



BIODIVERSITY ADVISORY PANEL
SOUTH LOKICHAR PROJECT

Report of Panel Meeting

APRIL 2018

Contents

- 1 Background 3
- 2 Summary of Meeting of the Biodiversity Advisory Panel 3
 - 2.1 Compliance with IFC Performance Standard 6 3
 - 2.1.1 Habitat Classification Procedure 3
 - 2.1.2 No Net Loss Requirements and Biodiversity Offset Planning 4
 - 2.1.3 Project Performance against the Letter and Spirit of IFC PS6 4
 - 2.1.4 Key Impacts on Biodiversity (ESIA) 4
 - 2.2 Identification of Impacts and Management of Risks 5
 - 2.2.1 Use of Best Available Information 5
 - 2.2.2 Has Baseline Data Collection Been Effective? 5
 - 2.2.3 Stakeholder Engagement Related to Biodiversity 5
 - 2.2.4 Effectiveness of the Existing Site Specific Assessment Process 5
 - 2.2.5 Has all Key Information Related to Regional Issues and Trends Been Captured? 6
 - 2.3 Mitigation of Impacts 6
 - 2.3.1 Site Rehabilitation 6
 - 2.3.2 Pastureland Management 6
 - 2.3.3 Integration of livelihoods management with biodiversity assessment and management 6
 - 2.3.4 Biodiversity Monitoring Programme 6
 - 2.4 Any Other Business 6
- Attachment A – Terms of Reference of the Biodiversity Advisory Panel 8
- Attachment B – Members of the Biodiversity Advisory Panel 13

1 Background

In accordance with the Environmental and Social Action Plan agreed between Africa Oil Corp (AOC) and the International Finance Corporation (IFC), AOC has established a Biodiversity Advisory Panel to review its activities in the South Lokichar Basin and to provide commentary and advice on work to manage biodiversity impacts in line with the requirements and intent of IFC Performance Standard 6.

A copy of the Terms of Reference of the Biodiversity Advisory Panel, together with a summary of Panel members is attached.

1.1 First Panel Meeting

The first meeting of the AOC Biodiversity Advisory Panel was held during the week commencing 9 April 2018. As this was the inaugural meeting, a training day was held to provide Panel members with background information on the oil and gas industry, the IFC Performance Standards and emphasis on IFC Performance Standard 6.

The agenda for the meeting was as follows:

- Monday 9 April – “Training Day” on the oil & gas industry, IFC Performance Standards and Performance Standard 6
- Tuesday 10 April – Briefing on Tullow Kenya BV, the South Lokichar Project and biodiversity activities
- Wednesday 11 April – Field visit to South Lokichar
- Thursday 12 April – Meeting of the Biodiversity Advisory Panel.

2 Summary of Meeting of the Biodiversity Advisory Panel

The Panel addressed three key topics during its meeting:

- Compliance with IFC Performance Standard 6;
- Effectiveness of the process for identification of biodiversity impacts and the management of associated biodiversity-related risks;
- Effectiveness of existing and planned mitigations to potential biodiversity impacts.

A summary of the key points raised is set out below.

2.1 Compliance with IFC Performance Standard 6

2.1.1 *Habitat Classification Procedure*

- The procedure developed to assess and classify habitat into natural and modified habitat was discussed and considered to be fit for purpose. It was noted that there is no clear delineation from one habitat type to another, and in reality it is perhaps a degradation continuum.
- With regard to critical habitat, it was considered possible that further data and information may change the status of critical habitat species present within the Project Area. For instances a species that is of least concern today can change to an endangered species sometimes later in the lifespan of the project based on the continuous update of the IUCN species red data list (Vultures were mentioned as an example of species whose protection status changed from near threatened to critically endangered in 2015). As a result, the KJV needs to ensure that its management systems, procedures and mitigations are able to respond and adapt to changing information.
- It was noted that the fringes of laggas have been identified as potential areas of critical habitat and that long-term measures need to be put in place to monitor biodiversity in project operation sites and the surrounding. Also keep in mind where the well pads are sited may affect the water of the laggas over time and this will need to be monitored to ensure that any interactions

between laggas and well pads can be mitigated. Due to such anticipation a risk-based planning and monitoring process should be used to anticipate impacts and potential changes in laggas channels.

- Laggas have been identified as critical habitats and therefore there is need to put measures in place to manage the risks for the long term.
- Future well pads siting studies (site specific assessments) should include an assessment of feasible alternative location and layouts to ensure that impacts to sensitive habitat are managed in accordance with the mitigation hierarchy. The issue of habitat connectivity also needs to be considered as part of this process.

