



BASELINE SURVEY

ON

LAKES EDWARD AND ALBERT INTEGRATED FISHERIES

AND

WATER RESOURCES MANAGEMENT PROJECT

Submitted by Uganda Nile Discourse Forum

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Table of Contents

1. Chapter I: Introduction to

- 1.1 Background
- 1.2 Introduction
- 1.3 Objective and Terms of Reference
- 1.4 Local Benefit Sharing Plans
- 1.5 Criteria of Local Benefit Sharing Plan
- 1.6 Constraints to Research

1.7 Chapter II: Methodology Assessment

- 1.8 PRA Assessment
 - 1.8.1 Method
 - 1.8.2 Stakeholders Analysis and Institutional Set-Up
- 1.9 Results
- 1.10 SWOT Analysis (challenges and opportunities)

2. Chapter III: Results

- 2.1 PRA Results
- 2.2 SWOT Analysis results
- 2.3 Criteria Assessment.
- 2.4 Tackling Tension

3. Chapter IV: Strategies and Plan of Actions

- 3.1 Local Actions.
- 3.2 National Actions.
- 3.3 Regional Actions.
- 3.4 Conclusion.

LIST OF ACRONYMS

1. UNDF- Uganda Nile Discourse Forum
2. NBD- Nile Basin Discourse
3. PEDP- Petroleum Exploration Production Department
4. NEMA- National Environmental Management Authority
5. UWS- Uganda Wildlife Society
6. AFIEGO- Africa Energy Institute For Energy and Governance
7. MWE- Ministry Of Water and Energy
8. QENP- Queen Elizabeth National Park
9. MFNP- Murchsion Falls National Park
10. WWF- World Wildlife Fund
11. BMUs- Beach Management Units
12. SWOT- Strengths, Weaknesses, Opportunities and Threats
13. DRC- Democratic Republic of Congo
14. NAPE- National Association of Professional Enviromentalists
15. SACOG- South Albertine Petroleum Network on Environment
16. BAPENECO- Bunyoro Albertine Petroleum network On Environment
17. NANEP- North Albertine CSO Network on Environment and Petroleum
18. NGO- Non Governmental Organisation
19. CSO- Civil Society Organisation
20. IUCN- International Union on Conservation of Nature

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Key Advocacy messages

- Challenges and opportunities in the fisheries sector need to be explored and addressed
- Cross Boarder sensitisation of policies and laws regarding fisheries management among Uganda and Congo stakeholders should be prioritised
- Strengthen existing frameworks; build capacity of various actors at different levels and most importantly to garner support of politicians to support fisheries.
- Co-management of the lake needs to be fostered for sustainability
- Establish a joint monitoring team comprising of Uganda & DRC
- Demarcate and respect international boundary including on the lake
- Carryout scientific study to establish fish stocks to determine allowable number of fishers and catch levels
- Reduce pressure/population in fishing villages
- Develop and promote alternative income generating activities for the fishing community in conformity with existing laws
- Promote regular community level meetings for fishing communities from both countries
- Start innovations in fisheries development and management by boosting fish populations, influencing breeding cycles, introducing 'closed' fishing seasons and promoting fish farming
- Develop a communication and information sharing strategy between the stakeholders

Executive Summary

The report provides an overview of findings of the study organised along three local areas that include oil and gas exploration, integrated water resources, management, livelihoods and climate change in the Albertine Graben. The study focused on areas around Lakes Albert and Lake Edward and some of the ecosystems that are strictly protected as national parks (such as QENP, MFNP) and wildlife reserves (such as Bugungu and Kabwoya); while others such as rivers and lakes are controlled areas. The findings of the field work suggest that there is increased dependence of the local communities on the ecosystems resources and conflicts between the fisher folk from DR Congo and their Ugandan country parts on Lake Edward. The increased local use of the of the natural resources such as increased extraction of water from Mpanga river for use in Kamwenge Town, increased fishing in the Lakes Edward and Albert, increased salt mining from Lake Kate, increased uptake of water from Muhokya river for crop irrigation and cattle and the large scale extraction of resources such as lime mining and the oil exploration exert considerable pressure on the ecosystems making them vulnerable degradation. There considerable levels and incidences of conflict over ecosystem resources emanating from conflicting and sometime competing resources uses. There is conflict between the pastoral communities and salt miners at Lake Katwe on one hand, with crop farmers over water from Muhokya river and crop farmers in Buliisa over pasture and farming land, as well as conflict between pastoral community and the fishing community along Lake Albert in Buliisa district because of the destruction of boats and lake shore vegetation. The survey findings also highlight wildlife – human conflict especially with reference to crocodiles killing people and domestic animals at Lakes Edward and Albert hindering local people accessing water for their domestic and livestock use. Further wildlife-human conflict is manifested through problems emanating from local communities illegal activities towards protected areas such as poaching and unauthorized access to resources within protected areas especially in Bugungu, Kabwoya wildlife reserves and QENP and MFNP.

The survey results further highlight key issues related to oil and gas extraction industry in Hoima and Buliisa Districts that require urgent attention to ensure that local people are not negatively impacted on by the on-going oil and gas development. Prominent of the issues related to oil and gas development include landownership, evictions from land, poor compensation process, inadequate engagement and participation of the local communities and other stakeholders, as well as restricted access to ecosystems resources and cultural sites. The

survey results further flag up issues of conflict over resources access and use by the different competing resource use interests as well as wildlife – human conflicts.

Chapter I: Introduction to “Lakes Edward and Albert Integrated Fisheries and Water Resources Management Project”

1.1 Background

Uganda Nile Discourse Forum (UNDF) is a national network of Civil Society Organisations (CSO s) with a vision to realise sustainably managed Nile Basin resources for the prosperity and good health of the people. UNDF is part of the Nile Basin Discourse (NBD) whose mandate is to engage in identification and conceptualisation of NBI development programmes and policies, increase awareness of the benefits of Nile cooperation and add value to Nile Basin Initiative (NBI) planning, policy, design and implementation of programmes.

NBD through UNDF did a study to obtain accurate baseline data and information relating to the Lakes Edward and Albert Integrated Fisheries and Water Resources Management Project.

The project is a NELSAP project, aiming at poverty reduction and improving socio-economic livelihoods of the local fishing communities, through sustainable management of the lakes. The project covers 9 districts in Uganda and 2 provinces in DRC (North Kivu and Orientale), all bordering the two lakes.

The project in the second phase involves three main components:

Component 1: Fisheries Resources Development and Management

This component is concerned with monitoring, Control and Surveillance infrastructure/equipment to support Lakes’ Fisheries Management Systems

Component 2: Integrated Water Resources Management

This component is concerned with promoting and supporting wetland and catchment management (afforestation, community wetlands management, municipal waste management), and assessment of water quality and quantity. (The project will construct two water quality laboratories for pollution assessment and the data generated will be fed into the central database for planning purposes).

Component 3: Project Management and Coordination

This component is concerned with supporting the Regional Project Coordinating Unit (RPCU) to be established at NELSAP-CU.

UNDF and other member organisations and partners have played a significant role in raising awareness on the benefits of Nile cooperation and influencing NBI policies and Subsidiary

Action Plan (SAP) Projects and there by changing the lives of the Nile Basin citizens for the better.

1.2 Introduction

NBD hired a regional consultant to identify four key transboundary projects that would be a focus of the design of the local benefit sharing plans, design the methodology and data collection tools that would facilitate the collection of data for the local benefit sharing and tension reduction plans. The consultant developed TORs for national consultants including Uganda and the focus for Uganda was Lakes Edward and Albert Integrated Fisheries and Water Resources Management Projects. UNDF was contracted to do this Baseline Survey.

