



**NEBBI DISTRICT STATE OF  
ENVIRONMENT  
REPORT  
FOR FINANCIAL YEAR  
2012/2013**





THE REPUBLIC OF UGANDA

NEBBI DISTRICT  
STATE OF ENVIRONMENT  
REPORT  
FOR FINANCIAL YEAR 2012/2013

Department of Environment and Natural Resources  
Nebbi District Local Government  
P.O. Box 1  
Nebbi, Uganda

JUNE 2013

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**LIST OF ACRONYMS**

ABC	Abstinence, Be faithful and Condom use
AFARD	Agency for Accelerated Regional Development
AIC	Aids Information Centre
ART	Anti Retrovirus Treatment
ARV	Anti Retrovirus
BMU	Beach Management Unit
CAO	Chief Administrative Officer
CBO	Community Based Organization
CSO	Civil Society Organization
CFR	Central Forest Reserve
CROWNS	Community Renewed Ownership of West-Nile Schools
DEAP	District Environment Action Plan
DEC	District Executive Committee
DHO	District Health Officer
DHE	District Health Educator
DPU	District Planning Unit
DRC	Democratic Republic of Congo
DSC	District Service Commission
DSOER	District State of Environment Report
DTPC	District Technical Planning Committee
EA	Environment Alert
EIA	Environmental Impact Assessment
FAL	Functional Adult Literacy
FIEFOC	Farm Income Enhancement and Forestry Conservation
GEF	Global Environment Facility
Ha	Hectare
HC	Health Centre
HDI	Human Development Index
HEP	Hydro Electric Power
HW	Health Worker
IDP	Internally Displaced People
IEC	Information Education and Communication
IGAs	Income Generating Activities
JCRC	Joint Clinical Research Centre
LC	Local Council
LFR	Local Forest Reserve
LG	Local Government
LLG	Lower Local Government
MoLG	Ministry of Local Government
NAADS	National Agricultural Advisory Services
NAPA	National Adaptation Programme of Action
NECOSOC	Nebbi Community and Social Centre
NEMA	National Environment Management Authority
NGO	Non Governmental Organization
NFA	National Forest Authority

OVC	Orphans and Vulnerable Children
OVI	Output Verification Indicator
PAC	Public Accounts Committee
PEAP	Parish Environment Action Plan
PHA	People Living with HIV/AIDS
PMA	Plan for Modernization of Agriculture
PMTCT	Prevention of Mother to Child Transmission
PWD	People with Disability
RDC	Resident District Commissioner
SEAP	Sub-county Environment Action Plan
S/C	Sub-county
STD	Sexually Transmitted Diseases
TB	Tuberculosis
T/C	Town Council
TOT	Trainer of Trainers
UAC	Uganda Aids Commission
UBOS	Uganda Bureau of Statistics
UNEP	United Nations Environment Management Programme
UNDP	United Nations Development Programme
UPE	Universal Primary Education
USE	Universal Secondary Education
USAID	United States Agency for International Development
VCT	Voluntary Counseling and Testing
WENRECO	West Nile Rural Electrification Company
WSSC	Water Source and Sanitation Committee

Figure 1: Map Showing Nebbi District in North West of Uganda

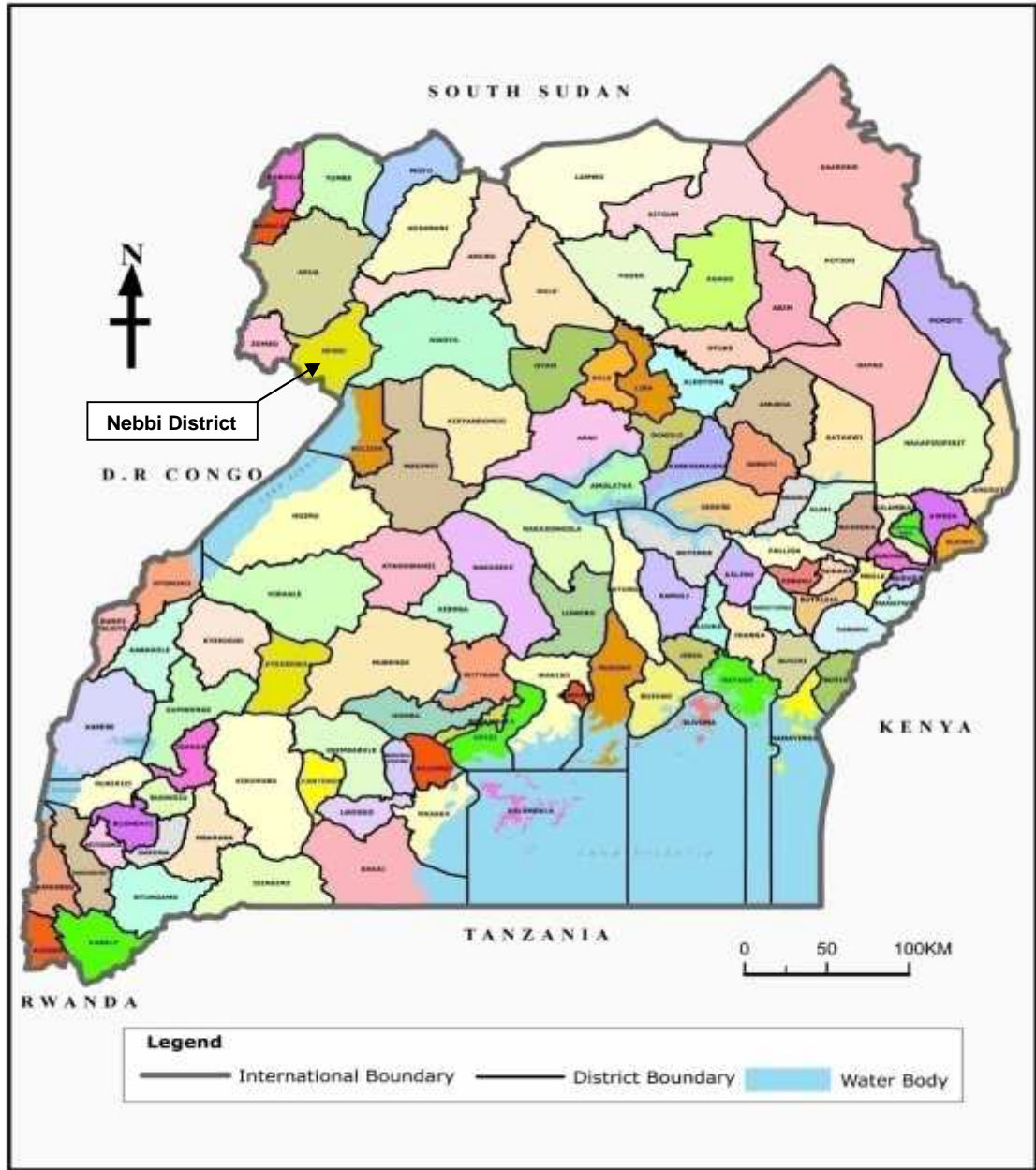
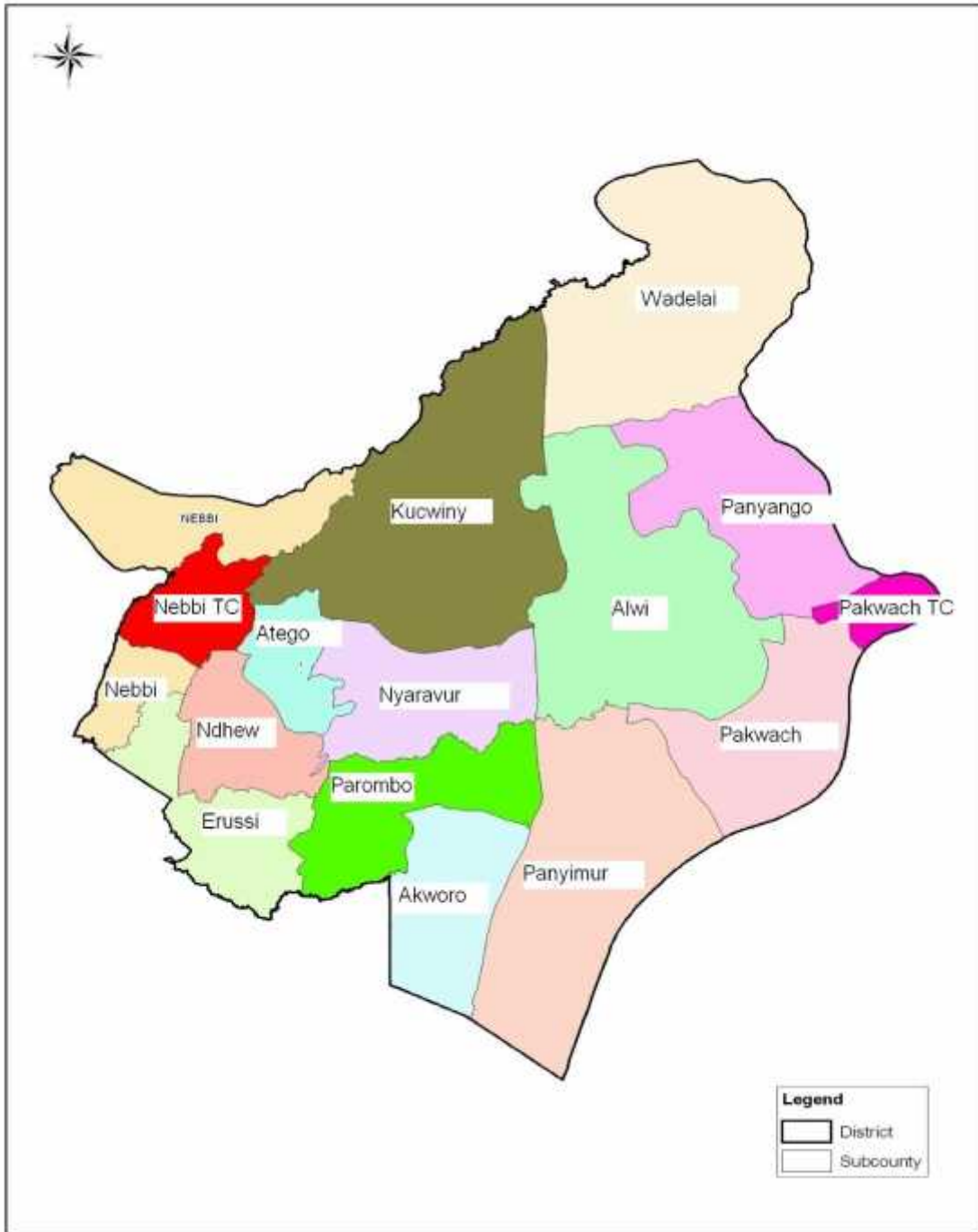




Figure 2: Nebbi District Administrative Units



*Source: Nebbi District Planning Unit, 2013*

## FOREWORD

The need to conserve and make wise use of the environment is at the fulcrum of all development interventions in Nebbi District. This among others is actualized annually through the production of the State of the District's Environment Report. Needless to mention, the district is faced with many environmental challenges resulting from global, national and local unregulated and destructive activities to the environment. These challenges among others call for a unified way through which the people who utilize the environmental resources get informed, make a reflection on their (in) actions and forge away forward for wise use of the environmental resources. Thus, the need for reliable and adequate information on the state of their environment comes in handy. I am pleased to present to you all the stakeholders the State of Environment Report of Nebbi District for the financial year 2012/13.



This report presents the linkages between environment and development, the issues of natural resources endowment, investment opportunities, environmental challenges, strategies to address the environmental issues and challenges and future scenarios.

It has to be pointed out that the purpose of the District that of Environment sub-sector are all geared towards sustainable environmental management and development to improve the livelihood of the people through a participatory approach. The task ahead is to mobilise resources for effective co-ordination, networking and linkage with all development stakeholders for effective and efficient management of the environment in the District. It is envisaged that these can be achieved through participatory community mobilisation and integrated approach to planning and implementation of environmental management plans.

Finally, I wish to emphasize that the Council has the will and commitment to ensure effective environmental management in the District. It is my hope, that this document will provide adequate information to enable us reflect on how we can utilize the environmental resources without reservations and being mindful of the needs of future generations.

For God and my Country

A handwritten signature in black ink, appearing to read 'Okumu .O. Robert'. The signature is stylized and cursive.

Okumu .O. Robert  
DISTRICT CHAIRMAN, NEBBI DISTRICT LOCAL GOVERNMENT

## **ACKNOWLEDGEMENT**

The District State of Environment Report is an important public awareness document that provides information to the general public on the state of Environment in the District. The District Local Government is mandated to produce this document annually which then feeds into the National State of Environment Report that is produced bi-annually by NEMA.



The production of this document was made possible through the inputs of various stakeholders. These duty bearers were drawn from the public domain (Lower Local Governments-LLGs- and the district) and the private sector mainly represented by Civil Society Organizations (CSOs). I would wish to acknowledge the special contributions made by the following:

The District Chairperson and the District Executive Committee (DEC) whose good political will has contributed towards improved environmental management in the District; the District Standing Committee for Production, Environment and Natural Resources that exhibited high level of will and commitment towards effective environmental management and; the District Council which provided policy direction and approval of the Environmental Management Plans.

I highly appreciate the District Heads of Sectors and Departments for their special inputs in terms of information and data provided for production of this report. I also wish to thank the 15 LLGs most especially the Sub-county Development Planners and Focal Point Persons for Environment who provided adequate information for integration into this document.

Finally, I thank the District Environment Officer and her Team for inputting the data and producing a high quality report. Equally the Editorial Team for undertaking the last tasks of ensuring quality and consistency in the report.

A handwritten signature in blue ink, appearing to read 'Alia Seraphine'. The signature is fluid and cursive, written on a light-colored background.

**Alia Seraphine**  
**CHIEF ADMINISTRATIVE OFFICER, NEBBI DISTRICT LOCAL GOVERNMENT**

## EXECUTIVE SUMMARY

The report entails key environmental resources/opportunities that exist in Nebbi District, key environmental problems and management challenges, current strategies in place and achievements made, strategies to address the environmental problems and management challenges, future scenarios (in five years time) including the Nebbi District Natural Resources Sector priorities and funding status, recommendations and conclusions.

Nebbi district is located in the North-Western part of Uganda (West Nile). It is divided into 15 LLGs with 13 rural sub-counties, 2 town councils; 85 parishes/town wards and 942 villages. The administration headquarters is located in Nebbi Town Council. The projected Population is 337,400 (Male: 47%; Female: 53%) and over 85% of the population is engaged in subsistence farming with less than 40% of the farm produce marketed. The main crops grown are cotton, coffee, simsim, sorghum, millet, sweet potatoes, beans, cassava, maize and vegetables. However, agro-processing is practiced at a small scale as well as mechanized agriculture because of small land holding, land fragmentation and small capital outlay of the farmers.

The atmospheric resources including climatic resources of fresh air, sunshine, rain, wind and ozone layers, that significantly support livelihoods and wellbeing of both the flora and fauna. The district is very vulnerable to climate variability, thus affecting the livelihood of the people since their main economic activity is agriculturally based.

The district is well endowed with fresh water and ground water resources such as Rivers Nile, Namrwodho and Ora and Lake Albert which are a habitat to a variety of fish species and other aquatic fauna and flora. These offer potential for irrigation which can enhance agricultural production. The District is also blessed with wetlands resources which are concentrated along the river banks and L. Albert shores. They are a habitat for vital resources and offer important ecological functions to the aquatic resources. However, management of the wetlands is challenged by encroachment hence degradation.

Fishing in Nebbi District is dominant in Jonam County on L. Albert and Albert Nile with over 20% of the households deriving their livelihood from it. There are 71 fish landing sites from Panyimur to Wadelai. There is a variety of flora and fauna whose distribution are affected by the geological differences in the area. Some areas are richer in species diversity than others. Fore instance, L. Albert and R. Nile are lying within the same geographical zone but the fish species in the Albert area is more than in the Nile. This could be defined by other aquatic conditions in the ecosystems. The biodiversity of Nebbi is threatened by habitat loss, modification and alteration, unsustainable harvesting, pollution, introduction of alien species such as the water hyacinth and climatic change.

The land in Nebbi has the potential to support many livelihoods in the areas of agriculture, forestry and infrastructural development. The common tenure system in the District is customary ownership, yet without land use planning and management, it poses significant socio-economic and environmental threats. A lot of public awareness needs to be done to educate the communities on land registration and management. Besides, there is need to appreciate the link between land, human settlements, infrastructure and ecosystem services which provides economic and social goods and services and contributes towards poverty reduction and/or eradication. The above relationship is increasingly under pressure due to high population growth, unplanned settlements, poor sanitation and environmental degradation in the District.

The energy sector is one of the key sectors that contribute to economic development and social wellbeing. The district through Ministry of Local Government (MoLG) has continued to build capacities of the community in embracing the rural electrification program. Namrwodho riverfalls in Jupangira Pawong has been identified for mini/micro hydro sites for isolated mini grid electrification. In addition, an electrical engineering assistant has recently been recruited with the support of GIZ PREEEP to foster competence and knowledge in the energy sector at District Local Government level.

The oil and gas industry is another potential source of energy in the District. The areas of high potential are the Nile basin in Pakwach and Lake Albert basin in Panyimur. The exploration and production activities of oil and gas pose new social-economic and environmental challenges to the District which needs an integrated approach of management.