2.1.2 No Net Loss Requirements and Biodiversity Offset Planning

- Offsets were seen as an important concept, but there was concern expressed about the practical realities of such long-term processes which would require sustained community buy-in and support to have a chance of being effective. As a result, there is a need to ensure that all site rehabilitation and monitoring activities are undertaken in coordination with all stakeholders, especially local communities and the county government. This will ensure sustainability even when Tullow wind up its activities.
- It was suggested that rehabilitated areas could be given special status as community conserved areas if there were special biodiversity values to the area.
- The practical difficulties of establishing such measures without them being perceived by stakeholders as some form of inappropriate financial inducement was also raised.
- It was suggested that it may be more effective in terms of biodiversity conservation not to focus on biodiversity offsetting and the associated expensive quantification activities required, due to the currently degraded nature of the area due to livestock over-stocking and over-grazing. Instead, resources should be focused on culturally acceptable interventions such as pastureland management and animal husbandry activities. These would seek to improve the quality of livestock while educating pastoralists in sustainable pastureland management techniques and livelihood diversification to reduce the impact of overgrazing on biodiversity and the alternative sources of livelihoods such as beekeeping. Honey gatherers were found to practice crude harvesting of stingless bees honey by felling down the host trees.
- Due to the extensive nature of the landscape, any offset activities should be focused on a whole landscape approach, with associated biodiversity and the wider community rather than a narrow focus around well pad sites (i.e. pastureland management activities, rather than detailed quantification of lagga fringes). This will require sensitization and awareness creation on the impact of stocking levels on rangeland productivity, hence, introducing concepts of livestock management and maintaining ecosystem services.
- It was suggested that siting of well pads and all other project infrastructure will consider critical habitat in the project area from an ecosystem context and manage impacts in line with the mitigation hierarchy with a view to enhance biodiversity conservation

2.1.3 Project Performance against the Letter and Spirit of IFC PS6

- The Panel considered that the Project was performing well to comply with both the letter and spirit of IFC PS6.

2.1.4 Key Impacts on Biodiversity (ESIA)

At the request of the in-field biodiversity management team, the Panel considered the key impacts on biodiversity that they considered may arise due to the Project. Impacts identified included the following (in no specific order):

- Habitat fragmentation and modification
- Increased presence and/or introduction of alien invasive species
- Blockage of migratory pathways
- Secondary Impacts such as increased populations levels such as increased poaching/hunting, poisoning of wildlife that conflict with human habitation

- Displacement and/or avoidance of habitat by sensitive species
- Increased poaching/hunting
- Biodiversity/habitats loss during well pad construction
- Vegetation/biodiversity loss as population pressures lead to increased charcoal demand
- Loss of ecosystem services (grazing areas, medicinal plants)
- Environmental pollution (air, dust, waste etc)
- Increased population will increase urbanisation leading to changes in plant cover and changes in land tenure, reducing biodiversity
- Increased competition for scarce water resources
- Improved transport access will open up the area, leading to changes in land use, household income, population density etc
- Increased soil erosion and site specific soil structure alteration
- Assessment and monitoring activities will increase knowledge about the area, conservation planning, habitat restoration programs
- Spread of wildlife diseases
- Surface water management activities (water catchment ponds, irrigation schemes etc) may increase biodiversity and its associated ecosystem services.
- Employment and provision of alternative livelihoods through the project might reduce pressure on the rangelands especially to the younger generation in the long run. This can yield significant impact if it is coupled with capacity building on improved livestock production and low stocking rates

2.2 Identification of Impacts and Management of Risks

2.2.1 Use of Best Available Information

- It was considered that the Project was using an appropriate range of information to prepare its baseline assessment and to plan its ongoing operations. However, it was suggested that the Project ensure that it develops adequate information on regional trends across Turkana County and that long-term meteorological data and projections have been used to consider the viability of the Project over the proposed lifetime of the Project. Suggested sources of information include biodiversity inventory of Lotikipi (available at KWS), Kenya Meteorological department.

2.2.2 Has Baseline Data Collection Been Effective?

- The Panel considered that baseline data had been collected on a systematic basis and provided representative information.
- It was suggested that the Project should record and tap into local knowledge held by local communities.

2.2.3 Stakeholder Engagement Related to Biodiversity

- While it was recognised that a significant amount of stakeholder engagement had been undertaken, it was questioned whether the fullest range of stakeholders had been identified and engaged as part of the biodiversity key informant interview process. Additional information may be available from NMK, KWS and KFS.