The purpose of the baseline survey was to provide a solid information base against which the project activities / interventions will be designed and later upon which project performance, outputs and out comes/impacts will be measured. The project area coverage includes 9 districts in Uganda and 2 provinces of DR Congo. For this study, the consultant sampled 3 districts including Hoima, Kasese and Buliisa.

The report is organised into four chapters; Chapter I: Introduction, Chapter II: Methodology of Assessment, Chapter III: Results, and Chapter IV: Strategies and Plan of Actions

1.3 Objectives and Terms of Reference

The general objective of the survey was to obtain accurate baseline data and information relating on the Lakes Edward and Albert Integrated Fisheries and Water Resources Management Project.

The purpose of the assignment was to develop local benefit sharing plans and tension reduction plans for the beneficiaries countries to ensure that: The benefits of the projects are highlighted so as to enhance Nile cooperation, the benefits of the project are equitably shared, reaching the people in the vicinity of the new infrastructure, as well as beyond, all project affected persons are fairly and adequately compensated in line with national/international standards and in a prompt manner, and project implementation involves full and meaningful participation of local people and this becomes a model for more participatory approaches with other NBI projects.

The methodology used was PRA and SWOT analysis and the responsibilities of the consultant included; ascertaining the work is carried out in a professional and ethical manner

and to the required standards, holding discussions and consultations with the Client and ensuring that work carried out is in line with the Client's needs, and preparing clear, concise and focused reports, as per the defined framework and which are delivered on time and as per the agreement

1.4 Local Benefit Sharing Plans

The benefits of the projects are highlighted so as to enhance Nile cooperation;

1. The benefits of the project are equitably shared, reaching the people in the vicinity of the new infrastructure, as well as beyond;
2. All project affected persons are fairly and adequately compensated in line with national/international standards and in a prompt manner, and
3. Project implementation involves full and meaningful participation of local people and this becomes a model for more participatory approaches with other NBI projects.

1.5 Criteria of Local Benefit Sharing Plan

In this respect, this project responds consistently to the four main criteria of local benefit sharing 1) equal share among all stakeholders where poor or vulnerable groups in particular have clear benefits of the project, 2) effective participation by local communities where no tension points, 3) sustainable multi-sectoral development where other development, social and environmental concerns have been taken into consideration and 4) efficient human and financial allocated for project sustainability.

1.6 Constraints to Research

- Restrictions on accessing the information especially some oil exploration areas
- Lack of full time field transport. The consultant largely depended on combined field transport with operating partners on the ground.
- Political turmoil in DR Congo which hindered valuable input across the border in the troubled provinces of North Kivu and Orientale

Chapter 2: Methodology Assessment

The methodology used by the national consultants for data collections and analysis consisted of two interrelated tools including the PRA and SWOT analysis.

2.1 PRA Assessment

2.1.1 Method

Participatory Rapid Appraisal (PRA) was used to collect community views on the defined projects, as well; as to enable those communities to assess the issues, and make their own plans to address them especially points of tensions and suggestions to reduce them.

2.1.2 Stakeholders Analysis and Institutional Set-Up

The stakeholders were broken down in different levels including; Stakeholders at National level, stakeholders at district level and those at community level

At national level, the consultant contacted NBD, Line ministries, cultural leaders and national NGOs

At district level, both political and technical leadership were consulted but also district level NGOs were consulted

At community level, the consultant captured views of the local leaders, opinion leaders, cultural leaders, religious leaders and the community at large.

2.2 SWOT Analysis

Strengths, Weaknesses, Opportunities, Threats (SWOT) Analysis, which is a useful technique for understanding, and proposes strategic thinking in the proposed plans was used during the survey.

2.2.1 Method

The consultant faced challenges in conducting SWOT Analysis. Therefore challenges and opportunities were identified.

CHAPTER 3: RESULTS

3.1 PRA assessment results

Specific Area/water body findings

Lake Edward

Lake Edward is shared with the Democratic Republic of Congo (DRC) (Uganda, 670 km² (29%); DRC, 1 630 km² (71%)) and drains into the Semliki River, which flows northwards through DRC to discharge into Lake Albert. Lake Edward, returns covering a twenty-five-year period ending in 1988 indicate an average catch of around 5 500 t/year. However, fisheries activities are subject to additional regulation imposed by the park and wildlife authorities, such as prohibitions on fuelwood collection in specified areas and general restrictions on settlement and infrastructure development. Unlike Lakes Victoria and Kyoga, which have open-ended licensing, Edward is controlled, with a specified number of canoes with a known number of nets annually. On Lake Edward, major landing sites within the Ugandan sector include Kayanja, Katwe, Kazinga, Kishenyi and Rwenshama.

Lakes Edward fishery

This is a diverse fishery, but primarily of Nile tilapia, Bagride catfish (*Bagrus docmac*), lungfish and African catfish. Due to excessive effort, Districts around this lake have a closed access system limiting the number of fishers and annual effort. In addition, each district is given and limited to a specific quota of effort. These quotas of allocated effort at individual level are transferable between fishermen with clearance from the district leadership. Fishing is open all year, with the exception of closed areas in the National Park, since the lake lies partly there.

Lake Albert

Shared between Uganda (54%) and the DRC (46%), the broad waters of Albert (5 270 km²) are fed by the Semliki River from the south and the River Nile, which loops in and out of the northern tip of the lake. As with the other great lakes of the Western Rift Valley, Lake Albert contains a great variety of fish. However, the commercial catch is largely *Alestes baremose*, *Hydrocynus forskahli*, Nile perch, tilapia and *Bagrus* spp. The statistical record indicates that annual catches over a thirty-year period (1955–86) fluctuated between lows of around 4 000 t to highs of over 20 000 t. The accuracy of this record is open to question, however, as a good

deal of the Albert trade in fresh and processed fish products historically has been carried out through marketing points in the DRC. Major landing sites along the Ugandan shoreline include Ntoroko, Butiaba, Bugoigo and Wanseko. An estimated 8 800 fishers with a fleet of around 2 500 small craft operate within Ugandan waters.

Lake Albert fishery

In Lake Albert, several species are exploited, primarily Nile perch, Nile tilapia, Tiger fish, *Alestes baremose* and Barbines. Lake Albert is shared between Uganda and DRC, but there is no arrangement to manage the fisheries on a regional basis. However, under the Nile Basin Initiative, effort is being made to seek a regional approach to the exploitation and development of the fishery. On the Ugandan side, the fisheries in the lake are managed using mesh size restrictions. This is possible because the various species exploit different niches in the lake and thus are caught by fishermen at different places and times. The goal here is to allow for sustained exploitation of the various fisheries without hurting or damaging any one of them. In addition, the Government is seeking to establish Lake Albert as source of fish for processing for export to EU and other premium markets. The results have been mixed, in that fishermen have continued to enjoy the laxity of exploiting the different fisheries at the same time, however, this has inadvertently hurt some of fisheries. And with the move to make Albert a source of fish for EU and other premium markets, targeting only Nile tilapia and Nile perch, there is deliberate move to restrict gear that hurt the two fisheries. This move will certainly deny the fishermen open access to the other fisheries in the lake.

The Impact of Fishing on Wildlife Conservation in Queen Elizabeth Protected Area.

