

### INTEGRATING BIODIVERSITY CONSIDERATIONS IN LANDSCAPE-SCALE INFRASTRUCTURE PLANNING

RAPID RISK ASSESSMENT (RRA) OF THE LOKIHAR LAMU CRUDE OIL PIPELINE (LLCOP) - KENYA

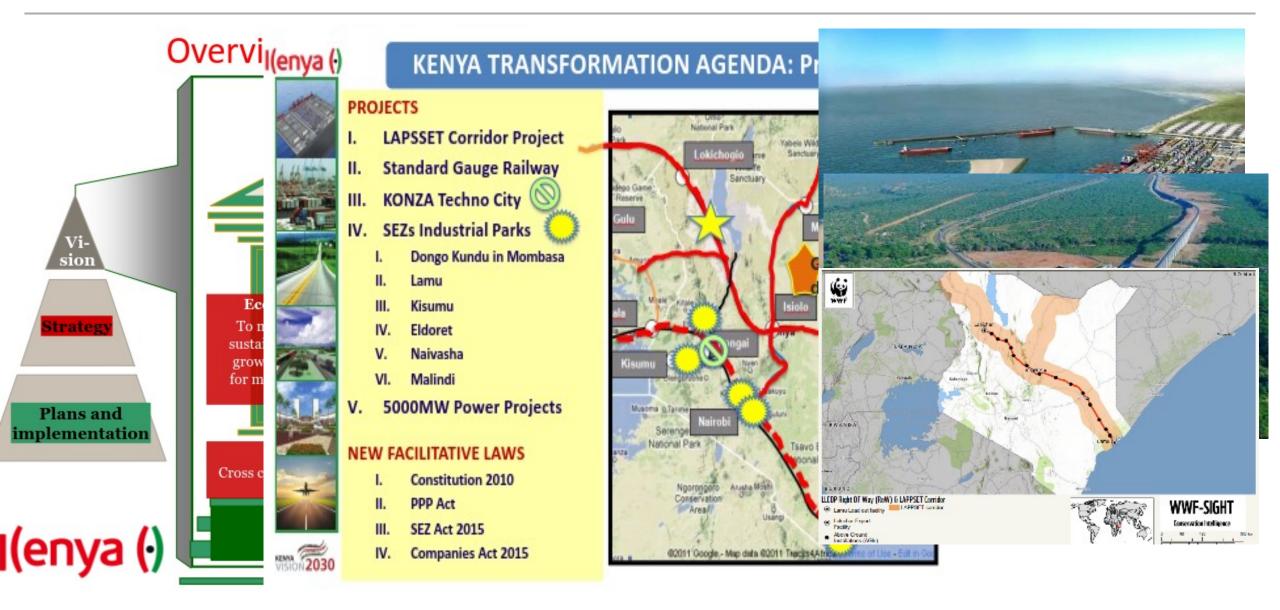
Sustainable Infrastructure Training (30 Nov - 8 Dec 2021)

Presented by:

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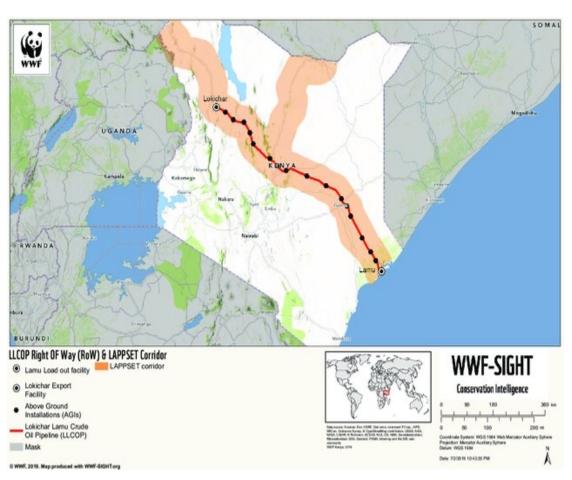
## **Current Status of LAPSSET Infrastructure Project**