The key resource in the energy sector in the district is still biomass, especially wood fuel which is becoming increasingly scarce due to non-sustainable use. Wood fuel is the energy resource used for cooking by the entire population and therefore a prerequisite for food security. As the district population grows, the pressure on this resource is increasing. There is therefore an immediate need foster and improve energy efficiency in the biomass sector and to diversify the resource portfolio, especially through the use of bio, agro, animal and human waste.

Nebbi faces the challenges of ensuring adequate supply of arable land, freshwater, food, security, housing and livelihood opportunities for almost twice the current population in the next ten years. This therefore, requires a coherent and pragmatic approach to land use planning and management.

The following policy options need to be adopted to promote effective environmental management in the District:

- In addition to other pillars of sustainable development, both the District and Central Government need to analyze and recognize the role of

- environmental management and natural resources sector to economic growth and social wellbeing.
- Aggressive public awareness and education on environmental concerns especially of oil and gas and develop management strategies.
  - Appreciation of compliance inspections and monitoring of projects, land use and specifically oil and gas activities to ensure compliance with environmental and social safeguards/standards and occupational health and safety standards.
  - Effectively integrate environmental management into science and technology. This will minimize environmental and social impacts of projects and address issues to do with e-wastes and other emerging environmental issues.
  - Boost afforestation, control harvesting of natural forests and other resources such as wetland resources and restore degraded ecosystems.
  - Government should develop an up to date enabling policies, strategies and plans to harness the enormous potential in the fisheries sector in the District and the Country at large.
  - Development of an effective District land use/management plan. This can only be done if the National land use plan is developed. Currently, the district has 3 physical development plans of Nebbi Town Council, Pakwach Town Council and Parombo Town Board. Therefore, there is need to plan the entire district in the next 5 years.
  - Improve the Districts disaster risk reduction and management strategies. This can be done through improving the level of preparedness, resilience and prevention capacity. Thus the District Disaster Management Committee should be strengthened through both technical and financial support.
  - Prioritize investments in renewable energy resources such as solar, mini- and pico hydro and bio-fuels (wood fuel; biogas, briquettes and charcoal from organic waste materials) to reduce the carbon footprint and improve access to modern energy services within the district.
  - Promote efficient use of biomass resources and the use of modern biomass energy technologies to ensure that also in the future biomass resources will be sufficient to cover the needs of a rapidly growing population
  - Develop a comprehensive biomass energy strategy and complement it with a biomass ordinance.

## CHAPTER ONE

### GENERAL BACKGROUND INFORMATION ON NEBBI DISTRICT



#### 1.0. Introduction

This chapter provides key information about the district in terms of physical characteristics (location, area, topography and soils, climate, vegetation and drainage), socio-cultural, economic and political features (demography, political and administrative structure and economic activities) and lastly, cross cutting issues (poverty, HIV/AIDS, gender and food and nutrition).

#### 1.1 Location and Area

Nebbi district is located in the North-Western part of Uganda (West Nile). It is bordered to the North by Arua, Amuru and Nwoya to the East, Bulisia to the South-East, Zombo to the West; and the Democratic Republic of Congo to the South-West. The district occupies a total land area of 1984 km<sup>2</sup>.

#### 1.2 Political and Administrative Structure

The district is divided into 15 LLGs i.e. 13 rural sub-counties (including additional three new sub-counties of Alwi, Ndhew and Atego), two town councils; 81 parishes/town wards and 894 villages.

The Council is the supreme policy-making organ of the Local Government (LG). The District is headed by the LCV Chairman who is supported by the District Executive Committee (DEC) members and the Sectoral/Standing Committees which deliberate policy matters and make recommendations to the full Council of 30 Councilors including the District Chairman. There are 4 statutory bodies: Public Accounts Committee (PAC), District Service Commission (DSC), District Land Board and District Procurement Committee.

The Resident District Commissioner (RDC), represents the President in the district and ensures that both national and local priorities are given due consideration and are implemented in an accountable manner.

The Chief Administrative Officer (CAO), heads the Technical team with 8 functional directorates that are overseen by three (4) Council Standing Committees, namely: Administration, finance and planning and investment, Roads, Water and Works Committee; Production, Environment and Natural Resource Committee; Social Services and Community Based Services Committee.

At the lowest level of government (Sub-counties/Town Councils) there are functional elected councils established as by law as well as political (though not governments) at parishes/wards and villages/cells. In addition, there are several Community Based Organizations (CBOs), Civil Society Organizations (CSOs), Non-Governmental Organizations (NGOs) and members of the private sector who work together with the district council to deliver services to the community.

### **1.3. Economic status of the district**

Over 85% of the population is engaged in subsistence farming. Much of what is produced is consumed at the household level and less than 40% is marketed. The main crops grown are cotton, coffee, simsim, sorghum, millet, sweet potatoes, beans, cassava, maize and vegetables. However, agro-processing is practiced at a small scale as well as mechanized agriculture majorly because of small land holding, land fragmentation and small capital outlay of the farmers. Further, though the district has a potential for large scale crop production limited access to markets remain one of the biggest constraints facing farmers. The table below explains the main crops grown by county.

**Table 1: Main crops grown by county**

<b>County</b>	<b>Crops Grown</b>
Jonam	Cotton, simsim, sorghum, millet, peas, cassava, sugar cane, fruits (citrus) and sweet potatoes.
Padyere	Cotton, sisal, arabica coffee, sweet potatoes, beans, ground nuts, bananas, sorghum, maize and fruits (citrus).

***Source: Production Department Nebbi District Local Government 2011***

Livestock farming is an important activity especially where the climate is less favorable to crop growing and the dominant animals kept are cattle, sheep, goats, poultry and pigs. However, animal husbandry is not highly commercialized and is based on local varieties and thus poor quality breeds with low productivity. Additionally, disease outbreaks such as anthrax, trypanosomiasis and a number of poultry diseases further compromise the health and quality of the animals. Apiary is also coming up as one of the economic activities in the district with over 3000 Bee-keepers producing over 10 tons of honey per year.



Fishing is dominant in Jonam County on Lake Albert and Albert Nile with over 20% of the households deriving their livelihood from it. There are 71 fish landing sites from Panyimur to Wadelai.

Forest reserves cover 81 km<sup>2</sup> of the district land. Private woodlots also exist. Forest reserves are increasingly being put under pressure by cultivators and exploiters of forest products like timber. The National Forest Authority (NFA) remains responsible for management of the Central Forest Reserves (CFR) hence minimizing the loyalty gains to the District.

#### **1.4 Topography and soils**

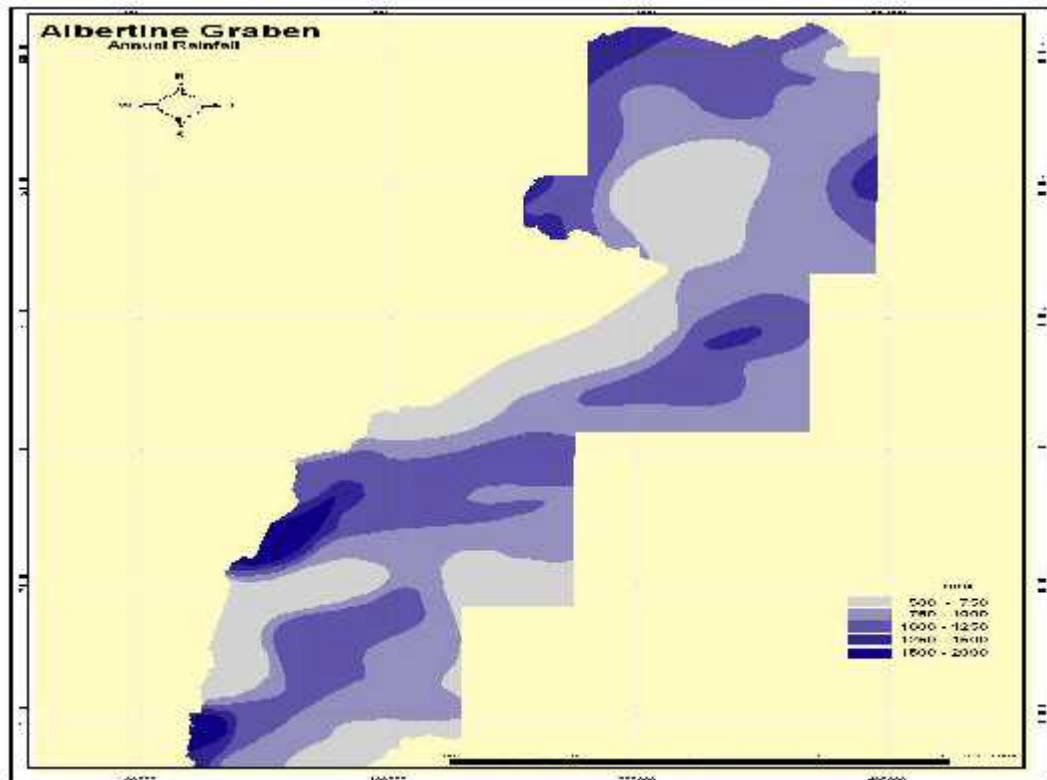
Geological activities produced a conspicuous morphology in the district. Faulting and rifting along the western arm of the East African rift valley zone extends from Panyimur into Jukia hills in Nebbi Town Council. Up-arching and tilting affected the uplands of Erussi and Goli. As a result, differences in localized diastrophic forces led to a variation in relief with a marked ascend towards the Democratic Republic of Congo. Jonam County has a flat relief, Padyere is a raised plateau and part of Padyere especially Erussi is a highland. Metamorphic rocks are widespread and sedimentary rocks pre-dominate most parts of Jonam County along Lake Albert and Albert Nile basin. Ranitic intrusions are common features in Padyere County.

The geographic and environmental differences noted above have produced different soils. Thus, Jonam is dominated with young and immature lithosols unlike soils in parts of Padyere that are mainly ferallitic soils. Along the slopes and valleys hydromorphic soils exists while vertisols and ferruginous soils of negligible productivity predominate in Jonam.

#### **1.5 Climate and vegetation**

Nebbi district experiences a purely tropical climate due to her location within the eastern topographical rainfall zone. The dry and sub-humid climate is associated with orographic rainfall and hail/thunderstorms. Rainfall is bimodal in nature with peaks in May and October. The first short and usually unreliable rainfall is from late March - May, while the second and more reliable rains fall in the August - October period. Dry spells are experienced in June - July and December - early March. Temperature is generally high except in parts of Padyere County. However, the rainfall pattern is gradually changing to one peak per annum. This is evidenced by prolonged draught and delayed beginning of the usual rainy season as indicated by late planting of crops. The figure below depicts the rainfall amounts in the Albertine graben including Nebbi.

Figure 3: Albertine graben Rainfall -Nebbi District Annual Rainfall



*Source: Department of Meteorology (Environmental Sensitivity Atlas for the Albertine Graben 2010)*

The above map indicates that Nebbi district (in the north-western) mainly receives an annual rainfall of 500-750mm, which is low. Records at the Meteorological department shows that the long-term mean rainfall amount recorded at Wadelai weather station for Nebbi is 1,029mm.

Climate and altitude explain the predominance of the savannah vegetation in the district. The pattern of distribution however, varies distinctly with Jonam dominated by thick dotted grassland, Padyere wooded dry and most savannah grassland. Fairly high population densities have an important effect on the original vegetation. Woody areas are being cleared for agriculture; provision of construction materials for the (semi-permanent) dwellings and fuel wood is used by 99% of the population. These uses are in forms of charcoal and firewood for domestic and institutional energy stoves.

## 1.6 Drainage

Apart from ground water, major surface water bodies include Lake Albert and the Albert Nile with dendrites and the tributaries that originate from the upland terrain. The major perennial rivers include the Nile, Ora and Namrwodho although the water volumes fluctuate due to changes in climate and human activities. There

are other rivers and streams such as Kopio, Oguta, Achodho, Ayila and Kivuje which are either seasonal or intermittent.

## **1.7 Demography**

### **1.7.1. History, Culture and Population**

The Luo migration in the 15th Century from Southern Sudan (Bar-el-ghazel swampy region) provided the basis for the people in the district. The split at Puvungu and the subsequent radical movement left a remnant of Luo speakers in the area. Inter-marriage, return migration and exchanges with the Sudanese speaking people (Madi and Lugbara) who had settled in the area by 1000 AD caused common characteristics. Later the Alur society with royal regalia, and bureaucratic specialization of duties and social stratification developed and replaced the egalitarian pre-feudal societies.

Colonialism found a limited degree of (western) civilization of the society. The semi-segmentary set-ups had chieftainships at the core of the political and socio-economic systems. However, the 1940's demarcation of the boundary did divide the Alur people between Uganda and the DRC.

Nebbi district (then part of the South-West Nile district), was gazetted from the former District in 1974. The district is a polyglot society in which the various ethnic groupings (Alur, Jonam, Kebu, Lendu, Madi and Lugbara) have diverse historical origins dating as far back as 1000 AD. Majority of the people in the district are of Nilotic origin (98%) and of these 91% are of Alur ethnicity. Minority groups of Madi and Lugbara reside in the urban centres and the sub-counties of Wadelai, Nebbi, and Kucwiny while the Nyarwanda/Nyankole of Hima origin is sparsely distributed depending on the availability of grazing land for their pastoral activities.

### **1.7.2. Cultural Characteristics**

The patrilineal set up of the society has historically stimulated and reinforced male dominance in virtually all domains. The rights of women to property ownership, control and inheritance are affected by the existing cultural restrictions that exclusively empower men and promote male dominance. Such cultural conditions further affect the daily life pattern of women for example restrictions on consumption of some nutritious foods like chicken, certain species of fish and delicacies. This segregation is also reflected in the division of household responsibilities by sex; gender identity is rigid as a consequence of parental role models and deliberate peer grouping of children.

The western religious and civic authorities have minimized the powers of cultural institutions in leadership. The western religious organizations deemed the Alur traditional set up devilish while the colonial civic authorities considered them as backward. Such approaches minimized the local population participation and reduced the values of indigenous knowledge and practices in the development processes. However, there is some hope as the revival of the traditional

paramount chieftaincy (Rwoth) has empowered the cultural leaders and hence enhancing decision making at both royal and civic levels.

The cultural heritage of the Alur society is replicated in the diversity of ceremonies practiced. These include ceremonies related to birth (especially of twins), funerals, marriage, and “mwaka” (during the harvest), “tedo kidi” (during hunting season) and “ambaya” (on errand). The purpose of these ceremonies range from requests for blessing to appeasement of ancestral spirits. Unfortunately, most of these practices are becoming a “bye the gone” as a result of conflicting and destructive religious outburst and verdict aimed at complete deculturation of the Alur religious practices. Amidst all these, some sites of cultural heritage still exist in the district (but poorly utilized and maintained) as indicated in the table below.

**Table 2: Sites of cultural and historical heritage**

Site	Location
1. Fort Emin Pasha	Wadelai
2. Italian Site	Erussi
3. Wade Ley Axe (Site)	Pakwach
4. Nduru Rock	Nebbi
5. Amur Pii (Hot Spring)	Panyimur
6. Loj Judongo	Kucwiny

**Source: Community Based Services Office**

### **1.7.3. Population Size, Growth and Distribution**

The population of the district has been projected in 2013 to 346,512 composed of 48% males and 52% females. Children under 15 years made up 46.4% of the population and the elderly (over 65 years) constitute 3%. This makes the districts total dependency ratio high at 49.4%.

The population distribution of Nebbi District is 84.9% rural and 15.1% urban. This distribution reflects the different agricultural potentials of the counties, as can also be seen from the population densities (persons per sq. km): highest in Padyere (>100) and Jonam (<100). The population growth rate of 2.69 is due to the combined effect of a high fertility rate and declining levels of mortality (especially maternal and infant mortality). It should be noted that this has fallen from 3.7% reflected in the 1991 Census. The population distribution across the LLGs by sex is as presented in the table below:

**Table 3: Population distribution by county, LLGs and sex (2002 and 2013)**

County	LLGs	2002 census			2013 projection		
		Male	Female	Total	Male	Female	Total
Jonam	Pakwach	7,789	8,409	16,198	9,358	10,105	19,463
	Pakwach TC	8,451	9,641	18,092	10,628	12,305	22,933
	Panyango/Alwi	14,573	16,160	30,733	18,665	20,831	39,496
	Panyimur	10,191	10,777	20,968	13,013	13,959	26,972
	Wadelai	7,066	7,834	14,900	9,740	10,832	20,573
	<b>Subtotal</b>	<b>48,070</b>	<b>52,821</b>	<b>100,891</b>	<b>61,404</b>	<b>68,032</b>	<b>129,436</b>
Padyere	Akworo	7,481	8,009	15,490	9,528	10,418	19,947
	Erussi/Ndhew	20,324	21,587	41,911	27,960	29,324	57,285
	Kucwiny	9,876	10,728	20,604	13,123	14,425	27,548
	Nebbi	7,916	8,597	16,513	10,699	11,553	22,252
	Nebbi TC	10,949	12,241	23,190	13,678	15,912	29,589
	Nyaravur/Atego	10,159	11,196	21,355	13,397	14,821	28,218
	Parombo	12,000	13,161	25,161	15,238	17,000	32,237
	<b>Subtotal</b>	<b>78,705</b>	<b>85,519</b>	<b>164,224</b>	<b>103,623</b>	<b>113,453</b>	<b>217,076</b>
<b>Total</b>	<b>126,775</b>	<b>138,340</b>	<b>265,115</b>	<b>165,028</b>	<b>181,485</b>	<b>346,512</b>	

Source: UBOS, 2002 Population and Housing Census/projections 2013

The following can be deduced from the table:

- Overall the population has grown by 23.5% over eleven years
- The district population is higher in Padyere County (63%) than Jonam County (37%)
- From the projection, the most populated LLG is Erussi making 16.5% of the district's population followed by Panyango/Alwi (11.4%) and Parombo (9.3%) with all the three contributing to more than a third (37.2%) of the district's population. These are attributed to large land area (Panyango and Erussi) and vibrant economic activities (Parombo and Erussi).
- The LLGs with the highest increase over the years are Wadelai (27.6%), Erussi (26.8%), and Nebbi (25.7%) while the one with the least growth is Pakwach (16.7%). With exception of Pakwach sub-county, none of the LLGs had an increase of less than 20%.