Queen Elizabeth Protected Area (QEPA) comprises the Queen Elizabeth National Park (1978sqkm), Kyambura Wildlife Reserve (157sqkm) and Ishasha sector (330sqkm). QEPA is located within the Albertine Rift Valley and forms part of an extensive transboundary ecosystem that includes Rwenzori mountains National Park, Kibale National Park and Park Nationale des Virunga in the Democratic Republic of Congo. QEPA overlies the convergence of West African rainforest and East African grassland biomes and represents a significant reservoir of biodiversity. There are eleven fishing villages within the QEPA.

Public enclaves:

Four of the eleven fishing villages lie inside public enclaves namely; Hamukungu, Kasenyi (Rubirizi), Katunguru(Bushenyi) and Katwe Kabatoro. These areas are also gazetted as Wildlife sanctuaries and were legally established by Statutory Instrument No.226-11 of 1964.

Park enclaves:

Seven fishing villages exist within QEPA with no legal status. Kahendero, Katunguru (Kasese), Kazinga, Kisenyi, Rwenshama, Kayanja occupy QENP land; Kashaka lies inside Kyambura Wildlife Reserve. As these villages lie within the QEPA boundaries, they are commonly known as ‘park enclaves.’

The fishermen have gone against these guiding principles and started fishing and occasionally landing anywhere they feel like.

The fishermen in the said villages use various fishing methods with varying impacts on conservation: -

Fish-net method;

The nets are spread in water and on addition to capturing fish, they also capture water borne animals e.g Hippos, crocodiles, snakes etc. When these animals are captured, they are killed and thrown away without being reported and handed over to the Uganda Wildlife Authority (UWA) as required by law. In 2008, two Hippos, two crocodiles and numerous other aquatic organisms were captured and killed.

Hook Method:

The baits (tiny fish) used on the hooks are palatable to birds. Occasionally the fishermen expose these hooks with baits and the birds get hooked. The fishermen kill those birds and throw them away. On some occasions, fishermen using game meat as bait on the hooks are arrested.

Basket Method:

This method is commonly used in small rivers for example R. Ntungwe in the southern sector of the Protected Area (PA). This is done mostly by the Banyabitumbi. This method scoops other aquatic organisms which end up being thrown on land and consequently die. Entering there without permission contravenes section 22(1) and 74(a) of UWA Act cap 200.

Household distribution and livelihoods

Hoima district population is estimated to have a total population of 4,820HHs and Bullisa district has 4,394 HHs. A total of 2030 HHs were estimated to be found in the Kasese sub-region including 500 HHs in the catchment of river Muhokya, 830 HHs in Lake Katwe

(including 580 HHs depending on the Lake Katwe salt mining and 250 HHs depending on fishing activities from Lake Edward), 700 HHs in area of river Mpanga in Kamwengye district.

In the three districts visited, the human population dynamics and distribution patterns follow the intensity of human activities in relation to extraction and use of resources. For example in Lake Katwe Town council¹, an estimated 20,000 people are engaged in various businesses at the Lake Katwe. While approximately 6,000 people, majority of them (70%) are mainly engaged in salt mining from Lake Katwe salt lake. Thirty percent of the population are engaged in fishing activity on Lake Edward and a small number doubles as middlemen traders, shopkeepers and food vendors.

A total of 4,394 HHs are estimated in Buliisa district especially in the 8 fish landing communities (2,744 HHs), pastoralist communities (150 HHs) and the crop farming communities (1,500 HHs) in areas around Murchison Falls National Park and some parts around Bugungu Wildlife Reserve. The six prominent fish landing sites on Lake Albert include Butiaba, Tungo Mbiri, Walukuuba, Bugoigo, Kabolwa, and Wansenko.

In Buliisa, the pastoralist and crop farming communities are located mainly in areas between the fishing communities and Bugungu wildlife reserve with a predominantly crop farming community between Buliisa town and Murchison FNP. Buliisa land is communally owned and used. In the traditional zoning, land at Lake Albert shores is for fishing. The next zone, just off the Lake Albert shores, is for settlement and grazing. Further away, the land is used for cultivation. The main crop farming community comprise of approximately 150 HHs in Waisoke village near Waisoke River, Kabolwa landing site and Walukuba village adjacent to Bugungu WR; growing mainly cotton, bananas, cassava and maize.

About 14% of households in Buliisa are fisher folk and for these, the main resource productivity constraint is inappropriate management practices (substandard fishing gears). The natural resource user groups in Buliisa include wildlife resource dependant households (3%), oil industry dependant households (2%) and others engaged in trade (20%) and office employees (6%).

Fisheries resources are among the most significant natural endowments of Uganda. With about 20% of its surface area covered by water, Uganda has enormous fisheries resources potential for both capture fisheries and aquaculture production. Uganda's fisheries landscape

¹ Estimate figures obtained from the Beach Management unit (BMU) and the Town Council at Katwe

includes the five large lakes of Victoria, Kyoga, Albert, Edward, George and Kazinga Channel, 160 minor lakes, rivers (Albert Nile), swamps and floodplains all of which are critical habitats, breeding and nursery grounds for fish and suitable sites for fish farming. Uganda's fisheries resources are not only diverse in aquatic ecosystems but also in fish species biodiversity.

Over the last 10 years, the fisheries sub sector has taken a strong position in the country's economy as the second largest foreign income earner after coffee (MFPED, 2003) with the Nile Perch, Nile Tilapia and Mukene forming the mainstay of the fisheries. By 2015 the fisheries sub fisheries sector is expected to produce up to 1,000,000 metric tons mostly through revamped aquaculture and making use of emerging fishery of small fishes like Mukene on Lake Victoria and Ragogi on Lake Albert.

The fisheries sub-sector further contributes to national economic welfare through; **Employment:** About 1,000,000 – 1,500,000 people are directly or indirectly employed in fisheries related activities, about 5,000 people are working with industrial processing fisheries sector, with fisheries overall contributing to the livelihood of nearly 5.3 million people. **Income:** Over 1.2 million people are directly dependent on the fisheries sub-fisheries sector as the main source of household income. **Food Security:** Fish forms an important part of the diets of people, fish being a major source of critically required animal protein diet for about 34.5 million Ugandans (5.7 kgs/ per capita consumption which is below the recommended WHO level of 12.5 per capita). The silver fish and other fishes are also important as the only known means of addressing the prevalent lack of micronutrients (hidden hunger) in the population.

The Fish Act, Cap. 197 (2000) of the Laws of Uganda is the principle law that governs the Department of Fisheries In Uganda. It provides for the control of fishing, fish conservation, purchase, sale, marketing and processing of fish and matters connected therewith. It is supported by several subsidiary regulations that are issued from time to time. The policy framework for the sector is articulated in the Fisheries Policy, 2004. However, the implementation of MAAIF DSIP, overrides some of the policy statements contained in the Fisheries Policy 2004.

Fisheries and Oil

Uganda has discovered oil and gas in commercially viable quantities in the Albertine Graben which is the most prospective oil region so far. The Albertine Graben stretches from Ubongi,

on the Uganda – Sudan border to Ishasha on the South Western tip in which Albert Nile, Lake Albert, and Lakes Edward and George lie.

In the Albertine Graben there is an overlap of natural resources namely Oil and Gas, Fisheries, Wildlife, Water, Forests, and Agricultural resources. This pattern, however, presents both economic opportunities and environmental challenges due to negative impacts associated with development of oil and gas sector. Unregulated oil and gas industry development activities are bound to be a challenge to fisheries sub-sector in a number of ways including;

(i) Lake water pollution thereby disrupting aquatic ecological processes, reduction in fish species biodiversity, decline in fish production, loss of livelihoods by fishing dependent communities, and loss of national economic benefits accruing from Albertine Graben lake fisheries resources.

