitation of petroleum resources by the Kenya Government or by a private party through an agreement with the Kenya Government. The Act also regulates the development, production and transportation of, petroleum products and related aspects[8].

2.1.4 The Wildlife Conservation and Management Act, Act No. 47 of 2013

The purpose of the Kenya Wildlife Conservation and Management Act is to consolidate and amend the laws relating to the protection, conservation, sustainable use and management of wildlife in Kenya.

[7] Government of the Republic of Kenya, *The Constitution of Kenya* (Nairobi: Kenya Parliament, 2010).

[8] Government of the Republic of Kenya, *Petroleum (Exploration and Production) Act (Revised 2012).* (Nairobi: Kenya Parliament, 2012).

2.1.5 The Kenya Water Act, Act No. 43 of 2016

The Kenya Water Act of 2016 provides for the regulation, management and development of water resources, water and sewerage services; and related aspects[9].

2.1.6 Occupational Health and Safety Act, 2007.

This Act's main objectives are to secure the safety, health and welfare of persons at work; and to protect other persons against risks to safety and health arising out of, or in connection with, the activities of persons at work. It assigns duties and liabilities to employers, employees and the public to facilitate this and promote healthy work environments subsequently enhancing outputs, ergonomically[10].

2.1.7 Prevention, Protection and Assistance of Internally Displaced personas and Affected Communities Act, Act No 56 of 2012.

This Act makes provision for the prevention, protection and provision of assistance to internally displaced persons and affected communities and give effect to the Great Lakes Protocol on the Protection and Assistance to Internally Displaced Persons, and the United Nations Guiding Principles on Internal Displacement and for connected purposes[11].

2.1.8 The Public Health Act, *Act No. 12 of 2012*.

The Act aims to protect and promote human health and the prevention, limitation or suppression of infectious, communicable, or preventable diseases within Kenya. It also aims to advise and direct local authorities about matters affecting public health and to promote or carry out research and investigations in connection with the prevention and treatment of human diseases. This Act provides the impetus for a healthy environment and provides regulations for waste management, pollution and human health[12].

2.1.9 National Museums and Heritage Act. Act No. 6 of 2006

Part VI of the Act makes provisions for establishment and management of protected areas concerning cultural heritage while prohibiting activities that may damage the cultural heritage in these areas[13].

2.1.10 The Draft Environmental Management and Coordination (Strategic Assessment, Integrated Impact Assessment and Audit) Regulations, 2018

The draft regulations provide for the need to register environmental assessment experts and the requirement for an environmental assessment expert licence. The regulation spells out requirements for a project report as well as the submission comment and authorisation process. The regulations spell out the requirements for the integrated environmental impact assessment, environmental audit and monitoring, and strategic environmental assessment processes in some detail.

The need for stakeholder engagement is indicated in a number of aspects. Of specific relevance is a requirement to invite comments by the public, development of a SEP as well as reporting on the implementation thereof.

2.2 Kenya Policy and Regulatory Framework

The broad regulatory and policy framework for this SEP include the following.

[9] Government of the Republic of Kenya, *The Water Act, Act No. 43 of 2016* (Nairobi: Kenya Parliament, 2016).

[10] Government of the Republic of Kenya, *The Occupational Safety and Health Act, 2007.* (Nairobi: Kenya Parliament, 2007).

[11] The Government of the Republic of Kenya, *Prevention, Protection and Assistance to Internally Displaced Persons and Affected Communities Act, No 56 of 2012* (Nairobi: Kenya Parliament, 2012).

[12] Government of the Republic of Kenya, *Public Health Act, Act No 12 of 2012.* (Nairobi: Kenya Parliament, 2012) <www.kenyalaw.org>.

[13] The Government of the Republic of Kenya, *National Museums and Heritage Act. Act No. 6 of 2006* (Nairobi: Kenya Parliament, 2006).

2.2.1 Kenya Vision 2030

The Kenya Vision outlines Kenya's development agenda by the year 2030. A number of projects were visualised through the development of the First National Spatial Plan. The Kenya Vision this 2030 has a policy for extensive stakeholder engagement in the process to undertake these developments[14].

Other prime policies that affect and define the LLCOP include;

2.2.2 The National Environment Policy - 2013

The National Environment Policy of 2013 has as main goal the fostering of a better quality of life for present and future generations through sustainable management and use of the environment and natural resources. The policy observes the right to a clean environment but at the same time the right to development. The policy seeks to provide the framework for an integrated approach to planning and sustainable management of natural resources in the country[15].

2.2.3 National Disaster Management Policy

The National Disaster Management Policy establishes the guiding principles and architecture for disaster management in Kenya by presenting the institutional structures, roles, responsibilities, authorities and key processes required to achieve a coordinated, coherent and consistent approach.

2.2.4 National Policy for the Sustainable Development of Northern Kenya and other Arid Lands 2016

The focus of this policy is on promoting social and economic development and the provision of easily accessible services throughout Kenya, and in particular, in the arid and semi-arid Lands. The goal is to ensure that Kenya, and in particular, in the arid and semi-arid Lands, develops into regions of opportunity and potential, eliminating the historical challenges[16].

2.2.5 The Kenya National Land Policy

The Kenya National Land Policy has the vision to guide the country towards a sustainable and equitable use of land. The land policy calls for immediate actions to addressing environmental problems that affect land such as degradation, soil erosion and pollution. The land policy aims to address a number of land-related aspects. Among these are land administration, access to land, land use planning, restitution of historical injustices, environmental degradation, conflicts, the unplanned proliferation of informal urban settlements, outdated legal framework, institutional framework and information management[17].

2.2.6 Environmental (Impact Assessment & Audit) Regulations (2003)

These Regulations addresses the content and procedures for an environmental impact assessment, environmental impact, audit and monitoring procedures as well as strategic environmental assessment processes. Reg. (17) of the policy contains public participation requirements during the ESIA study, specifically on seeking the views of the project-affected people or communities. These requirements include stipulations related to public announcements and notices, public meetings and recording of oral and written comments[18].

2.3 IFC Performance Standards

The IFC Performance Standards provide an international benchmark for environmental and social performance. Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts set

[14] Government of the Republic of Kenya, *Kenya Vision 2030: The Popular Version*.

[15] Ministry of Environment Water and Natural Resources, *National Environment Policy* (Nairobi: Kenya Parliament, 2013).

[16] Ministry of Devolution and Planning, *National Policy for the Sustainable Development of Northern Kenya and Other Arid Lands* (Nairobi: The Presidency, 2016).

[17] Ministry of Lands, National Land Policy (Nairobi: National Land Policy Secretariat, 2007).

[18] Government of the Republic of Kenya, *Environmental (Impact Assessment and Audit) Regulations 2003* (Nairobi: Kenya Parliament, 2012).

out the basic principles and requirements for stakeholder engagement, including the need to consult with indigenous peoples, where relevant.[19] This performance standard is supported by further issue-specific engagement requirements in subsequent Performance Standards.

In this regard, indigenous peoples are often more vulnerable to adverse project impacts than the mainstream communities. Performance Standard 7 on Indigenous Peoples sets out the requirements and aspects to consider when indigenous peoples may be impacted upon. The aspect of free, prior and informed consent (FPIC) is one of the key matters addressed in PS 7. [20]

Where IFC Performance Standards are more stringent than Kenyan requirements, the more stringent requirements will be adopted.

2.4 The Equator Principles.

There are ten Equator Principles, of which Equator Principles 5 (Consultation and Disclosure) and Principle 6 (Grievance Mechanism) have particular application to the stakeholder engagement processes. [21]

3.0 SUMMARY OF PREVIOUS AND ONGOING STAKEHOLDER ENGAGEMENT ACTIVITIES

3.1 Previous Engagement

The LLCOP project-related stakeholder engagement to-date has been focused on key National and County level stakeholders and policymakers. This was carried out during the Scoping phase of the ESIA study. LAPSSET, however, has undertaken stakeholder engagement as part of other assessment processes. These include the following: [22]

- Engagement requirement as part of the statutory process to acquire land by the National Land Commission on behalf of LAPSSET along the LAPSSET Corridor;
- ESIA for Lamu Port (2013);
- ESIA for the Lamu-Garissa road (2016);
- ESIA for the Proposed 1,050MW Coal-Fired Power Plant Project in Lamu (2016); and
- Strategic Environmental Assessment (SEA) for the LAPSSET Corridor.

3.1.1 Issues Raised

During the analysis of the reports mentioned above, a number of potential social issues were identified[23]. The anticipated key social impacts during construction and operations are described in the following sections:

3.1.1.1 Summary of Potential Benefits and Opportunities

A summary of potential project benefits and opportunities as expressed by the stakeholders include the following:

[19] International Finance Corporation, *Performance Standard 1: Assessment and Management of Environmental and Social Risks* (Washington, DC, 2012).

[20] International Finance Corporation, *Performance Standard 7: Indigenous Peoples*, *Management* (Washington, DC, 2012).

[21] Equator Principles, *The Equator Principles III* (Washington, DC, 2013).

[22] Pipeline Project Management Team.

[23] Heztech Engineering Services, *Environmental Impact Assessment Study Report for Construction of the First Three Berths of the Proposed Lamu Port and Associated Infrastructure* (Mombassa, 2013); SAI Consulting Engineers PVT. LTD, *ESIA Study Report: Consultancy Services for the Environmental & Social Impact Assessment and Detailed Engineering Design of Lamu-Garissa Road* (Nairobi, 2016); Kurrent Technologies Limited, *Environment and Social Impact Assessment (ESIA) Study for the Proposed 1,050MW Coal Fired Power Plant Project, Kenya*, 2016; Repcon Associates, *Strategic Environmental Assessment for the LAPSSET Infrastructure Corridor* (Nairobi, 2017).

- Contributions to National and regional economic growth (indirectly via Government revenue from crude oil production and export, and via the LAPSSET Corridor development – direct benefits from pipeline construction and operation will be minimal);
- Improvements in the lives of communities and individuals related to community development initiatives, including health, youth employment, education and related services during the construction phase and to a lesser extent during the operation phase;
- Positive impacts associated with labour requirements during construction and associated increased spend in the local economy;
- Improved localised economies during construction phase from trade and supply of goods and services by local communities to construction teams (direct benefits are likely to be of limited extent and short-term); and
- Improved infrastructure as a result of the project and associated activities.

3.1.1.2 Summary of Potential Adverse Impacts and Issues

During the analysis of the various reports, the following broad potential adverse impacts were identified the stakeholders:

- Access and safety issues due to increased traffic, particularly during the construction processes;
- Air quality impacts during construction and operations from clearing, erosion, transportation over unsealed roads, blasting, and equipment;
- Compensation related aspects – fears about unfair compensation, implications on people not holding title deeds (this is an issue for NLC to address as part of the statutory land acquisition process and is outside the ability of the ESIA to influence the process);
- Cultural influence and degradation (especially in rural settings) due to the influx of foreign persons for labour and business/trade;
- Fears regarding potential alienation of land (this is an issue for NLC to address as part of the statutory land acquisition process and is outside the ability of the ESIA to influence the process);
- Impacts on water quality and the availability of water (particularly during construction and the perception during operations that pipeline “leaks” may lead to surface and groundwater contamination);
- The influx of non-residents into the area, particularly during construction, causing:
  - displacement and impacts on local socio-cultural set-ups of local populations;
  - increased crime, conflict and insecurity; and
  - transmission of communicable diseases.
- Interruption of wildlife migration through loss of access to traditional corridors as a result of pipeline construction activities;
- Localised conflict over resource and employment opportunity sharing;
- Loss of livelihood and income due to loss of agricultural land resulting from land take, stripping of utilisable soil and vegetation, and change in land use (issues related to land acquisition are addressed by NLC and are outside the scope of the ESIA, however, the ESIA will consider the impacts of land acquisition and associated like-for-like land-based compensation on livelihoods);

- Loss of vegetative cover due to stripping within the pipeline construction; and
- Physical and economic displacement of communities and individuals resulting from loss of assets, land and access to resources to make way for project operations (issues related to land acquisition are addressed by NLC and are outside the scope of the ESIA, however, the ESIA will consider the impacts of land acquisition and associated like-for-like land-based compensation on livelihoods).

3.1.1.3 Potential Risks to Stakeholder Engagement

From the above feedback from stakeholders key potential risks to the stakeholder engagement exercise have been identified as below.

- Concerns surrounding potential displacement and compensation (this is an issue for NLC to address as part of the statutory land acquisition process and is outside the ability of the ESIA to influence the process);
- Excessive (and unmeetable) expectations among local stakeholders involved in the engagement process;
- Increased stakeholder mistrust because of the difference in the land acquisition process and approach, specifically in Turkana County if different approaches to stakeholder engagement are adopted;
- Legacy expectations and preconceptions of stakeholder engagement processes; and
- Limited consideration of community proposals and community development needs not being met due to poor expectation management.

3.2 Engagements Carried Out During ESIA Scoping Stage

As part of the LLCOP project and during the Scoping Stage, the ESIA team lead by Golder and ESF have undertaken a consultation process within the six counties along the LLCOP route.

The ESIA Scoping Consultations were initiated in June 2018 and included a series of meetings to disclose the Project concept and explain the ESIA process. Consultations were held with the government, NGOs and stakeholder organisations with two main workshops in Nairobi for Parliamentarians and Nairobi based stakeholder organisations and a workshop in each of the six counties along the route. A brief summary of the Scoping Phase Consultation process undertaken and key findings is presented below:

Table 1: ESIA Scoping Meetings – Total Attendees

Date	Meeting / Type	Total Participants
11 June 2018	Parliamentarian Forum - Nairobi	38
12 June 2018	National and NGO Meeting - Nairobi	57
18 June 2018	County Meeting - Isiolo	58
19 June 2018	County Meeting - Meru	45
21 June 2018	County Meeting - Garissa	120
25 June 2018	County Meeting - Lamu	134
27 June 2018	County Meeting - Samburu	93
29 June 2018	County Meeting - Turkana	38
	Total Attendees	583

3.2.1 Issues Raised

This section provides a summary of the issues raised at each of the meetings. When this report was compiled, participants had raised 475 issues. Key issues raised during these meetings are listed below:

ESIA issues:

- Mitigation Plans;
- Employment Opportunities;
- Involvement of local institutions at county level through ESIA process;
- Social Displacement;
- Potential impacts on biodiversity and cultural heritage (e.g. sacred sites); and
- Future engagement at community level.

Project Management issues:

- CSR plan – development of projects for communities; and
- Grievance mechanism.

GoK and LAPSSET issues:

- Sharing of oil revenues;
- Land ownership (uncertainty on land tittles); and
- Land valuation and compensation (compensations for communal land, issues related to untitled land, and county wide compensation).

Engineering and Design issues:

- Accesses to pipeline and stations;
- Size of oil pipeline related on surface infrastructure along corridor;
- Construction materials (outsourcing?); and
- Oil leaking – risk management.

As stakeholder engagement is ongoing, the number of issues is anticipated to increase. The issues have been incorporated into a Comments and Response Report. All feedback from the meetings has been considered and fed into the ESIA baseline TOR. Table 4.2 summarises the issues raised at the Scoping Consultation Meetings.