### The Challenge





- Oil and gas exploration in Kenya began in the 1950s but only since 2012 that commercially viable quantities of oil were discovered in Turkana.
- In October 2017, the Government of Kenya, Tullow Oil, Africa Oil and Maersk Oil, signed a Joint Development Study Agreement (JDA)
- The proposed Lokichar Lamu Crude Oil Pipeline (LLCOP) stretches some 892 Km connecting the Lokichar oil fields in northern Kenya to Lamu seaport in the south.
- The pipeline cuts through forests, savannas, rivers, conservation areas, community areas
- Construction Phase requires massive excavation, water for Testing
- LLCOP includes **16 Above Ground Installations (AGIs)** and Lamu port terminal with a storage facility (1.5 million barrels capacity)
- The most recent construction cost of the pipeline has been estimated at **US\$3.1 billion (KSh113 billion)**
- An ESIA scoping report done August 2018 and draft ESIA done end of 2019 for public consultation as provided in law.





Hypothetically, what are the possible potential threats or challenges presented by the pipeline project?

### **RRA Methodology**

 Build a Partnership with Civil Society – The Oil Working Group

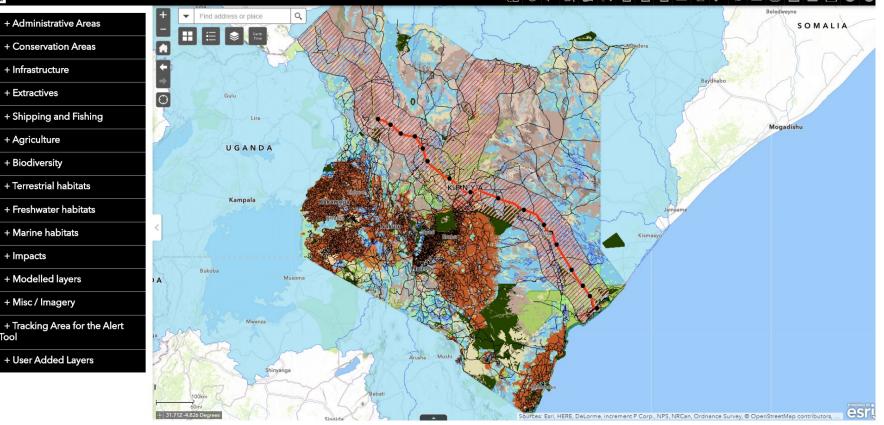
### Stage 1: GIS overlap analysis of the LLCOP agains

- Important Biodiversity and Natural Habitats (e.g. Provide areas and conservancies, IUC WWF-SIGHT 3.0
   Visit our website for more information
   Protected areas, etc.)
- Wildlife habitats and corridors Wildlife corridors: KWS, 2017, of the Last of the Wild, etc,)
- Water Resources: (e.g. Major basins, Wetlands, etc)
- Marine coastal ecosystem: (e. Significant Marine Areas (EBS)
- Local Socio economy: (e.g. Hc
   Population density, Land cove