(ii) Institutional and human capacity gaps in the fisheries sub-sector to continuously monitor oil exploration and development activities and design sustainable fisheries resources management approaches that are in tandem with oil and gas development.

Lakes Edward and Albert Integrated Fisheries and Water Resources Management Project is a Nile Equatorial Lakes Subsidiary Action Program that is geared towards poverty reduction and improving socio-economic livelihoods of the local fishing communities, through sustainable management of the lakes. Lakes Edward and Albert are rift valley lakes shared by the DRC and the Republic of Uganda. The project covers 9 districts in Uganda and 2 provinces in DRC (North Kivu and Orientale), all bordering the two lakes.

Lake Edward is 90km long and 40km wide with an average depth estimated at 34m (near the Ugandan shoreline). The lake basin is about 12,000 square kilometers with the Semliki River and its Rwindi-Rutshuru tributaries as the only outlet. It is enclosed by two national parks, the Queen Elizabeth National Park (QENP) in Uganda

Lake Albert on the other hand is situated at an altitude of 618m. It is 160km long and 35km wide. . The lake receives water from Lake Edward through the Semliki River in the south and from the Albert Nile River in the north, the water outflows directly into the White Nile River

The districts in Uganda affected by Lake Edward include; Kasese, Rubirizi, Rukungiri, Kanungu

And those affected by Lake Albert include; Hoima, Masindi, Buliisa, Kibaale, Nebbi

The Greater Virunga Landscape, which forms part of the Albertine Rift has a high concentration of National Parks and thus North Kivu and Orientale provinces were of high significance. Given the transboundary nature of resources in the region, therefore there is need for transboundary collaboration is aimed at improving management of such resources through enlisting stakeholder participation and engaging different thematic stakeholders like immigrants, security and magistrates both from DR Congo and Uganda.

Most of the illegal activities, conflicts and unsustainable fishing practices on Lake Edward, are due to limited awareness of, and commitment to implementing fisheries policies and laws and it is evidenced by the monitoring data from transboundary coordinated patrols which indicated that over 214 illegal fishing gears were confiscated and 304 fishermen arrested in three years between 2004 and 2007. Even though fisheries management is under jurisdiction of Ministry of Agriculture, Animal Industry and Fisheries; water resources are managed by the Ministry of Water. In Uganda, UWA was concerned about water dwelling wildlife and livelihoods of all people in general because of the consequential impacts on conservation as some fishing villages are found inside the protected area. As a result of over fishing, people had resorted to hunting piscivorous birds which were traditionally respected and treated as special fishing guides for fishermen.

Impacts of fisheries on wildlife conservation

QECA (Queen Elizabeth Conservation Area) is not only part of the extensive transboundary Albertine Rift but also is endowed with water bodies (Lake George, Kazinga Channel and Lake Edward) which support both livelihoods (with over 55,000 people living off the two lakes) and wildlife by acting as, and supporting, habitats for birds and other wildlife.

There are eleven fishing villages with in and around QECA, four of which are in public enclaves and legally gazetted as wildlife sanctuaries whereas the other seven have no legal status. There are areas within the Lakes and the Kazinga channel in which fishing is prohibited but fishermen often venture into these areas, contravening section 22(1) and 74(a) of UWA Act cap 200 which forbids fishing in protected waters reserved as important breeding areas. Various fishing methods often trap non targets species including hippos, snakes, crocodiles (trapped by nets) and birds (trapped by hooks), killing them in the process. Scenarios of this

nature are responsible for increasing conflicts between communities and wildlife/park authorities.

Fishing Regulation

The researchers found out that Lake Edward provides important fisheries resources with harvests composed primarily of tilapia, catfish (*Bagrus* and *Clarias* species), and lungfish. Enforcement of rules and limitations and quotas is done by the Beach Management Units (BMUs), a management mechanism to ensure that districts and fishermen adhere to the set fishing quotas and rules. Fishing at Katwe Landing site is governed by principal fisheries legislation and management measures set out in the Fish and Crocodiles Act (Cap. 228, Rev. 1964).

There is a combination of factors that affect efficient management of fisheries resources and these include institutional issues, policy issues, regulation and politics and despite the existence of legal frameworks, the fisheries resource has continued to decline.

The Fish Act (Cap 197), the constitution, various Statutory Instruments, Beach Management Unit Statute and Guidelines among others support sustainable management of fisheries. However, despite existence of the above policies and laws, there is still no sound management of fisheries resources. This is due to non compliance by those directly involved in fisheries utilization and management (Fishermen, processors, traders, policy makers and managers). As a result, over-fishing has become endemic, and fish stocks are over exploited. Irresponsible fishing activities such as the use of beach seines and other illegal fishing gears are rampant. In addition, such inefficient management of fisheries resources has had a positive feedback effect in that when fish stocks dwindle, prices go up providing an incentive to fishermen to catch more fish.

Other factors said to exacerbate unsustainable fisheries management include; environmental degradation and politics. Political interference at national, district and local levels is one of the major factors contributing to non compliance. There are discrepancies in the fishing regulations between the borders of Uganda and Congo. The communities complained that this has led to lots of conflicts between the fishing communities on Lake Edward and Albert. For example the communities talked about the different acceptable fishing methods, the lack of clear boundaries on the waters and thefts of fishing gear.

Natural resource use and management

Unsustainable use and management of natural resources in the three districts is attributed to various factors including capacity, competition and weaknesses in enforcement or compliance to conservation and development policies. Threat to the natural resources also has impacted the people of Albertine region, as, their major economic activities and as such sources of livelihoods include fishing on Lake Albert and Edward, livestock grazing and crop agriculture.

All these activities are directly dependent on natural ecosystems whose resilience is being overstretched by increasing levels of over – exploitation. This trend has been exacerbated by recent development of oil exploration activities that have attracted more pressures on natural resources due to inflows of people to the district, imposed restriction to access certain locations due to oil activities and over-all heightened expectations of benefits from oil activities that has generated conflicts over access and control of resources close to oil deposits.

Unsustainable use and management of natural resources in the region is on the increase due to several gaps and leakages that exists among communities. This situation resulted from poor farming/agricultural and fishing practices, restricted access and use of resources from within protected areas and some section of the lakes, limited awareness of the need for and means to harness the natural resource potential, barriers to community participation in decisions making regarding developments in the locality, and weak or no incentives for compliance to natural resources and development policies and regulations, as well, as poor information flow to inform and influence policy level planning, therefore the need for interventions.

3.2 SWOT analysis (Challenges and opportunities) assessment results

3.2.1 Challenges

General Challenges found

Overdependence on ecosystem resources

There are several issues, threats and conflicts associated with local community access and extractive use of ecosystem resources. With increased dependence on ecosystem resources for livelihood improvement, there is profound pressure exerted on the ecosystem resources.

Inadequate enforcement of best fishing practices and conflict between Pastoralists and Fishermen communities

When cows come to drink water at the fish landing sites, they destroy boats and trample over the shoreline vegetation exposing the lake shores to degradation and pollution.

The key observations made during the surveys at landing sites in Buliisa include:

- BMUs still have a challenge of enforcing the use of proper fishing gears within the fishing communities.
- While most fishing boats are licensed annually, the underlying principle of assessing the performance of the boat owner in complying to set rules and regulations is not widely practiced
- Fish catches have been reducing and seasons unpredictably changing hence making fishermen vulnerable to shocks in incomes.
- Watering of cows in fish breeding areas and the associated general impact on water quality affect fish stocks and recruitment.

