The Oil and Gas Exploration in the Albertine Rift and **environmental safeguards**

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Dr Tom O. Okurut
Executive Director, NEMA
OUTLINE OF THE PRESENTATION

- Background: env mgt and the AG
- Legal and institutional frameworks
- Technical preparedness
  - Issues and concerns
NEMA was mandated by the Uganda constitution (NEA Cap 153) in 1995 to; coordinate, supervise, monitor and supervise all matters of the environment in Uganda.

Essentially to regulate the interaction between people and the environment. This process in Uganda is decentralized, thus the need for coordination and supervision of stakeholders.
Background to the Albertine Graben (AG)

The AG (Arua-Kanungu) is the most important eco region in Africa as it hosts the continent's most endemic vertebrate species i.e.;

- 14% of all African reptiles
- 19% of all African amphibians
- 35% of African butterflies
- 52% of all African birds
- 39% of all African mammals
- 70% of all Ugandan Protected areas are in the Graben
EA3 RHINO CAMP BASIN
- Size: 6,040 sq.km
- Licensed to Neptune Petroleum (U) Ltd (Now Tower Resources) on 27th Sept 2005

EA1 PAKWACH BASIN
- Size: 4,285 sq.km
- Licensed to Heritage Oil and Gas Ltd and Energy Africa (now Tullow Oil) on 1st July 2004

EA5 RHINO CAMP BASIN
- Size: 6,040 sq.km
- Licensed to Neptune Petroleum (U) Ltd (Now Tower Resources) on 27th Sept 2005

EA3A SEMLIKI BASIN
- Size: 1,991 sq.km
- First licensed to Heritage Oil and Gas Ltd as part of EA3 on 15th January 1997
- Re-licensed to Heritage Oil and Gas Ltd and Energy Africa (now Tullow Oil) on 8th September 2004

EA4B LAKES EDWARD-GEORGE BASIN
- Size: 3,812 sq.km
- Not Licensed

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- Size: 3,812 sq.km
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EA4B LAKES EDWARD-GEORGE BASIN
- Size: 2,021 sq.km
- Licensed to Dominion Petroleum Ltd on 27th July 2007

EA3B SEMLIKI BASIN
- Size: 1,786 sq.km
- Includes Turaco Prospect Area
- Not licensed

EA4A LAKES EDWARD-GEORGE BASIN
- Size: 3,812 sq.km
- Not Licensed

EA4B LAKES EDWARD-GEORGE BASIN
- Size: 2,021 sq.km
- Licensed to Dominion Petroleum Ltd on 27th July 2007

EA2 LAKE ALBERT BASIN
- Size: 4,675 sq.km
- Licensed to Hardman Resources Ltd and Energy Africa Ltd (now Tullow Oil) on 8th October 2004

EA1 PAKWACH BASIN
- Size: 4,285 sq.km
- Licensed to Heritage Oil and Gas Ltd and Energy Africa (now Tullow Oil) on 1st July 2004

East Madi Wildlife Reserve
Murchison Falls National Park
Kabwoya Wildlife Reserve
Semuliki National Park
Rwenzori Mountains National Park
Kibale National Park
Queen Elizabeth NP
Some of the tourist attractions (vertebrates) in the AG
INSTITUTIONAL FRAMEWORK FOR THE MANAGEMENT OF ENVIRONMENTAL ASPECTS OF OIL & GAS
The Framework

- The current framework for management of oil & gas resource is under a programme called: “Strengthening the management of oil & gas in Uganda”.
- The Framework has 3 pillars:
  - Resource management (PEPD),
  - Revenue Management (MFPED, BOU & URA)
  - Environment Management (NEMA)
Environmental Management Pillar

The objective of the Environment Management pillar is:

- To contribute towards ensuring that oil/gas activities are undertaken in a sustainable manner by strengthening the capacity of the other stakeholders and overseeing the activities of other players in the petroleum industry in accordance with Uganda’s environmental policies.