Table 2: Summary of Issues Raised at Scoping Consultation Meetings

Category	Parliam-entarian	National/ NGOs	Isiolo	*Meru*	*Garissa*	*Lamu*	Samburu	*Turkana*	TOTALS	%
	36	46	88	*28*	*45*	*115*	55	*62*	475	
Benefits and expectations	✓✓✓✓✓	✓✓✓✓	✓✓✓✓✓✓ ✓✓✓	✓✓✓✓	□	✓✓✓✓✓✓	✓✓✓✓✓	✓✓✓✓✓	38	8.0%
Collaboration with other stakeholders	□	✓✓✓	□	□	✓	□	✓✓✓	✓	8	1.7%
Compensation related	✓✓	✓✓	✓✓✓✓✓✓ ✓✓✓✓	✓	✓✓✓✓✓	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓	✓✓✓✓	✓	38	8.0%
CSR expectations	✓✓	✓	✓	□	✓✓	✓✓✓	✓✓✓✓✓	✓	15	3.2%
Disaster/risk management	✓	□	□	✓	✓✓✓	✓	✓✓✓	✓	10	2.1%
Stakeholder engagement related	✓✓✓✓✓✓ ✓	✓✓✓	✓✓✓✓✓✓ ✓	✓✓✓✓	✓✓✓✓✓	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓	✓✓✓	✓✓✓✓✓✓ ✓✓✓✓	55	11.6%
Environmental impact related	✓✓✓✓	✓✓✓✓✓✓ ✓✓✓✓	✓✓✓✓✓✓ ✓✓✓✓	✓✓✓✓✓	✓✓✓✓	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓	✓✓✓✓✓✓	✓✓	53	11.2%
ESIA process related	✓✓✓✓✓✓ ✓	✓✓✓✓✓✓	✓✓✓	□	✓✓✓	✓✓✓✓✓✓ ✓✓	□	✓✓✓✓✓✓ ✓✓	35	7.4%
Grievance mechanism	✓	□	□	□	✓	✓	□	□	3	0.6%
Health impacts	□	□	✓	□	✓	✓✓	✓	✓✓	7	1.5%
Heritage/ Cultural requirements	□	✓✓✓	□	□	□	✓✓✓	✓	✓	8	1.7%
Information requirements	✓	✓✓	✓✓	□	✓	□	✓	✓✓	9	1.9%
Land related aspects	✓	□	✓✓✓✓✓✓ ✓✓	✓✓	✓✓	✓	✓✓✓✓	✓✓✓✓	22	4.6%
Land dispute related	✓	✓	✓✓✓✓✓✓ ✓✓✓	✓✓✓	□	✓	✓	□	16	3.4%
Livelihood impacts	□	□	✓✓✓	□	✓✓	✓✓✓✓✓✓	□	✓✓	13	2.7%
Other	□	□	✓✓	□	✓	✓✓✓	□	✓✓	8	1.7%
Pipeline and terminal design	✓✓✓✓	✓✓✓✓✓	✓✓✓✓✓✓ ✓	✓✓	✓✓✓✓✓✓ ✓✓	✓	✓✓✓✓✓✓	✓✓	35	7.4%
Pollution	□	✓✓✓✓	✓✓✓	✓✓✓✓	✓✓	✓✓✓✓✓	□	□	18	3.8%
Requirements for representation	□	✓	✓✓	□	✓✓	✓	□	✓✓✓	9	1.9%
Route Change	□	□	✓✓✓	□	□	□	✓✓	✓✓	6	1.3%
Safety and Security	□	✓	✓✓	□	□	✓✓✓✓✓	✓✓✓	✓✓✓	14	2.9%
Socioeconomic impacts	□	✓	✓✓✓✓✓	✓✓	✓✓	✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓✓✓✓✓ ✓✓	✓✓✓✓✓	✓✓✓✓✓✓ ✓✓	43	9.1%
Threats	□	□	✓	□	✓	✓✓✓	✓✓	✓	8	1.7%
Water scarcity and quality	□	✓	✓	□	□	✓	□	✓	4	0.8%
Number of issues	36	46	88	28	45	115	55	62	475	100.0%

3.2.2 Categorisation of Issues

The issues were grouped in 24 categories. Table 4-3 indicates the categories and broad aspects per category in alphabetical order.

Table 3: Categorisation of Issues

	Category	Broad focus
1	Benefits	The focus here is on issues related to benefits and expectations, including aspects such as sharing of benefits, ensuring local employment, a particular focus on the youth and women, sharing project revenue, local sourcing of materials and services and various expectations.
2	Collaboration	Participants suggested that the project team collaborate with a variety of institutions. Among these are the local representatives of the Ministry of Environment and Forestry, Department of Resource Surveys and Remote Sensing, County ministries and environment committees, UNESCO, NMK, NRLTF, Kenya Platform on Oil and Gas, Community Forest Associations, and local NGOs.
3	Compensation	Compensation expectations were highlighted in all the meetings. Compensation methods, pastoral requirements, County Government needs, individual needs featured prominently. Land -related aspects are indicated in category 13.
4	CSR commitments and benefits	Corporate social responsibility requirements at County and community level formed a persistent thread throughout all the meetings. Education, social infrastructure and services expectations were often raised.
5	Disaster and risk management	Aspects raised in this regard included risk management systems, pipeline security, management of associated fire and physical danger aspects. Insurance requirements for any such damage suffered was also raised.
6	Engagement	Stakeholder engagement featured prominently in all the discussions. Aspects raised included the need for ongoing stakeholder engagement, involving the community representatives, the elders, the youth and women down to ward and grassroot levels, by means of barazas and focus group meetings. The need for focused engagement with pastoralists and vulnerable people featured prominently. The need for consultation with indigenous people was indicated, in order, to understand their specific needs and socioeconomic requirements. Rehabilitation and the need to manage alien plants and minimise impacts on trees (and bees) were regularly indicated.
7	Environmental impact	A host of potential environmental impacts was raised. These inputs ranged from regulatory requirements, biophysical, biodiversity, land and marine ecosystem impacts to implications on game reserves, accessibility matters, and intrusive impacts such as noise and dust. Impacts on water, water catchments, rivers and natural resources were raised. The potential implications of climate change were indicated.

	Category	Broad focus
8	ESIA Process	Feedback on the ESIA process featured prominently. Key aspects raised include regulatory requirements, the need for transparency, consistent feedback, demonstrating that issues and aspects are considered as part of the assessment process. Simplifying documentation in a manner to make it accessible to local people and ensuring easy access to such documentation information is a key requirement. The need for capacity building and awareness creation of the project and potential applications was emphasised.
9	Grievance mechanism	Stakeholders identified the need for a grievance mechanism and information on how such a mechanism would function.
10	Health Impacts	Stakeholders identified a variety of potential health impacts, ranging from cancer fears and HIV/AIDS aspects to water and vector borne diseases and implications for humans and livestock. Many of these concerns are based on fears of pollution and product emissions.
11	Heritage	Participants raised the need for heritage and cultural awareness. The potential demise of the Aweri language was identified, among other aspects.
12	Information	Various individuals requested detailed maps of the route alignment. Participants requested that in the future, LLCOP and ESIA information be made more accessible to illiterate people by using audio-visual material and simplifying reports and information significantly.
13	Land aspects	Land related matters formed a prominent part of the feedback. Aspects raised focused on ownership, title deed requirements and County mandate over land. Land valuation, compensation and acquisition procedures featured in all of the meetings.
14	Land disputes	Aspects related to land disputes focused on land tenure, disagreements on County boundaries and differences in land rights between various groups.
15	Livelihood	Potential impacts on livelihood were raised on a regular basis. The focus was on the livelihood implications that the LLCOP may have for pastoralists, loss of food resources and concerns about impacts on livestock and wildlife. Implications for beekeeping and honey production were raised in respect of the loss of trees in the corridor.
16	Other	A variety of issues not falling within the focus of this ESIA were indicated. The bulk of these had to do with the other LAPSSET projects, mistrust of some government institutions and matters relating to National government and County government governance issues.
17	Pipeline design	Pipeline design and associated matters featured prominently throughout the stakeholder engagement. Project timeframes, design, product use, geotechnical requirements, safety and expectations for rehabilitated land were raised.

	Category	Broad focus
18	Pollution	The implications of oil spillage on land, sea and rivers were raised. Concerns regarding the impact of potential LLCOP related pollution and spillages on people, livestock and game were shared.
19	Representation	Various stakeholders raised issues regarding the representation of counties at LAPSSET and project representation at County level.
20	Route Change	Participants questioned the indicated pipeline route changes over the past years. Information on these changes and the reasons for the changes requested.
21	Safety and Security	Safety and security aspects were raised. These varied from personal safety to security risks due to terrorist and dissident group activities and the associated implications for people living in the area.
22	Socioeconomic	The socioeconomic aspects of the proposed project emerged as a core focus of the aspects raised. There is some overlap between the socioeconomic expectations, expected benefits and requirements as well as livelihood implications. A plethora of issues was raised relating to local benefit, local job creation, human rights, indigenous peoples, vulnerable groups, women's rights, marginalised people and persons with disabilities. Needs were expressed regarding education, hospitals, clinics, and schools. The potential of the pipeline to impact on economic activities, implications for public-private investment partnership and economic cost and benefits emerged as issues.
23	Threats	A number of participants threatened to vigorously oppose the LLCOP project unless their demands and requirements were met.
24	Water	Concerns were expressed about potential project impacts on the availability and quality of water. These concerns related to the construction process as well as oil spillages or catastrophic failures of the pipeline.

4.0 PROJECT STAKEHOLDERS

4.1 Stakeholder identification

Stakeholder identification is a crucial step in managing the overall stakeholder engagement process. Accurate stakeholder identification reduces the risk of a narrow stakeholder group dominating the consultation process and helps to address legitimate concerns related to project impacts. When stakeholders are accurately identified, and interactions are documented, the LLCOP can demonstrate compliance, responsiveness and improvement of the overall project.

Ongoing stakeholder engagement is expected with government at local, County and National levels. While the primary LLCOP stakeholders are those directly or indirectly affected landowners and local stakeholders including vulnerable groups, there is a range of other potential stakeholders which have been identified. Engagement during the ESIA phase has been designed to ensure that all levels of stakeholders are included with particular effort towards consulting local community members along the AOI.

There currently some 81 stakeholder groups and institutions registered in the stakeholder database for the scoping phase of the LLCOP. This stakeholder database is likely to change during the stakeholder engagement process, as new stakeholders emerge while others may choose not to participate.

4.2 Stakeholder groups

In the context of the LLCOP, the focus will be on affected stakeholder groupings within the project area of influence, as well as stakeholders that play a legislative, policy or influencing role within the project environment. In short, the focus is both geographical (considering the area of influence) as well as institutional. Using this focus, the stakeholders on the preliminary database have been grouped, in alphabetical order, as follows:

- Project-affected stakeholders, including individual stakeholders as well as groups that may be at risk (elderly, women, the youth, people with disabilities, ethnic minorities, and so forth);
- Adjacent Communities (including vulnerable groups);
- Civil society;
- County Government & Members of County Assemblies (MCAs);
- Development Authorities;
- International NGOs;
- Media;
- National government; (Including Relevant Ministries), Biodiversity and Conservation institutions (e.g. Kenya Forest Service; Kenya Wildlife Service; Ministry of Fisheries Development, Fisheries Department; National Museums of Kenya);
- Regional development Institutions (Ewaso Nyiro Basin Development Authority, TARDA)
- NGOs at National, regional and local levels, including organised CBOs or interest groups (labour, youth, education, religious, business and so forth);
- Political leaders (Members of Parliament and County Assembly members);
- Scientific community; and
- Traditional leaders.

4.3 Stakeholder Mapping

Stakeholder mapping is the process of analysing the individuals and organisations that are likely to affect or to be affected by the project. The stakeholder mapping clusters the various stakeholder groupings regarding their anticipated influence on the project and the associated decision-making processes. As mentioned above, the geographic (project area of influence) and institutional aspects form the basis for determining the stakeholder groups.

The stakeholder mapping is based on a comparative rating of the influence and representation of the respective institutions, to determine the significance of that stakeholder group.

- Influence

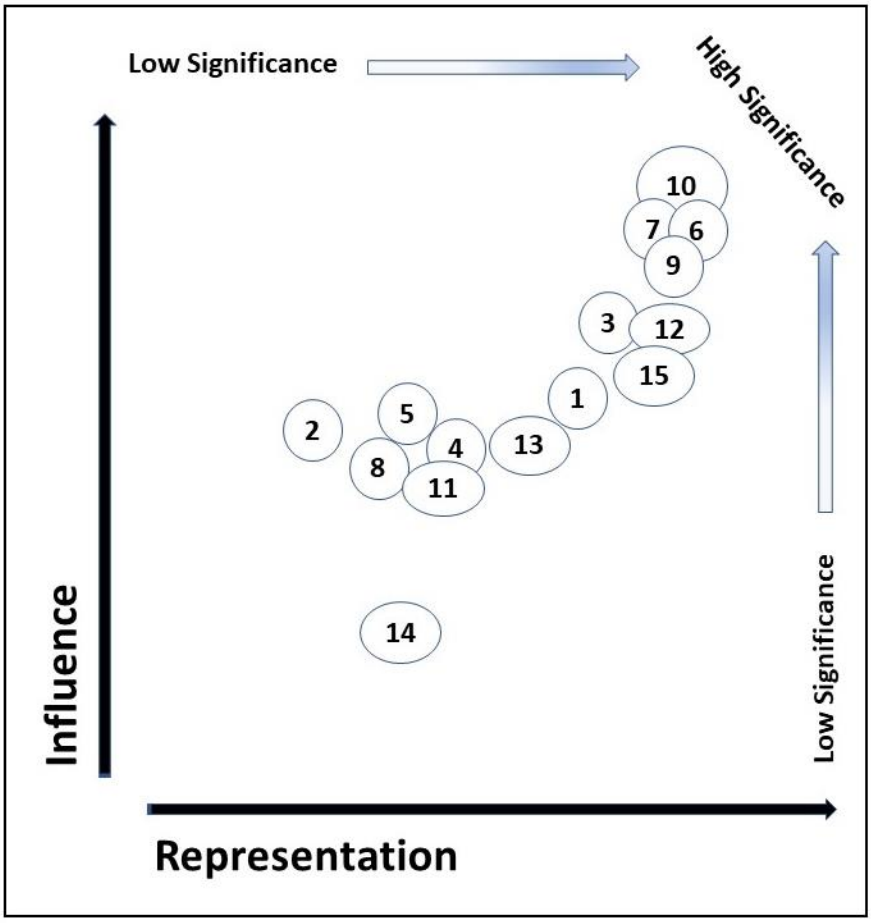
  The influence is a combination of the prominence of the institution relative to the project, based on the level and nature of the influence on decision-making as well as the relative significance of the stakeholder.

- Representation

The representation reflects the constituent base of the institution. The smaller the representative base of the stakeholder group, the smaller the representation and *the other way around.*

Depending on the level of the significance and the nature of the interaction, different engagement approaches will be required. The level of engagement and information required for a National department will be different to that of a local community representative as their roles and expectations differ. Stakeholder mapping forms the foundation for ensuring that the right people are engaged in the correct way.

Please refer to Figure 5 for the mapping of the stakeholders per group. Figure 5 rates the significance as a factor of influence and representation. The higher the influence and representation, respectively, the higher the significance, and the inverse.