Conflict between crop farmers and the pastoralists

The area between Bugungu Wildlife Reserve (WR) and Lake Albert away from the fishing communities is inhabited by both crop farmers and pastoralists. Cattle traverse the entire landscape in search of water and pasture; often straying into and destroying crop farms especially maize, cotton and cassava as the predominant crops. This creates tension and conflict between the mainly Bagungu pastoralists and the mainly Alur immigrants. The incidents of crop farmers and pastoralists are mainly common in areas around Waisoke and Wansenko communities.

Massive scramble for land and displacement of local people

The oil and gas exploration craze has led to massive speculation about land value which has resulted into scramble for land in the oil rich areas in the Bunyoro region (particularly Hoima and Buliisa districts) by rich and powerful people; leaving the poor communities landless and vulnerable and anxious². As a result of speculation, prices have drastically increased making

it difficult for local poor farmers to afford buying land while making them vulnerable to intimidation and susceptible to selling off their own land.

Community /park conflict:

The indiscriminate capture of wildlife in the nets as well as killing them for baits destabilizes the hydrological -ecosystem and promotes community/park conflict.

There are areas designated as breeding zones; for example part of the Kazinga channel. Fishermen from Katunguru(Kasese) and Kazinga villages encroach on these waters. By so doing, they deny fish time to reproduce.

The nets spread in these protected waters entangle the propeller of the Tourism boats used on launch cruises and affect their movement. Such experiences reflect badly on the Tourism Industry of Uganda in the world Tourism market.

Erosion of staff moral fibre:

The fishermen corrupt the Queen Elizabeth staff and make them compromise the integrity of the PA. This has led to increased administrative costs due to transfers, dismissal and recruitments in addition to the costs of the frequent marine operations.

Increased poaching pressure:

Some nets used are below the recommended size hence capturing young fish below reproductive age. This practice reduces fish reproduction rate and their numbers in the waters and consequently increasing the prices of fish. This may cause increased pressure on wildlife by promoting poaching as a cheaper source of proteins.

Population pressure:

The population of these villages has increased over the years and consequently exerted a lot of pressure on the natural resources within QEPA.

- Fuel wood for smoking fish
- Poles for house construction
- Fuel wood for brick burning
- Fuel wood for household use
- Sand mining for construction purposes

Agriculture and other economic activities:

Some families have started cultivation of crops which are palatable to wildlife.

Others have resorted to livestock farming to supplement the income from the small catch of fish that they get. All these promote conflict due to crop raids and illegal grazing or encroachment and poisoning of cats eating livestock. The canoes are further used to transport game meat especially of hippos from Islands to the shores of the water bodies where it is sold.

Challenges facing the fishing communities

Some challenges and consequences of irresponsible acts to include erosion of park staffs' morals due to corruption perpetrated by fishermen, and increasing poaching pressure resulting from declining incomes due to unsustainable fishing.

The growing population in fishing villages also has come with increasing demand for household and business necessities, pushing people into protected areas. Together with the above, use of game meat as bait for fish has increased poaching incidences and in effect escalated conflict.

Therefore as long as human population in the fishing villages continues to grow while fish stocks dwindle, conservation of wildlife in protected areas will remain threatened. Other challenges facing the fishing community are as follows:

- Increasing population at landing sites
- Limited funds and inadequate coordination between fisheries authorities, BMUs and other organs hence leaving room for some institutions and individuals to condone crime
- Conflicting interests between BMUs and fisheries authorities arising from the fact that the latter feel their powers have been usurped by BMUs
- Lack of motivation for BMU management leading to corruption
- Escalating levels of HIV/AIDS at BMUs reportedly forces infected fishermen to care less for the resource and to fish in shallow and/or prohibited zones due to lack of energy and motivation
- Encroachment by DR Congo fishermen on Ugandan waters. These were said to not only fish illegally on the Ugandan side but also to engage in unacceptable and unsustainable practices like fishing for long periods (one week) and drying fish while on the lake.

- Poor sanitation at fish landing sites

Issues specific to Kasese Sub region

Depletion of the rock salt mother bed

The high number of salt pans compromise the capability of the beneath “mother rock” of sodium chloride to sediment and replenish the salt. Further, the increased salt pans have compromised the free flow of fresh water from incoming streams by blocking the streams. Of the original 35 in-flow streams, only 20 streams are feeding Katwe salt lake. The major remaining streams are Kyabamba, Kasabundi, Kabumbuli and Kakyindo. The effect of reduced fresh water supply to the salt lake is that there is limited fresh water supply to enable the mother rock to sediment and keep replenishing the rock salt. The local communities and particularly the salt miners are worried that the salt lake will die and become non-productive.

The local community fears of the Katwe salt lake “dying” are not far-fetched. According to the local people, Lake Munyanyange was reportedly “killed” by the Basongora cattle keepers whose pastoral activities blocked its freshwater inlets hence rendering the mother salt bed non-productive. The other ‘dead’ lake is Nyamununka, which is also located inside the park. Until the 1970s, the Queen Elizabeth National Park area had four salt lakes; Katwe, Munyanyange, Nyamununka and Bunyampaka. Today, salt extraction can is carried out on lakes Katwe and Bunyampaka. For the lake to continue productivity, there must be a constant supply of fresh water from uphill streams. The water then gets in contact with the sodium chloride rock underneath and turns into salty water commonly known as brine or saline. With salt panning, the salty water is diverted into salt pans where it crystallises into salt through an evaporation process. At Lake Katwe, salt panning is usually carried out mainly by women in two seasons; early January to mid March, and early July to mid September which are dry seasons to aid evaporation and enhances crystallisation.

Negative Social ad health Impacts

According to the local salt miners, the ammonium sulphide gas from the salt water, usually penetrates through the female reproductive organ and irritates the uterus; the reason why most women salt miners often complain of stomach pain. The women miners improvise by padding themselves heavily and wear tight pants during panning.

A one Agnes Mbambu, 35 who has been panning for the last 15 years often complains of stomach pains and skin rashes. Agnes expressed worry that she never give birth since her stomach pains her a lot and often experiences painful monthly periods.

For the men, the salty water enters the urethra, causing sexual and reproductive complications. To safeguard against the complications, the men wear condoms because “they are water proof”. The local community respondents suggested that they use rubber bands to tie the condoms onto the male genital organs to ensure tight proof, which however they suggested that cuts off blood circulation to the organ and might create additional health problems. However, the social and health hazards associated with the salt mining at Lake Katwe need to be put into the perspective of the rudimentary technology being used to extract the salt.

Degradation of Lake Katwe shoreline vegetation and catchment area: conflict between salt miners and pastoralists

There is a notable reduction in the shoreline salt-tolerant plant species called *Cyperus Lievitigetus* that is essential in shielding the lake from siltation from the blowing wind, soil erosion and rain water running from the surrounding hills. The reduction in the vegetation cover surrounding the lake is attributed to grazing cows and salt miners who cut and use for demarcating and construction of salt pans.

There is increasing need for fuelwood both for household energy supply and for fish smoking. Although local community members obtain their fuelwood from the Queen Elizabeth National Park (most times illegally) and the commercially available wood from outside the area, local people have destroyed much of the trees and shrubs in and around the Lake Katwe town area, leaving the area open and prone to erosion.

Overfishing and depletion of fisheries resources at Katwe fishing village

Overfishing of the major threats to the fisheries resource in Lake Edward as reported by the BMU chairman at Katwe fish landing site located at the shore of Lake Edward. Although the recommended number of fishing boats at the Katwe fish landing site is 120³, there are

approximately 200 boats operational including the illegal ones accessing the water especially from the DRC. There is reported illegal fishing within the strict breeding area, which stretches approximately 5 kilometer from Izinga to Kakoni points comprised of the shoreline stretching 25 meters into the lake. An approximate 15 illegal boats are reportedly to be operating within the Lake Edward waters.