## 1.8 Analysis of Crosscutting Issues

### 1.8.1 Poverty and livelihoods of the people

#### *Poverty*

According to the community consultative meeting that were conducted in 2008, in a sampled five LLGs of Parombo, Panyimur, Pakwach T/C and Nebbi T/C, poverty was perceived differently based on geographical location, nature of economic activities and social status. However, poverty was generally summarized “as the inability to meet basic needs such as food, shelter, clothing, health care and education, lack of/inadequate/wrong information and inadequate household items like paraffin, salt and soap”. In addition, lack of opportunities for survival and employment, and having limited or low productive assets such as

farm tools and land emerged strongly in the definitions of poverty. The table below indicates the perception of poverty according to the different categories of people interviewed:

**Table 4: Definition of poverty by category**

<b>Category</b>	<b>Definition</b>
Community	Lack of basic necessities Inadequacy of basic necessities
Key informants (Village Bank Managers, Head teachers, opinion leaders)	It is a disease Difficulty of situation such as feeding, lack of money etc A situation where one is unable to be at a livelihood that is good
Children and Youth	Lack of what to eat Lack of scholastic materials Lack of good clothing and shoes

***Source: Parombo Sub-County FGD-2008***

Considered on a rural/urban divide, poverty was further constructed differently and with varied underpinning reasons. For instance in the rural areas poverty was noted to be in a vicious cycle: because some parents fail to support their children in school all the time, the children marry early resulting into poor health as a result of unresolved maternal issues for both the parents and children. In the urban communities poverty is viewed in terms of inability to have cash in the pocket and failure to engage in meaningful and gainful activities, in most cases related to business (trade). Support to starting, planning and managing small business could, therefore, be an area that can be taken up by the Urban Councils. This can be through linkages to other development agencies or use of its Community Based Service department.

Poverty manifests itself in a variety of forms with varied causes and effects. An analysis of the cause-effect relationship on a gender, age and occupation dichotomy was conducted in the district and the result is presented in the table below:

**Table 5: Poverty analysis matrix: cause-effect relationship and mitigation**

<b>S/No.</b>	<b>Informant Category</b>	<b>Poverty manifestation</b>	<b>Causes</b>	<b>Effects</b>	<b>Mitigation strategies</b>
1	Women	Poor and distant health facilities, high disease prevalence, low household income and low agric	Distant and poor health centres, inadequate safe water, lack of improved seeds, poor road net work and low price for agric produce	Ill health, poor market access, divorce/domestic violence	Establish and equip health facilities, increase safe water coverage, encourage improved

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S/No.	Informant Category	Poverty manifestation yield	Causes	Effects	Mitigation strategies and high value crops
2	Youth	Idleness, lack of knowledge and skills in employable skills, HIV/AIDS scourge	Unemployment, ignorance and lack of skills	Prostitution, theft, civic disobedience, death and street movement	Promote and improve access to efficient cooking stoves and solar lighting Improve on the non-formal education and introduce IGAs and mitigate HIV/AIDS
3	Men	Poor farming methods, low household income, no gainful business and high illiteracy rate	Poor leadership, lack of improved seeds, lack of market for produce and low level of education	Low income, food shortage, poor education, loss of dignity	Train on modern farming methods, improve selection, planning and management of IGAs & improve educ. Std. Train on energetic use of bio-and agro waste
4	The Elderly	Low life expectancy, isolation loneliness and old age	Lack of food and health care, lack of social support.	Ill health, hopelessness, frustration, regression and death	Train and plan of the management of vulnerable groups and encourage reintegration.
5	Rural areas	Ignorance, poor infrastructure, land	Lack of productive assets, poor market access	Conflict, food insecurity, witchcraft, low income, envy	Support FAL, Improve on social

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S/No.	Informant Category	Poverty manifestation	Causes	Effects	Mitigation strategies
		degradation, fragmentation and negative cultural practices	and prices, lack of social network, lack of tools/implements and remoteness	poor education	services and improve on environment management
6	Urban areas	Poor utilities, urban immigration and poor nutrition	Lack of food and unemployment	High cost of living and prostitution	Speed up the piped water installation, reduces immigration
7	Fishing community	Congestion, fish depletion and poor fishing methods	Lack of fish, low yield and no alternative employment	Low income, poor nutrition, idleness and poor savings	Protect fish from depletion through stringent bye laws
8	Key informants	Lack of skills in PEAP management, inadequate planning for and management of resources	Poor resource management, lack of knowledge and absence of peasant friendly lending systems, poor marketing strategies and low price for agric produce.	Low household income, high cost of living low growth and development	Train population on poverty reduction skills and encourage Private Public Partnership.

Based on community consultations that were conducted last year (2010), poverty was perceived to be on an upward growth trend attributed to poor crop productivity, crop and animal pest. On a positive note, communities generally agreed that there has been improved access to social services particularly education, water and health during the past five years. What remains a challenge is whether or not these facilities can be utilized to provide the services for which they were meant to deliver. However, there are still some factors that militate against the eradication of poverty such as:

- Local taxes, levies and bureaucratic controls (both legal and illegal) are serious constraints on the expansion and promotion of economically productive activities and a call should be made towards the review of the collection modalities employed by the LLGs and their agents.
- The district/sub-county NAADS programme and other extension services focus on very few targeted farmers in the name of technology promotion and adoption and commercialization of farming and yet majority of the population are subsistence farmers.



- Limited access to rural credit schemes has directly aggravated the poverty trend to the worst; and poor marketing of agricultural outputs to enhance sale and increase of farmer’s income.
- There is inadequate knowledge about biomass energy technologies like efficient cooking stoves or the production of biomass fuels from bio-waste (briquettes, charcoal, and biogas), depriving farmers of additional income sources.

The above scenarios affect LLGs differently and this results into different poverty pockets. For instance, results from community consultations in all the LLGs clearly revealed the levels of poverty in all the localities with the LLGs of Wadelai, Panyango, Pakwach, Nebbi, Akworo, Nyaravur and Kucwiny falling in the high poverty cohort. The table below shows details of the geographical spread of poverty by LLGs.

**Table 6: Sub-County poverty status**

High poverty areas	Medium poverty areas	Low poverty areas
Wadelai, Panyango, Pakwach, Nebbi, Akworo, Nyaravur, Kucwiny	Panyimur, Parombo, Erussi,	Nebbi TC, Pakwach TC

Different policy propositions have been advanced by different gender, age and social groups to guide tackling poverty. Below in the table are the different policy options proposals.

**Table 7: Priorities for specific categories of the poor**

Social group	Needed priority policy action
Men	Electricity, Market, Heath Units, marketing information and Clean water
Women	Capital, inclusion, health services, water, sanitation and efficient cooking technologies and clean lighting
Youth	Employment, Education, Health, Road improvement and accommodation
Elderly	Employment, Accommodation, Security, Tax exemption, Welfare
Orphans	Education, Food, Health, Employment, Accommodation and Clothes
People with Disabilities (PWD)	Start up capital, Market, support equipment, health, education and welfare.

***Livelihood practices***

As noted earlier, subsistence crop farming is a full time job for most (85%) households in the rural settings especially communities outside the river banks/lake shores and much of what is produced is for household sustenance

and consumption (less than 40% is marketed and is mainly cotton, coffee and a few other food crops such as cassava, greens and beans). The main source of income is witnessed in the growing of cash crops which is a male domain. Women have no steady income source of their own, since the petty business and brewing they undertake is strictly to meet basic home requirements. Further, women have limited access, ownership and control over most livelihood productive resources/assets such as land, livestock, farm tools, and credit facilities. This situation makes women more vulnerable to poverty than men.

Most communities along the Lake Albert and the River Nile (which has over 30 fish species) make their living by fishing and related activities. Fishing methods are still rudimentary and illegal. Fishing communities reports poor fish catch due to depletion of fish in the lake/river. Traditional methods for processing; salting, sun drying and smoking are dominant and these were noted to have a negative bearing on post harvest losses. The table below summarizes the livelihood practices of the people in the district.

**Table 8: Summary of livelihood means and categories involved**  
Responsible persons

Activities	Responsible persons			
	Children		Adult	
	Boys	Girls	Men	Women
Crop farming	✓	✓	✓	✓
Petty Business	✓	✓	✓	✓
Brewing		✓		✓
Forestry	✓		✓	
Apiary	✓		✓	
Hand crafts		✓		✓
Brick making	✓		✓	✓
Animal Rearing	✓		✓	✓
Fish Farming	✓		✓	✓
Remittances	✓	✓	✓	✓

**Key**

- ✓ Involvement
- |  |   |
|--|---|
| <table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td>✓</td> </tr> </table> | ✓ |
| ✓  |   |

 More involvement

The above table portrays that men/boys are more involved in productive and income generating activities with wide capital outlay and asset base. Women/girls are engaged in the basic subsistence activities that primarily focus on ensuring the sustenance of the family/household. Such activities limit the participation of women/girls in public spheres compared to men. This situation thus, contributes to the low income level, status and dignity of women in the society and negative

influence on the environment given that women interact more with the environment than men.

### **1.8.2. HIV/AIDS Analysis**

The AIDS pandemic has affected different sections of the population causing loss of productive manpower, increase in numbers of orphans and other vulnerable children (OVC) and dependants that translate into socio- economic and psychological stress. There is thus, no doubt that the disease is a major development challenge that undermines the attainment of the development goals of all sectors in the district.

The HIV/AIDS prevalence rate of Nebbi District has been fluctuation between 6.0 and 4.2 in the last 3 financial years. That is, 6.0 in financial year 2010/11, 4.2 in financial year 2011/12 and it increased slightly to 4.4 in financial year 2012/13 as presented in the table below. The HIV prevalence rate for urban residents is significantly higher than rural residents (UAC 2007). The most affected category of persons according to the data from Nebbi District Health Information Management System (HIMS) are the children of age below 18 years with prevalence rate of 5.4 compared to the 4.9 prevalence rate in the adult population.

**Table 9: HIV Prevalence Rate**

<b>Category</b>	<b>2010/11</b>	<b>2011/12</b>	<b>2012/13</b>
HIV prevalence rate < 18 yrs (%)	8.0	3.7	4.6
HIV prevalence rate > 18 yrs (%)	6.0	4.3	4.5
HIV prevalence rates all ages (%)	6.0	4.2	4.4
HIV prevalence rate of pregnant women(%)	4.2	4.2	2.4

**Source: HIMS, Nebbi DLG**

The district has adopted the national ABCD strategy in the fight against HIV/AIDS. However, laboratory services to aid testing and post-testing initiatives are confined to the main hospitals of Nebbi and HC IVs of Goli and Pakwach mainly courtesy of AIDS Information Centre (AIC) and the Joint Clinical Research Centre (JCRC). Additionally, ARV services were opened in Nebbi Hospital in 2007 by JCRC with support from USAID, and the unit is still functional to date.

Below are tables that explain in detail the cause-effect relationship of HIV/AIDS as well as proposed mitigation interventions and HIV/AIDS mitigation and control plan.

**Table 10: Key HIV/AIDS issues across sectors**

<b>No.</b>	<b>Issue</b>	<b>Causes</b>	<b>Impacts</b>	<b>Mitigation measures</b>
1	Low VCT coverage	Only 5 centres offering VCT services	Low VCT uptake, no access to ARVs by the beneficiaries and	Scaling up VCT to 9 more centres, acquisition of testing kits and reagents, training of councilors and lab technicians

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No.	Issue	Causes	Impacts	Mitigation measures
			continuous spread	and medical officers and community awareness creation
2	Inaccessibility of ARVs by PHAs clients	Only 2 hospital offering ART in the District.	Defaulting of clients leading to drug resistance, poor quality of life of PHAs	Scaling up of ART to one more centre-Pakwach HCIV, training of councilors and lab technicians and medical officers in ART and community awareness creation on ARVs.
3	Inaccessibility of septrin prophylaxis by PHAs clients	Only 2 hospital offering ART in the District	PHAs are prone to opportunistic infection and poor quality of life of the PHAs	Scaling up of septrin prophylaxis administration to HCIII, training of HWs in cotrimoxazole prophylaxis, acquisition of septrin drugs and community awareness on ARVs and septrin prophylaxis
4	Lack of post exposure prophylaxis in health facilities	Inadequate number of trained staff	Increased health workers infection rate, no access to ART services and loss of human resource due to HIV/AIDS	Training and sensitization of 360 HWs on PEP, and initiation of PEP in 3 hospitals and 38 HCIIIs
5	Inadequate knowledge on PMTCT and other core HIV services amongst community leaders	Inadequate sensitization	Low VCT utilization, low male involvement in VCT and PMTCT and inadequate resource mobilization	Sensitization of leaders, production of IEC, community sensitization on PMTCT/VCT
6	Few HIV positive mothers participate in Peer Psychosocial meetings	Discrimination, stigmatization, separation/divorce, lack of openness	Infants born with HIV infection and mothers and infants not accessing nevirapine drugs	Sensitization of leaders, production of IEC, training of HW in infant feeding and form PSS groups in 5 PMTCT/VCT centres
7	Lack of knowledge and skills in infant feeding among HIV positive	High illiteracy level among women, poverty and difficulty in coping up with new changes	Infants born with HIV infection and mothers and infants not accessing nevirapine drugs	Sensitization of leaders, production of IEC, training of HW in infant feeding and form PSS groups in 5 PMTCT/VCT centres

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No.	Issue	Causes	Impacts	Mitigation measures
	mothers			
8	No HIV/AIDS coordinating mechanism at lower levels-sub-county-Parishes and villages	Not initiated	Poor /no resource mobilization and inadequate planning and monitoring of HIV /AIDS infection	Sensitization of leaders at all levels, initiate coordination point in all parishes

**Table 11: HIV/AIDS mitigation and control plan**

Objective	Activity	Input	Outputs	Resp. Person	OVI
To increase VCT utilization	1. Scaling up VCT services through outreaches	Testing reagents Forms,	VCT outreaches carried out.	DHO	No of outreaches conducted no.
To update District leadership and solicit for support	2. District leaders sensitization workshop		Increased VCT update	HIV/AIDS focal person	
To update District leadership and solicit for support	3. Sensitisation of district leaders on Septrin Prophylaxis		Mobilization of client done	HIV/AIDS focal person	90 leaders sensitized
To impart knowledge and skills to health workers	4. Sensitisation of 300 health workers on septrin prophylaxis		Quality services offered to client, Improved quality of life of PHAs	HIV/AIDS focal person	300 health workers trained
To build capacity to provide knowledge to caregivers on infant feeding	5. Monthly follow up of mother infant pairs		Increased enrolment of HIV positive mothers who practice exclusive breast feeding /other feeding options	ADHO	Reports, attendant sheets
To evaluate PMCT programs	6. Quarterly PMTCT committee meeting			ADHO	Reports, attendant sheets
To build capacity to provide knowledge and skills to health workers on routine HCT counseling	7. Training of 20 headworkers in Routine HCT Counseling for 14 days	Training materials	Quality services offered to client, Improved quality of life of PHAs	HIV/AIDS focal person	20 health workers trained
To empower	8. Community	IEC		DHE	Increased

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Objective	Activity	Input	Outputs	Resp. Person	OVI
community for health seeking behavior and increase knowledge	sensitization on PMTCT, VCT, ART, Condom use through radio	materials, resource persons			demand and utilization of services
To evaluate HIV/AIDS programmes implementation	9.Quarterly stakeholder meeting		Quality services offered to client, Improved quality of life of PHAs	HIV/AIDS focal person	Reports, attendant sheets
To empower community for health seeking behavior and increase knowledge	10.Distribute IEC material on IO and ART for public knowledge			DHE	demand and utilization of