1	Adjacent Community (including vulnerable groupings)	9	Ministry of Fisheries Development, Fisheries Department
2	Civil Society	10	National government
3	County Government	11	NGOs
4	Development Authorities	12	Political leaders
5	International NGOs	13	Project-affected stakeholders
6	Kenya Forrest Service	14	Scientific community
7	Kenya Wildlife Service	15	Traditional leaders
8	Media		

Figure 5: Mapping of stakeholder groupings

4.4 Stakeholder Analysis

Based on the stakeholder mapping the level of significance has been analysed. The significance and the associated level of engagement are indicated in **Error! Not a valid bookmark self-reference.**. The significance levels can range from low to very high.

Table 4: Stakeholder analysis

	Stakeholder group	Impact/interest	Significance	Level of engagement
1	Project-affected stakeholders	**Medium to High** – The project-affected stakeholders who will experience a direct impact (across many impact categories) and will be interested in participating in the engagement processes during the life of the project. Vulnerable groups that are more sensitive to adverse impact form part of this stakeholder group.	Medium to High	Inform, collaborate, consult and empower.
2	Adjacent Community	**Medium to High** – The adjacent community will experience direct and indirect impacts (across many impact categories) and will be interested in participating in engagement processes during the life of the project. Depending on the location and the environmental conditions impact will range from Medium to High.	Medium to High	Inform, collaborate, consult and empower.
3	Civil Society	**Medium** – Civil society, the community of citizens linked by common interests and collective action, often has an interest in common aspects of the Project and will typically participate in an issue-based focus group.	Medium	Inform, consult and collaborate.
4	County Government	**High** – County government is the implementer of the National government. The Counties are strategic partners and to some level, regulators. Counties have a direct interest in the future of the project.	High	Inform, collaborate, consult and empower.
5	Development Authorities	**Medium** - Development authorities are influential, implement and manage projects and coordinate developmental activities. They can become support and coordination actors.	Medium	Inform, consult and collaborate.
6	International NGOs	**Medium** - International NGOs will have an interest in a variety of aspects throughout the project lifetime. Their influence will reflect at an international level, often with funders and shareholders. These NGOs can also link with local NGOs for concerted action.	Medium	Inform, consult and collaborate.

	Stakeholder group	Impact/interest	Significance	Level of engagement
7	Kenya Forrest Service	**High** – Kenya Forrest, a National corporate body, provides for the development and sustainable management, of all forest resources in Kenya. The KFS is an important decision maker and influencer in the ESIA process. The KFS has the power and mandate to regulate significant aspects of the LLCOP planning and implementation process.	High	Inform, collaborate, and consult.
8	Kenya Wildlife Service	**High** – Kenya Wildlife Service, a National corporate body, was established to conserve and manage Kenya's wildlife. The KWS is an important decision maker and influencer in the ESIA process. The KWS has the power and mandate to regulate significant aspects of the LLCOP planning and implementation process.	High	Inform, collaborate, and consult.
9	Media	**Medium** – Media will have an interest in the LLCOP by their interest in project-related activities in the area. Media has the potential to influence LLCOP activities.	Medium	Inform and collaborate.
10	Ministry of Fisheries Development, Fisheries Department	**High** – The Ministry of Fisheries Development, Fisheries Department, regulates and manages aquaculture and fisheries resources. The Fisheries Department is an important decision maker in the ESIA process. Fisheries Department has the power and mandate to regulate specific aspects of the LLCOP planning and implementation process.	High	Inform, collaborate, and consult.
11	National government	**Very High** – Especially environmental regulators. The National government has the power and mandate to regulate the LLCOP from inception to closure.	Very High	Inform, and collaborate.
12	NGOs	**Medium** – Kenya based, and local NGOs will often have an interest in a particular aspect of a project-related to different components of a project lifecycle.	Medium	Inform and collaborate.
13	Political leaders	**High** - Political leaders are very influential and can influence the LLCOP implementation at National, County and local level.	High	Inform, collaborate, consult and empower.

	Stakeholder group	Impact/interest	Significance	Level of engagement
14	Scientific Community	**Medium** – The scientific community will typically be interested in very specific technical aspects of the project. Note that the scientific community can act from an activist perspective if project impacts are seen to be addressed in an obtuse manner.	Low	Inform and collaborate.
15	Traditional Leaders	**High** – Traditional authorities are key and influential role-players, representing communities and many project-affected stakeholders. Traditional authorities are the custodian for local land uses, culture and traditions.	High	Inform, collaborate, consult and empower.

Guidance on the level of engagement is provided in Table 5. The content of Table 5 leans largely on the Practitioner's Handbook on Stakeholder Engagement, Second Volume[24]. It follows that less intensive forms of engagement such as monitoring or disseminating information may be considered as adequate for solving or addressing minor stakeholder concerns. However, solving the more systemic and deep-rooted challenges may require inform, collaborating, consulting and empower specific stakeholders. Effective stakeholder engagement typically combines different approaches.

Table 5: Guidelines on levels of engagement

LEVEL OF ENGAGEMENT
INFORM
GOAL: Inform or educate stakeholders **COMMUNICATION:** One-way: Project to stakeholder, there is no invitation to reply. Short or long-term relationship with stakeholders. **NATURE OF RELATIONSHIP:** "*We will keep you informed.*" **ENGAGEMENT APPROACHES:** Bulletins and letters. Brochures, reports and websites. Speeches, conference and public presentations. Community *barazas* and facility tours. Roadshows and public displays. Press releases press conferences, media advertising, lobbying.

[24]T Krick, M Forstater, and P Monaghan, *The Stakeholder Engagement Manual: Volume 2: The Practitioner's Handbook on Stakeholder Engagement*, *United Nations Environment Programme*, 2005, LIV.,

LEVEL OF ENGAGEMENT
CONSULT
GOAL: Gain information and feedback from stakeholders to inform project decisions. **COMMUNICATION:** Limited two-way: Project asks questions, and the stakeholders answer. Short- or long-term involvement. **NATURE OF RELATIONSHIP:** "*We will keep you informed*," listen to your concerns, consider your insights, and provide feedback on our decision." **ENGAGEMENT APPROACHES:** Surveys. Focus Groups. Workplace assessments. One-to-one meetings. Public meetings and workshops. Standing stakeholder advisory forums. On-line feedback and discussion.
INVOLVE
GOAL: Work directly with stakeholders to ensure that their concerns are fully understood and considered in decision-making. **COMMUNICATION:** Two-way, or multi-way between project and stakeholders. Learning takes place on both sides. Stakeholders and project proponents act independently. **NATURE OF RELATIONSHIP:** Maybe a one-off or longer-term engagement. "We will work with you to ensure that your concerns are understood, to develop alternative proposals and to provide feedback about how stakeholder's views influenced the decision-making process". **ENGAGEMENT APPROACHES:** Multi-stakeholder forums. Advisory panels. Consensus building processes. Participatory decision-making processes.
COLLABORATE
GOAL: Partner with or convene a network of stakeholders to develop mutually agreed solutions and a joint plan of action. **COMMUNICATION:** Two-way, or multi-way between project and stakeholders. Learning, negotiation, and decision-making on both sides. Stakeholders work together to act. **NATURE OF RELATIONSHIP:** Long- term. "We will look to you for direct advice and participation in finding and implementing solutions to shared challenges". **ENGAGEMENT APPROACHES:** Joint projects, voluntary two-party, or multi-stakeholder initiatives, Partnerships.
EMPOWER
GOAL: Delegate decision-making on an issue to stakeholders. **COMMUNICATION:** New organisational forms of accountability: stakeholders have a formal role in the governance of an organisation or decisions are delegated out to stakeholders. **NATURE OF RELATIONSHIP:** Long-term. "*We will implement what you decide.*" **ENGAGEMENT APPROACHES:** Integration of stakeholders into the participative structure (e.g. environmental management committees, advisory committees and so forth).

5.0 VULNERABLE AND MARGINALISED GROUPS ALONG THE LAPSSET CORRIDOR

Vulnerable and Marginalised Groups will be considered using the approach and methodology set out in the World Bank publication *Country Social Analysis of Vulnerable and Marginalised Groups in Kenya*[25]. In practice, this will:

- Use the Vulnerable and Marginalised Group mapping in the publication to identify potential areas where vulnerable and marginalised groups may be affected by the project; and
- Undertake field-based verification and key informant interviews to confirm the presence and location of affected Vulnerable and Marginalised Groups.

Based on the above approach the ESIA will apply a consistent engagement framework across all identified vulnerable and marginal communities. Table 1 below is taken from the above referenced Report and presents the vulnerable and marginalised groups recognised by the Kenyan Constitution.

Table 6: List of Vulnerable and Marginalized Groups as per the New Kenyan Constitution

Name	Other Names Usually derogatory	Estimated Population[26]	Livelihood[27]	Administrative Location Counties[28]
Sengwer		50,000	HG/Farmers	Trans-Nzoia; Uasin-Gishu; West Pokot; Keiyo-Marakwet
Ogiek	Dorobo	40,000	HG/Farmers	Nakuru; Baringo; Uasin Gishu; Bomet; Kericho; Narok; Nandi
Waatha	Wasanye	13,000	HG/Farmers	Kwale; Tana River; Marsabit, Kilifi
Aweer	Boni	7,000	HG	Lamu, Tana River
Yiaaku	Dorobo	4,000	HG/Farmers	Laikipia
El Molo		2,900	Fishing	Marsabit, Samburu
Ilchamus		33,000	Fishing/Farmers/ Livestock Keeper	Baringo
Endorois	Dorobo	60,000	Fishing/Farmers/ Livestock Keeper	Baringo, Laikipia
Borana		136,936	Pastoralists	Marsabit, Wajir
Gabra		31,000	Pastoralists	Marsabit, Samburu

[25] World Bank Group. 2016. Country Social Analysis of Vulnerable and Marginalised Groups in Kenya: Guidance for Applying the World Bank Operational Policy 4.10 on Indigenous Peoples. World Bank, Washington, DC.

[26] Internet based – several sites

[27] Source: ERMIS Africa Ethnographic Survey of Marginalized Groups, 2005-2012

[28] Ibid.

Name	Other Names Usually derogatory	Estimated Population[26]	Livelihood[27]	Administrative Location Counties[28]
Rendille		62,000	Pastoralists	Marsabit, Samburu
Turkana		1,008,463	Pastoralists	Turkana, Baringo, Laikipia
Pokot		662,000	Pastoralists	West Pokot /Baringo
Maasai		666,000	Pastoralists	Narok, Kajiado

Source: ERMIS Africa Ethnographic Survey of Marginalized Groups, 2005-2012

This approach will document the engagement process with affected communities during the LLCOP ESIA stakeholder engagement programme and provide records of community meetings and barazas at which the affected communities were given the opportunity to provide their views.

5.1 Approach to Engaging Vulnerable and Marginalised Groups during the ESIA

The approach to Vulnerable and Marginalised groups during the ESIA study phase will consist of the following:

- A screening process to identify and locate Vulnerable and Marginalised groups. [29] This screening will be a three-step process:
  - Step one: A desktop review of existing literature related to Vulnerable and Marginalised groups;
  - Step two: Consultation with key government, academia, NGOs, civil society and representatives of vulnerable and marginalised groups to gain a better understanding; and
  - Step three: Formal consultation with members of vulnerable and marginalised groups, jointly or individually.
- If potential vulnerable and marginalised groups are identified, a screening process will be implemented to determine their status. The screening will be based on the requirements of Performance Standard 7. The screening process will also determine whether the groups are traditional owners or customary users of affected land.

If the status of these groups are confirmed as Marginalised or associated vulnerable people, a Marginalised and Vulnerable peoples plan will be developed to ensure the involvement and protection of the rights and way of life of these groups. The Marginalised and Vulnerable people's plan will be based on the FPIC principles. It must be reiterated, that aspects relating to land access will not form part of this process, as it is dealt with by the NLC, as part of a Government of Kenya regulated process. The focus will be on ensuring that such groups are provided with the opportunity to be engaged on the content and design of any livelihood restoration activities required to ensure that livelihoods are restored to a level at least as good as prior to Project activities.

[29] The World Bank Group, *Country Social Analysis of Vulnerable and Marginalized Groups in Kenya: Guidance for Applying the World Bank Operational Policy 4.10 on Indigenous Peoples* (Washington, DC, 2016).

All such activities will be documented in the ESIA.The associated consultation with Marginalised and vulnerable groupings may extend beyond the time of submission of the ESIA to NEMA. If so, this will be documented as far as possible in the ESIA to NEMA in terms of setting out commitments and mitigations. Any final agreements will be incorporated in the Supplemental Assessment which will set out non-statutory activities to meet IFC Performance Standards and will be finalised after the submission of the ESIA to NEMA.

The SEP will be updated to address any developments, such as those outlined above, during the environmental assessment phase.

6.0 STAKEHOLDER ENGAGEMENT PROCESS

The ESIA process entails three phases namely the:

- **Scoping Study** – Initial field and baseline data reviews as well as early stakeholder engagement to define the scope of the ESIA;
- **Terms of Reference (ToR)** – During this phase, the framework and proposed methodology for the assessment of environmental and social impacts are developed. The ToR phase includes a presentation of the project, proposed ESIA update process and the public consultation process; and
- **Environmental & Social Impact Study** – This phase entails impact assessment and to address the issues raised during the ToR phase. A Draft environmental impact study (EIS) Report will be developed and presented to the public for review and discussion. The EIS is then finalised and submitted to NEMA for approval (the decision-making phase).

The scheduling of this SEP is integrated within the overall ESIA timeliness. This SEP focuses primarily on the Environmental & Social Impact Study phase.

6.1 Objectives

The objectives of this stakeholder engagement programme are to inform and consult with stakeholders[30] about the LLCOP and to address questions or concerns related to the project (See Appendix B SE Database). In doing so, the consultation activities are committed to:

- Describing the LLCOP and identifying benefits to the National economy, region, people and project Team;
- Explaining possible hazards (consequences) and the systems that will be in place to prevent adverse impacts from occurring at the project;
- Consult with stakeholders to determine their views regarding impacts and implications;
- Identifying mitigation measures for environmental and socio-economic effects; and
- Providing regular updates as the LLCOP moves through the various development phases.

The goal of the programme is to continue a regular dialogue with stakeholders identified during the scoping phase and solicit feedback about the LLCOP. The stakeholder engagement process will be extended during the follow-up phases of the project, as new stakeholders emerge.

[30] The term stakeholders include International, East Africa regional, national, County, Sub-county (including Ward level) decisionmakers, key individuals, influencers and so forth.