NEMA is the coordinator of the Pillar by virtue of its legal mandate as the principal agency for environmental management in Uganda.
Other partner institutions include:
- Uganda Wildlife Authority
- Directorate of Water Resources Management
- National Forestry Authority
- Directorate of Environmental Affairs
- Directorate of Physical Planning and Land use
- The Department of Fisheries Resources
- Districts in the Albertine Graben

These institutions work with other relevant institutions and organisations
PREPAREDNESS FOR ENVIRONMENTAL MANAGEMENT IN THE GRABEN

- To Manage any system one must be able to measure, measure, measure!! (*Haul brook 78*)

- **NEMA and partners have developed several tools for measuring environmental trends in the AG**

- Natural Resources exploitation can only be sustainable if there is an effective legal regime (*Chan, 97*)

- The review of NEA and attendant regulations has commenced and New Bills before Parliament
(a) Environmental Sensitivity Atlas for Albertine Graben

i. The sensitivity atlas has been developed and shows the general environmental sensitivity of the Albertine Graben.

ii. Sensitivity issues assessed include biological resources, water resources, cultural sites, forests, wetlands, soils, settlements

iii. The information in the sensitivity atlas is the first baseline study undertaken for the Graben & forms the basis for monitoring (measuring change).
Examples: Environmental Sensitivity

(a) The sensitivity of biodiversity is categorized in terms of endemism and threatened species, or on species richness, among other categories.

(b) The sensitivity atlas for example identifies the following sensitivities:

- **Sensitivity of Mammals** to vibrations from seismic survey, movement of heavy equipment & the drilling activity.

- **Sensitivity of fisheries resources** to high frequency noise from petroleum development activities; oil spills, & pollution from hydrocarbon compounds and chemicals from mud cuttings.
Sensitivity of plants due to clearing of sites thereby causing disturbance of vegetation; oil spills and pollution.

Sensitivity of wetlands due to exposure to potential threats of excessive water abstraction, degradation of water catchments and wetland conversions.

Sensitivity of water resources (surface & groundwater) – effects on quantity and quality e.g. the delta region (richest in diversity with highest oil prospects)

Sensitivity of soils – soil is prone to erosion due to improper land cover management & the erosive factor of rainfall
(b) Environmental Monitoring Plan (EMP) for the Graben, 2012

i. The EMP is a tool developed to be used for continuous monitoring of changes in the environment of the Graben against sensitivities identified in the atlas.

ii. It is a tool to be used by all the institutions highlighted earlier.

iii. The use of the EMP is expected to:
   - Improve performance of lead agencies.
   - Improve compliance levels.
   - Enhance institutional collaboration.
   - Encourage stakeholder participation in compliance monitoring.
   - Enhance national capacity to assess, predict and mitigate likely effects of Oil and Gas activities on environment.
The EMP is structured along 5 thematic areas:

1. Aquatic ecological issues
2. Terrestrial ecological issues
3. Physical/chemical issues
4. Society issues
5. Management and business issues

• For each of these themes, specific institutions are charged with the responsibility of undertaking the monitoring & reporting
To date the EMP has been tested and following specific actions undertaken:

i. Data gaps in the sensitivity atlas have been identified for each of the themes & data filling initiated for the baseline.

ii. Monitoring indicators for each theme have been developed, prioritized & tested.

iii. Monitoring manuals have been developed & are ready for use.
As required by the National Environment Act Cap 153, all ongoing oil & gas exploration activities have been subjected to Environmental Impact Assessment and approval granted by NEMA;

- Multi-sectoral monitoring team (executive, technical & field-based) was put in place to carry out quarterly monitoring & has representation from:
  - NEMA, UWA, PEPD, NFA, DWRM, FD, DEA, DOSH
(c) Environmental Compliance and Monitoring Strategy
This strategy has been prepared to respond to persistent challenges affecting institutional performance in achieving higher levels of enforcement and compliance.