**Table 12: Data on Response of Actors to the HIV/AIDS Situation**

Actor	Area of operation	Target population	Activity focus	Networks	Funding	Area of concern	Future plans
AFARD	Panyimur	Fishermen and youths	HIV/Aids prevention/ education counseling, guidance care & social support, condom education and promotion of IGA	DEI post test clubs, peer educators	Civil Society Fund GORTA	Continued infection of women by HIV, access to ARVs for those affected and decline in IEC	-Participating in home based care -Assisting orphans & vulnerable children affected by HIV/Aids -Strengthening IEC/BCC -Food security
Pacego women Group	Panyango Sub county	Youths, older people in schools, general population	HIV/Aids through IEC/BCC/drama shows counseling and guidance HBC		ACTION AIDS-Uganda	Provision of scholastic materials to orphans/ vulnerable to HIV	Resource mobilization to support girl child who is vulnerable to HIV in homes/schools
Role Model HIV/Aids project	District wide		-HIV/Aids through IEC/BCC of young people. -Youth empowerment in life planning & livelihood skills -Community mobilization through radio, theatre groups & IEC materials -Counseling & guidance -Training of PHA providers for better	16 networks in the district	ACTION AID/Civil society fund	-Reducing young people vulnerability to HIV/Aids -Promoting BCC to young people 10-24 years -Capacity of health workers to deliver & carry out counseling and guidance in schools & communities	



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			delivery of HBC including Memory and will writing, IGAs			-Limited VCT centers across the district	
Goli Church of Uganda HCIV	Church of Uganda Diocese	Community schools and churches	-HIV programs ( VCT and PMTCT) -Nutritional support	Church of health facility funded	World concern	Increased number of enrolled HIV clients as projected at 300 clients by the year 2008	Offering ART to HIV/Aids client
CARIRUS)	Catholic Church Diocese	Youths out of schools, women	HIV/Aids prevention/ Education Counseling & guidance Care & social support	Nebbi SC, Errusi	Civil Society Fund and Italian NGO	Sustainability of donor support and on and off sickness of infected children	Community awareness about the dangers of HIV/Aids and continued support to OVCs as well as guardians of HIV/AIDS victims
Nebbi PHA forum	District wide	All people/ children living with HIV/AIDS	HIV/Aids prevention/ Education Counseling & guidance	NAFOPHA NO' Nebbi District	Nebbi District Local Gov't	Increasing number of OVCs , limited funding, stigma &discrimination	Strengthening HIV/AIDSs prevention Counseling & Guidance
Nebbi Cultural troupe	District wide	Students, youth & Youth out of schools, OVCs and general population	HIV/AIDS prevention/ Education Care & social support .Condom distribution	District wide	Membersh ip	OVC care takers tending to misappropriate support given to them	Counseling & Guidance

**TB Services:** The link between TB and HIV/AIDS has long been known, and efforts will continue to be put in looking for cases of HIV/AIDS among TB Patients. The district has 9 TB treatment centers at: Nebbi, and Angal Hospitals, Pakwach HC IV, and the HC III of Goli, Padwot Midyere, Parombo, Orussi, Wadelai and Panyimur

### 1.8.3 Gender Analysis and Social Welfare

Gender is a critical variable in the development process. It addresses issues to do with differences between women and men, boys and girls within the same households, and within and between cultures that are socially and culturally constructed and change over time. These differences are reflected in roles, responsibilities, access to resources, constraints, opportunities, needs, perceptions, views, etc. held by women and men, boys and girls and their interdependence relationships.

The women constitute 52% of the district population, yet their access to productive resources is limited. Very few of the women own land, which is the principle means to survival. They lack capital and access to financial services in the form of banking services. Lack of control over land and other productive activities makes women more vulnerable.

From the gender mainstreaming and mentoring activities conducted during the last financial year, as well as the training and field reports, in the table below is an attempt to bring together the gender concerns and/ or issues, their possible causes and impacts as well as the plans/strategies that are in place to overcome the situations.

**Table 13: Gender analysis matrix**

Gender issue	Possible causes	Likely impacts	Plans/strategies
1.High illiteracy rates among women (56.2%) as opposed to men (24.1%) in Nebbi	Little attention given to Women/Girls' education due to negative culture and high household poverty.	-Low participation by women in developmental work -Low labour productivity -Exclusion from decision making -Limited participation in political life and decision making	-Expand coverage and access to Functional Adult literacy (FAL) -Mobilize and promote girls' school attendance under UPE and USE
2.Limited numbers of women in paid employment; eg only 19% of staff are women in the	-Limited educational levels of women -Lack of gender-aware policies and practices, eg deliberate affirmative	-Perpetually limited access of women to financial and other resources - Women'	-Inquire into, and address the causes of poor educational pursuit by girls. -Commit more

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<b>Gender issue</b>	<b>Possible causes</b>	<b>Likely impacts</b>	<b>Plans/strategies</b>
entire service of Nebbi district Local Government	action	continuous disempowerment in decision making -Gender inequality and patriarchy likely to persist in households as well as public institutions	public resources to support girls' education -Implement a deliberate policy to employ more of the qualified girls in public institutions
3.Limited involvement of women in the decentralized bottom-up planning process	-Poor mobilization of the women (according to an Action Research done by AFARD, June 2006) -Wrong time scheduling of these meetings (in the afternoons, when women are engaged in marketing, and/ or other home chores. -Village meetings, where women could have participated, often do not take place.	-Women's needs often left out of the priorities, which are often set by men. -Maternal and Child illnesses and deaths related to, for instance Reproductive Health continue to remain high among Women and Children	-Improve mobilization strategies for women, for planning meetings -Design special modalities and programs for seeking women's views for incorporation into plans.
4. Limited ownership and control rights over property by women in households, and also communities.	-Cultural practice, that disenfranchises women, as they enter marriage -Limited education and empowerment, among women -Limited gender empowerment, to cause the necessary institutional changes at all levels	-Women and Children continuing to suffer deprivation due to lack of control over resource management decisions	-Mobilize and sensitize women and men, as well as cultural institutions on the need for cultural reform -Commit more public resources to support girls' education
5.Huge burdens of household chores on women and girls, as a result of low involvement of men and boys in domestic work	-Culture, that assigns household duties as gender role for females	-Women and men experience untold drudgery, significantly discounting on their welfare -Women and girls left with little time to engage in other activities that are important for their welfare	-Mobilize all groups and campaign for equitable sharing of burdens and responsibilities -Organize incentives, especially for the males to engage in household chores, to relieve the females

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Gender issue	Possible causes	Likely impacts	Plans/strategies
6.Poor School attendance/high school drop-out rates among girls	-Lack of role models to motivate the girls -A traditional practice ad precedence of girls marrying off at adolescence	-Girls deprived of time to engage in their study activities, as opposed to the boys -Low socio-Economic status of girls and women -Limited Gender Empowerment -Persistent Gender inequity in Societal roles and responsibilities	-Inquire into, and address the causes of poor school attendance by Girls -Sensitize LCs to increase vigilance in implementing defilement and early marriage laws -Mobilize women Role Model activities to motivate girls
7.Limited access of women to, especially high leadership positions	-Unfair cultural norms, that relegate women to 'subject' status at all levels of society -Limited formal education of women	-Specific concerns of women are often left out in decisions that have implication for allocation and use of public resources -Continuous marginalization of women	-Mobilize and sensitize communities and households to educate girls beyond primary levels -Sensitize Communities and cultural institutions to deconstruct unfair cultural norms and practices
8.Limited rights and roles of women in making family planning and other reproductive health decisions	-Traditionally, after men have paid bride wealth in marriage, producing children become a key 'accountability' aspect, which only the man has a say on. -Culturally women tend to be valued according to the number of children they produce.	-High Maternal and Child Mortality rates among women and children due to, too early, too many, too frequent and too late births -Poor health and welfare of women due to over engagement in child bearing and	-Work with NGOs engaged in women-related activities to intensify Mobilization and sensitization on matters of women's rights -Intensify use of Health Units and Outreaches for sensitization on

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<b>Gender issue</b>	<b>Possible causes</b>	<b>Likely impacts</b>	<b>Plans/strategies</b>
		child care	Reproductive Health -Step up Mobilization of Male participation in Reproductive Health Activities
9.Low participation of men in processing and Marketing of Agricultural products	-This is culturally viewed as women's role, yet ownership and control of the Returns is often the man's domain.	-It increases work burden of women, hence reducing on their welfare -Women are further disempowered	-Intensify already on-going sensitization of men and women, to share both this role, and right of ownership.
10.High rates of abuse of girls' and women's rights through defilement and rape respectively	-Effect of cultural practices that tend to demean women -Limited knowledge and enforcement of relevant laws on defilement and rape.	-Girls and women often de-humanized -High infection rates of STDs among women	-Intensify sensitization -Strengthen enforcement of relevant laws.

**Household and Family Issues**

The need to provide for their households has increased the responsibilities and roles of women as producers, mothers, household managers and community organizers. Women have to work harder to provide better education and nutrition for their children as they head a big number of households. In the process of carrying out these duties, women have been marginalized in accessing resources and opportunities. Household poverty cannot reduce when conflicts are the order of the day. The change in roles within a home should gradually be accepted given the changing circumstances and men need to be sensitized on this matter. NGOs, women councils, and other local leaders should play an active role in fostering change of gender roles and identity.

**Economic issues**

In Nebbi, some few women work outside their homes to assist in supporting the household, however many more stay in the rural areas, growing food for the family. Even where they may be producing for the market, women may lack control over the proceeds. This has encouraged women to participate in group activities in order to mobilize savings to support their households. However, some women are barred from associating which denies them opportunities of sharing their problems and identifying means of overcoming them. Such women may not even attend development planning meetings in the communities.

### **Decision making issues**

The Local government policy to have women councilors and women representatives on every community committee has greatly improved the position of women in decision making. The participation of women is still low compared to men especially in high-level decision-making.

### **Education issues**

There is a lot gender disparity in the Education sector. Although the Government Policy of UPE scrapped/reduced expenditure on Primary education, the girls still register the highest drop out rate. Some parents are reluctant to send their girls to school partly because of some negative cultural practices which favour boys. There are few secondary schools in rural areas and as a result the priority has mainly been given to boys to attend school. The low literacy level among women coupled with social cultural ties has suppressed the role of women in the process of attaining sustainable development.

### **Health issues**

In their reproductive functions, women are exposed to enormous health risks compounded by pregnancy. Women are vulnerable to infections and this situation is exacerbated by complications during childbirth. Domestic violence is still on the increase with women being the major victims. Major causes include: Socio-cultural and religious factors such as cultural practices of bridal ceremonies, polygamy; lack of respect, unfaithfulness and failure to acknowledge each other's weaknesses; substance abuses in form of smoking *marijuana* and other stimuli. The economic factors such as engagement in long distance trade which led to women spending nights outside their marital homes, increased financial capacity of women and changing gender roles and powerlessness. Other factors include adolescent growth and development issues, health and cross-cutting issues (Amule et al 2007) as well as the constant exposure to the noxious emissions from cooking and kerosene-lighting causing pneumonic diseases.

### **1.8.4 Food and Nutrition**

Nutrition security is key to development and depends on adequate food and health services, care practices and environmental sanitation. The food situation is poor in Nebbi district because of weather vagaries and poor food security planning by the farmers; hence, reduction in food production and increase in hunger. Out of the agricultural produce, the food crops are transported to other districts leaving Nebbi district on hunger starvation. For example buying of food crops are common sight in Parombo, Nyaravur and Erussi sub counties by the middlemen who mostly transport them to Southern Sudan, central and northern Uganda. Some middle men/women have gone as far as buying immature food crops from the gardens of the farmers thus exploiting them in terms of cost and quantity since no proper unit of measurements are used to determine the unit-cost.

Food availability is one of the main indicators of food security (Nebbi District Local Government-Disaster Management Committee 2009). Food availability is facilitated by land availability which has implications on food security, it can be expected that this issue will require a coherent and pragmatic approach to land use planning and management.

According to Nebbi District Local Government-Disaster Management Committee 2009, 46.2% of the people owned land between 0-2 acres, 37.8% owned between 3-5 acres of land. In a nutshell, 84% of the sampled population owned not more than 5 acres of land. This implies that the District is prone to food insecurity, land being the prime resources that facilitates food security.

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Food (in)availability is an indication of poverty especially if it is not available in the required amount and quality and as noted elsewhere the community of Nebbi district is basically agrarian (subsistence farmers) who derive their livelihoods on crop farming, animal production and to some extent fishing. An attempt was made during the course of the financial year under review to determine among others food availability and nutrition among the population<sup>1</sup>. The survey concluded that:

- Most of the crops assessed (cassava, bananas, rice, beans, sorghum/millet, potatoes, groundnuts and maize) were either not available or short in supply (not more than 1 acre). The main reasons for non-availability or low

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<sup>1</sup> For details see Amule Julius (2009), *A rapid assessment of food security situation in Nebbi district* (NP). Briefly the study focused on understanding the magnitude and manifestation of the food situation in the district. Specifically, it was meant to: Find out the availability of current food stocks and their utilization at household level; Examine the effects of the current food stock levels on the livelihoods of the people; Investigate the availability of planting materials at household level and; Make recommendations for mitigation

Study Questions: What is the current household food production level?; What is the food utilization practices; What coping strategies have the households adopted to meet their food requirements?; What are the main challenges to households in obtaining food? and; do households have sufficient planting materials?

A total of 143 household interviews were conducted in six LLGs of Zeu and Nyapea in Okoro county; Kucwiny and Nebbi town council in Padyere county and; Panyango and Wadelai in Jonam county

- acreages are drought (52.4%), insufficient land (17.5%), insufficient money-low purchasing power (8.4%) and lack of seeds (7%).
- Planting varieties were mainly local and harvests/production levels have not increased over the years. Ownership of animal (cattle, goats, pigs and chicken) was very low for instance for cattle non-ownership stood at 77%
  - Food utilization: Most people ate chancely (45.6%) and weekly consumption of cassava, beans and maize was between 1-5kgs. Except breakfast people rarely took lunch and supper and food types eaten were poor in diet. Consumption of 'muziri' (*Rastrineobola argenta*) was on the rise while milk has become a luxury (82% did not take).
  - Access to food: 88% of household did not have food throughout the year and the reasons for not having food throughout the year were drought, inadequate land and poor yields.
  - It was also noted that food shortages were experienced in almost all households (87%) and the duration of shortages ranged from within a month (26%) to about six months (46%). The main causes for food shortage were drought, poor seeds, poor yields, hailstorm and inadequate incomes.
  - Eating practices were mainly communal (89%) and most (80%) households did not take three meals a day.
  - All households were affected in one way or the other by the insufficient food supply: hunger, lack of schooling, theft cases etc were common
  - Incomes of households were incapable of meeting household food requirements.
  - *Dero* (food store) was a forgotten practice (91% did not have) and the main reason was unavailability of what to store (89%) a reflection of low production level.

In sufficient food intake leads to poor nutrition. According to Nebbi District Health Department (2010), there were 872 cases of malnutrition reported in children of age 0-4 years and 296 cases in children of age 5 and above. Thus, there is need to develop strategies to improve food and nutrition in the District.

The proposed way forward to secured and better food and nutrition are:

- Promoting and sustaining increased production and land productivity by introducing appropriate soil and water conservation practices and high yielding and quick maturing and disease resistant plant species and animal breeds. This would enhance the nutrition status of the population of Nebbi district.
- Stimulate agricultural production through value addition, better pricing and marketing system and incentives. To note here is that disincentives in the agricultural sector, especially farming, has discouraged most farmers thus affecting production and causing food insecurity.
- Integration of family planning into agricultural extension services; to some extent food security is a function of the number of people in a household. The declining agricultural production coupled with the increasing population worsens the problem of food insecurity within the community.



- Strengthen food and nutrition policy: enabling policy environment would sustain food security and thus enhance human life quality. Such a policy would promote research, extension services and appropriate technology in agricultural production.
- Promote energy efficient cooking technologies, as the availability of wood fuel also determines the number of meals per day. Time spent collecting firewood by women could also be used more productively to generate additional income.

### **1.9. Organization of the report**

This report is organized in five main chapters. Chapter one presents the general background information on Nebbi District providing highlights on the political and administrative structure, the physical characteristics in terms of the district's location and area, topography and soils, climate, vegetation, hydrology, demography and analysis of crosscutting issues (poverty and livelihoods, HIV/AIDS, gender and food and nutrition).

Chapter two entails the state of environment i.e. the existing environmental/natural resources and opportunities in the district categorized into fresh water and safe water coverage, agriculture, minerals and energy, forest /tree, biodiversity, wetlands and eco-tourism.

Chapter three includes the existing environmental problems as well as the management/institutional challenges and achievements, while chapter four presents the purpose of the District and that of the Natural Resources Sector, key environmental issues and future undertakings.

The last chapter entails recommendations to enhance effective environmental management and conclusions.

## CHAPTER TWO

### THE STATE OF THE ENVIRONMENT



#### 2.1. Introduction

This chapter basically provides insights into the state of the environment under the period of review. It starts by examining the existing environmental resources and opportunities in the district while at the same time explaining the level of resource utilization and benefits derived there from. The main resources that were reviewed are broadly categorized under: fresh water, safe water coverage, agriculture, minerals, forestry/tree species diversity, wetlands and eco-tourism. Later, the investment opportunities in the district are also discussed especially those that have a bearing on the quality and quantity of environmental resources.

#### 2.2. The Environmental/Natural Resources

Natural resources constitute the primary source of livelihood for the majority of the Ugandan population. The economy of Uganda depends on exploitation of its natural resources and will remain so for the unforeseeable future. Management of these natural resources is, therefore, important and critical to Uganda's long-term development (EA, GEF, UNEP, NAPA-Uganda 2007). Nebbi district's population equally depends on natural resources for their livelihood and economic development. The main environmental resources are examined below.