6.2 Stakeholder Engagement Schedule

Please refer to Appendix A for the preliminary stakeholder engagement schedule for the next stage. Engagement will involve a number of elements:

- Firstly, engagement with County Government and relevant key institutions aligned to County jurisdictions. The Counties of Turkana, Samburu, Isiolo, Meru, Garissa and Lamu will be engaged. The following institutions (in alphabetical order) will be engaged at each County:
  - County Commissioner;
  - County Governor;
  - County Ministry of Environment;
  - County Ministry of Gender, Youth and Social Affairs;
  - County Ministry of Pastoralism/agriculture;
  - County Ministry of water;
  - County Ministry Wildlife and Tourism;
  - County NEMA Officer;
  - County-based NGOs and faith-based organisations;
  - County Secretary; and
  - Ministry of Lands.
- Secondly, there will be engagement of the public through barazas and informal discussion at various convergence points along the corridor. The focus of these engagements will ensure open engagement as well as purposefully look out for marginalised and disadvantaged groups to ensure their representation and involvement. Although some of this engagement will happen during the scoping phase, the bulk of this will be during the environmental assessment phase.
- Thirdly, there will be engagement with National level institutions based in Nairobi. This engagement will focus on National government and other National level institutions. This engagement will report engagements and findings from the community level stakeholder meetings and further deliberate on the various identified key issues raised. The stakeholders (in alphabetical order) include the following:
  - African Wildlife Foundation;
  - Ewaso Nyiro Basin Development Authority;
  - IUCN;
  - Kenya Civil Society Platform on Oil & Gas;
  - Kenya Forests Service;
  - Kenya Marine & Fisheries Research Institute;
  - Kenya Wildlife Service;
  - LAPSSET;
  - Members of Parliament within the corridor;
  - Members of the Senate within the corridor;

- Ministry of Devolution;
- Ministry of Petroleum;
- National Museums of Kenya;
- National Land Commission;
- Nature Kenya/Birdlife international;
- NEMA HQ;
- PPMT;
- Water Resources Management Authority; and
- WWF.

6.3 Methods and Techniques of Engagement

The PPMT will engage with all stakeholders through different mechanisms that respond to their concerns and enable them to be informed about the project, participate in monitoring activities, and work collaboratively in the interest of both local communities and the project.

The stakeholder engagement programme will utilise the existing stakeholder groups in the LLCOP area to disseminate information. Key among these is the County Commissioners' offices through the County Commissioners, Sub-County Commissioners and chiefs to disseminate information to the lowest levels of community.

Some of the following methods and techniques for engagement will be used:

- **Workshops/Seminars** – Workshops and seminars provide an opportunity for large numbers of people to learn about various viewpoints. They are particularly useful for informing the public and increasing the general levels of understanding. This tool is useful for authorities and government stakeholders;
- **Posters** – A major difficulty in consulting with people who may be affected by the LLCOP is the difficulty that many may have to understand how their world can be different from what it is or envisage realistically what their real needs might be when the LLCOP changes their world. Information can be presented via posters in select public places and communal areas. Such posters must present the project and related information visually, using methods such as 3D visualisations, flyovers, photography-based maps, overlays and so forth. Any text should be in the local language. This information should be updated monthly or as changes occur which need to be communicated to the affected communities;
- **Community Meetings** – This would be a public meeting to share information and receive comments or issues on the aspects discussed. These meetings may occur when and if necessary to gain public opinion and maintain open avenues of communication; and
- **Semi-structured interviews and informal discussions** – This could take the form of interviews guided by a structured information requirement, or informal project-related discussions with ad hock stakeholders during the consultation process at the various locations. These discussions would serve to validate formal feedback and identify issues aspects relating to vulnerable groupings.

7.0 STAKEHOLDER ENGAGEMENT VALUES

This section describes the engagement principles, commitments, protocols and general arrangements.

7.1 Engagement Principles

In building upon the previous consultation process, the stakeholder engagement programme aims to incorporate the principles below:

- Outcomes and findings of the consultation process and studies are disclosed to stakeholders to demonstrate transparency;
- Reporting and regulatory disclosure to ensure compliance with regulatory requirements and the LLCOP Team's obligations to internal stakeholders and external commitments;
- Stakeholder engagement should be broad-based, meaning that the PPMT[31] should seek to create alignment with as wide a range of stakeholders as possible. Engagements should focus on results, meaning that they should be planned, professionally executed and measured for their tangible impact on the delivery of business objectives;
- Engagement plans should be risk-based, meaning that engagements should be prioritised according to the potential for associated issues to impede or prevent PPMT from achieving its business objectives;
- Engagements should be issues-focused, meaning that stakeholders should be engaged with a view to resolving issues associated with the delivery of specific business objectives. An issues-based approach to planning engagement helps to ensure that engagements are joined-up;
- Engagements should be compliant with any legal, regulatory or lender requirements, including applicable Kenya or international regulations;
- Engagement should be proactive and relationship-building. While engagement planning is risk-based and issues-focused, the PPMT will not only engage stakeholders when we have a problem or need to manage a crisis. Engagements should be two-way. Meetings, telephone calls and other methods of engagement are not just opportunities to convey information or to relate our positions; The PPMT will listen to the views expressed by its stakeholders, seek to analyse their positions and incorporate this reflection into decision-making and risk management planning; and
- The consultation process should identify vulnerable groups (indigenous peoples) and provide them with equal opportunities to participate. The aspect of Key Inform Free, Prior, and Informed Consent (FPIC) is important when engaging with indigenous peoples.

7.2 Process Commitments

The stakeholder engagement will be done by:

- Providing accessible and adequate information without creating undue fears (related to potential negative impacts) or expectations (regarding jobs);
- Using visual illustrations and verbal explanations for illiterate stakeholders;
- Using English as well as swahili/local dilect as appropriate during the engagements;
- Using focused consultation teams so that stakeholders do not feel intimidated;

[31] Pipeline Project Management Team.

- Written and verbal invitations provided to various stakeholders;
- Announcements of the forthcoming consultation opportunities at least two weeks, before the start of the public consultation process;
- Ensuring that minutes of meetings are endorsed and signed by County level representatives;

7.3 Stakeholder Engagement Protocol

The PPMT employs a clear protocol governing all external communications and stakeholder engagement activities. The ESIA Contractor will abide by this protocol, comprising planning engagement activities in advance, submitting details of planned engagement activities to the PPMT and obtaining the PPMT' permission to proceed with any engagement activities [19].

The protocol is as follows:

- No interaction with stakeholders, including requests for information and engagements, shall be undertaken by the ESIA Contractor without the express permission of the PPMT. No consultation or engagement activities shall be undertaken without prior approval of the PPMT Logistics, Security & Stakeholder Engagement Coordinator;
- All requests for proposed engagements shall be given at least ten working days in advance (it may be necessary to distribute pre-meeting information to stakeholders in advance);
- Where agreed, an appropriate representative of the PPMT or LAPSSET will be present and participate in engagement events;
- Before any engagement with stakeholders the PPMT Logistics, Security & Stakeholder Engagement Coordinator will agree with the ESIA Contractor the lead person for a specific engagement event;
- Before any engagement with stakeholders, a stakeholder engagement brief shall be prepared, along with any supporting engagement materials (e.g. presentations, briefing packs, etc.);
- All stakeholder interactions must be recorded and all engagements minuted. Records of engagement must be submitted to the PPMT by the ESIA Contractor within five working days of the engagement and logged into the agreed tracking system; and
- Financial guidelines for stakeholder engagement activities, which the ESIA Contractor must follow, will be discussed and agreed between the ESIA Contractor and the PPMT. These guidelines will include requirements for funds for the facilitation of community events and official allowances for guests (primarily government representatives – also referred to as a 'sitting fee').

7.4 General Arrangements

Importantly, ensure sufficient lead time for invitations and logistical arrangements. For example, two weeks' notice for a direct invitation or notification and three weeks' notice to LAPSSET if they are to officially assist with County arrangements, to meet the two weeks' notice required at County level.

All community meetings planned with stakeholder groupings will be discussed with the County government and sub-County administration (as relevant) to ensure that they are informed of these activities, are represented and that the method of consultation is acceptable to them. Secondly, all community meetings will be arranged in advance with the above administrators and in coordination with LAPSSET as meetings will be arranged in the

name of the LCDA; will take place in their local language; will be accompanied by visual materials and hand-outs; and will be documented (photos[32], completion of attendance registers and note-taking).

Specific dates for meetings will be determined in consultation with stakeholder organisations and local stakeholders. Scheduling will take into consideration possible taboo and cultural days in the communities. Meetings will be held at venues easily accessible to stakeholders. All meetings will be facilitated by a stakeholder engagement specialist, with LAPSSET presenting the LLCOP (PPMT representatives will be present as technical advisers to LAPSSET). Written and visual materials will be used to support discussions. Comments and issues raised will be captured and categorised in a database.

Interaction will focus on providing accessible and adequate information without creating undue fears (related to potential negative impacts) or expectations (regarding jobs), providing visual illustrations and verbal explanations for illiterate stakeholders and small stakeholder teams to ensure stakeholders do not feel intimidated and ensure consistency.

8.0 STAKEHOLDER ENGAGEMENT – ROLES AND RESPONSIBILITIES

The Golder stakeholder engagement team and LLCOP Team representatives will be principally responsible for implementing the stakeholder engagement process. Over the longer-term, the responsibility for community consultation will shift to the LLCOP Team. The respective responsibilities are as follows:

8.1 PPMT

The LLCOP Project is being developed by the PPMT, which is a multi-stakeholder organisation involving the Government of Kenya and the Kenyan Joint Venture partners.

The main roles and responsibilities within the PPMT are:

- PPMT ESIA Adviser: Coordinates ESIA process and the main contact point between PPMT and ESIA Contractor;
- PPMT Environment & Land Manager: Single point of accountability for delivery of the full ESIA;
- PPMT ESIA Logistics, Security & Stakeholder Engagement Adviser: Coordinates and advice ESIA Contractor on security and stakeholder issues.
- PPMT Geotechnical Studies Logistics, Security & Stakeholder Engagement Adviser: Coordinates and advice Geotechnical survey Contractor on security and stakeholder issues.

8.2 LAPSSET

The LLCOP Project will be developed as part of the LAPSSET Corridor. The LCDA is responsible for providing access and support to a 1km wide corridor in which the pipeline will be designed and built. The stakeholder engagement process during the ESIA will require close liaison between the three parties (PPMT, Golder and LCDA).

[32] No photos will be taken without the permission of the subjects.

8.3 ESIA Stakeholder Engagement Team

The ESIA Core Stakeholder Team is responsible to liaise directly with PPMT, LCDA and other representative government officials in matters related to the Stakeholder Engagement for LLCOP ESIA. The main roles and responsibilities include, but are not limited to, the following items:

- In-country Coordinator: Mr James Kambo, is the National Coordinator. He works closely with the Social and Stakeholder Leader to develop and implement SEP in collaboration with four regional coordinators;
- Regional Coordinators: The regional coordinators are responsible for implementing the SEP at the regional level in close collaboration with the in-country coordinator. The Regional coordinators are:
  - Duncan Oyaro; (Lamu & Garissa)
  - Hajir Mohamed;(Meru, Isiolo and Samburu) and
  - Michael Kapolon. (Turkana).

  The regional coordinators speak Kiswahili and other local languages). Their responsibilities include the coordination of and support of the stakeholder engagement at the community level, through logistical support, invitation and meeting arrangements, meetings facilitation, minutes and issue capturing, translation or arrangement of translators as may be required and general process support.
- The Social and Stakeholder Engagement Leader: Dr David de Waal is responsible for leading the SEP and tactical plans along the ESIA process. Close coordination is required with the Core Management Team (ESIA Project Manager and Project Coordinator) to plan and deliver SEP according to Kenyan National regulation and international standards; and
- Project Coordinator: Kevin Arbizu supports the core project management team and interacts with PPMT and technical teams.

9.0 PROCESS RECORD-KEEPING

An important requirement is to keep a meticulous record of stakeholder engagement activities, comments received and responses to these throughout the lifecycle of the LLCOP. Record-keeping will take the following form:

- Developing an electronic and hard copy filing system for all external relations activities;
- Recording issues raised at meetings on an available datasheet producing a Comments and Response Report and distributing the report to attendees for verification at regular intervals (an IFC requirement as well as a good practice principle);
- Having attendance registers completed at all meetings and as far as possible taking digital photographs and video recordings at all meetings; and
- Recording the times and content of media advertisements, radio broadcasts and interactive talk shows, and the issues raised during these consultation processes.

According to the ESIA Guidelines for Contractors the following stakeholder records should be maintained[33]:

[33] Pipeline Project Management Team.

- **Stakeholder Briefs**: All engagements contained within the component-SEPs shall be supported by stakeholder Briefs, which outline the context, objectives, participants and key messages for the engagement. The briefs should include as far as possible stakeholder profiles for external stakeholders. This is particularly important as this will 'set the tone' for the ongoing relationships. Briefs will be drafted by the ESIA Contractor and reviewed by the PPMT Logistics, Security and Stakeholder Engagement Coordinator who will coordinate inputs and reviews by the PPMT;
- **Stakeholder Register**: A stakeholder register shall be prepared and maintained for all stakeholder groups (International, National, County, Sub-County and Community level) by the ESIA. The PPMT will provide its stakeholder register, however, this should be reviewed and only relevant affected and interested stakeholders included within the ESIA stakeholder register;
- **Stakeholder Engagement Log**: All stakeholder interactions must be recorded. Summary minutes for engagements should be prepared as part of the records. Records of engagement must be submitted to PPMT by the ESIA Contractor within seven days of the engagement unless agreed otherwise by PPMT; and
- **Stakeholder Tracking Database**: Records of engagement must be logged onto an agreed tracking system.

10.0 EVALUATION AND MONITORING

To assess the stakeholder engagement process, a variety of indicators and validation methods are specified. The measures indicated in Table 7 below, is largely based on the IFC standards. Some of the validation methods require integration with LLCOP systems.

Table 7: Evaluation and monitoring methods

Company strategy, policy or principles of engagement: Strategy, policy, or principles for ongoing stakeholder engagement with explicit mention of relevant stakeholders and stakeholder groupings and appropriate standards and requirements.	Project Team's strategy, policy or principles and other supporting documents.
Stakeholder identification and analysis: As part of the environmental and social assessment process, identification of all relevant stakeholders and stakeholder groupings, their disaggregation (numbers, locations) in terms of diverse levels of vulnerability to adverse project impacts and risks, and an analysis of the effect of adverse LLCOP impacts and risks on each group. As part of the environmental and social assessment process, this analysis should also look at relevant stakeholders and stakeholder groupings that will benefit from the project.	■ Stakeholder analysis documentation. ■ Project Team's planning documentation for stakeholder engagement, e.g., communications strategy, consultation plan, stakeholder engagement and disclosure plans, and SEP.
Stakeholders engagement: A process of consultation that is ongoing during the LLCOP planning process (including the process of environmental and social assessment), such that: (i) relevant stakeholders and stakeholder groupings have been engaged in: (a) identifying potential impacts and risks; (b) assessing the	■ PPMT's schedule and record of stakeholder engagement. ■ PPMT's record of discussions with recognised stakeholder representatives, respected key informants, and legitimate

consequences of these impacts and risks in their lives; and (c) providing input into the proposed mitigation measures, the sharing of development benefits and opportunities and implementation issues; and that (ii) new impacts and risks that have come to light during the planning and assessment process have also been consulted upon.	representatives of subgroups (e.g., women, minorities).
Information disclosure: Timely disclosure by the PPMT of project information to relevant stakeholders and stakeholder groupings about (i) the purpose, nature, and scale of the project; (ii) the duration of proposed LLCOP activities; (iii) any risks to and potential impacts on such stakeholders and relevant mitigation measures; (iv) the envisaged stakeholder engagement process; and (v) the grievance mechanism. Disclosure should be in a form that is understandable and meaningful.	■ PPMT's materials prepared for disclosure and consultation. ■ PPMT's record of discussions with recognised stakeholder representatives; respected key informants; and legitimate representatives of subgroups.
Free and prior informed consultation: **Free** - Evidence from the relevant stakeholders and stakeholder groupings that the PPMT or its representatives have not coerced, intimidated or bribed the affected population to be supportive of the project. **Prior** - Consultation with relevant stakeholders and stakeholder groupings must be sufficiently early in the LLCOP planning process to allow for before the fact engagement on aspect and issues that may have an impact. This engagement will include the sharing of development benefits and opportunities, and preparation for, understanding of and development of appropriate implementation and operational procedures. **Informed** - Consultation with affected communities on LLCOP operations and potential adverse impacts and risks, based on adequate and relevant disclosure of LLCOP information, and using methods of communication that are inclusive (i.e., accommodating various levels of vulnerability), culturally appropriate, and adaptable to the communities' language needs and decision-making, such that members of these communities fully understand how the LLCOP will affect their lives.	PPMT's record of discussions with recognised stakeholder representatives, respected key informants, and legitimate representatives of subgroups.
Informed participation: Evidence of the PPMT's organised and iterative consultation, leading to specific decisions to incorporate the views of the affected communities on matters that affect them directly, such as the avoidance or minimisation of LLCOP impacts, proposed mitigation measures, the sharing of LLCOP benefits and opportunities, and implementation issues.	■ PPMT's schedule and record of stakeholder engagement. ■ PPMT's documentation of measures taken to avoid or minimise risks to and adverse impacts on affected communities in response to stakeholders' feedback received during consultation. ■ Relevant action plans.