2.2.4 Effectiveness of the Existing Site Specific Assessment Process

- The Site Specific Assessment process used by the Project for the detailed siting of well pads was considered to be effective.

2.2.5 *Has all Key Information Related to Regional Issues and Trends Been Captured?*

- In terms of regional trends that may impact on biodiversity, the Panel raised the issues of the national movement/expansion of invasive species and also the high fertility rate in Turkana County.
- It was also recommended to consider getting information especially on population trends from KNBS.

2.3 Mitigation of Impacts

2.3.1 *Site Rehabilitation*

- It was considered that site rehabilitation has been undertaken effectively.
- It was suggested that fences should be left in situ for up to two years to allow natural plant succession prior to removal of the fence. It was envisaged that this may have implications related to land tenure and permitting and would need to be coordinated with the County government, local communities and NEMA.

2.3.2 *Pastureland Management*

- See point 1.2 above

2.3.3 *Integration of livelihoods management with biodiversity assessment and management*

- It was recommended to consider how to integrate project activities with those of Turkana County Integrated Development Plan.
- It was also recommended that involvement with quarterly meeting of the County Environment Committee may be an appropriate vehicle to coordinate with the County government
- The community resource centre is a strategic initiative by the project to share information with the local community and this should widen its scope to include biodiversity information.
- The Fodder crop irrigation farming need to explore growing indigenous grasses for seed production after which the seeds will be used for reseeding the rangelands for pasture improvement
- Frequent droughts and associated water scarcity in the project area are a major limiting factor to the rangeland productivity and rehabilitation/improvement initiatives

2.3.4 *Biodiversity Monitoring Programme*

- It was considered that short, medium and long-term monitoring indicators would be required.
- It was considered that a risk-based approach assessment and management of Project operations would be appropriate.
- It was considered that the availability and quality of ecosystem services could be used as an environmental indicator.
- It was considered that seasonal species monitoring of migratory species (such as birds) and threatened species such as pollinators (e.g. bees) should be considered.
- It was considered that an underground storage tank, water pans or similar communal resource to collect storm water for the community, may be worth considering by the Project. (Storm water harvesting in general is recommended but this is not without challenges because of the erratic nature of rainfall in the project area and prolonged drought periods)

2.4 Any Other Business

- The Panel stated that it was impressed by the work of the Project and the effort undertaken to go beyond compliance towards best practice.
- The Panel requested regular updates on Project progress.

- For effective biodiversity assessment/monitoring, the panel would appreciate detailed fauna and flora checklists.
- The Panel raised the issue of water resources as a major issue that will need to be addressed from a biodiversity perspective.
- There is need to document the nesting densities/diversity of feral honeybee colonies (e.g. stingless bees) and their nesting sites (ground/trees).

Attachment A – Terms of Reference of the Biodiversity Advisory Panel

Context

Africa Oil Kenya, Tullow Oil Kenya and Maersk Oil are in a Joint Venture partnership in Kenya (hereafter referred to as “the KJV”) licensed to operate in Blocks 10BB, 13T and 10BA in Turkana County (“the Project”). The KJV has drilled several exploration and appraisal wells in the project area. In addition engineering studies and contracting activities are underway in preparation for the start of FEED. The KJV and the government also continue to progress commercial and finance studies related to a crude oil export pipeline and preparations are under way for various related studies including ESIA and FEED.

The KJV operates in licence blocks that overlap with two natural World Heritage sites (Lake Turkana National Park and the Kenya Lake System in the Great Rift Valley) and a number of internationally and nationally designated protected areas (including IUCN Category II and IV sites) and key biodiversity areas (KBAs). The broader landscape ranges from desert to grasslands, savanna and shrub lands surrounding Lake Turkana. Outside the protected areas are high levels of grazing, farming and hunting which have resulted in extensive modified habitats.

Since the project area is located in a complex and sensitive landscape, the KJV pro-actively undertakes studies such as environmental and social impact assessments, critical habitat studies and site-specific assessments to inform the location, design and implementation of exploration and development activities in line with the mitigation hierarchy.