##### 2.2.1 Atmospheric Resources

These resources include climate (fresh air, sunshine, rain, wind and ozone layers) which significantly support livelihoods and wellbeing of both the flora and fauna. However, the district is very vulnerable to climate variability. For instance, the rainfall seasons changed from two to one and this has affected agricultural productivity, food security and disease prevalence (especially cholera and

meningitis in the recent past). The variability in climate in the District affects the livelihood of the people since their main economic activity is agricultural based.

## **2.2.2 Fresh Water Resources and Fisheries**

### *Fresh water resources*

As noted earlier, the District is endowed with plentiful of water resources and the most important largest ones are River Nile and Lake Albert, which are a habitat to a variety of over 30 fish species. These water resources have opportunities for investments in industrial and commercial fishing like modern landing sites with accessories and fish processing plants. Other permanent water sources are rivers like Ora and Nyarwodho while seasonal streams and springs (that are mainly found in Erussi Sub-county in Padyere County) also exist.

The fresh water resources in Nebbi is managed by community owned and nurtured structures-the Beach Management Units (BMUs)- that is formed from an amalgam of several landing sites. BMUs are legally recognized<sup>2</sup> thus, there are 33 BMUs managing the entire 71 landing sites.

The water resources are however, compromised with the increasing problem of pollution and other threats that do not only undermine its quality but also the production levels. The manifestation of pollution can be witnessed in several forms as below:

- Point source pollution such as misuse of water bodies (lakes, rivers, ponds and wells) as safe place for disposal of human excreta especially by community living at the banks of the water bodies notably along river Nile and lake Albert in Jonam County. For instance, the fishermen use the water at the time of fishing as their latrines.
- Unsafe disposal of solid wastes in the water by people is another pollution source. For instance, it is a common practice in Panyimur on Lake Albert to sight wastes like polythene bags (*kaveras*) and maize cobs being directly disposed off into the water. This practice has contributed a great deal to the blockage of the river channels in the district. Non point source pollution includes poor waste disposal especially along the water basins. For instance due to poor operation and maintenance, the lagoon of Nebbi hospital sometimes discharges directly into river Nyacara as a result of leakages.
- Open defecation along the rivers and lakes and on roads/paths is another pollution practice and when rains fall the faeces are washed into the waters thus contaminating the quality. It is the reason for the rampant

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<sup>2</sup> (established by the National BMU Guidelines) fisheries management organizations, registered with the Fisheries Departments with the view that fishing communities become active managers of the fisheries resources with government and other stakeholders. It is constituted by a representative of all the actors (boat owners, boat crew -fishing labourers who do not own boats-, fish processors, boat makers, local gear makers or repairers, fishing equipment dealers and managers, fish mongers/traders. At least 3 of the committee members should be women).at the landing site who interact with the fisheries resources.

- cholera, bilharzias and typhoid and other intestinal worms in many parts of the district.
- Poor farming methods through among others the inadequately supervised use of fertilizers, pesticides on cotton is responsible for the pollution of the fresh water when the chemicals get washed into the waters.
  - Cultivation along water sources, in wetlands or swamps leads to the siltation of the water sources when top soils get washed into the waters. This explains why the waters look brown in colour especially rivers Namrwodho in Padyere County, Ora, the Nile and Lake Albert in Jonam County.
  - The poor ways of soil/sand extraction especially due to buildings and road construction have led to blockage of and siltation of Namrwodho and Akaba rivers hence reducing the volume of the water flow and darkening of the water.
  - The water hyacinth is a problem to the fish and their habitats. The weed competes for oxygen and light with fish thus, affecting the survival of fish species and other aquatic living organisms.

### ***Fisheries resources***

These resources are constituted by that component of aquatic biodiversity harvested directly by human being for instance fish. Fisheries resources are known by their direct utilisation for human livelihood. As noted earlier, Nebbi District is endowed with fresh water resources which are rich in fish and other aquatic lives. Fishing is an important economic activity undertaken in the district. It is done on the major waters of Albert Nile and on Lake Albert, which are all in Jonam County. Other waters that have fisheries resources are Namrwodho and Ora rivers.

R. Nile and L. Albert in Nebbi are homes to a number of fish species. The common fish species within the Albert Nile and Lake Albert in Nebbi District are presented in the table below:

**Table 14: Fish Species**

<b>SN</b>	<b>Scientific Name</b>	<b>English Name</b>	<b>Local Name (Jonam/Alur)</b>
1	<i>Polypterus senegalus</i>	Bichir	Otell
2	<i>Protopterus aethiopicus</i>	Lung fish	Lut
3	<i>Hyperopicus bebe</i>		Ngai
4	<i>Mormyrus kannume</i>	Elephant snout fish	Kobia
5	<i>Mormyrus caschive</i>	Elephant snout fish	Kobia
6	<i>Hydrocynus forskali</i>	Tiger fish	Ngasia / Ngala
7	<i>Hdrocynus vittatus</i>	Tiger fish	
8	<i>Alestes dentex</i>	Tiger fish	
9	<i>Alestes baremose</i>	Tiger fish	Angara
10	<i>Alestes</i>		Gowa

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SN	Scientific Name	English Name	Local Name (Jonam/Alur)
	<i>macrolepidotus</i>		
11	<i>Distichodus niloticus</i>	Moon fishes	Wachone
12	<i>Citharinus citharus</i>	Moon fishes	Aporo
13	<i>Labeo horie</i>	Carp	Posso / Nduka / Karuka
14	<i>Labeo coubie</i>	Carp	
15	<i>Labeo victorianus</i>		Ningu
16	<i>Barbus bynni</i>	Barbel	Sirri / Kisinja / Oshoi
17	<i>Bagrus docmac</i>	Cat fish	Ombala / Semutundu / Oreko/Lugungu
18	<i>Auchenoglanis occidentalis</i>	Cat fish	Bubu / Orukwe
19	<i>Bagrus bayad</i>		
20	<i>Schilbe mystus</i>		Taitai
21	<i>Eutropius niloticus</i>		
22	<i>Clarias</i>		
23	<i>Synodontis schall</i>		Kamuduli / Lungu
24	<i>Synodontis frontosus</i>		Kwoke
25	<i>Malapterurus electricus</i>	Electric cat fish	Adinga
26	<i>Lates niloticus</i>	Nile perch	
27	<i>Tilapia zilli</i>	Tilapia	Oro/Ozogoro
28	<i>Tilapia nilotica</i>		
29	<i>Tilapia leucosticta</i>		
30	<i>Tilapia esculenta</i>		
31	<i>Haplochromines</i>		
32	<i>Neobola bredoi</i>	Silver fish	Muziri/Mukene
33	<i>Brycinus</i>		Ragoge

**Source: Fisheries Department-Nebbi District Local Government**

The table below gives a summary of the main fishing practices and other relevant information regarding fishing.

**Table 15: Fishing methods, numbers and effects on environment**

Fishing method	Current practice	Effects on the environment
Cast netting (Baya)	The recommended net size to be used is four, and four and half inches. Fishers mainly use undersized nets of two, and two and half inches	Very destructive to the young fish generation
Seining (Kokota)	Widely used in the major deep waters especially on L. Albert in Panyimur and Albert Nile. Its use is made easier by the presence of motorised boats.	Seining catches fish indiscriminately and destroys fisheries biodiversity and habitats
Basket/traps	This is a traditional fishing method that has been used	The use of baskets has not been found to

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	since time immemorial. The baskets are made from local materials (reeds, sticks). Use of wires is becoming common for making the baskets.	be unfriendly to the fisheries since it has specific fish sizes that it can catch.
Poisoning	Local fishermen use local poisons from herbal plants. This is very common in streams and rivers like Narwodho.	This method is of great danger not only to the fish but also to human food chain.
Gillnets	The smallest recommended size is but fishers are known to be using even size one and a half inches	Same as cast net and kokota if undersized nets are used
Hooks	Fishers use any size that can make them have big catches	Same as cast net and if undersized hooks are used
Lampara nets	The fishers use the shallow areas of the lake which are breeding ground for the fish resources	Destroys the breeding ground and catch the juvenile fish, hence destroying the ecological cycle of fish production
Monofilament nets ( <i>mila</i> )	It is a prohibited method	Destroys the fish resources. It inflict injury to fish trapped in the net, hence reducing the stock

Fishermen and mongers in the district solely rely on the traditional ways of fish preservation many of which have a negative effect on the environment as huge quantities of fuel wood is needed to make good processing. Because of being traditional and rudimentary, processors do incur a lot of post harvest loses and hence resource waste and income loss. The widely used methods are:

- ***Sun drying:*** As the name suggests, in this method, fish are left to dry in the sun after they have been split open. The success of sun drying depends on availability of adequate sunshine and, therefore, the weather. In cases of prolonged rainy season or inadequate sunshine fishermen incur great post harvest loses.
- ***Salting:*** This involves the use of common (sodium chloride) that is applied on split-open fish. It is a common preservation way for some species likes *alestes, lates -Nile perch and protopterus*.
- ***Smoking:*** Fish smoking is a traditional way of fish processing .It is a wide spread practice among the fishermen and mongers. The process requires and consumes a lot of fuel wood informs of firewood and charcoal. Therefore, it impacts adversely on the environment and has put a lot of

pressure on the vegetation to facilitate the process. It is thus a method that contributes greatly to the environmental degradation within the fishing areas. There is therefore a need to promote energy efficient fish smoking technologies that can serve to reduce the demand for wood and charcoal for these purposes.

- ***Frying:*** This involves deep frying fish in oil so that it does not go bad. This processing method is not very common but mostly practised by petty fish traders within the landing and shore lakeshore or riverbank/lakeshore trading centres. Like the smoking method, it requires a source of fuel, and the common fuel for the processing is the firewood and charcoal. This too has a negative environment implication.

### **2.2.3. Safe Water Coverage**

Nebbi District safe water coverage is 74% (for both rural and urban water supply) with a functionality rate of 70% which has declined by 5% compared to 75% by 2010/11. The functionality of the water sources is affected by various factors such as geological, environmental and technical capability. Data from the water department shows that:

- 20% of the deep wells are non-functional. This is an alarming figure given the amount of resources that are directed to the development of these facilities. Of course it has to be noted that these numbers were accumulated over the years. The factors for non-functionality are: abandonment (mainly because of bad taste), low/no yields/drying of wells (a factor of dwindling underground water reserves and technology failures).
- Similarly, shallow wells and springs have high numbers not functional also as a result of human factors that compromise environmental quality and quantity.
- Rain water harvesting facilities are mostly vandalized by the notorious communities or not used as a result of negligence and unbecomingly poor operation and maintenance practices on the part of the user institutions. For instance, it is a common practice to find a whole 10,000 liters tank not being used as a result of a broken tap or hanging gutters.

The safe water sources are managed by the Water Source and Sanitation Committees (WSSC) at community levels who ensure good operation and maintenance of water the facilities for long term sustainability<sup>3</sup>. In some cases these committees have been replicated at both the parish and LLGs levels. Major repairs that are beyond the capacity of the user communities are done by the district under the water department.

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<sup>3</sup> The WSSC promote good hygiene and environmental sanitation at household levels and at water sources. They prevent animals from grazing at water sources; ensure cleanliness at the water sources by the users and; above all they sensitise water users on safe water chain.

#### **2.2.4. Agricultural Resources handled under livelihoods and economic**

Nebbi District has moderately suitable climate and fertile soils which enhances agricultural production. The district also has potentials for irrigation. Rivers like Ora, and Namrwodho can be used for establishment of irrigation schemes.

Additionally, the current livestock potentials and environmental conditions such as favourable climate and grassland vegetation would provide investment grounds for ranching, dairy farming, apiary and poultry farming.

Over 85% of the district population is engaged in subsistence farming as noted earlier on under livelihood analysis in Ch. 1 (1.8.1).

#### **2.2.5. Mineral Resources and Energy**

The district has mineral potentials like petroleum within the Nile and L. Albert basins. The oil and gas exploration and production is an important industry that will boost the economy of the District and Uganda as a whole. However, there is need to ensure that mitigation measures are implemented and emergency plan put in place to rectify or cleanup any emergency such as leakages, flaring, etc. Such emergencies can affect both the local and international communities of Democratic Republic of Congo, Sudan and Egypt.



The highly potential areas identified for exploration apparently are in Pakwach and Panyimur Sub-counties (EA1 and EA2) in the Pakwach/Nile and Lake Albert basins. Oil and gas activities are a new development to the people of Nebbi District and Uganda as a whole. This poses great challenges on how to manage the resources in regard to social and environmental aspects, since majority of the population are not aware of the impacts that may result out of the oil and gas activities. Thus, there is need to educate the general public on the industry and how they can cope and benefit from the industry.



Other minerals include diatomite and other geological resources such as clay, sand and rocks used in construction industry. The District is also endowed with other sources of energy which include hydro electric power whose potential sources have been identified in Namrwodho River falls in Jupangira Pawong for mini hydro power for isolated mini grid electrification. This is to initiate a drive to accelerate electricity access in the remote area of the District. The Government in conjunction with WENRECO will extend power that is generated from Nyagak H.E.P to Parombo via Angal and Nyaravur and to Pakwach Town Council,



Pakwach and Panyimur. Thermal power also contributes towards boosting the energy potential in the District. It is in plan to construct a thermal power plant in Pakwach Sub-county which will follow the above distribution line.

There is high potential for solar power generation (photovoltaic generation) since the district has a longer sunny season than rainy season. The cost for solar energy technologies have declined rapidly since 2006. This makes the use of photovoltaic energy more and more feasible and affordable, especially in those areas that will not be connected to the grid in the foreseeable future. Pico solar solutions like solar lanterns or solar lighting systems also provide rural households with modern energy services like lighting or phone charging. Besides, solar energy is a renewable resource that is more environmentally friendly. By substituting kerosene lamps through solar lighting health hazards can be reduced significantly.

### 2.2.6. Forest Resources /Tree Species Diversity

Both natural and plantation forests are available in the district and these facilitate the growth of the local economy. The total gazetted forest area in the district is 4318 hectares of which 6,250 hectares are Central Forest Reserves (CFR) controlled and managed by the National Forestry Authority (NFA) while only 75 hectares are Local Forest Reserves (LFR) managed by the District Forestry Services<sup>4</sup> and are (LFR) on Plantation Development Plan. The table below shows the sizes of both the CFR and LFR.

**Table 16: Location and size of the central and local forest reserves in the district**

S/n	Name CFR	Location by County	Area (Ha)	Name LFR	Location by County	Area (Ha)
1	Alwi	Jonam	575	Acwera	Padyere	21
2	Kyonga	Jonam	114	Erussi	Padyere	21
3	Oming	Jonam	373	Nebbi	Padyere	10
4	Opio	Jonam	249	Pakwach	Joman	13
5	Wadelai	Jonam	552	Ragem	Jonam	10
6	Omier	Padyere	2,380			
7	Abiba	Padyere	2,007			
<b>Total Area-CFR</b>			<b>6,250</b>	<b>Total Area-LFR</b>		<b>75</b>

Many tree species exist in the district with the commonest as presented in the table below. However, due to opening of land for subsistence agriculture and increase in demands for timber, fuel wood for cooking and brick making, the once abundant species like *moreceae*, *meliaceae*, *combretaceae* and *sapotaceae* have become scarce. A lot of wood is lost through the use of energy inefficient

<sup>4</sup> The CFR on the one hand include Kayonga plantation in Panyimur sub-county, Alwi woodlands in Panyango sub-county, Opio woodlands in Panyango sub-county, Oming woodlands in Panyango sub-county, Omier woodlands in Nebbi sub-counties, Wadelai woodlands in Wadelai sub-county while the LFR on the other hand include Acwera in Kucwiny sub-county, Erussi in Erussi sub-county, Pakwach in Pakwach sub-county, and Ragem in Wadelai sub-county

technologies like cooking with three stone fires, the traditional methods of charcoal production where up to 85 % of the wood fuel is wasted in the process. Brick making also consumes a lot of fire wood and could be replaced by the more widespread production and use of soil stabilized interlocking bricks (SSIB).