11.0 TRAINING

Training provided to all LLCOP personnel who will have contact with stakeholders[34]. Training will take the form of dry runs to practice presentation skills, dry runs before meetings with stakeholders and especially the overall stakeholder engagement approach.

In addition, departmental managers should be trained on stakeholder engagement and provided with information on the processes undertaken and key messages which are communicated to the broader stakeholders.

Training will also be provided for contractors and other service providers before and during the LLCOP process to ensure that their behaviour is culturally appropriate and respectful to stakeholders and that they understand and will implement social management plans that will be developed to LLCOP standards.

12.0 GRIEVANCE MECHANISM AND COMMUNITY RELATIONS PLAN

There is a requirement, from an international and NEMA perspective, for the LLCOP Project to develop a grievance mechanism and a community relations plan to set out how the project will manage expectations and handle any complaints or grievances as they arise. The grievance mechanism will be implemented for the construction and operations of the LLCOP.

12.1 LLCOP Community Relations Plan

The LLCOP Project Management Team, in conjunction with the LCDA, will develop a Community Relations Plan. This plan will guide the relationship between LCDA, the pipeline project and local stakeholders along the pipeline corridor. The Community Relations Plan will include details of the grievance mechanism outlined below.

The overall purpose of the Plan will be to provide ongoing feedback on progress, key aspects and issues relating to the LLCOP to the affected stakeholders and communities. The plan will assist with building a long-term relationship with affected stakeholders and communities to ensure a mutual flow of information.

12.2 Approach to Grievance Management

The broad grievance approach during the development, land acquisition and ESIA preparation phases of the LLCOP Project is as follows:

- Any issues and aspects related to land acquisition will be addressed by LAPSSET and the NLC in accordance with Kenyan regulatory requirements and established practices;
- ESIA process related submissions will be captured and addressed through the stakeholder engagement process;
- A comments and complaints register will be placed in the office of each County Commissioner and Governor for all LLCOP issues not relating to land acquisition. These issues may either be submitted in writing by hand, by post, by e-mail or by telephone. Receipt of these issues will be registered in an issues receipt register. It is suggested that a specific official is mandated to man and manage the complaints register and procedure. For the effective management of the submission, it is required that the date of submission, the name and contact details of the complainant and a summary of nature of the submission be recorded. Any other information relevant to the submission should also be recorded; and

[34] This is in line with South Lokichar to Lamu Pipeline Project Team Social Performance Standard.

- The PPMT will, on a regular basis, collect any submissions received and will respond within 30 days. Responses will be delivered via the County in a manner similar to their submission to maximise flexibility and responsiveness. Responses will be registered, and delivery to the recipient confirmed.

The following diagram sets how information will be provided to local communities and how the PPMT will respond to questions and comments received.

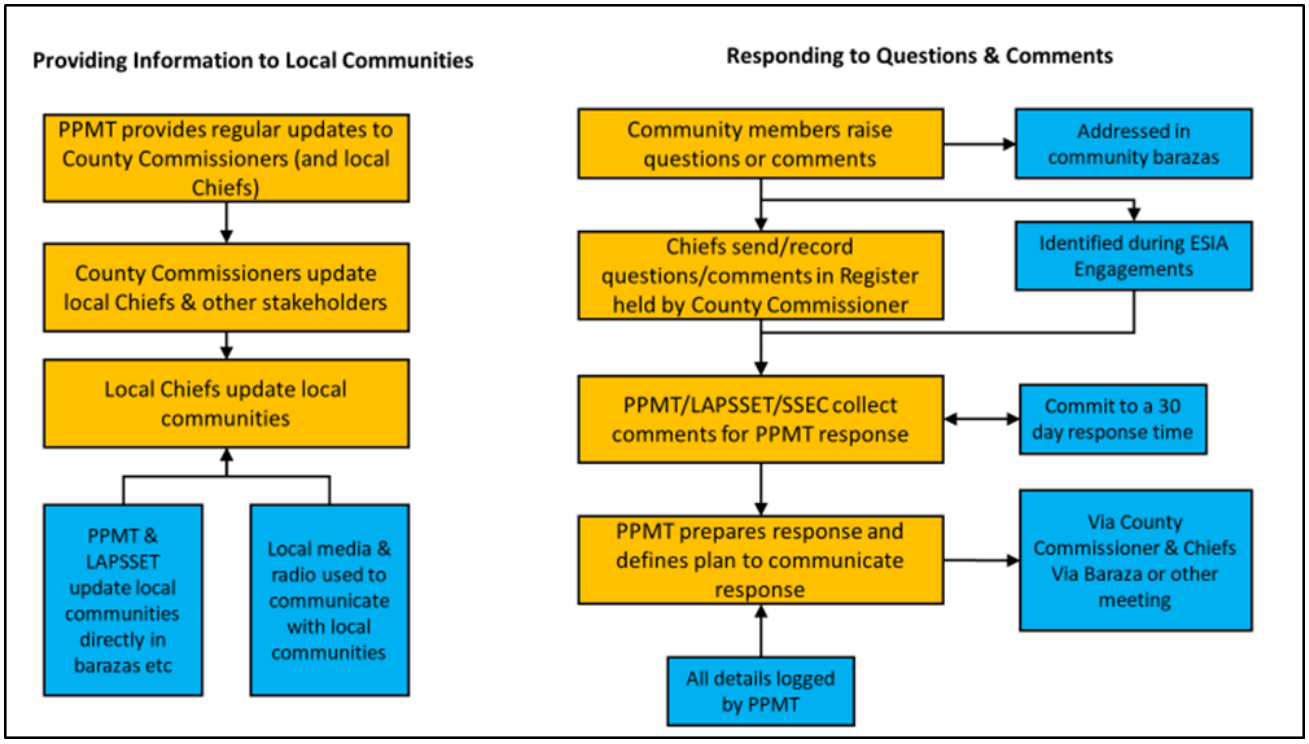


Figure 6: Overview of Information Dissemination and Grievance Management process

12.3 Principles for a Grievance Mechanism

For a grievance mechanism to be effective, acceptable and trustworthy, some aspects need to be considered in addressing the submissions. Among these are the following:

- **Fairness:** The grievance mechanism will ensure that all complaints from stakeholders are dealt with fairly, with corrective actions being implemented and the complainants informed of this outcome. All complaints will be handled in accordance with the grievance mechanism and dealt with without prejudice;
- **Confidentiality Statement**: All personal information provided by the complainant will be treated by the PPMT with the strictest confidentiality. No details of the complainant will be provided to other organisations or individuals without prior written permission. The PPMT may use the information provided for monitoring and reporting without disclosing personal data;
- **Fair and transparent process:** The grievance procedure is designed to be readily understandable, accessible and culturally appropriate for people in the project area and the surrounding area. Where a complainant needs an interpreter or translation, this will be made available by the PPMT;
- **Publicity and accessibility:** As part of the overall stakeholder engagement process and encouraging local stakeholders to engage with the work of the LLCOP, the PPMT will publicise the grievance mechanism through an appropriate medium of communication, considering the cultural, language and accessibility requirements of the stakeholders; and

- **Formal mechanism:** Community groups or stakeholders may initiate informal and direct dialogue, for example through a suggestion box or by contacting the community liaison officers, sometimes with assistance from a representative or another organisation. The approach should be that all grievances will be treated formally and recorded as such.
- **Response time:** A speedy response by itself is a mechanism that decreases tension and bold trust. Long delays at the opposite impact.

12.4 The Grievance Mechanism Process

The grievance redress mechanism process is typically a step by step process. Figure 7 illustrates this general process. This grievance process would need to be further refined to fit the purposes and appropriate methods of the Project Team.

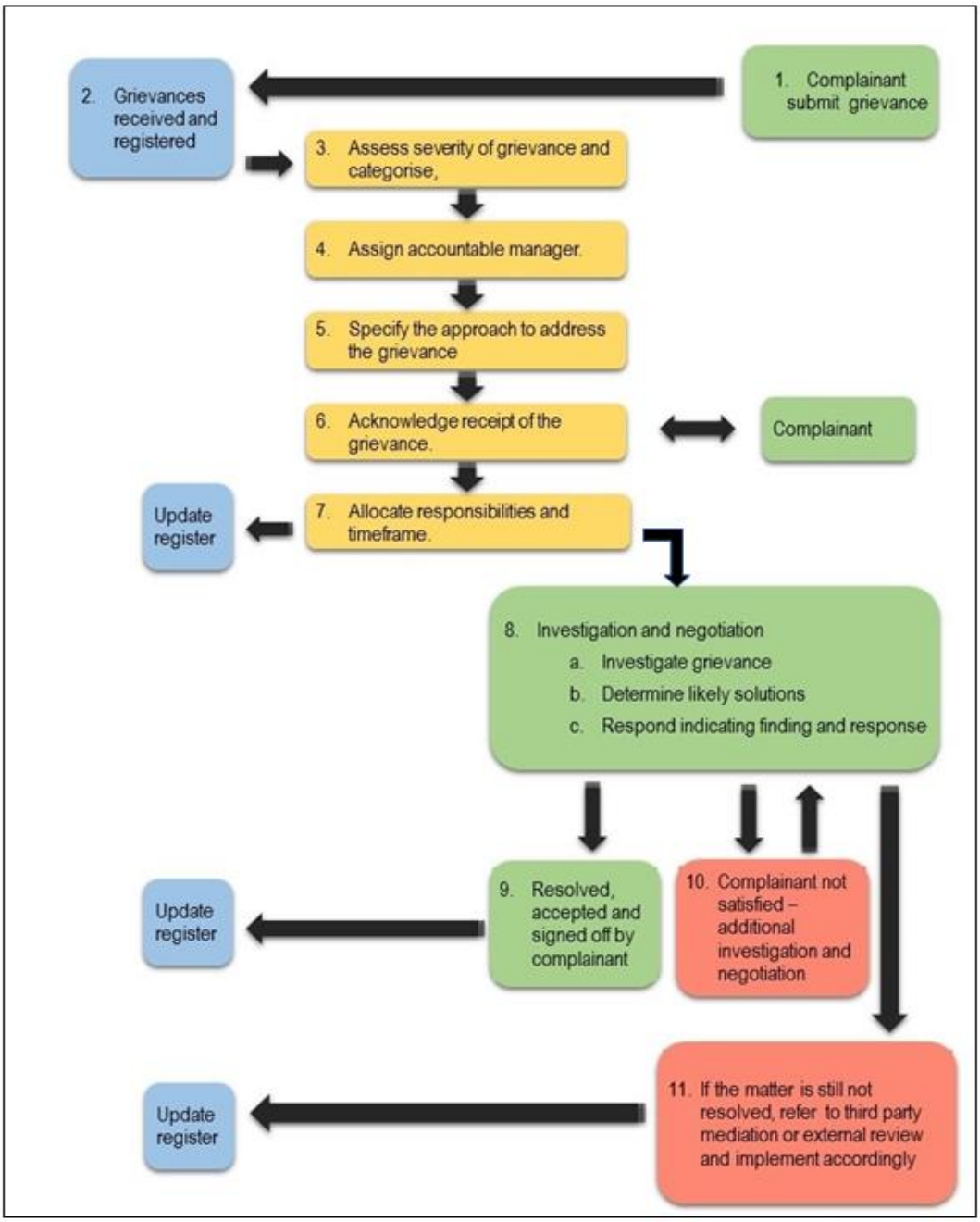


Figure 7: Grievance redress process

12.5 Grievance Recording and Reporting

The PPMT Team will keep written records of all submissions. As part of the broader community engagement process, the PPMT should also report back periodically to communities and other stakeholder groups as to how the PPMT has been responding to the grievances it has received.

Additional information to be captured in the register includes the following:

- Follow up notes from the engagement consultation process;
- All communications and information, including proposed corrective action, provided to the complainant. The appropriate dates must also be captured;
- The date the grievance complaint was closed;
- Acceptance of the response (complainant name, signature and date); and
- All records of the procedures following if the grievance is not resolved after the first consultation process.

13.0 PLANNED ACTIVITIES FOR ENGAGEMENT DURING ESIA

13.1 Notification

The ESIA team will follow a similar approach as per the previous consultation, by sending letters of invitation in coordination with LAPSSET to all stakeholders. For the community workshops, stakeholders will be notified on proposed meetings at least 14 days before the event (EMCA requires a minimum of 1 week). The notification exercises will be undertaken through locally available media including notices in:

- strategic locations accessible to community members,
- local print media and
- announcements in local radio channels.

A list of available voice and print media within the various counties that we will choose from. Choice of media will be on the basis of best coverage.

Table 8: Radio, TV and print media available in counties along LLCOP.

No	County	Radio Stations	Television Stations	Newspaper
1	**Meru County**	Weru FM	Meru Tv	Meru county review
		Muuga FM 88.9	Baite TV	Meru County Bulletin
		Meru FM 88.3	Weru TV	Meru county Focus Magazine
		Mwago FM-97.5	Destiny TV	People Daily
		Destiny FM- 90.1	Mwariama TV	Daily Nation
		Mugambo FM	Citizen Tv	The standard
		Wimwaro FM- 93.0	NTV	

No	County	Radio Stations	Television Stations	Newspaper
		Wendo FM- 100.91	KTN	
		Mwarima FM-105.9		
		Baite FM		
2	**Turkana County**	Turkana FM	Citizen Tv	Turkana Times
		Ekeyokon Radio 97.1FM	NTV	Daily Nation
		Maata Radio 101.8 FM	KTN	The Standard
		Ata Nayeche FM	K24	Taifa Leo
		Hossana FM- 89.5		
3	**Samburu County**	Serian FM- 88.9	Citizen Tv	Daily Nation
		Watchman FM		The Standard
4	**Lamu County**	Sifa FM- 101.1	K24	Taifa Leo
		Pilipili FM- 94.7	Citizen Tv	Daily Nation
		Milele FM	KTN	The standard
		Rahma FM- 91.5		People Daily
		Baraka FM- 95.5		The Star
		Sauti ya Pwani FM- 106.7		
		Radio Jambo		
		Salaam Fm 90.7		
5	**Garissa County**	Star FM- 97.1	Star Television Network- (STN)	Daily Nation
		Risala FM- 96.7	Citizen Tv	Taifa Leo
		Warsan FM- 97.5	RTN	The standard
6	**Isiolo County**	Baliti FM- 102.7	NTV	Daily Nation
		Isiolo FM- 107.2	Citizen Tv	The standard
		Angaff Radio 103.3	KTN	People Daily
		Radio Shahidi-97.1 FM	K24	

13.2 Team Mobilisation

Three teams will lead the engagement at regional level. Each of these teams will have as responsible one Regional Coordinators (RC), which will deliver the SE events at the regional level in close collaboration with the In-Country SE Lead (James Kambo). The RCs are:

- Duncan Oyaro –Lamu and Garissa;
- Michael Kapolon – Turkana; and
- Hajir Mohammed – Samburu, Isiolo, and Meru.