Continued heavy exploitation of fisheries resources at Katwe raises social equity and food security as well as sustainability concerns. Fishing pressure affects juvenile as well as adult stock components in a situation that is already unstable and in need of a strong precautionary approach. Poorer, less well-equipped operators stand to be marginalized or displaced from the fisheries activity.

Conflict between wildlife and people: Crocodiles threatening people lives

Cases of crocodiles killing people and domestic animals were reported. Crocodiles attack people from the water fetching points. A total of five (5) people have reportedly been killed by crocodiles in the last two years. The incidents of crocodiles attacking people has created negative local community attitude towards the crocodiles who are calling for a repeal of the Fish and Crocodiles Act (Formerly Fish Act of 1964).

The presence of hostile crocodiles along the shores including community fetching points hinders easy community access and extract of water and water resources for domestic use; creating animosity and conflict between the locals and the crocodiles.

Fisheries activities at Lake Katwe fishing village are further subject to additional regulation imposed by the Queen Elizabeth National Park authorities, such as prohibitions on fuelwood collection in specified areas and general restrictions on settlement and infrastructure development.

Contamination and poor garbage / waste management

The entire Lake Katwe town is littered with rubbish especially polythene bag (kaveera), empty plastic bottles and garbage from household use including human faecal materials. Some toilets and other sanitation facilities are in poor state presenting a possibility of leakages and contaminations into the Lake Edward especially when it rains.

Further, some salt by-products and remains are dumped near the fish landing site and are likely to be swept into the lake when it rains. Leakage of salt into the fresh water lake is likely to affect the pH and hydrological conditions, hence affecting the aquatic life including fish.

Muhokya River

Pollution, garbage dumping and water contamination

Muhokya River is heavily polluted with waste and garbage from Muhokya trading center which is located nearby. The main visible wastes in the river are plastics and polythene papers and the major cause for this is the improper disposal of waste generated in the trading center. The riverbed is also being silted as a result of erosion from the nearby gardens and poor soil management practices along the river.

Further, sanitation and toilet facilities are located too close to the river banks, presenting a challenge and likelihood of possible faecal materials contamination. In one example, some toilets are located as close as 3 meters to the river bank.

The issue of population increase is of paramount concern in Kasese sub-region which is increasing pressure on the ecosystem resources. A report by (Nampindo & Plumptre, 2005) observed that compared with the national population density of 126 persons per sq km, the districts of Kasese has higher population densities (183 person per sq.km), while Kamwenge has a slightly lower density of 123 persons per sq km (UBOS, 2002).

Over-use of water resource for irrigation and cattle watering

The increased number of people and the corresponding increase in demand for irrigation water as well as the high demand for water to cater for the high number of cattle has placed considerable stress on the water resource from River Muhokya. An estimated 10,000 heads of cattle consume approximately 1,000,000 litres of water daily in a dry season (at the rate of 100 liters of water per day in a dry season and approximately 40-60 litres of water in a rain season compared with 81.5 lb. water consumed per cow per day in the dry season, and 59.2 lb. per cow per day in a wet season (Wilsona, Barratta, & Butterworth, 1962).

This scenario of increased demand for water to cater for irrigation and cattle could explain why the water level of river Muhokya is estimated to have decreased by approximately 70%

of the original levels. Although the reduction in water level in river Muhokya is locally attributed to over-use of water and degradation of the Kakone wetland source, the wider implication of the Rwenzori snow cap melting need to be put into perspective. Overall, the Rwenzori snow cap is estimated to have significantly done what. A report by (Bambaiha, 2009) suggested that the glaciers at the tops of the Rwenzori Mountains are rapidly receding, with the glaciers having declined by 50 per cent between 1987 and 2003.

Degradation of the uppermost Muhokya river source (Kakone wetland systems)

The Kakone wetland system where Muhokya river originates from has been severely drained and degraded due to conversion into agricultural land and eucalyptus tree plantations.

River bank cultivation and charcoal burning at Muhokya river

There is evidence of cultivation and farming in areas close to the river bank especially in the lower part of River Muhokya, destroying the banks and making them vulnerable to siltation and water bursts especially in the rain seasons causing floods to farmlands and submerging crops.

Mpanga River

According to the local people (name eg environ officer, LCs, or any other), the amount of water in River Mpanga has reduced significantly in the last ten years. The local community attributes the decrease in river water level to the reduction in the vegetation cover within the river catchment area. The indigenous trees along the river catchment area have been cut down leaving the hill tops and slopes bare and prone to soil erosion and landslides that silt the river.

As a result of farming activities in the surrounding areas, siltation of River Mpanga is on the increase as a result of removal of vegetation in the areas adjacent and close to the river banks. With more households setting up gardens along the banks of the river and many of the bushes and shrubs cleared, soils from the gardens are uncontrollably washed into the water; causing more siltation with possible sedimentation of Lake George.

The key threats to the river Mpanga documented during the survey include :

- The hydropower plant that submerged people farms and broke some riverbanks is producing 1 megawatt less than the 18 megawatts it was designed to produce. However, these figures apply to the dry season. The dam operates at full production capacity during rainy seasons

- Water abstraction for the Kahunge Town council 10 km away from the Mpanga river is a major activity that affects the river water levels. Do you have evidence that water for the town can reduce the volume? What if its other factors eg climate change. May be use the increase of water use if you have statistics to show that the town’s consumption more than before because of poor use, population, etc has affected water. We need to avoid sweeping statements to give government a chance to water down our work. Audit each factor’s contribution to help us prioritise.
- About 2,000 returnees from Tanzania who have been allocated 2 acres of land each for settlement and agriculture in Kahunge sub-county have started cultivating too close to the rivers due to proximity to water. This is threatening the river banks leading to siltation of Mpanga river.
- Poor farming methods that result into soil degradation and vulnerable to erosion and siltation of River Mpanga
- There is lot of vegetation clearance and bush burning as a vermin control measure

Issues and threats in Buliisa region

Concerns about potential oil spillage and effect on the fisheries resources

The fishing community member in the fish landing sites in Buliisa district are worried about the likely negative impact of the oil development activities with pollution as their major concern since it will negatively impact on the fisheries resources. One of the fishermen at Bugoigo landing site relayed his fears about the likely impact on the fishing industry.