**Table 179: Common tree species found plantation forest, natural forests and woodlands in Nebbi.**

Local name	Common name	Botanical name
Oduk	Combretum molle	Combretaceae
Cwaa	Tamarindus indica	Caesalpiniaceae
Bey	Afzelia Africana ( Paludia Africana )	Caesalpiniaceae
Ogal	Piliostigima thoningii	Mimoceae
Okudhu utiep	Acacia seyal	Mimoceae
Okudhu oryang	Acacia sieberina	Moraceae
Olam	Fiscus sycomorus	Meliaceae
Tido	Khaya senegalensis Kaya grandifoliola.	Meliaceae
Tugo	Borassus aethiopum	Palmae
Yago	Kigelia Africana (k.aethiopum k. pinnata)	Bignoniaceae
Kalafurru	Eucalyptus grandisi and globules	Myrtaceae
Okworo	Fiscus glumosa	Meliaceae
Thangu	Moringa oleifera	Moringaceae
Yao	Butyrospermum paradoxum (subsp.niloticum)	Sapotaceae
Ofudhu	Pseudocedrel a kotsychyi	Meliaceae

*Source: A.B Ketende et al, Useful trees and shrubs for Uganda, (Pp 20-24)*

### 2.2.7. Wetlands Resources

Nebbi district is also endowed with wetlands as a natural resource.<sup>5</sup> These wetlands provide both direct and indirect benefits to the communities. The direct benefits include the policy that 25% can be used for activities like crop production, papyrus, reeds, herbs, foods and fruits harvest. These policy provisions provide opportunities for income generation and food for the riparian communities thus, improved livelihoods of the people living along the wetland areas. The indirect benefits include climate modification due to its functions of ground water recharge and surface water retention, flood control that reduce spread of water born diseases, landscape and aesthetic values that attract the

<sup>5</sup> They are found in the following areas: Along Namrwodho in Erussi/Nebbi S/Cs, Ora in Wadelai, L. Albert drainage basin in Panyimur, Nile Basin from Panyimur via Pakwach to Wadelai, (Ayila, Wang-nyang, Owere, Oseke, Lobodegi, Dei, Kayonga, Wangkado, Kopio, and other small ones).

tourism industry. Below is a table explaining the current status of the existing wetlands in the district.

**Table 18: Wetlands, river banks and lake shores**

Name of wetland	Wetland system	Location			Wetland Species	Status
		Village	Parish	LLG		
Namrwodho river	Namrwodho	Agwechi		Erussi S/C,	Reeds-swampy shrubs, <i>tido</i>	<ul style="list-style-type: none"> <li>Excavation of sand &amp; clay, brick making, bush burning and Cultivation is high. However, the catchment area at Kubbi (Agwechi) is being restored by demarcation of no-encroachment zone using trees of various species.</li> <li>Ecosystem Management Committee established in 2003</li> </ul>
				Kucwiny, Nebbi SC and Nebbi T.C	Monkeys, birds, 'ruda'	
Ora	Ora	Ora	Pakwinyo	Wadelai	Swampy papyrus shrubs, reeds, wild pigs, igret, hippos, vultures calabash monkey and baboons	<ul style="list-style-type: none"> <li>Introduction of exotic species-eucalyptus trees; bush burning and land clearance for cultivation is high.</li> <li>Ecosystem Management Committee already established in 2008.</li> </ul>

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Name of wetland	Wetland system	Location			Wetland Species	Status
		Village	Parish	LLG		
Oluthuru/ Pumit	R.Nile	Pajago	Mutir	Wadelai	Papyrus swamp, accacia, shrub, sedges, python, monkey family, crocodile, hippos, sitatunga	Exotic species exist (bananas); Burning of river bank by fishermen.
Oseke	R.Nile	Pokwero E	Pokwero	Panyango	Swampy papyrus, shrubs, 'osi', crocodile, monkey and alligator	Burning, exotic species(bananas), low level of encroachment.
Lobodegi	R.Nile	Rimbu	Pokwero	Panyango	Papyrus swamp, accacia, shrub, reeds, igret	Bush burning and cultivation: low level of encroachment
Kopio	R.Nile	Puyoo C	Amor	Pakwach TC	Papyrus swamp, water hyacinth, crested crane, igret	Bush burning, cultivation and settlement: High level of encroachment.
Wang-nyang	R.Nile	Pawobo	Paroketo	Pakwach SC	Papyrus swamp, sedges, reeds, shrub; crocodile, hippos	Highly encroached by cattle grazers.
Olweju	R.Nile	Jupajamba	Paroketo	Pakwach SC	Papyrus swamp, shrub, sedges; hippos, lgret, dragon flies, mud fish	Highly encroached by cattle grazers.
Kangala	R.Nile	Ayila	Mukale	Pakwach SC	Papyrus swamp, shrubs, birds	Highly encroached by cattle grazers.
Kalolo	R.Nile	Kuba	Mukale	Pakwach SC	Papyrus swamp, shrubs, reeds; crocodiles, fish alligators, pythons sitatunga, birds	Moderately encroached by cattle grazers, and a few farmers for cultivation

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Name of wetland	Wetland system	Location			Wetland Species	Status
		Village	Parish	LLG		
Juba	L.Albert	Dei C		Panyimur	Papyrus swamp, sedges, crocodiles, 'ruda'	Encroached highly with cultivation, grazing activities and settlement.(Dei trading centre is established within 50m contrary to the Lake shores regulations).
Songager	L.Albert	Kayonga	Nyakagei	Panyimur	Swampy water hyacinth, Papyrus, shrub; wild pigs, hippos, crocodiles, igret	Highly encroached for settlement, and crop Cultivation
Adundu/ Awolo	L.Albert	Angumu	Nyakagei	Panyimur	Papyrus swamp sedges, shrubs; Hippos, fish, crocodiles	Highly encroached for settlement, grazing and crop cultivation
Wangkado/ Akol	L.Albert	WangkadoE	Boro	Panyimur	Papyrus swamp	Highly encroached for settlement, and crop cultivation
Mututu	L.Albert	Boro C	Boro	Panyimur	Papyrus swamp shrubs, sedges water hyacinth; murabostock, igret, snails, fish and birds	Highly encroached for settlement, and crop cultivation

## 2.2.8 Biodiversity

Biodiversity refers to a range of variations or differences in living organisms and their environment, distinguished by three levels of biological hierarchy: genes, species and ecosystem. Biodiversity conservation is concerned with the conservation of natural ecosystems and their components in the face of human activities or influence (NEMA 2004/2005). Nebbi District is naturally blessed with natural flora and fauna, which have been threatened by habitat loss, modification and alteration, unsustainable harvesting, pollution and introduction of alien species. The climatic change with extreme weather conditions may introduce new threats to the biodiversity (NEMA 2008).

### *Invasive species (plants)*

Some of the noticed invasive species known in the district include the following:

- Water hyacinth ( *Eichhornia crassipes*) is one of the aquatic weeds that have infested the waters of Nebbi district especially Lake Albert and Albert Nile. It is a weed that rapidly spread from other parts of Uganda from 1988 to date into Nebbi district, although the level of infestation has reduced. Hyacinth is of anthropogenic threats. Other aquatic weeds/ vegetation threatening Lake Albert and other river ecosystem include;  *Pistia stratiotes*,  *Ceratophyllum demersum*, various shrubs having impacts on fisheries, blocking fish spawning and nursery areas and reducing fish quality.
- Lantana grass an invasive weed that has long been present, is however believed to improve soils fertility.
- Lucina, an aggressive weed species is difficult to eliminate where it colonises
- Striga grass locally known as  *mothu*, which invades especially cereals, has been there since time immemorial and still exists in the district.

### *Exotic plant species*

The common exotic plant species in the district range from trees of medicinal values to other uses. However with the recent research and development, there is an increase in infiltration of the exotic breeds. Both edible and inedible species and some of these include:

- *Grevillea Robusta*, a leguminous plant that is used for promoting agro forestry. However, it is not very widely spread in the district but it is gaining popularity at a fast pace.
- *Moringa oleifera* is a species said to have originated from India. It is believed to have a medical value, which curbs various diseases. Due to its nature of being drought resistant,  *Moringa* grows favourably in Jonam county and is rapidly spreading in the district especially within the last three years.
- *Neem tree species* is of foreign origin. Medical values have been attached to it. However, relatively hot areas along Albert Nile and Lake Albert particularly favour its growth but they are also found in Padyere County.
- *Calliandra and alnus* are among some of the introduced plant tree species especially used in agro forestry.
- *Pinus* are exotic edible plant species introduced in the district and are not very common but the few available are  *cassava variety, the TME14, 00067, 00057*

and MH97/2961, series with wide canopy covering the ground surface, thus preventing light penetrating from reaching other plants below.

• Maize (*Longe1* and *Longe5*), simsim (*sisame 1* and *2.m sevenit 1-3*) and groundnuts (*red beauty, serenut1, 2 and 3*) have also been introduced in the last ten years. Most farmers tend to prefer the exotic plant breeds (hybrids).

### **2.2.9 Eco-Tourism**

Nebbi district has close proximity to Murchison Falls Conservation Area. The good cultural traits of the Alur people of being hospitable makes the conservation area a must go for tourists. The other tourist potentials include animals (crocodiles and hippopotamus in and along the R. Nile, monkeys and chimpanzees in Wadelai) and birds, cultural and historical sites like Wang-lei in Pakwach (where the great Alur ancestors Nyipir and Nyabongo separated), Fort Emin Pasha in Wadelai sub-county and Amuru Pii (Hot spring) in Panyimur sub-county, 'Italia' the Italian site in Erussi Sub-county, Loj judongo in Kucwiny where the great Alur ancestor-Nyipir finally settled, died and was buried.

Fort Emin Pasha was rehabilitated by the German embassy and launched by the Germany Ambassador in January 2013.



***Fort Emin Pasha - Wadelai Sub-county along the bank of River Nile***

### **2.3 Investment opportunities in Nebbi District**

Both the natural and artificial resources provide investment opportunities in the district. In the table below is the investment potentials in the district:

**Table 19: Investment opportunities in Nebbi District**

<b>Sn</b>	<b>(Sub) Sector</b>	<b>Opportunities</b>	<b>Location</b>
1	Fisheries	<ul style="list-style-type: none"> <li>• Establishment of cold storage facilities using either WENRECO or solar power</li> <li>• Fish processing plants</li> <li>• Fish smoking for local and export market</li> </ul>	Wadelai, Panyimur, Panyango, Pakwach S/C and Town Council



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Sn	(Sub) Sector	Opportunities	Location
		<ul style="list-style-type: none"> <li>Refrigerated trucks</li> <li>Aquaculture: fish and crocodile farming</li> </ul>	
2	Livestock	<ul style="list-style-type: none"> <li>Ranching (cattle, goats, sheep)</li> <li>Production of biogas from animal waste</li> <li>Poultry farming</li> <li>Hides, skins and leather processing/tannery</li> <li>Processing of animal feeds</li> <li>Modern abattoirs</li> <li>Small scale milk collection and processing</li> <li>Bee-keeping and honey products</li> </ul>	Jonam and Padyere counties.
3	Mining	<ul style="list-style-type: none"> <li>White diatomite and kaolin deposits</li> <li>Sands and rocks for construction industry</li> <li>Clay deposits for constructions and ceramics</li> </ul>	Jonam and Padyere counties In all the three counties
4	Energy	<ul style="list-style-type: none"> <li>Oil and Gas deposits (exploration and production)</li> <li>River Namrwotho rapids for hydro electricity power generation</li> <li>Bio-waste to energy (biogas, incineration, briquettes, charcoal) and solar energy potentials</li> </ul>	Lake Albert/the Nile basins in Jonam  Padyere  All over the district
5	Tourism	<ul style="list-style-type: none"> <li>Murchison Falls Conservation Area and the adjacent tourist attractions.</li> <li>Eco-tourism</li> <li>Hotel establishment, tour and travel business and other auxiliary services</li> <li>Cultural and historical sites like Fort Emin Pasha, Wang-Lei and Amuro pii</li> <li>Water sports</li> </ul>	Jonam and Padyere counties    The Nile and Lake Albert
6	Education	<ul style="list-style-type: none"> <li>Establish of infantry schools</li> <li>Establishment of specialized professional/vocational institutions</li> </ul>	Mainly in the towns of Nebbi and Pakwach.
7	Health	<ul style="list-style-type: none"> <li>Provision of health and facilities services by the private sector</li> </ul>	In the above towns
8	Transport	<ul style="list-style-type: none"> <li>Water transport</li> <li>Road/surface transport facilities</li> <li>Air transport</li> </ul>	The Nile and L. Albert Karuma-Arua Road Koch Airfield
	Private	<ul style="list-style-type: none"> <li>Existence of forest resources and</li> </ul>	All over the district

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<b>Sn</b>	<b>(Sub) Sector</b>	<b>Opportunities</b>	<b>Location</b>
9	sector	investments in wood industry <ul style="list-style-type: none"> <li>• Investments in fish processing</li> <li>• Investments in agro-processing</li> <li>• Investments in apiary</li> <li>• Investments in crocodile and fish farming</li> <li>• Investments in the energy sector</li> </ul>	Jonam county All over the district All over the district Mainly Jonam County for crocodile farming
10	Agriculture	<ul style="list-style-type: none"> <li>• Agro-processing industries like vegetable oil refineries, fruit processing and fiber processing</li> <li>• Produce buying and storage facilities</li> <li>• Investments in market facilities and structures</li> <li>• Investments in horticulture, commercial/large scale agriculture</li> <li>• Adoption of bio-energy technologies into farming practices</li> </ul>	All over the district

*Source: Nebbi District Investment Profile 2006*

## CHAPTER THREE

### ENVIRONMENTAL PROBLEMS, MANAGEMENT/INSTITUTIONAL CHALLENGES AND ACHIEVEMENTS



#### 3.1. Introduction

This chapter captures the major environmental problems and challenges faced in the district in maintaining sound environmental management. At end it also provides information on the major strategies employed by the district in pursuit of the constitutional environmental rights and the achievements derived there from.

#### 3.2. The Key Environmental Problems

Several factors (negatively or positively) influence the nature of the environment in the district. The negative ones which affect environmental quality in the district are as below:

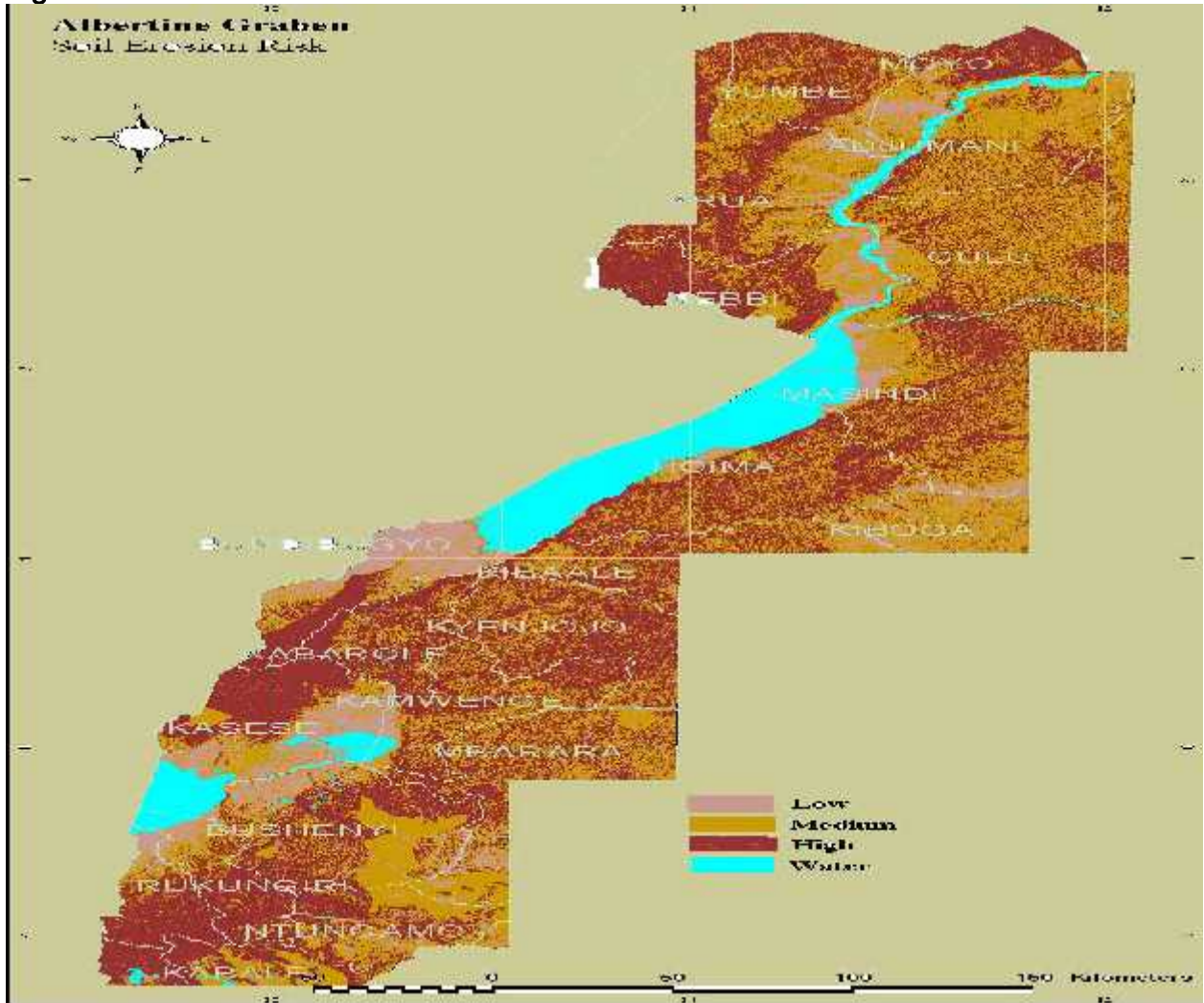
##### 3.2.1. Soil Degradation

There are many other ways through which soil has been degraded in the district and the most evident one is soil erosion. Other practices which escalate soil degradation are poor farming practices especially in the hilly areas, unregulated civil works, uncontrolled tree cutting or deforestation, uncontrolled bush burning, poor methods of waste disposal, and over stocking within the grazing areas/rangelands. These have resulted into low agricultural productivity and low household income thus impacting negatively on the livelihood of both the farming and fishing communities in the District. Moyini



(2004) noted that increasing land degradation caused by climate variability, patterns of economic activities, cultural practices, combined with policy failures make people increasingly vulnerable. The figure below highlights the gravity of the problem.