The RCs speak Kiswahili and other local languages appropriate to their region. Their responsibilities include the coordination of and support of the SE at the county level, through logistical support, invitation and meeting arrangements, minutes and issue capturing, translation or arrangement of translators as may be required and general process support. Find below indicative organogram for the SE team.

Figure 8: Organogram for Regional Teams

13.3 Planned Community Barazas

See below indicative locations along the LLCOP route to be visited as part of the ESIA engagement process. See Appendix A for potential itinerary for next round of consultations at county and community level.

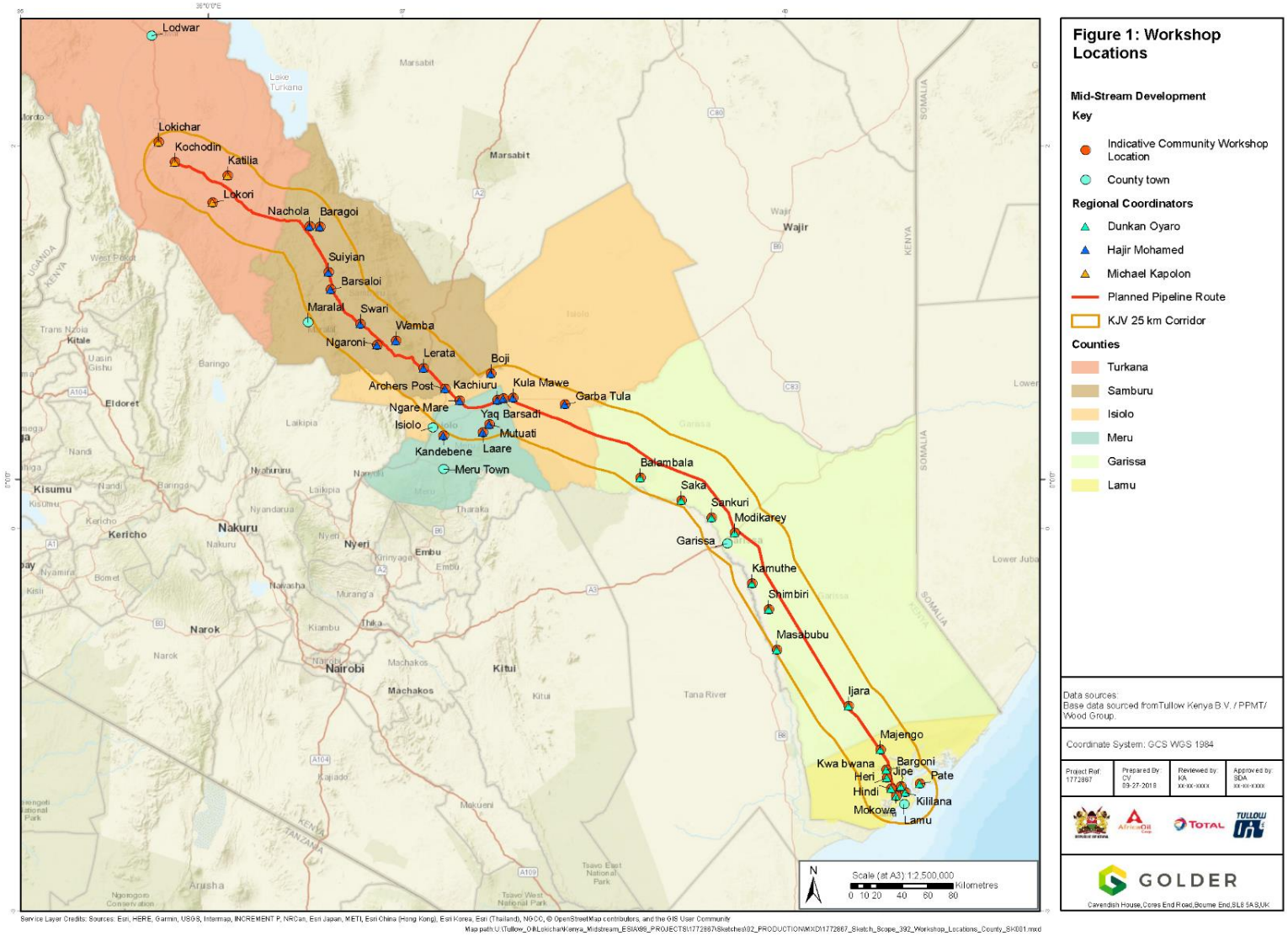


Figure 9: Indicative locations for SE along LLCOP route

14.0 REFERENCES

Equator Principles, *The Equator Principles III* (Washington, DC, 2013)

Government of the Republic of Kenya, *Environmental (Impact Assessment and Audit) Regulations 2003* (Nairobi: Kenya Parliament, 2012)

———, Kenya Vision 2030: The Popular Version (Nairobi, 2007)

———, Petroleum (Exploration and Production) Act (Revised 2012). (Nairobi: Kenya Parliament, 2012)

———, *Public Health Act, Act No 12 of 2012.* (Nairobi: Kenya Parliament, 2012) <www.kenyalaw.org>

———, *The Constitution of Kenya* (Nairobi: Kenya Parliament, 2010)

———, The Occupational Safety and Health Act, 2007. (Nairobi: Kenya Parliament, 2007)

———, *The Water Act, Act No. 43 of 2016* (Nairobi: Kenya Parliament, 2016)

Heztech Engineering Services, Environmental Impact Assessment Study Report for Construction of the First Three Berths of the Proposed Lamu Port and Associated Infrastructure (Mombassa, 2013)

International Finance Corporation, Performance Standard 1: Assessment and Management of Environmental and Social Risks (Washington, DC, 2012)

———, Performance Standard 7: Indigenous Peoples, Management (Washington, DC, 2012)

———, Performance Standards on Environmental and Social Sustainability - Overview of Performance Standards on Environmental and Social Sustainability (Washington, DC, 2012)

———, 'Stakeholder Engagement : A Good Practice Handbook for Companies Doing Business in Emerging Markets', *International Finance Corporation*, 2007, 201 <https://doi.org/10.1007/s10551-007-9509-y>

Krick, T, M Forstater, and P Monaghan, The Stakeholder Engagement Manual: Volume 2: The Practitioner's Handbook on Stakeholder Engagement, United Nations Environment Programme, 2005, LIV

Kurrent Technologies Limited, Environment and Social Impact Assessment (ESIA) Study for the Proposed 1,050MW Coal-Fired Power Plant Project, Kenya, 2016

Lapsset Corridor Development Authority, *Brief on Lapsset Corridor Project* (Nairobi, 2016)

Ministry of Devolution and Planning, National Policy for the Sustainable Development of Northern Kenya and Other Arid Lands (Nairobi: The Presidency, 2016)

Ministry of Environment Water and Natural Resources, *National Environment Policy* (Nairobi: Kenya Parliament, 2013)

Ministry of Lands, *National Land Policy* (Nairobi: National Land Policy Secretariat, 2007)

Pipeline Project Management Team, South Lokichar to Lamu Pipeline Project: ESIA Guidelines to Contractors (Nairobi, 2018)

Repcon Associates, Strategic Environmental Assessment for the LAPSSET Infrastructure Corridor (Nairobi, 2017)

SAI Consulting Engineers PVT. LTD, ESIA Study Report: Consultancy Services for the Environmental & Social Impact Assessment and Detailed Engineering Design of Lamu-Garissa Road (Nairobi, 2016)

The Government of the Republic of Kenya, *National Museums and Heritage Act. Act No. 6 of 2006* (Nairobi: Kenya Parliament, 2006)

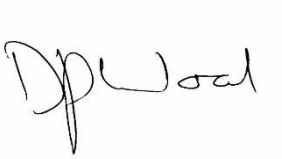
———, Prevention, Protection and Assistance to Internally Displaced Persons and Affected Communities Act, No 56 of 2012 (Nairobi: Kenya Parliament, 2012)

The World Bank Group, Country Social Analysis of Vulnerable and Marginalized Groups in Kenya: Guidance for Applying the World Bank Operational Policy 4.10 on Indigenous Peoples (Washington, DC, 2016)

UNDP, Guidance Note UNDP Social and Environmental Standards (SES) UNDP Guidance Notes on the Social and Environmental Standards (SES) (Washington, DC, 2017)

Signature Page

Golder Associates (UK) Ltd



David De Waal
Stakeholder Engagement Lead

Simon Aldrich
Project Manager

3 October 2018

DdW/SA/kc

Company Registered in England No.1125149
At Attenborough House, Browns Lane Business Park, Stanton-on-the-Wolds, Nottinghamshire NG12 5BL

VAT No. 209 0084 92

APPENDIX A

Preliminary Stakeholder Engagement Schedule

1.0 SCHEDULE

A preliminary SE schedule for this phase of consultation is provided in Table 1. For community engagements; please see table 2, these events will occur concurrently to the county meetings.

Table 1: County meetings

Location for meetings at National and County level	Dates
County meeting at Garissa	12/10/2018
Samburu county meeting - Maralal	17/10/2018
County meeting - Lamu	23/10/2018
Meru County Meeting	29/10/2018
Turkana County meeting (Lodwar)	02/11/2018
County meeting Isiolo	09/11/2018
Nairobi-workshop with Parliament	15/11/2018
Nairobi-workshop with NGOs	16/11/2018

Table 2: Location for meetings at the community level - Regional Teams

Date - Regional team	Regional Team 1		Regional Team 2	Regional Team 3
12/10/2018				
13/10/2018	Garissa - Modikare			
14/10/2018	Garissa -Sankuri	Garissa- Ijara		
15/10/2018	Garissa - Shimbiri	Garissa -Masabubu		
16/10/2018	Garissa - Saka	Garissa - Bor Alje		
17/10/2018	Garissa - Mbalambala	Garissa - Kamuthe		
18/10/2018				
19/10/2018				
20/10/2018				Samburu - Archers' Post
21/10/2018				Lareeta
22/10/2018				Wamba
23/10/2018				Ngaroni

Date - Regional team	Regional Team 1		Regional Team 2	Regional Team 3
24/10/2018	Lamu - Mokowe			Swari
25/10/2018	Lamu - Kililana			Barsaloi
26/10/2018	Lamu - Jipe			Suiyan
27/10/2018	Lamu - Hindi			Baragoi
28/10/2018	Lamu - Kwa bwana Heri			Nachola
29/10/2018	Lamu - Majengo			
30/10/2018	Lamu - Pate			Meru -Kaichiru
31/10/2018				
01/11/2018				Meru - Laare
02/11/2018				Meru - kandebene
03/11/2018				
04/11/2018				
05/11/2018			Lokichar	
06/11/2018			Lokori	
07/11/2018			Kochodin	
08/11/2018			Katilia	
09/11/2018				
10/11/2018				Isiolo - Ngare Mara
11/11/2018				Isiolo- Yaq Barsadi
12/11/2018				Isiolo-Kula Mawe
13/11/2018				Isiolo-Boji
14/11/2018				Isiolo - Garba Tulla

APPENDIX B

Stakeholder Engagement Database

1.0 STAKEHOLDER ENGAGEMENT DATABASE

Table 1: Stakeholder database

Specific Group/ Stakeholder	Title and Name	Contact Details	Description of: Interest in/ Influence on /Affected by Project	Focus of Engagement	Engagement Tools/Action	Responsible Counterpart
International Level (including East Africa regional NGOs)						
World Wildlife Fund (WWF)	Director General Marco Lambertini	Mvuli Road off Raphta Westlands, 0709 172000, +254722203407, +254733333409 info@wwfkenya.org	- Interest in potential project impacts on wildlife, their habitats, migratory corridor, sources of food and water; - Influence on international environmental advocacy.	Concerned with the conservation of biodiversity with a significant focus on species conservation (elephant, rhino etc.), wetlands conservation and more critically marine conservation. A major player in the conservation of Lamu ecosystem.	Workshop, e-mail, telephone conversation.	
Flora & Fauna International	CEO Mark Rose	East African Wildlife Society Building, Riara Road, Off Ngong Road 020 3878016 info@fauna-flora.org	- Interest in potential project impacts on wildlife, their habitats, migratory corridor, and sources of food and water;	In Kenya mainly involved in protecting wildlife and conserving the biodiversity, coastal and marine environments.	Workshop, e-mail, telephone conversation.	

			- Influence on international environmental advocacy.			

IUCN	Regional Director Luther Anukur	Eastern and Southern Africa Regional Office Wasaa Conservation Centre, Mukoma Road (off Magadi Road) +254 20 2493561/65/70 +254 734 768770/ +254 724 256804 info.esaro@iucn.org https://www.iucn.org/esaro	- Interest in potential project impacts on ecosystems sustainability; - Influence on international environmental advocacy.	Biodiversity conservation emphasising more on values of nature. Promoting and supporting effective and equitable governance of natural resources.	Workshop, e-mail, telephone conversation.	
National level NGOs						
Nature Kenya	Executive Director Dr Paul Matiku	National Museum of Kenya Museum Hill Nairobi +254 (0) 20 3537568, +254 771 343138, +254 780 149200 E-mail: office@naturekenya.org	Interest in potential project impact on birds, habitats, sources of food and water.	Conserving biodiversity with more focus on the Birds. Saving the habitats and ecosystems important for birds.	Workshop, e-mail, telephone conversation.	
Grevy Zebra Trust	Co-Founder & Executive Director Belinda Low Mackey	IUCN, Mukoma Road (off Magadi Road), Langata E-mail: conservation@grevyszebratrust.org	Interest in potential project impact on Grevy Zebras, their habitats, migratory corridor, and sources of food and water.	Conserving the endangered *Grevy's zebra* and its fragile habitat in partnership with communities.	Workshop, e-mail, telephone conversation.	
N-S African Wildlife Foundation (AWF)	CEO Dr Tom Ogilvie -Graham	Ngong road, Karen, africanwildlife@awf.org, 071106300, +254722946848	Interest in potential project impacts on wildlife, their habitats, migratory corridor,	Biodiversity (wildlife). Active within the northern areas of Kenya in the conservation of wildlife	Workshop, e-mail, telephone conversation.	

			sources of food and water.	species such as the elephant, black rhino and Grevy's zebra.		
NRT Northern Rangeland Trust	Chief Executive Officer Tom Lalampaa	Isiolo town, 0701 555 000, sophie.harrison@nrt-kenya.org info@nrt-kenya.org	Interest in potential project Impact on game ranches and wildlife migratory corridor.	Ecosystem and biodiversity management.	Workshop, e-mail, telephone conversation.	
Servant Leadership and Environmental Conservation International Group	Director/ Programme manager	Kingara Rd, Lavington +254 20 2134359 info@slecinternational.org http://www.slecinternational.org	Interest in potential project impact on pastoralist grazing land and water.	Conservation projects (pastoralists and wildlife).	Workshop, e-mail, telephone conversation.	
Kenya Human Rights Commission	Executive Director George Kegoro	Gitanga Road opp. Valley Arcade Shopping Center, P.O Box 41079-00100, Nairobi, +254-20 2044545 +254 20 2106763 +254-722-264497 +254-733-629034 admin@khrc.or.ke	- Interest in potential violation of human rights of communities. - Influence on National level human rights advocacy.	The protection of Human Rights.	Workshop, e-mail, telephone conversation.	
Action Aid	Executive Director Bijay Kumar	Ibium House, Second Floor P.O Box 42814-00100, Nairobi +254 (020) 425 0500 0700 653 153, +254 722518220, +254 722207749,+254 733333352, +254 733330053 E-mail: info.kenya@actionaid.org	Interest in identifying if the project will have positive benefits for communities with regard to livelihoods, and access to basic services.	Community livelihoods, provision of basic services, human rights.	Workshop, e-mail, telephone conversation.	