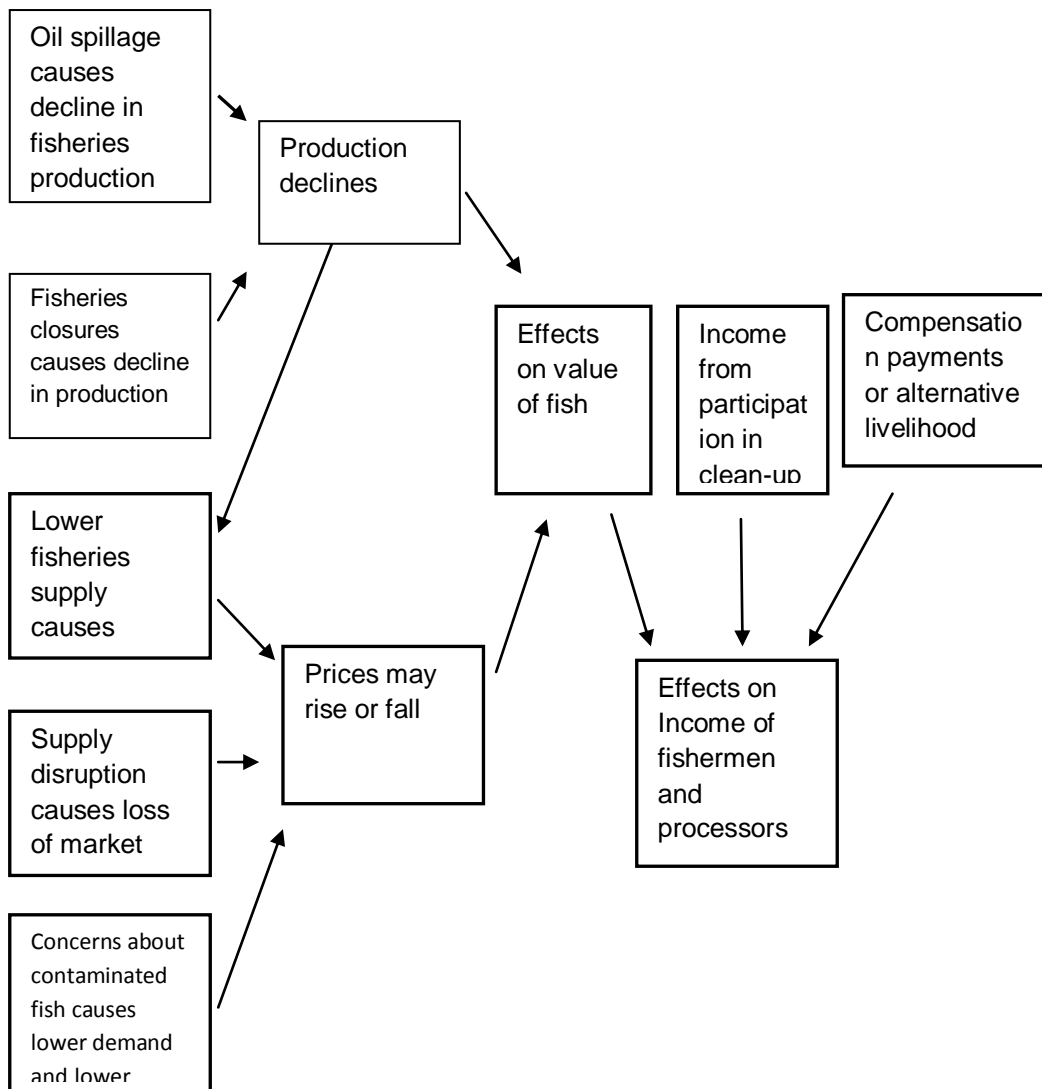
“Majority of people are very dependant on fish. The money we get from fish helps us feed and educate our children. We have heard that when oil mining starts, they will release a lot of chemicals into the lake which will kill the fish,” Kiiza M. Langton, LC
 1 Chairman, Kigungu Cell, Bugoigo landing site.

The assessment documented likely oil residues spillage in the waters of Lake Albert (sample collected and currently under laboratory testing). Oil contamination in the Lake will present difficulties in the survival of the fisheries resources. Oil spills can cause serious damage to

fishery resources through physical contamination, toxic effects on stock and by disrupting the general fishing activities.

Oil spills cause harm to wildlife through physical contact, ingestion, inhalation and absorption. Floating oil can contaminate plankton, which includes algae, fish eggs, and the larvae of various invertebrates. According to the findings of the study by (U.S. Fish & Wildlife Service, 2004), fish can be impacted directly through uptake by the gills, ingestion of oil or oiled prey, effects on eggs and larval survival, or changes in the ecosystem that support the fish. Oil has the potential to impact spawning success, as eggs and larvae of many fish species are highly sensitive to oil toxins.

Fig.1. Flow diagram illustrating impact of oil spillage on the social economic environmental in a middle case scenario.



3.2 Opportunities

Rapid population growth

The region has a rapid population growth as indicated in the population figures above. This results in greater anthropogenic activity for sustenance and living standards. This will increase demand and competition for scarce water resources and therefore a chance for the project to work in an already active population, avail labour for economic production, large market for food produce and manufactured goods and services.

Recent oil discoveries in the region

Most of the project target districts fall into the Albertine oil Graben. As oil is increasingly being exploited, there region will directly or indirectly benefit from the oil exploration. Labour, goods and other services will automatically be on the increase for local and foreign communities.

Rich culture and community ties

The region has already experienced increased sensitivity about their cultural backgrounds. Different tribes have installed their cultural heads and institutions are continuously being resurrected. There are several tribes found in the districts including Banyoro, Bakonjo, Baruri etc. These tribes are traditionally known to live harmoniously with their environment and share the benefits like the cultural of communal land user system.

Influx of several players in the region

Due to the recent discovery of oil, the region had received a multitude of players ranging from those directly involved in the oil exploration and others who offer services and goods to the team.

Fisheries and aquaculture production systems

The researchers found out that this is a big potential for fisheries resources production and trade. This is evidenced by a variety of species in the different water resources in the districts. The fisheries resources are an important source of protein and may provide great source of foreign exchange.

Favourable weather, soils and conditions for production

The districts are endowed with rich fertile soils which in turn is influenced by factors such as geology and type of parent material which are potentially very fertile. The districts within equatorial tropical climate with rains almost throughout the year. The temperatures are average between 20 and 27 degrees Celsius. There are varieties of animals reared and crops grown for both consumption and trade throughout the year. In Uganda irrigation is minimal and done sometimes when rains delay in such districts as Kasese.

3.3 Criteria Assessment

The project consistently responds to the four main criteria of local benefit sharing

1) Equal share among all stakeholders where poor or vulnerable groups in particular have clear benefits of the project

The findings indicate that there are no diverse classes of people. Most of the people are peasants and pastoralists and live average lives. The situation is ranging from communal ownership of resources, extended family responsibility systems to sharing common problems in most cases without adequate redress. Therefore, if well mobilised these communities are a solid base for equal share and clear benefits of the project.

2) Effective participation by local communities with no tension points

Basing on the cultural and family ties background, the districts targeted are composed of communities without much tension amongst them. There were no recent tribal clashes or wars in the region. Hitherto women were traditionally oppressed, of recent women are increasingly brought into public sphere to participate in different development programmes. The researchers found exceptional reports of cross border tension specifically caused by the scramble for resources from the Congolese immigrants. This situation therefore guarantees potential effective participation by local communities.

3) Sustainable multi-sectoral development where other development, social and environmental concerns have been taken into consideration

The Albertine region is still virgin with lots of unexploited resources. However, there was increasing encroachment on the natural resources through deforestation in search for firewood, farm land, building materials and charcoal for livelihood. Generally, the districts have a great potential for resources that could greatly contribute to multi sectoral

development and a few development initiatives in the region have been urged to respect the concerns of sustainability.

4) Efficient human and financial resources allocated for project sustainability.

The region, as already described had low income earners and generally illiterate communities. This therefore implied great need for investment in the human resource development for effective participation and contribution to the developments in the area. On the other hand the region had been marginalised in terms of resource allocation by Central Government. Most of the infrastructure is poor and undeveloped like the road networks, lack of electricity in most parts of the districts, poor health infrastructure, lack of services e.g. agricultural extension services from government systems etc.

3.4 Tackling Tension

Utilising the identified and more opportunities in the districts, tension points can be reduced through community participation and sensitisation to appreciate the development initiatives. Culture should be respected and cultural and religious leaders involved at all times because the communities believe in them. The cross border tension requires central Governments initiative to regularise and monitor the immigration. Policies should be harmonised to give proper direction of the right approach to working together as neighbours.