(d) Capacity Needs Assessment
This has been carried out for the critical institutions managing the environmental aspects of oil and gas. This study has identified the manpower, skills gaps and logistical needs of the institutions their monitoring mandates with respect to oil and gas.
Tools for Measurement prepared -4; compliance and Enforcement Activities

(e) Waste Management Guidelines; NEMA has issued Interim Guidelines for oil Waste Management to oil companies and lead agencies for guidance on how the existing wastes should be handled and disposed off. The guidelines are informed by the results from the extensive studies and laboratory analysis of the waste so far generated from the Oil and Gas activities.

(f) Environment Impact Assessment (EIA); One of the key functions of NEMA is to review and approve environmental impact assessments (EIS) and environmental assessment (EA) in accordance NEA Act Cap 153 and the Environment Impact Assessment regulations 1998. All the Oil and Gas AG activities have been subject to environmental impact assessments.
(g) A strategic Environmental Assessment (SEA) is being carried out for the Albertine Graben, to be completed by December 2012; the objective of SEA is to ensure that environmental issues are broadly considered & integrated into major decisions connected to policy, plans & programs associated with the oil & gas sector at the earliest stage.

(i) An oil spill contingency plan is being developed, to be ready by December 2012; The plan will define a structure, strategy and response approach to an oil spill anywhere in the AG. The contingency plan will be closely linked to the Lake Victoria Oil Spill and toxic chemical contingency plan developed by the LVBC
LEGAL PREPAREDNESS
Legal Regime Review -1

- The 1st Operational Waste Management Guidelines have been issued to guide on most appropriate waste disposal methods - June 2012.

- The Guidelines are framed on the need to:
  i. Consider environmental and economic costs & benefits
  ii. Minimize waste spillage.
  iii. Respond to waste characteristics determined to date.
  iv. Meet the current world practices for managing exploration & production of oil waste
  v. Monitor any impact to ground water at any of the consolidation sites
  vi. Apply current National Environment (Waste Management) Regulations
The Review of the following legislation has been initiated so as to bring in them the aspects of oil and gas. The review is slated for completion by March 2013.

i. National Environmental Act Cap. 153


vii. National Air Quality standards (NAQS)

viii. Draft Oil Spills Regulations and Guidelines
(i) NEMA was requested to provide input to the Petroleum bill during the drafting process by the Ministry of Energy; this input was provided and got reflected in the outcome draft Bills.

(ii) The Parliamentary Committees of legal Affairs and for Natural Resources requested NEMA to provide comments into the draft Petroleum bills and specifically respond to issues raised during their public consultation and scrutiny stages; this was done.
Specific Activities undertaken by NEMA:

(i) Subjected ALL current oil and gas activities by the companies to Environmental Impact and Social Assessment

(ii) Carried out on site inspections on the operations of the companies included decommissioning and restoration

(iii) Opened a temporal field Office in the Albertine Graben in January 2010 one staff;

(iv) Recruited 2 temporary staff to specifically handle oil & gas activities, to be based in the field;

(v) Sought for funding specific to environment from government and partners
PROGRESS MADE BY OTHER ENVIRONMENT PILLAR INSTITUTIONS
UWA has prepared draft **General Management Plan** for Queen Elizabeth National Park and Murchison Falls National Park that incorporates oil & gas issues;

NFA has also prepared **A forest Management Plan** for Maramagambo Central Forest Reserve;

*Fisheries frame surveys* on Lake Albert & Albert Nile to establish fisheries baseline have been carried by the Fisheries Department

**Physical Planning** in areas facing intense pressure from oil and gas has been initiated by the MLHUD

DWRMD spearheaded the preparation of the **Compliance monitoring strategy** and doing the same for **Oil spill contingency plan** under development.
Conclusion

(i) The environmental perspectives in the AB are well understood

(ii) Tools for Mitigating any outfall on environment are nearly all developed

(iii) The country’s environmental preparedness in the AB can be good and will get better with time
Thank you