Kenya Civil Society platform on oil and gas	Coordinator Charles Wanguhu	P.O Box 40680, G.P.O 00100, Nairobi, Kenya info@kcspog.org	- Interest in potential project impacts on communities livelihoods, human rights, level of participation and consultation; - Influence on National level advocacy.	Strong and Effective Oil and Gas advocacy network that can constructively engage the sector players in good governance.	Workshop, e-mail, telephone conversation.	
Kenya Land Alliance	Chief Executive Officer Odenda Lumumba	E-mail: info@kenyalandalliance.or.ke Tel: (+254) 51 2210398	Interest in how land issues will be addressed.	Effective advocacy for the reform of policies and laws governing the land.	Workshop, e-mail, telephone conversation.	
African Wildlife Foundation	Chief Executive Officer Dr Tom Ogilvie-Graham	African Wildlife Foundation Ngong Road, Karen P.O. Box 310, 00502 Nairobi, Kenya map Tel: + 254 (0) 711 063 000, +254 72 2946848 E-mail:	Interest in potential project impacts on wildlife and their habitats.	Biodiversity (wildlife) and ecosystem management.	Workshop, e-mail, telephone conversation.	
East Africa Wildlife Society	Executive Director Julius Kamau	Riara Road, Off Ngong Road, Nairobi +254 (020) 3870335 E-mail: info@eawildlife.org	- Interest in potential project impacts on wildlife, their habitats, migratory	Biodiversity (wildlife) and ecosystem management.	Workshop, e-mail, telephone conversation.	

			corridor, sources of food and water; - Influence on National level advocacy.			
Kenya Wetland Forum	Acting Director General Mr. Julius Kimani	KWS Partner Tel: +254 (20) 2379407, E-mail: director@kws.go.ke	Interest in potential project impacts on wetlands ecosystems and biodiversity.	Wetlands conservation.	Workshop, e-mail, telephone conversation.	
Kenya Tourism Federation	Chief Executive Officer Dr Betty Radier	Kenya Tourism Board – Head Office Kenya-Re Towers, Ragati Road P.O. BOX 30630 – 00100 Nairobi, Kenya Telephone: +254 20 2711 262 Pilot No: +254 20 2749 000 Fax: +254 20 271 9925 E-mail: info@ktb.go.ke	Interest in potential project impacts on wildlife and other tourist attractions.	Tourism development and development/support of policies to drive this.	Workshop, e-mail, telephone conversation.	
Save the Elephants	Chief Executive Officer Frank Pope	Marula Manor, Marula Lane, Karen P.O. Box 54667 Nairobi 00200 Kenya Office: +254 720 441 178 E-mail: info@savetheelephants.org	Interest in potential project impact on the elephant species, habitats, migratory corridor, and sources of food and water.	Elephants' conservation.	Workshop, e-mail, telephone conversation.	
East African Network for Environmental Compliance & Enforcement	Regional Coordinator Mr Gerphas Keyah Opondo	NEMA Hqs, South C, Popo Road, off Mombasa Road P.o.Box 73099 -00200 City Square Nairobi, Kenya. Tel. +254 722 306 461	Interest in potential project impacts on ecosystems sustainability.	Biodiversity and ecosystem management.	Workshop, e-mail, telephone conversation.	

		E-mail: eanece@eanece.org				
National Government Ministries and Agencies						
NEMA	Director General Prof. Geoffrey Wahungu	Popo Road, South C, off Mombasa Road Mobile: 0724 253398, 0735 013046. E-mail: dgnema@nema.go.ke	ESIA process and Permitting.	Baseline development, impact identification, EMP development and Stakeholder consultations.	Workshop, e-mail, telephone conversation, meetings.	
Ministry of Petroleum and Mining	CS-John Munyes PS- Andrew Nganga	Nyayo House, Kenyatta Avenue. P. O. Box 30582 – 00100 Nairobi Kenya info@energy.go.ke Tel: +254 (0) 20 3310112 E-mail: psenergy@energy.go.ke	Policies and legislation implementation on exploitation, export and marketing of petroleum products.	Exploitation and exportation of petroleum products.	Workshop, e-mail, telephone conversation.	
Ministry of Energy	CS- Charles Keter PS Renewable Energy- Colleta Suda Ps Energy- Joseph Njoroge	Nyayo House, Kenyatta Avenue. P. O. Box 30582 – 00100 Nairobi Kenya info@energy.go.ke Tel: +254 (0) 20 3310112 Fax: +254 (0)20 2228314 Fax: +254 (0)20 2240910	Tourism Policy and development this include processes of policy direction, planning, product development and diversification.	Facilitate provision of clean, sustainable, affordable, reliable and secure energy services for National development while protecting the environment.	Workshop, e-mail, telephone conversation.	
Ministry of Environment and Forestry	CS-Keriako Tobiko PS- Charles Sunkuli	NHIF Building, 12th floor, Ragati road, Upperhill P.O Box 30126-00100 Nairobi Kenya	Policy adherence and implementation.	Conservation, protection and management of natural resources.	Workshop, e-mail, telephone conversation Workshop, e-mail,	

		+254 20 2730808/9 +254 20 2725707 +254 20 2725707			telephone conversation.	
Ministry of Devolution and ASAL	CS- Eugene Wamalwa Ps Devolution- Nelson Marwa PS ASAL- Michael Powon	Harambee House 10th Floor, Harambee Avenue in Nairobi. (020) 2227411 E-mail: info@planning.go.ke	Integration and co-existence of the project traversing across the counties.	Integration of development initiatives into ongoing projects within ASAL areas.	Workshop, e-mail, telephone conversation.	
The National Treasury, Ministry of Planning	CS- Henry Rotich PS Treasury- Kamau Thugge PS planning- Julius Muia	Treasury Building, Harambee Avenue P.O Box 30007-00100 Nrb Tel. +254 20 2252299,0771448232 E-mail: ps@treasury.go.ke info@treasury.go.ke	Management and monitoring of project expenditure.	Finance and funding of Government development agenda.	Workshop, e-mail, telephone conversation.	
Ministry of Foreign Affairs & International Trade	CS- Monica Juma PS Foreign Affairs- Macharia Kamau PS International Trade- Dr. Chris K. Kiptoo	Old Treasury Building, Harambee Avenue P.O Box 30551 – 00100 G.P.O NAIROBI, Kenya Tel: +254 20 3318888 E-mail: info@mfa.go.ke Website: www.mfa.go.ke	Coordinate regional peace initiative.	Peaceful and sound co-existence across the counties.	Workshop, e-mail, telephone conversation.	
Ministry of Health	CS- Sicily Kariuki PS- Peter Tum	Afya House, Cathedral Road, P.O. Box:30016–00100, Nairobi, Kenya. Telephone: +254-20-2717077 E-mail: ps@health.go.ke	Water and sanitation, communicable diseases, community and workers welfare.	Community health.	Workshop, e-mail, telephone conversation.	

Ministry of Transport and Infrastructure Development	CS-James Macharia PS infrastructure- Julius Korir PS Transport- Paul Maringa	Transcom House NGONG ROAD P.o Box 52692 - 00200 NAIROBI Telephone: +254-020-2729200 Fax: +254-020-2730330	An interested party in the LAPSSET project hence the LLCOP Project.	Mechanical and transport services management, transport safety. Pipeline integration in the LAPSSET project.	Workshop, e-mail, telephone conversation.	
Ministry of Land Housing and Urban Development	CS- Farida Karoney PS-Nicolas Muraguri	Ardhi House, Off Ngong Rd: P.O. Box 30450-00100, Nairobi, Kenya. Phone: +254204803812 Switch Board E-mail: info@ardhi.go.ke	Land acquisition and resettlement.	- Determination and resolution of land boundary dispute - Preparation of provisional and replacement titles - Registration of documents.	Workshop, e-mail, telephone conversation.	
Ministry of Labour and Social Protection	CS- Ukur Yattani PS- Susan Mochache	Bishops Road, Social Security House P.O. Box 40326 - 00100, Nairobi Telephone: +254 (0) 2729800 Fax: +254 020 2726497 E-mail: principalsecretary@labour.go.ke or info@labour.go.ke	-Enforcing the employment standards act and its regulation. -provision of security and safety to people and property.	Employment and Labour management Security.	Workshop, e-mail, telephone conversation.	
Ministry of Tourism & Wildlife	CS- Najib Balala PS Wildlife- Margaret Mwakema	Teleposta Towers, 18th floor, Kenyatta Avenue. P.O. Box 30027-00100 Nairobi, KENYA	Interest in potential project impacts on	Tourism Policy, Management and product development, Harnessing	Workshop, e-mail, telephone conversation.	

		Tel: +254 (020) 3313010 +254 710 601 103 E-mail: ps@tourism.go.ke / info@tourism.go.ke	wildlife and other tourist attractions.	tourism, Wildlife and cultural heritage.		
Ministry of Sport and Heritage	CS- Rashid Mohammed PS Sports- Peter Kiberia PS Heritage- Josphetta Mukobe	Kencom House, P. O. Box 49849-00100 Kenya psoffice@minspoca.go.ke csoffice@minspoca.go.ke Tel. +254 020 2251164 http://www.sportsheritage.go.ke	Loss of physical, cultural resources, values.	Preservation of cultural heritage.	Workshop, e-mail, telephone conversation.	
Ministry of Agriculture and Irrigation	CS- Mwangi Kiunjuri PS- Hamadi Boga	Cathedral Road, Nairobi P. O. Box 34188-00100 Kenya E-mail: info@kilimo.go.ke Telephone: +254-20-2718870	Loss of agricultural land and livestock, pollution (oil spills).	Support for farming, livestock keeping and fisheries.	Workshop, e-mail, telephone conversation.	
Ministry of East African Community and Northern Corridor Development	CS- Peter Munya	16th Floor, Co-op Bank House, Haile Selassie Avenue P.O. Box 8846 – 00200 nrb +254 729111108 / +254 733208888 +254 020 2603599 / +254 020 2603733,+254 20 2245741 / +254 20 2211614 E-mail: ps@meac.go.ke	Integration of regional markets of Eastern Africa to foster growth.	Contribution of LAPSSET and the pipeline in particular in regional development and cooperation.	Workshop, e-mail, telephone conversation.	
Ministry of Industrialisation and Enterprise Development;	CS- Aden Mohammed PS- Betty Maina	Social Security House, Block A, 17th, 23rd Floor P.O. Box 30418-00100, Nairobi, Kenya Telephone: +254 20-2731531	Policy implementation and intervention to create growth in industry and enterprise.	Innovation, technology, and labour for development, benefits and local content within	Workshop, e-mail, telephone conversation.	

		Fax: +254 20-2731511 E-mail: ps@industrialization.go.ke cs@industrialization.go.ke		the pipeline development project.		
National Land Commission	Chief Executive Officer Mr Tom Avangi Aziz	Ardhi House,1st Ngong Avenue, Off Ngong Road, P.O. Box 44417 – 00100, Tel: 2718050 e-mail: info@landcommission.go.ke	Land use planning.	Land acquisition, management, monitoring, and oversight over land use planning.	Workshop, e-mail, telephone conversation.	
Water Resources Management Authority	Director General Mr Mohamed Moulid Shurie	NHIF Building, 9th Floor, Wing 'B', • Address: P.O. Box 45250-00100 Nairobi, Kenya. • Tel: +254 20 2732291,2729048/49 • Fax: +254 20 2729950 • E-mail: info@wra.go.ke	Water quality and demand management.	Water obstruction, use, pollution and conservation.	Workshop, e-mail, telephone conversation.	
Kenya National Highways Authority;	Director General Eng. Peter Mundinia	Blueshield Towers on Hospital Road in Upper Hill. P.O. Box 49712-00100, Nairobi. Tel: 0202989000, 0204954000, 0208013842, 0731330336 and 0700423606. E-mail: dg@kenha.co.ke	Interest in Transport corridors.	Management, development, rehabilitation and maintenance of roads.	Workshop, e-mail, telephone conversation.	
Kenya Forest Service	Director General Mr Emilio N. Mugo	Karura, off Kiambu Road 020 250 2508, 020-2014663	Interest in potential project impacts on forest resources.	Conservation and protection of forests along the corridor.	Workshop, e-mail, telephone conversation.	

		E-mail: info@kenyaforestservice.org				
Kenya Wildlife Service	Director General Mr Kitili Mbathi	KWS Headquarters, off Langata Rd Tel: +254 (20) 2379407 +254 (20) 2379408 +254 (20) 2379409, 254 (0) 726 610508/9 - E-mail: kws@kws.go.ke	Interest in potential project impacts on wildlife, their habitats and migratory corridor.	Conservation, management and protection of National parks, conservancy parks, protected area and migratory routes, endangered and threatened species.	Workshop, e-mail, telephone conversation.	
Kenya National Commission on Human Rights;	Executive Director Dr. Bernard Mogesa	CVS Plaza, Lenana Road, P.o Box 74359-00200, Nairobi Tel:020-3969000, 0733 78 00 00, 0736 78 00 00,0724 256 448, 0726 610 159. E-mail: haki@knchr.org 020-3969000, (+254) - 0733 78 00 00, 0736 78 00 00	Focus on the protection of human rights.	Directly and indirectly affected parties with regards to their rights as enshrined by law and global best practice.	Workshop, e-mail, telephone conversation.	
Kenya Agricultural and Livestock Research Organisation	Director General Dr Eliud Kiplimo Kireger	Kaptagat Rd, Loresho Nairobi Kenya Post Office. P. O. Box 57811, City Square, NAIROBI, 00200, Kenya	Livestock, food crops and range management.	Impact on productivity in the agricultural sector.	Workshop, e-mail, telephone conversation.	