Chapter 4: Strategies and Plan of Actions

4.1 Recommendations at the local level

Sustaining Fisheries and Fishing communities in Kasese and Buliisa among other districts

Local communities, under the decentralization policy, are expected to take a leading role in husbanding their resources, especially in near-shore waters. The 1997 Local Government Act (The Republic of Uganda, 1997) recognized that, with reduced central capacity and a supporting (rather than implementing) role, local governments alone will not be able to ensure sustainable use of resources and the improvement of fisheries livelihoods. Central government can be expected to take direct responsibility for dealing with major issues, while communities are expected to support local governments in the day-to-day safeguarding of their natural assets and livelihood strategies. The current roles and contributions of communities include:

- Through the BMUs structures, supporting local government in the implementation of fisheries resources management laws and policies.
- Ensuring compliance with local and national fisheries regulations.
- Contributing to the revenue generation for local government to fuel development and administration.
- Supporting local government in establishing mechanisms for management of shared resources.
- Identifying community fisheries priorities and planning for improvement.
- Collecting data on fishing effort and catches.
- Formulating and enforcing community by-laws at the local level.
- Monitoring fishing activities within their area through regular patrols by BMUs.
- Tree planting and alternative sources of income

Therefore roles of UNDF members and the identified community-based organizations (CBOs) could entail:

- Mobilizing and sensitizing local people for active participation in managing fisheries activities.

- Supplementing the efforts of the public sector and advisory services or extension.
- Training and skills development among the fishing communities and their organizations.
- Acting as intermediaries or conduits, or both, for technical and policy support.
- Collecting and analysing independent data on fisheries socio-economics for advising government.
- Advocacy to ensure that the concerns of the underprivileged are incorporated in the national development processes.
- Build coalitions for lobbying using a negotiated approach

4.2 Recommendations at district and national level

Mitigating Effects of Oil mining on fishing communities through mobilizing and sensitizing local communities

Especially potential target groups include fishing community members, fishing associations, subsistence fisheries resource users, fish vendors.

Demanding for EIAs and Audits

As part of the strategy to minimize the impact of oil spillage onto the ecosystems, there is a need for the oil companies to undertake a comprehensive EIA and subsequent environmental audits.

Research and monitoring

In order to undertake effective advocacy and keep the public informed and engaged in demanding for environmentally clean oil development, there is a need for undertaking regular research to generate evidence-based data that informs the advocacy and awareness campaigns. To aid the research and monitoring scheme, local community contact persons can be selected and build their skills to keep watch and track of any signs of oil spillage and report.

Co-management for Sustainable fishing on Lake Albert

In the recent past, the fisheries sector received support from NELSAP for institutionalizing the co-management structure with fishing communities taking the lead in implementing mechanism that support sustainable fishing.

In response to the issues pertaining the enforcement of proper fishing practices and reduce conflict between fishermen, UNDF will strive to promote an inclusive management model that involves key stakeholders such as the fishermen, BMUs, the pastoralists, Fisheries authorities, and adjacent protected areas managements.

The focus areas of intervention could include:

- Capacity building for the BMUs to undertake their monitoring and enforcement role.
- Monitor the use of proper fishing gear and equipment such as licensed fishing boats and nets to comply to set rules and regulations
- Dialogues between fishermen and pastoralists to develop proper water and land resources use plans to ensure equitable usage of water resources for cattle and fisheries activities.
- Facilitate dialogue between Bugungu WR and the pastoralists, fishermen and other community member for streamlined sustainable access and use of certain resources such as grass for shelter, pasture for cattle and firewood from the protected areas
- Collaboration and networking with CSOs in Hoima and Buliisa districts
Under the umbrella District NGOs forum, regional CSO coalition and the media the CSOs present a unique opportunity to the UNDF programme partners to enhance delivery of community level interventions. The NGO forums in the project areas have an extensive community level and district wide network that enhances mobilization and outreach.
- Collaboration with the Religious and Cultural Institutions in Hoima district
A good example is the Inter-religious Council of Peace and Justice Commission of all the religious groupings in Hoima presents a unique opportunity for mobilizing and sensitizing the local people (parishioners) regarding their involvement, participation and benefiting from the on-going oil and gas development process. The upcoming CAFOD funded project to be implemented by Hoima Catholic Diocese and the on-going activities by regional supported by WWF, VCO will compliment programme interventions especially in areas of conflict litigation and resolution within the Albertine oil rich region.
- UNDF members should aim at working with existing structures from village to District and upwards to national level Peace and Justice Commission structures whose national secretariat links with Parliament on issues of all forms of injustices including

those related to oil and gas development. Further, the Small religious structures such as a parish level structure within the Catholic Church, provides an opportunity for mobilizing local communities and parishioners for awareness and sensitization on matters pertaining to oil and gas development.

- Partnering with CSO Networks operating in the region LIPRO Uganda, CEPARD, STARGO, Makerere University and CARITAS, a Faith Based Organisation, is active in Kasese and Hoima districts working on community programmes focusing on promoting local communities capacity for natural resources use and management.

These are proactively involved in community mobilization and sensitization for community development projects ranging from alternative income generating enterprises to social transparency and accountability.

- Liaising with UWA and NFA

- Working with NFA to resolve the evictions issues around Bugoma FR

Addressing the conflict and tension arising from encroachment and evictions at Bugoma Forest reserve requires closely working with NFA to resolve the boundary issue. The tensions at Bugoma are worsens the already complex and complicated issues of land related to the oil and gas development including evictions, displacement, unclear contested compensation and land ownership wrangles.

- Working with UWA on wildlife conflict resolution and co-management arrangements
- UWA manages the biggest estates (the protected areas) where oil development is centred and as well where local communities are livelihoods are dependant to a great extent. Local communities living adjacent the PAs in Kasese, Hoima and Buliisa derive ecosystem resources from the PAs while also suffering from the costs arising from problem animals raiding crops and wild animal killing people hence complicating the wildlife – human conflict. Because of its centrality in terms of the oil development, wildlife – human conflict and potential for collaboration on issues of water and land use resources, UWA is a critical partner for the UNDF members’ programme in the project areas.

Working with and through the District Departments

- The successful implementation of the UNDF members programme activities especially the local community interventions for sustainable land and water resources use and management is partly hinged on the collaboration and working with district

departments and their extension staff. Additionally enforcement of certain laws and policies such for fishing, pastoralism, salt mining and general environmental protect fall under the mandate and jurisdiction of local governments as per the decentralization frameworks of 1996.

- The key district institutions for programme implementation include sub-county and district councils (for local policy initiation and bye-laws formulation and implementation), departments of fisheries, environment, water, lands and surveys, veterinary, agriculture, community development and planning units.
- Recommendations at the national level
- UNDF should work closely with partners at local, regional and national levels
- Close collaboration and networking with other CSO networks and coalitions in the country including the media and the private sector.

4.3 Recommendations at the regional level

- Institutional Collaboration and Networking for intervention implementation as part of the strategy to enhance effective implementation of proposed interventions to achieve sustainable ecosystems management and livelihoods improvement, the UNDF programme partners should endeavour to partner, liaise, coordinate and work jointly with a number of strategic partners and alliances at regional and global levels.

4.4 Conclusion

Given the increasing population and the reducing numbers of fish in the waters due to unsustainable fish harvesting, the fishing villages and landing sites will remain a big challenge in the conservation of wildlife and the Protected Areas. Thus, recommended interventions should be enhanced and conflict resolution mechanisms should be put in place to reduce the magnitude of the challenges.