**Figure 4: Soil Erosion Risk for Nebbi District in the Albertine Graben**



Source: *Environmental Sensitivity Atlas for the Albertine Graben 2010*

The above map indicates that Nebbi District in the North-west has high erosion risk most especially in Padyere County and medium erosion risk in Jonam County, therefore, there is need to establish soil erosion control and management plan to mitigate soil erosion and/or its impacts.

### 3.2.2. Uncontrolled Tree Cutting/Deforestation



Nearly 100% of the population in Nebbi District use tree resource for cooking either in form of charcoal or fuel wood. A lot of trees and other woody vegetation cover

have been depleted through environmental malpractices such as commercialized charcoal and brick burning, bush burning, cultivation, lumbering and excessive tree cutting. Environmental degradation is now evident in many parts of the district especially forest area within the public land. Besides all the LFRs are affected by over cutting and dry season bush fires as a result productive land and purely vegetated grounds have been raped bare and barren.

### **3.2.3. Wetlands/River Bank Encroachment and Degradation**

Wetlands encroachment is one of the priority environmental problems identified in the District. Most wetlands have been degraded due to human activities such as waste disposal into the wetlands and river banks especially in urban centers. People have gone as far as reclaiming the wetlands into farm lands, making brick and settling along river banks thus, affecting the quantity and quality of the surface water resources.



For instance, encroachment on the banks of river Ora and the Nile in Wadelai Sub-county and Oguta River in Panyimur Sub-county through crop cultivation, brick making and settlement in the area have resulted into annual floods. In addition, there is increase in the level of siltation of the river, hence impacting on the quality of water and causing floods.

### **3.2.4. Uncontrolled Bush Burning**

This is a common practice in the District during dry season. Bush burning has led to environmental problems such as destruction of vegetation, change in climate (global warming), low agricultural productivity due to soil fertility loss and destruction of properties such as private forest, farm land and sometimes buildings. Invariably, this has led to low household income, food insecurity and conflicts in the communities. As a coping strategy, people have resorted to encroachment on the wetlands that have minimum risks of bush burning in order to acquire fertile land for crop production and other wetland resources such as reeds for construction, papyrus to raise income, vegetables for food, fruits and herbal medicines and commercialization these entities pose more threats to this fragile ecosystem.



### **3.2.5. Poor Solid Waste Management**

This is a serious environmental problem especially in the urban centers facilitated by no or inadequate waste collection



facilities such as skips in some urban centers. The two town councils of Nebbi and Pakwach have dump sites for disposal of wastes. However, their wise use by the beneficiary communities is very limited as no prior sorting is done, and sometimes the waste skips are without covers allowing rain to find accommodation in the skips. Such unwise use is a factor of poor attitude of the users towards sound waste management. For instance, despite the existence of Waste bins, people still dump wastes on the ground and in rivers such as Nyacara, other than the facilities provided for them by the Urban Councils/Authorities.

Additionally, the urban councils have inadequate equipments to properly manage the wastes at the dump site and thus, poor solid waste management. Poor solid waste disposals in the trading centres have also led to the blockage, siltation and pollution of fresh water resources of the district. This is so in especially commercial and public places like the markets. These wastes get washed by running water especially after rains hence transporting and depositing the wastes into the waters.

### **3.2.6. Over Fishing and Depletion of Fisheries Resources**



The District is endowed with the River Nile and Lake Albert, which are a habitat to a variety of fish species. However, this resource is depleted because the fishing communities highly depend on the fish resource as a source of their livelihood, and use destructive illegal and crude fishing gears. Additionally, the lake shores and river banks are encroached on by the communities for settlement and cultivation in some areas, therefore, deteriorating the

breeding ground for the fish to regenerate.

The above practice calls for a systematic process to institutionalize the BMUs with clear mandates on enforcements. Further, investment in continuous fisher community sensitization and education needs to be rigorously supported to relay well sorted messages on allowable fishing practices within the laws and penalties. Additionally, improvement in fish processing by the communities to minimize post harvest losses and promote environmentally friendly technologies need to be undertaken by the Government.

### **3.3. The Management/Institutional Challenges**

The following are the key management/institutional challenges faced by the District Local Government in addressing the aforementioned environmental problems:

- The attitude of the community towards good environmental management practices is still poor.

- Limited public awareness and understanding of the existing environmental policies, laws and regulations and weak enforcement of the existing legal framework. In addition is the challenge of understanding the oil and gas industry in the district and the country as a whole, since it is a grey area for almost all Ugandans.
- Limited funds and dependence on other partners; Donors and Central Government to handle environmental management activities.
- Limited number of technical staff/extension workers to facilitate decentralized environment management in LLGs.
- Increasing degradation of the fragile ecosystems like the wetlands, riverbanks, lakeshores and hilly areas.
- Inadequate prioritization of environmental issues during planning and budgeting at the LLGs
- Inability of the Local Governments in formulating and enforcing local laws on environment. There is no single LLG that has established a byelaw on environment and natural resources management. However the District Ordinance has been submitted to the Attorney general for scrutiny but no feedback was received.
- Poor community commitment to environment restoration initiatives. Besides, some of the initiatives need community contributions in terms of materials and funding, yet there exists community fatigue in regard to their contribution towards development project.

### **3.4. Strategies and Achievements**

Below are some of the strategic interventions/strategies that have been put in place and success so far scored:

- The District has a functional District Environment Committee that discusses all environmental matters and submits to the District Council. The committee meets 6 times annually.
- The District is already formulating an ordinance on production, Environment and Natural Resources management which is in draft form and undergoing scrutiny by the Attorney General.
- Review of the 15 LLGs Environment Action Plans and the District Environment Action Plan.
- Environmental Education and Awareness through radio programs, sensitization meetings and trainings, provision of information materials to the District Environmental Information Centre and specifically the following were achieved
  - Four radio programmes were held to sensitize the general public on environment and land management.
  - Community sensitization on environmental concerns and management of fragile ecosystems. 180 trainer of trainers (TOTs) were trained in Atego, Pakwach and Nyaravur Sub-counties, 500 community members sensitized on activities and impacts of oil and gas exploration in Panyimur, Alwi and Pakwach Sub-counties in

conjunction with Rural Initiative for Community Empowerment (RICE) an NGO based in Arua, operating in west Nile sub-region.

- 75 members of Area Land Committees and 45 Local Environment Committees were trained on their roles and responsibilities.
- Materials for environmental education and awareness from the center such as the National State of Environment Reports, news letters, and District State of Environment Reports and other information materials are provided to the library (District Information Centre-NECOSOC) in Nebbi Town Council and Government Schools in the District to provide information to the general public on environmental concerns.

- Demonstration of energy saving cook-stoves at households for replication in the Sub-counties. A total of 180 TOTs were trained and 18 demonstrations were constructed by community TOTs in Atego, Nyaravur and Pakwach Sub-counties at Parish levels.



With support from GIZ, 49 Energy Service Providers (ESPs) were trained to construct movable energy saving cook-stoves using the market oriented approach. There are 3 ESPs per Lower Local Government to serve the community in the entire district.

- Environmental Impact Assessments (EIAs) of 12 projects were review. They include;
  - 2 Camp sites: Pakech camp and Adundu camp in Pakwach and Panyimur Sub-counties respectively
  - 5 drill pads: Ondyek-A in Abok Village-Ganda Parish; Alwala-A in Kiyayi West Village-Boro Parish; Omuka-A in Nyamutagana-A Village-Dei Parish in Panyimur Sub-county and; Riwu drill pad in Pakwach Sub-county
  - 3 Fuel station: 2 in Nebbi Town Council and 1 in Pakwach T/C
  - 1 Agro processing plant and storage facility in Nebbi S/C
  - 1 Bio-diesel plant/factory in Pakwach S/C
- 5 Compliance inspections and monitoring were conducted in the wetlands areas, oil and gas activities and construction projects especially the S/C office blocks, staff houses and health sector projects and private development facilities.



- Surveys and processing of titles of 3 District lands for security of Government properties and also encourage the communities to process titles for their land. Basically, land in Nebbi District is mainly under communal tenure system which needs to be changed or improved. 81 Land titles processed and registered, **26 in Jonam county** ( 8 in Panyimur, 2 in Alwi, 7 in Pakwach S/C, 8 in Pakwach T/C, 1 in Wadelai) and **55 in Padyere county** ( 18 in Nebbi T/C, 5 in Kucwiny, 7 in Nebbi S/C, 8 in Nyaravur and 17 in Parombo).

## CHAPTER FOUR

### THE FUTURE, POLICY RESPONSES AND ACTION PLANS



#### 4.1. Introduction

Uganda has made significant progress in the area of developing the necessary instruments and tools and processes for environmental planning and management. This chapter, therefore, presents the purpose of the District (vision, mission, goal and strategic objectives) and that of the Natural Resources Sector. The environmental problems facing the district are discussed in the DEAP as well as the environment mainstreaming plan. At the end the future scenarios are also discussed while not forgetting the sector's five year priorities and plan.

#### 4.2. The Purpose of the District

The theme of the planning/budget period is: *“Strengthening coordination, transparency, accountability and promoting community monitoring (the Baraza) in service delivery to achieve the Client Charter.”*

1. The vision of the district is *“A transformed community of Nebbi District from a peasant to a modern and prosperous society within 30 years”*
2. The District Development Mission is: *“To improve quality of life of the community through a coordinated service delivery mechanism and equitable distribution of resources in line with national and local priorities “*
3. Development Goals is *‘Improved livelihoods of the people of Nebbi District by 2014/2015’*
4. Strategic Objectives:

- To contribute to the sustainable growth of the local economy and promote a healthy environment.
- To promote environmentally friendly infrastructure development.
- To promote environmental protection and conservation-‘wise use of natural resources’.
- To ensure sustainable land management and physical development.
- To contribute to the maintenance of law and order through enforcement of environmental laws.

#### **4.3. The Purpose of the Natural Resources and Environment Sector**

1. Vision: *“A District with clean and healthy environment for sustainable development”*
2. Mission: *“To promote and ensure sound natural resources and environmental management practices for sustainable development”.*
3. Overall Objective: *“The Natural Resources Sector development objective is to create, establish and maintain an efficient mechanism for sustainable environmental and natural resources management at the District, Lower Local Government and Community levels”.*
4. Strategic Objectives:
  - i. to increase awareness to the public on environmental concerns;
  - ii. to restore degraded wetlands/riverbanks/lakeshores and bear hills;
  - iii. to ensure improved environmental compliance;
  - iv. to increase the biomass cover of the district;
  - v. to increase land registration;
  - vi. to increase the use of energy saving technology.
5. Functions: The sector is obliged to perform the following key functions;
  - i. to coordinate all activities of the District Council relating to the management of the environment and natural resources;
  - ii. to ensure that natural resources and environmental concerns are integrated in all plans and projects approved by the District Council;
  - iii. to assist in the development and formulation of ordinances and bye laws relating to the management of natural resources in the District;
  - iv. to promote the dissemination of information about natural resources through education and out reach programmes;
  - v. to coordinate with relevant authorities on all issues relating to natural resources and environmental management;
  - vi. to coordinate the activities of Local Committees (local environment committees, area land committees, forest committees and ecosystem management committees for wetlands)in management of natural resources;
  - vii. to receive reports from the local committees and advise them;

- viii. to prepare the district state of environment report annually, 3 years environment action plan, 5 years wetlands action plan and 5 years district tree planting development plan;
- ix. to ensure compliance with national natural resources and environmental management regulations, laws, standards and guidelines.

#### **4.4. Key Environmental issues/problems**

During consultation process in the District/Sub-county workshop in February 2011 and sector data collection in April and May 2011, the key stakeholders listed general environmental problems and later prioritized the specific environmental problems that need urgent action as below:

1. Soil degradation.
2. Uncontrolled tree cutting/ deforestation.
3. Wetlands/River banks encroachment and degradation.
4. Uncontrolled bush burning.
5. Poor waste management.
6. Over fishing and depletion of fisheries resources.
7. Poor land management (land registration and land use are still a problem).

The main causes of these problems are related to land uses; production, distribution and consumption patterns of environmental resource uses.

The stakeholders formulated a district environment action plan to realize the vision. The action plan is integrated into the District Development Plan for a harmonized implementation, with effective environmental monitoring to ensure minimum negative impacts of development on the environment. Additionally, the environmental mainstreaming matrix that provides a summary of key environmental issues derived from various sector activities, highlighting the causes, the impacts on the environment and social wellbeing of the people and suggested possible mitigation measures. This should be able to guide the various sectors whose activities have adverse impact on the environment to integrate environmental management into their activity plans and budget; projects and programmes. In the tables below are the action and mainstreaming plans.

**Table 20: Environmental Mainstreaming Analysis Matrix**

<b>Sector</b>	<b>Issue</b>	<b>Causes</b>	<b>Impact</b>	<b>Mitigation measure</b>
Works and Technical Services	Displacement of people	-Opening/grading of roads. - Construction of office block and/or classroom block in institutions.	- Lack of accommodation for the displaced. - Social conflicts as a result of loss of land.	-Compensation and relocation of the displaced people.
“	Loss of vegetation cover	- Clearance of land for road opening. -Excavation of building foundation.	-Loss of vegetation cover and topsoil for agricultural production. - Displacement of people and lack of land for resettlement.	- Planting grass along road reserves and paspalum grass on the compounds of the institutions. - Compensation of the displaced. -Community sensitization on environmental conservation measures. - Back filling.
“	Water logging	Construction work.	-Disease outbreak. E.g. malaria as they provide breeding place for mosquitoes.	-Back filling - Construction of proper drainage -Sensitization of constructors and the community on the dangers of water logging.
“	Deforestation	- Tree cutting for construction works and wood fuel.	-Shortage and lack of trees in the long run for construction and fuel.	-Re-a forestation (Planting trees to replace the loss).
“	Pollution due to saw dust	-Making of furniture and cutting timber for roofing.	- Attack by air born diseases.	-Wearing protective gadgets by constructors / carpenters. -Proper waste disposal by turning waste in to manure and use of sawdust for charcoal and briquettes.

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Sector	Issue	Causes	Impact	Mitigation measure
"	Pollution and natural resources degradation due to oil and gas exploration and production activities such as poor waste management and leakages due to emergency (accidents).	<ul style="list-style-type: none"> <li>- Poor waste management system.</li> <li>- Accidents.</li> <li>-Lack of adherence to EIA certificate/ standards</li> </ul>	<ul style="list-style-type: none"> <li>-Soil degradation</li> <li>-Destruction and suffocation of aquatic fauna and flora.</li> <li>-Health hazard to downstream communities both in Uganda and international wide.</li> <li>-International conflicts.</li> <li>-Destruction of vegetation cover and habitat for birds and micro-fauna.</li> <li>-Occupational health and safety problems</li> </ul>	<ul style="list-style-type: none"> <li>-Sensitize the communities on oil and gas activities, environmental and social concerns that may arise from the activities.</li> <li>- Minimize as much as possible area for vegetation clearance.</li> <li>-Avoid as much as possible oil spills and leakages and immediate clean up incase of accidents.</li> <li>-Use of protective gears to protect the workers and inspectors from health hazards.</li> <li>-Gazette areas for waste management which should be protected from access by fencing off the storage area and containing of the wastes.</li> <li>-Installation of warning signs/communication in both English and the Local Languages.</li> <li>-Most of all the Oil and Gas exploration and production Companies should adhere to EIA requirements.</li> </ul>
Education and Sports	In adequate sanitary facilities in schools	<ul style="list-style-type: none"> <li>-Shortage of funds and inadequate release of funds.</li> <li>-Increasing population of pupils and students</li> </ul>	<ul style="list-style-type: none"> <li>- Contraction of diseases related to poor sanitary conditions.</li> <li>- Girl child un environmentally friendly condition. (Poor</li> </ul>	<ul style="list-style-type: none"> <li>- Construction of more latrine stances and washroom for Girls in schools.</li> <li>- Lobby for more funds.</li> </ul>

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Sector	Issue	Causes	Impact	Mitigation measure
		caused by the UPE Programme.	environmental sanitation).	Institutional tree planting, construction of improved cooking stoves and proper school compound design
	Deforestation and soil erosion around schools	Utilization of wood resources for school desks and site clearance for class room construction	Destruction of school facilities by wind and rain storms  Change in micro-climatic conditions around schools	
Community Services	Low under standing of the communities on construction of sanitary facilities and usage.	- In adequate knowledge about benefits of sanitary facilities such as latrines, washrooms, etc.	-Out break of sanitary related diseases such as cholera, typhoid, dysentery, etc.	- Raise awareness on construction of sanitary facilities such as latrine and bathroom and usage.
“	Low adoption of energy saving techniques.	-Negative attitudes -Low level of literacy -Poor cultural attitudes and beliefs.	-Environmental degradation e.g. depletion of trees - Wastage of time for other economically viable activities	-Train communities on importance of fuel saving stoves and other biomass energy technologies as well as solar lanterns and other solar applications  -Community sensitization on the impact of environmental degradation on man and his surroundings.
“	Bush burning	-For easy access to the trees for firewood and wild animals.	- Soil degradation -Destruction of vegetation cover - Air pollution.	-Establish and strengthen environment committees - Passing by laws against bush burning.
“	Settlement along fragile ecosystems.	-Fertile soils which allow perennial crop growing - Shortage of land due to	-Destruction of fragile ecosystem -Outbreak of diseases - Disasters like	-Enactment and passing of ordinances and byelaws to protect fragile ecosystems -Community sensitization on dangers

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<b>Sector</b>	<b>Issue</b>	<b>Causes</b>	<b>Impact</b>	<b>Mitigation measure</b>
		increasing population growth.	floods especially along the wetlands.	of settling along ecosystems.
Production	Decline in soil fertility	-Poor farming methods leading to soil erosion.	- Low agricultural production - Poverty	- Train farmers in organic farming and Agro-forestry.
"	Use of under size fishing gears.	- Poverty	- Depletion of fish resources	-Train fisher communities on good fishing practices -Pass and strengthen existing byelaws on the use of right fishing gears.