		E-mail: info@kalro.org 0722-206-986, 0722-206988, 0733-333-223, 0733-333-224, 0733-333-294, 0733-333-299, 0736-333-294, 0709 104000-60,0730 707000-60 (Airtel)				
Kenya Rural Roads Authority (KeRRA)	Eng. Luka K. Kimeli Director General	Blue Shield Towers, Upperhill, 6th Floor, E-mail: kerra@kerra.go.ke Tel: +254(20)8013846/ 2710451 Mobile: +254 724 735 568	Construction, planning and management of rural roads.	Impacts on rural roads by the pipeline project.	Workshop, e-mail, telephone conversation.	
Water service board, National Water Conservation and Pipeline Corporation (NWCPC)	Eng. Vincent Esyepet Sidai Chairperson/ Board of directors	Dunga Road-Industrial Area Tel: +254 20-6556600/1/2/3/5 Hot Line: +254 20-6531047 E-mail: info@nwcpc.go.ke	Develop and manage public water works infrastructure.	Water supply management and use during development and project lifecycle.	Workshop, e-mail, telephone conversation.	
National Museum of Kenya (Lamu, Turkana,	Director General Dr Mzalendo Kibunjia	Museum Hill E-mail: dgnmk@museums.or.ke Tel: +254-20-8164134/6 Tel: +254-20-8164135 Cell: +254721-308485	Protection of cultural heritage.	Cultural resources protection along the pipeline alignment.	Workshop, e-mail, telephone conversation.	
Kenya Urban Roads Authority	Eng.Amos Onyango General Manager, Maintenance	IKM Place, Bishops Road, Off 5th Ngong Avenue, P.O. Box 41727 00100 Nairobi, 0717 105 233, E-mail: info@kura.go.ke	National trunk roads.	Impacts from and interaction of the pipeline and trunk roads along the corridor.	Workshop, e-mail, telephone conversation.	

Coast Water Services Board	Ag. Chairlady Sureya Hersi	Mikindani Street, Off Nkrumah Rd, Mombasa **Telephone**: 041-2315230 **E-mail:** info@cwsb.go.ke	Providing safe and clean water.	Impacts on potable water demand, sources and distribution infrastructure.	Workshop, e-mail, telephone conversation.	
Kenya Maritime Authority	Director general George N Macgoye	White House, Moi Avenue, Mombasa Phone 020-2381204, 020 2381203/4 E-mail: Info@kma.go.ke	safe and secure water transport.	Prevent of maritime pollution.	Workshop, e-mail, telephone conversation.	
Kenya Marine and Fisheries Research Institute	Director Prof. James M. Njiru	Silos Road, English Point, Mkomani Mombasa, KENYA **Phone**: +254 (20) 8021561, (20) 8021560, 0712003853 **Customer Service**: +254 (20) 2178357 **E-mail**: director@kmfri.co.ke	Marine and fisheries resources.	Conservation and restoration of aquatic environment.	Workshop, e-mail, telephone conversation.	
Coast Development Authority (CDA)	Dr Mohamed Keinan Hassan Managing Director	Coast Development Authority, Lamu Tel: 020-8009196 E-mail: cda@cda.go.ke	Interest in development in the coast region.	Development Planning for the coast region (Lamu).	Workshop, e-mail, telephone conversation.	
Regional level						
Ewaso Ng'iro North Development Authority (ENNDA)	Managing Director Omar Mohamed Sheikh	P.O. Box 203-60300-Isiolo Tel: 064-52002/52507 Off General Hospital Road E-mail: info@ennda.go.ke	Plan for water demand management and impact on water catchment / resource.	Water demand and quality management (water monitoring).	Workshop, e-mail, telephone conversation.	

Kerio Valley Development Authority	Managing Director David Kimosop	KVDA PLAZA Oloo St. Eldoret +254 053 206 3361-2 E-mail: info@kvda.go.ke	Implementation of programmes and projects.	Maintenance of liaison between government, the private sector and other entities.	Workshop, e-mail, telephone conversation.	
Turkana Basin Institute	Director Jason E. Lewis	Karen Business park Langata Road, 2nd Floor Boabab Block Tel: +254 20 2085911	Exploitation of the Lake Turkana Basin.	Turkana Basin.	Workshop, e-mail, telephone conversation.	
Friends of Lake Turkana	Ikal Angelei Founder/Director	Kalokol Highway, Lodwar E-mail: info@friendsoflaketurkana.org	Environmental justice, human rights protection, sound policies and practices and indigenous people.	Inclusion and equitability of benefits accrued from natural resources.	Workshop, e-mail, telephone conversation.	
County level						
County Governor	Lamu Mr Fahim Twaha	Lamu 0721312746 info@lamu.go.ke	Adequate public disclosure and engagement on LLCOP.	Disclosure-linkage to County agenda and grassroots groups.	Workshop, e-mail, telephone conversation.	
County Governor	Garissa County Bunow Korane	Posta road, 020-2586235 E-mail: gsa.countyassembly@gmail.com. 0202586235	Adequate public disclosure and engagement on LLCOP.	Disclosure-linkage to County agenda and grassroots groups.	Workshop, e-mail, telephone conversation.	
County Governor	Meru County Hon. Kiraiti Murungi	Meru town 0775501502 merucounty@meru.go.ke	Adequate public disclosure and engagement on LLCOP.	Disclosure-linkage to County agenda and grassroots groups.	Workshop, e-mail, telephone conversation, meetings.	

County Governor	Isiolo County Mohammed Kuti	Isiolo town hospital road; 0722423405 info@isiolo.go.ke	Adequate public disclosure and engagement on LLCOP.	Disclosure-linkage to County agenda and grassroots groups.	Workshop, e-mail, telephone conversation, meetings.	
County Governor	Samburu County Moses Kasaine	Maralal -Baragoi Road, info@samburu.go.ke, +25406562456, +2546562075	Adequate public disclosure and engagement on LLCOP.	Disclosure-linkage to County agenda and grassroots groups.	Workshop, e-mail, telephone conversation, meetings.	
County Governor	Turkana County Josphat Nanok	info@turkana.go.ke 0723730513	Adequate public disclosure and engagement on LLCOP.	Disclosure-linkage to County agenda and grassroots groups.	Workshop, e-mail, telephone conversation, meetings.	
County Commissioner	Lamu County Jospeh Kanyiri	0720 253813 info@lamu.go.ke	Comprehensive disclosure of LLCOP, security management.	Stakeholder engagement and Disclosure of LLCOP Project.	Workshop, e-mail, telephone conversation, meetings.	
County Commissioner	Garissa County Joshua Chepchieng	Posta Road, Garissa 0724 109730 ccgsacounty@gmail.com	Comprehensive disclosure of LLCOP, security management.	Stakeholder engagement and Disclosure of LLCOP Project.	Workshop, e-mail, telephone conversation, meetings.	
County Commissioner	Meru Wilfred Nyagwanga	0723 393935 merucounty@meru.go.ke ccmeru@yahoo.com	Comprehensive disclosure of LLCOP, security management.	Stakeholder engagement and Disclosure of LLCOP Project.	Workshop, e-mail, telephone conversation, meetings.	

County Commissioner	Isiolo Joseph Ondego	Isiolo Town Hospital Road 0722919669 info@isiolo.go.ke isiolocc@yahoo.com	Comprehensive disclosure of LLCOP, security management.	Stakeholder engagement and Disclosure of LLCOP Project.	Workshop, e-mail, telephone conversation, meetings.	
County Commissioner	Samburu John Korir	Maralal -Baragoi Road 0727 404848 25406562456, +2546562075 info@samburu.go.ke	Comprehensive disclosure of LLCOP, security management.	Stakeholder engagement and Disclosure of LLCOP Project.	Workshop, e-mail, telephone conversation, meetings.	
Samburu County Assembly Speaker	Hon. Solomon Lempere 15 Elected 6 Nominated	County Assembly of Samburu, P.O. Box 3 - 20600 Maralal +254 065 62456, +254 65 62075 E-mail: info@samburuassembly.go.ke	Mobilisation of MCAs.	Project disclosure.	Workshop, e-mail, telephone conversation.	
Turkana County Assembly Speaker	Hon. Erastus Lokaale 30 Elected MCAs 17 Nominated MCAs	icsturkanacounty@gmail.com	Mobilisation of MCAs.	Project disclosure.	Workshop, e-mail, telephone conversation.	
Meru County Assembly Speaker	Hon. Joseph Kaberia Arimba 45 Elected MCAs 24 Nominated MCAs	The Meru County Assembly. P.O. Box 3 60200, Meru. E-mail: assembly@meru.go.ke 064-30040/064-30042 0708 777 000	Mobilisation of MCAs.	Project disclosure.	Workshop, e-mail, telephone conversation.	
Isiolo County Assembly speaker	Hon Hussein Halake Roba 10 Elected MCAs 7 Nominated MCAs	County Assembly of Isiolo, P.O Box 195-60300 Isiolo.	Mobilisation of MCAs.	Project disclosure.	Workshop, e-mail, telephone conversation.	

		E-mail: info@assembly.isiolo.go.ke				
Garissa County Assembly speaker	Hon. Ahmed Ibrahim Abbas 30 Elected MCAs 18 Nominated MCAs	P.o Box 57 - 70100 E-mail: clerk@garissaassembly.go.ke	Mobilisation of MCAs.	Project disclosure.	Workshop, e-mail, telephone conversation.	
Lamu County Assembly speaker	Hon. Mohamed Hashim Salim 10 Elected MCAs 10 Nominated MCAs	lamuassembly@gmail.com	Mobilisation of MCAs.	Project disclosure.	Workshop, e-mail, telephone conversation.	
Pate Island	Manager Nadhir Mohamed	Faza and Kizingitini divisions, P.o Box 80501-7 Faza Tel: 0722 276 088 E-mail: Nadhirhashim2013@gmail.com	Potential project impacts on the island.	Project disclosure.	Workshop, e-mail, telephone conversation.	
Save Lamu	Chairman Mohamed Abubakar	P.O. Box 314-80500, Lamu Tel: +254 (0)717-142-394 E-mail: info(a)savelamu.org	Conservation of the Lamu ecosystem.	Public disclosure of LLCOP.	Workshop, e-mail, telephone conversation.	
Lamu Youth Alliance	Walid Ahmed Ali Chairman	55 Lamu, Kenya 80500 +254 42 4633169 www.lamuyouthalliance.org	Interests in Youth and conservation.	Public disclosure of LLCOP.	Workshop, e-mail, telephone conversation.	
Lamu East Visiwani Community		lamuvisiwani@gmail.com	Human rights.	Public disclosure of LLCOP.	Workshop, e-mail, telephone conversation.	

Organisation (LEVCO)						
Workshop, village barazas, e-mail, telephone conversation						
Council of Elders						
Farmers Association						
Pastoralists						
Fishermen and traders						

golder.com

ANNEX 2

Relevant extracts from the Joint Development Agreement for LLCOP.

Execution Version

THE GOVERNMENT OF THE REPUBLIC OF KENYA

TULLOW KENYA B.V.

AFRICA OIL TURKANA LIMITED

AFRICA OIL KENYA B.V.

MAERSK OIL EXPLORATION INTERNATIONAL K2 LTD

MAERSK OIL EXPLORATION INTERNATIONAL K3 LTD

JOINT DEVELOPMENT AGREEMENT

relating to the Lokichar-Lamu Crude Oil Export Pipeline Project

five (5) Business Days of receipt of the resolution from the PSB Secretary or else give written notice to the PSB Secretary stating their objection to its terms.

6.12 **Limitation on Authority**

Notwithstanding anything contained or implied in this Agreement to the contrary, the PSB shall have no authority to amend the terms of this Agreement, or waive any Party's compliance with the provisions of this Agreement.

7 Pipeline Project Management Team

7.1 Establishment of PPMT

In order to carry out the day-to-day operation of the Project Activities, there shall be established a Pipeline Project Management Team (the "**PPMT**"), in accordance with this Clause 7.

7.2 Project Activities

The PPMT shall be responsible for carrying out the activities as deemed reasonably necessary by the PSB to progress the implementation of the Pipeline Project, including the following (the "**Project Activities**"):

7.2.1 maintain accurate books and records in relation to the Project Account in accordance with Clause 10.5;

7.2.2 prepare calendar year Work Programmes and Budgets in accordance with Clause 10.6 for the approval of the PSB in accordance with Clause 6.5;

7.2.3 conduct all necessary activities in preparation for FEED (such activities, "**FEED Definition**");

7.2.4 procure and manage completion of the Front-End Engineering and Design of the Pipeline Project (the "**FEED**") (adopting the lists of Shortlisted Companies and subject to approval of the Procurement Plan and award of the FEED Contract by the PSB in accordance with Clause 6.5.1);

7.2.5 procure and manage completion of the Environmental and Social Impact Assessment for the Pipeline Project (the "**ESIA**") (adopting the lists of Shortlisted Companies and subject to approval of the Procurement Plan and award of the ESIA Contract by the PSB in accordance with Clause 6.5.2) and submit the completed ESIA for approval to the relevant State Authority;

7.2.6 identify all necessary Consents for the Pipeline Project and thereafter develop a programme for obtaining such Consents (including the involvement of the GOK and relevant State Authorities);

7.2.7 develop appropriate contracting and procurement strategy and standards for the Pipeline Project in accordance with Clause 9.1.2 and 9.1.3;

7.2.8 support the development of the Financing and Funding Plan by the CWG; and

7.2.9 issue and manage completion of the EPC Tender and the O&M Tender and the negotiation of the EPC Contract(s) and O&M Contract(s),

in each case under the supervision of and in accordance with any instructions given by the PSB and in compliance with applicable Laws.

Signature Page

SIGNED by Hon. Charles Keter EGH

for and on behalf of
THE GOVERNMENT OF THE REPUBLIC OF KENYA

Title: CABINET SECRETARY - ENERGY AND PETROLEUM

Witnessed by:

ANDREW N. KAMAU CBS
PRINCIPAL SECRETARY - STATE DEPARTMENT-PETROLEUM

Date: 24-10-2017

SIGNED by Martin Mbogo

for and on behalf of
TULLOW KENYA B.V.

Title: Country Manager

Witnessed by:

FRANKLIN W. JUMA
ADVOCATE, NOTARY PUBLIC
COMMISSIONER FOR OATHS
P. O. Box 12247 - 00100
NAIROBI

Date: 24-10-2017

SIGNED by Eng. Donald Mahaga

for and on behalf of
AFRICA OIL KENYA B.V.

Title: General Manager

Witnessed by:

FRANKLIN W. JUMA
ADVOCATE, NOTARY PUBLIC
COMMISSIONER FOR OATHS
P. O. Box 12247 - 00100
NAIROBI

Date: 24-10-2017

SIGNED by Eng. Donald Mahaga

for and on behalf of
AFRICA OIL TURKANA LIMITED

Title: General Manager

Witnessed by:

Date: 24-10-2017

FRANKLIN W. JUMA
ADVOCATE, NOTARY PUBLIC
COMMISSIONER FOR OATHS
P. O. Box 12247 - 00100
NAIROBI

SIGNED by Purity Karau

for and on behalf of
MAERSK OIL EXPLORATION INTERNATIONAL K3 LTD

Title: In-Country Manager

Witnessed by:

Date: 24-10-2017

FRANKLIN W. JUMA
ADVOCATE, NOTARY PUBLIC
COMMISSIONER FOR OATHS
P. O. Box 12247 - 00100
NAIROBI

SIGNED by Purity Karau

for and on behalf of
MAERSK OIL EXPLORATION INTERNATIONAL K2 LTD

Title: In-Country Manager

Witnessed by:

Date: 24-10-2017

FRANKLIN W. JUMA
ADVOCATE, NOTARY PUBLIC
COMMISSIONER FOR OATHS
P. O. Box 12247 - 00100
NAIROBI

golder.com

www.esfconsultants.org