### Stage 2: Focus group discussi

Stage 3: Risk analysis / matrix

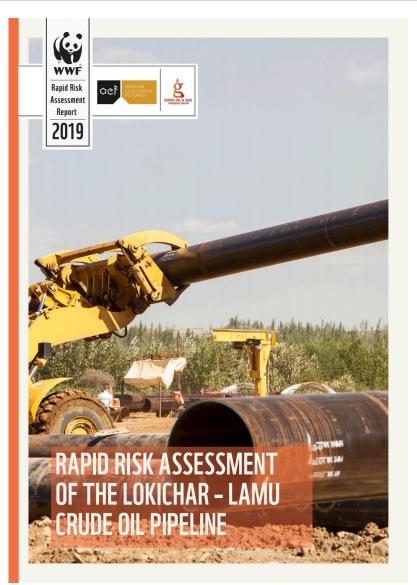




Key Findings



- The pipeline is set to cross two protected areas, Rahole (IUCN Category VI) and Nyambene (IUCN Category 'Not reported') in Garissa and Meru Counties respectively over a total length of 30.87 km
- The pipeline is also set to cross six conservancies (i.e. Community Nature Reserves) in the Lamu, Isiolo and Samburu Counties for 118.37 km (13.3 % of the pipeline length).
- The pipeline is also set to cross two Key Biodiversity Areas (KBAs), Lunghi and Matthews Range in the Lamu and Samburu counties respectively
- The pipeline crosses several important areas for wildlife, notably African lions (*Panthera leo*) (intersecting 193.62 km of their range, 21,7 % of the pipeline length), significantly crossing habitat for Grevy zebra (Equus grevyi), Hirola (Beatragus hunter), Gerenuk (*Litocranius walleri*) and many others.
- **Three major rivers will be intersected**, namely Kalabata and Endo rivers in Turkana County (near Lokichar) and the Ewaso Ngiro which separates the Samburu and Isiolo region and is a permanent tributary to the Jubba River.
- Marine and coastal ecosystem will mostly likely be impacted. The pipeline will terminate at the Lamu Marine Terminal, the port requires significant construction works and also poses a long-term oil spill risk in an area rich in sensitive marine habitats such as mangroves, coral reefs and seagrass.



### **Risk analysis / Matrix**



Environmental assets	Stage 2: Construction phase	Stage 3: Operation phase	Stage 4: Decommissioning phase
Important Biodiversity and Natural Habitats	Moderate or medium threat: excavation and movement of sediment for installing the pipeline could lead to disturbance over 175,66 Km of Important Biodiversity and Natural Habitats include .	<ul> <li>Significant or high threat:         <ul> <li>a) unregulated developments             of associated infrastructure             (roads, markets, etc.) within             conservancies and protected             could lead to lasting changes                 to these areas,             b) increase in shifting             agriculture, charcoal             production and poaching</li> </ul> </li> </ul>	Marginal or low threat: considering the pipeline is left in place, cleaned inside and disconnected from the system and segmented where necessary.
Wildlife corridor and habitats	Moderate or medium threat: excavation of sediments and noise could lead to disturbance over hundreds of km of wildlife habitats as well as corridors.	<ul> <li>Significant or high threat:         <ul> <li>a) unregulated developments             of associated infrastructure             (roads, markets, etc.) within             conservancies and protected             could lead to lasting changes                 to these areas,             b) increase in shifting             agriculture, charcoal             production and poaching</li> </ul> </li> </ul>	Marginal or low threat: considering the pipeline is left in place, cleaned inside and disconnected from the system and segmented where necessary.



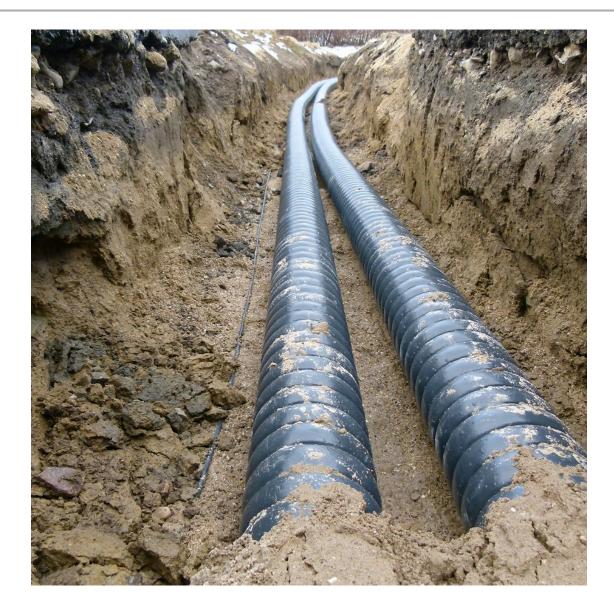


# Based on the findings, propose potential solutions to potential environmental, social and economic challenges?

## **Top 5 Recommendations**



- I. Ensure that the Environmental and Social Impact Assessment (ESIA) follows a transparent and inclusive process, based on International Best Practices:
- II. Ensure implementation of the Environmental & Social Management Plan to address impacts from the LLCOP:
- III. Follow existing Strategic Environmental Assessments (SEA) and development plans for the LAPPSET corridor:
- IV. Community safety and health should be prioritised: construction and operation of the pipeline could have serious implications for local communities.
- V. Respect Land tenure and human rights at all times



### WWF and CSO engagement





### Impact



The Lokichar to Lamu crude oil pipeline is **No longer** planned to pass through two important areas of concern.

The project developer changes the routing of the pipeline, something that WWF and partners advocated for.

The report **has been returned** to the proponent to address biodiversity concerns.







#### **Co-authors**

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## THANK YOU