KJV seeks to ensure that the biodiversity of the project area is not adversely impacted by the presence of their activities. The KJV’s biodiversity objective is to create no net loss of biodiversity in natural habitat within the area of operation, and a net gain in areas of critical habitat. The aim is to reach this goal over the life of its activities and seek opportunities to achieve no net loss as early as practicable once the project is in operation. To achieve its goal, KJV commits to:

- Identify important biodiversity features (Priority Biodiversity Features) of relevance to the operation and the project-related threats to these biodiversity features.
- Apply the mitigation hierarchy to avoid, minimise and rehabilitate project-related impacts on biodiversity.
- Where needed, to develop a Biodiversity Offsets Plan and identify Additional Conservation Actions (ACAs) that will, over time, compensate for the residual impacts of the project on biodiversity the area of operation.
- Develop a Monitoring and Evaluation program which is capable of tracking KJV’s journey towards a no net loss position by quantifying the residual impacts (pressures) on biodiversity features, the state of biodiversity features and the adequacy of management responses.
- Facilitate the development, testing and implementation of tools to track and verify the project’s journey towards no net loss of biodiversity values.
- Seek to minimise the cumulative impacts of oil industry developments on biodiversity in the areas of operation.

To achieve no net loss of biodiversity values in natural habitats, KJV will use the mitigation hierarchy to reduce the impacts through:

- Avoiding any unnecessary damage as much as possible;
- Minimizing any unavoidable damage;
- Identifying and restoring damaged areas;
- And considering offsetting residual impacts if required, after the former actions have been implemented.

The KJV has committed to undertaking its activities in compliance with IFC Performance Standards and IFC is also an equity investor in Africa Oil. The creation of a Biodiversity Advisory Panel is a requirement of the environmental and social action plan agreed between IFC and Africa Oil.

Role of the Biodiversity Panel

The role of the Biodiversity Advisory Panel is to provide independent and objective advice to the KJV on the most appropriate approaches to adopt on the assessment and management of biodiversity to meet the KJV's biodiversity goals as stated in the Biodiversity Framework.

The Panel will assist the KJV with strategic guidance on the implementation of a Biodiversity Strategy. It will assist in reviewing and advising on KJV activities, plans and procedures including but not limited to:

- Assessment of progress against the KJV's goals of No Net Loss (in natural habitat) and Net Gain (in critical habitats);
- Advice on the operational assessment and management of biodiversity by the KJV;
- The Panel will be mandated to raise critical issues and report key successes to the KJV senior management.

Panel Activities

Panel activities will comprise:

- An bi-annual biodiversity review workshop, to be held in Kenya, to:
 - Review the current status of KJV activities related to biodiversity assessment and management;
 - Identify key biodiversity issues for consideration;
 - Discuss and review with KJV managers the current approaches being used to manage biodiversity issues;
 - Work with the KJV managers to provide recommendations for improvements or consideration of alternate approaches;
 - Provide advice and recommendations on alignment of the Project to IFC Performance Standards;
 - Provide advice and recommendations on the KJV Biodiversity Strategy and Biodiversity Management Plans, Biodiversity Monitoring Plan and Action Plan as and when developed;
 - Help to set milestones, targets and metrics to ensure the KJV is viewed as a regional leader in biodiversity management;
 - Provide advice on the eventual possible use, design and financing of Biodiversity Offsets or similar Additional Conservation Measures for long-term conservation in the project area;

- An annual field trip (as necessary) to review on the ground practices and procedures, and to visit current and proposed areas of operation.
- Providing other ad-hoc guidance and support to the KJV as may be requested by the KJV, or agreed with the KJV at the biodiversity review workshops.

Membership

Membership of the Panel is by the invitation of the KJV. Two types of Panel members will be invited:

Permanent advisory members:

- To form the majority of the Panel;
- The group will communicate in English;
- The group will advise on specific issues that impact on biodiversity and livelihoods for the Projects – as per 2.1
- All will attend as individual technical specialists selected for their knowledge of biodiversity issues relevant to Kenya; key conservation problems related to the landscape and/or experience of working in pragmatic outcome-based corporate partnerships.
- A representative of AOC will act as facilitator and secretariat for the Panel.

Invited specialist members:

- Individuals who have relevant local knowledge, and represent the KJV or other subject matter experts undertaking relevant Project work;
- Additional members or participants may be sought to provide further environmental or other expertise, as needed.

The membership period for the permanent advisory members will be three years after which membership can be extended at the discretion of AOC. AOC reserves the right to dissolve the Panel if circumstances arise in which it is no longer involved in the Project.

Qualifications for the Advisory members

- Minimum Master's Degree in Ecology, Environmental Management and Conservation, Biological Sciences and/or biodiversity related sciences.
- At least 7 years of practical experience in biodiversity sector.
- Work experience in Kenya as a leading member of the academic community or as a practitioner.

Mode of Operation

Guiding Principles

- Open and honest communication;
- Members will speak in an individual capacity, unless it is made clear that the member is speaking on behalf of an institution;
- Access to relevant environmental information from the KJV will be provided on the understanding that such information is treated as confidential (refer to Appendix A) and only for use in connection with the work of the Panel – any publishing of material outside the Panel will be subject to a clearly defined

approval process to be developed by the KJV partners in conjunction with the Permanent Advisory Members of the Panel;

- Information about the Panel and its processes will be made accessible to the public, subject to the same, above mentioned approval process.
- Panel members must not engage in activities or transactions which might give rise, or which may be seen to give rise, to conflict between the personal interests of the member and the KJV. Panel members must inform AOC immediately where inadvertent circumstances arise that may bring into question a situation of conflict of interest.

Meetings

- The Panel will physically meet twice per year at a minimum. Subject to approval of costs by AOC, the Panel may invite additional persons from all/either of the KJV parties to its meetings;
- The KJV will respond in a timely way to requests for information;
- The Panel will provide a statement of progress and action items after all meetings and other activities to the KJV;
- Meetings will be held either in Nairobi or in the field (area of operation) and will typically last for not more than three days. Site visits will be undertaken subject to approval of costs by AOC.

Agendas, Minutes & Reporting

- The KJV will make presentations about the current activities;
- Review of documents by the panel;
- Field trip to supplement information from presentations and documents if necessary and subject to prior approval by AOC;
- The Panel will provide independent advice and opinion based on the presentations, documents and field observations;
- Meeting notes will be prepared by the Secretariat. The draft notes will be circulated to Panel members for comments and corrections;
- The Panel will report to the KJV General Managers/Country Representatives and cc its findings to the respective Health, Safety & Environment (HSE) Managers, and ESG managers within the KJV.

Administration and Expenses

- The KJV will provide all the technical support required for the Panel to perform its defined role;
- Africa Oil will manage the process of meetings and act as the Secretariat;
- Panel meetings will be hosted by the KJV;
- Africa Oil will organise and make arrangements for all travel and accommodation requirements for the panel members prior to panel meetings and any logistical requirements for field visits;
- Should there be any third-party contractor requirements under the scope of the Panel's activity, Africa Oil is the only authorised contracting party. No individual member of the Panel is authorised to execute any third-party contract or act as agent for contracting parties under the scope of this activity;

- Costs associated with the Panel and its activities, all of which are subject to prior approval by AOC, will be to the account of AOC

Review

This document will be reviewed on a two-yearly basis. An interim version may be provisionally issued between meetings (e.g. in the event of a change of Panel Member), in which case, Panel approval will be confirmed and minuted at the next meeting.

For Africa Oil Kenya BV

Biodiversity Advisor Panel Member

Signed:

Signed:

Name:

Name:

Title:

Title:

Date:

Date:

Attachment B – Members of the Biodiversity Advisory Panel

	Name	Education Qualification	Organisation /Institution
1	Prof. Steven G. Njuguna	<ul style="list-style-type: none"> • 1983 PhD in Aquatic Ecology University of Nairobi • 1979 MSc. Botany University of Nairobi • 1976 BSc. Biological Sciences University of Nairobi 	Kenyatta University
2	Prof. Mary Wanjiku Gikungu	<ul style="list-style-type: none"> • 2006 PhD Mathematics and Natural Sciences • University of Bonn Germany • 2002 Msc. Biology of Conservation 	National Museums of Kenya
3	Dr. Alex Awiti	<ul style="list-style-type: none"> • 2008-Postdoctoral Research Fellow. Earth Institute of Columbia University New York • 2006 PhD Ecosystem Ecology- University of Nairobi • 1996 M Phil Environmental Studies • 1990 B.Sc. Wildlife Management Moi University 	Aga Khan University
4	Dr. Catherine W. Lukhoba	<ul style="list-style-type: none"> • 2001 PhD Taxonomy and economic Botany University of Nairobi • 1990 MSc Botany-Taxonomy University of Nairobi 	University of Nairobi
5	Dr. Peter Njoroge	<ul style="list-style-type: none"> • 2002 PhD Demography and Conservation of Threatened species • University of Reading, UK • MPhil. Wildlife Management 	National Museums of Kenya
6	Mr. James Mwang'ombe Mwamodenyi	<ul style="list-style-type: none"> • 2016 MSc. Conservation Biology University of Kent UK • 1993- M.Phil Forest Soils and Hydrology Moi University • 1991 BSc. Hons In Forestry Moi University 	Kenya Forestry Services
7	Mr.Peter Njiri Mwangi	<ul style="list-style-type: none"> • 2006 M Phil Wildlife Management • 1998 BSc. Natural Resource Management 	Kenya Wildlife Services