**Source:** *DEAP- Nebbi District 2010/2011-2014/15*



**Table 2110: The proposed strategies in the District Environment Action Plan (DEAP)**

DEAP PIPs	Land use	District visions	Future changes (objectives) needed to realise the vision	Changes to the vision	Strategies (to attain the changes)	Actions to be taken (to achieve strategies)	Resources/ services needed (to do the actions)	Services/ partners available (to do the actions)	Stakeholder response to 6 - 10
Uncontrolled bush burning	Cultivation/ grazing	A clean, healthy, productive and economically sustainable environment.	Increase vegetation Favourable climate Increase biodiversity	in	Enactment of a District biomass ordinance massive awareness program Capacity building of the stakeholders	Enforcement of the law Radio programs Tree planting in urban centres Training and sensitization	Funds and DTPC/DEC Funds and Radio presenters Seeds/seedlings Funds and trainers	District Council Radio Paidha FM Extension services CSOs	District council DEC Sector heads Private sector Civil society organisations
Uncontrolled Tree cutting	Agriculture and charcoal burning	Sufficient sustainable managed forest resources in the District by 2015	Increase vegetation Favourable climate Increase biodiversity Increase efficient wood fuel use	in	Restoration activities Capacity building in the field of bio-energy Promotion of A.F Promote	Tree nursery establishment Est. community conservation pilot projects Training on nursery mgt technology	Land use planning/policy Trainers and funding	Extension services, Ext services	District Council, LC3 councils, private sector and CSOs District

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DEAP PIPs	Land use	District visions	Future changes (objectives) needed to realise the vision	Strategies (to attain the changes)	Actions to be taken (to achieve strategies)	Resources/ services needed (to do the actions)	Services/ partners available (to do the actions)	Stakeholder response to 6 - 10 and CSOs
Poor waste management	Urban development	A clean and healthy environment A clean and healthy environment	Reduced nuisance by kavera Waste separation Increase latrine coverage from 47% to 56%	Privatize waste mgt in urban centres Improve capacity of urban centres in waste mgt.	Improve physical planning, privatisation of wastes management, promotion of recycling, re-use and reduction of wastes as well as energetic use of waste (biogas, incineration)	Funds, waste collection and storage facilities like land fills, trucks	Means of transport from the urban authorities, land	District and Urban Authorities, Private sector and CSOs
Reclamation of wetlands	Agriculture	A well managed wetland systems for economic sustainability	Reduced wetlands degradation and improved biodiversity and sustained local	Public education and wetlands management planning at	Sensitisation of stakeholders, formulation of byelaws/ordinance, formulation of wetlands	Planning, funds, IEC materials monitoring and inspections	Extension services	District, LC3 councils and CSOs

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DEAP PIPs	Land use	District visions	Future changes (objectives) needed to realise the vision	changes to the economy	Strategies (to attain the changes) all levels	Actions to be taken (to achieve strategies) management plans	Resources/ services needed (to do the actions)	Services/ partners available (to do the actions)	Stakeholder response to 6 - 10
Over fishing	Fishing	A district in which sustainable fisheries resource exploitation for improved livelihood	Sustained species increased catches	fish and	Promotion of sustainable fishing practices	Social marketing to promote standard fishing gears and acceptable practices within the fishing communities/folk	IEC materials, forum of fish traders, monitoring and inspections	Policy on fishing, patrol by fisheries dpt, public education	District, LC3 councils, CSOs and Private sector
Soil erosion	Agriculture	A district in which sustainable soil and water conservation practices are in place	Controlled erosion improved productivity	soil and soil	Promotion of better farming practices which enhance soil and water conservation Promote alternative brick making technologies	Contour cultivation, agro-forestry, re-forestation and public education	Extension services Byelaws/ordinance	Extension services	District, LC3s CSOs

**Source:** *DEAP- Nebbi District 2010/2011-2014/15*

#### **4.5. Future Undertakings in Five Years**

##### **4.5.1 Future Scenarios**

Nebbi district is faced with the challenges of ensuring adequate supply of natural resources and effective environmental management in the midterm planning period. We look forward and/or wish to see a green environment with:

- All the LFRs rehabilitated, trees planted in schools and other institutions and increased use of energy saving cooking technologies as well as bio-waste to energy technologies, thus increased vegetation cover; increased and improved environmental conservation initiatives in Local Governments, other institutions and community.
- If enforcement is not taken seriously, then environmental policies will not be implemented. However if it is strengthened, there will be reduced rate of environmental crimes. Thus, improved state of our wetlands, river banks and lake shores, waste management, soil management, water resources management, hence a clean, healthy and productive environment for improved community livelihoods and sustainable development.
- A more informed and proactive community on environmental issues backed by continuous environmental public awareness and education of the community.
- A developed District with well established value addition factories, oil and gas industry with cleaner production activities to ensure good environmental health and the wellbeing of the people.

##### **4.5.2 Five Years Development Priorities and Plan of Natural Resources Sector for Financial Years 2011/12-2015/16**

The above future scenarios can only be achieved if resources are put into good use to cause attitudinal change as well as investment in the physical environment. The Natural Resources Sector intends to promote natural resources conservation and sustainable management in the five years through investing in the following priorities as detailed below:

##### **Environment Department**

1. Environmental education and awareness through radio programs, World environment day celebration, and production of information education and communication (IEC) materials and training in environmental mainstreaming, roles and responsibility of environment committees at district and lower local government levels.
2. Community sensitization on oil and gas activities, their roles and responsibilities in the industry, occupational health and safety and environmental and socio-cultural issues.

3. Formulation of district policy and ordinance on management of environment and natural resources and enforcement.
4. Restoration of fragile ecosystems e.g. rangelands, wetlands, river banks and hills.
5. Demarcation of river banks (Namrwotho, Ora and River Nile) with trees.
6. Environmental and social impact screening of projects and review of environmental and social impact assessments/audits.
7. Compliance inspection and monitoring of projects, private investments and land use in fragile ecosystems and oil and gas exploration and production activities.
8. Establishment and production of District State of Environment Reports.
9. Promotion of environmental protection in schools and among the communities.
10. Promotion of energy saving technologies such as institutional/household cook-stoves, bio-waste to energy technologies and solar energy
11. Development of Wetlands Action Plans at District and LLG levels.

### **Lands Department**

1. Full establishment of the Lands Department through recruitment of staff and advocating for financial and technical support from the Ministry of Lands, Housing and Urban Development.
2. Approval of land lease and freehold applications; to increase the percentage of overall fully registered land from 0.03% - 2%.
3. Public education and awareness on land matters.
4. Building capacity of Sub-county/Town Council Local Land Committees to handle land management matters and provision of technical support.
5. Survey verification for compliance with the National survey regulations.
6. Establishment of lands management inventory.

### **Forest Department**

1. Improve sustainable management of forest resources
  - Re demarcation of forest reserve boundaries.
  - Preparation of management plan for LFRs and watersheds.
2. Carry out tree planting
  - Training of farmers and staff on forestry management.
  - Establishment institutional tree nurseries at Sub-counties and schools.
  - Support on farm tree planting.
  - Support school tree planting programs.
  - Promote agro forestry/ fruit growing.
  - Tree planting along road reserves.
3. Provision of extension services.
  - Mobilization and sensitization of private investors, individuals, communities and institutions on tree planting and management.

- Technical support to tree growing farmers.

A number of the above priorities have not yet attracted funding and the status (funding) is provided in the table below:

#### **4.5.3 Development Priorities for Financial Year 2013/14**

The Department intends to promote natural resources conservation and sustainable management in the financial year 2013/14 through investing in the following priorities:

**Table 22: Priorities for Financial Year 2013/14**

<b>S/n</b>	<b>Funded Priorities of Natural Resources Office/Department</b>	<b>Source of Funding</b>
1	Office equipments	LR
2	Office operations (stationeries, computer servicing, communication, SDAs and travel inland)	LR
3	Monitoring of ENR projects/activities	PRDP
4	Recruitment of District Natural Resources Officer	DSC
	<b>Funded Priorities of Environment Section</b>	
1	Environmental education and awareness through:	
a)	Radio talk shows for environmental education	PRDP
b)	Training in environmental mainstreaming	CBG
c)	Training of environment committees at lower local government levels on their roles and responsibility	PRDP
2	Community sensitization on oil and gas activities, their roles and responsibilities in the industry, occupational health and safety and other socio-environmental issues	PRDP
3	Demarcation of river banks (Ora) with trees	PAF Cond.
4	Environmental and Social Impact Screening of Projects and review of Environmental Impact Assessments (EIAs)	LGMSDP
5	Compliance inspection and monitoring of projects, private investments/facilities and land use in fragile ecosystems and oil and gas exploration and production activities	PRDP
6	Establishment and production of District State of Environment Report-2013/14	PRDP
7	Development of Wetlands Action Plans at District and LLG levels	PAF Cond.
8	Compliance inspection of Wetlands	PAF Cond.
9	Community sensitization on wetlands management	LGMSDP
10	Promotion of energy saving technology (household energy saving cook-stoves, solar energy and other renewable energy), in conjunction with our development partners-GIZ, private sector and NGOs such as AFARD and NGO Forum.	LGMSDP-District/GIZ and other Dev. Partners
11	Recruitment of Environment Officer	DSC
	<b>Unfunded Priorities of Environment Section</b>	

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12	World environment day celebration	Dev. Partners/NEMA
13	Production of information education and communication (IEC) materials	Dev. Partners/NEMA
14	Restoration of fragile ecosystems e.g. rangelands, wetlands, river banks and hills	District/Dev. Partners
15	Promotion of environmental protection in schools and among the communities (through tree planting and conservation)	District/Dev. Partners
16	Formulation of district policy and ordinance on management of environment and natural resources and enforcement	District
<b>Funded Priorities of Lands Section</b>		
1	Advocating for full establishment of the Lands Department through recruitment of staff in the lands office (Physical Planner, Valuer, Senior Land Management Officer, Cartographer)	DSC
2	Approval of leasehold and freehold applications; to increase the percentage of overall fully registered land from 0.03% to 2%.	DLB
3	Public education and awareness on land matters through radio programs and production of information education and communication (IEC) materials.	PRDP
4	Survey verification for compliance with the National survey regulations.	PRDP
5	Establish Land management inventory in the District	PRDP
6	Review and compiling compensation rates	DLB
7	Technical support to Area Land Committees	PRDP
<b>Unfunded Priorities of Lands Section</b>		
8	Advocating for physical planning of Panyimur Town Board and implementation of preliminary activities of Parombo Town Board Plan.	District/MoLG/MoLHUD
9	Advocating for preparation of the District Structure Plan as is now required that issue of Physical Planning must be incorporated in the five years development plan.	District/MoLHUD
10	Strengthening Sub-county/Town Council through training Area Land Committees in understanding their roles and responsibility and proper handling of land management matters.	District
11	Survey and Physical Planning equipments equipping and retooling of the office	District/MoLHUD
<b>Funded Priorities of Forest Section</b>		
1	Improve sustainable management of forest resources	
a)	Re-open and demarcation of Local Forest Reserve boundaries	LGMSDP
2	Carry out tree planting:	

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a)	Training of farmers on forestry management	PRDP
b)	Support on farm tree planting	PRDP
c)	Support school tree planting programs	LGMSDP
d)	Tree planting along road reserves	LGMSDP
3	Provision of extension services	
a)	Mobilization and sensitization of private investors, individuals, communities and institutions on tree planting and management (Radio talk show)	PRDP
b)	Technical support to tree growing farmers	LGMSDP
	<b>Unfunded Priorities of Forest Section</b>	
4	Establishment of community tree nurseries in Sub-counties	District/Dev. Partner
5	Tree planting on degraded areas such as hill tops, and local forest reserves	District/Dev. Partners



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**Table 23: Natural Resources Sector Development Plan for financial year 2011/12-2015/16**

Activity	Unit Cost	Target					Budget				
		2011/12	2012/13	2013/14	2014/15	2015/16	2011/12	2012/13	2013/14	2014/15	2015/16
<b>Environment Department</b>											
Environment screening of projects and EIA reviews	30,000	100	105	110	115	120	4,000,000	4,200,000	4,410,000	4,630,500	4,862,025
Environmental and Social compliance monitoring of projects	20,000	100	105	110	115	120	2,000,000	2,100,000	2,205,000	2,315,250	2,431,012
Production of DSOER report	60,000	-	100 copies	105	110	115	6000000	6,000,000	6,300,000	6,615,000	6,945,750
Community sensitization on oil and gas activities and policy	50,000	200	200	205	210	215	10,000,000	10,000,000	10,250,000	10,500,000	10,750,000
Compliance inspection and monitoring of oil and gas activities	1,000,000	4	4	4	4	4	4000000	4,000,000	4,200,000	4,210,000	4,210,500
Training communities (TOTs)on Household Energy Saving Cooking-stoves (technology)	42,857	70	73	76	79	82	3,000,000	3,128,561	3,171,418	3,329,988	3,496,487
Training of LLGs on Environmental mainstreaming	2,000,000	1	1	1	1	1	2,000,000	2,100,000	2,205,000	2,315,250	2,431,012

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Activity	Unit Cost	Target					Budget				
		2011/12	2012/13	2013/14	2014/15	2015/16	2011/12	2012/13	2013/14	2014/15	2015/16
Training of LECs at LLG level on their roles and responsibilities	3,000,000	1	1	1	1	1	3,000,000	3,150,000	3,307,500	3,472,875	3,646,518
Restoration of degraded ecosystems (Riverbanks)	3,488,900	1	2	3	4	5	3,488,900	6,000,000	9,000,000	12,000,000	15,000,000
Development of Parish Wetland Action Plans	1,397,600	2	3	4	5	6	2,795,200	4,192,800	5,590,400	6,988,000	8,385,600
Formulation of bye laws and regulations	1,222,900	2	3	4	5	6	2,445,800	3,668,700	4,891,600	6,114,500	7,337,400
Compliance Inspection of wetlands	1,037,700	1	2	3	4	5	1,037,700	2,075,400	3,113,100	4,150,800	5,188,500
Public awareness on environmental concerns through Radio programs	1,000,000	2	3	4	5	6	2,000,000	3,000,000	4,000,000	5,000,000	6,000,000
<b>Sub-total</b>							<b>45,767,600</b>	<b>49,422,661</b>	<b>62,644,018</b>	<b>71,642,163</b>	<b>80,684,804</b>
<b>Forest Department</b>											
Rehabilitations of LFR	4,985,000	10ha	15ha	15ha	15 ha	15 ha	49,854,000	74,775,000	78,513,750	80,000,000	80,000,000
Re-vegetation of degraded Watershed	1,089,000	90ha	60 ha	50 ha	50 ha	50 ha	98,022,000	99,000,000	100,000,000	105,000,000	110,000,000

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Activity	Unit Cost	Target					Budget				
		2011/12	2012/13	2013/14	2014/15	2015/16	2011/12	2012/13	2013/14	2014/15	2015/16
Establishment of plantation / woodlots by individuals/ community	976,400	15 ha	20 ha	20 ha	20 ha	20 ha	14,646,000	19,520,000	19,520,000	20,000,000	21,000,000
Hedgerows planting	124,200	200 km	150 km	110 km	100 km	100 km	24,840,000	24,840,000	24,840,000	25,000,000	26,000,000
Institutional tree planting (schools)	9,464,000	10 ha	12 ha	10 ha	2ha	2ha	9,464,000	11,356,800	13,000,000	14,000,000	15,000,000
On farm Demonstration Agro forestry establishment	1,440,000	10	10	10	10	10	14,403,000	14,403,000	14,403,000	15,000,000	15,000,000
Road reserve tree planting	1,110,500	30 km	30 km	30 km	30 km	30 km	33,315,000	33,315,000	33,315,000	33,500,000	34,000,000
Water and soil conservation demonstration	2,670,000	12	10	10	10	10	32,040,000	33,000,000	35,000,000	37,000,000	38,000,000
Training of farmers on nursery plantation and woodlot management	123,225	600	500	250	250	250	74,234,000	75,000,000	78,000,000	80,000,000	82,000,000
<b>Sub-total</b>							<b>350,818,000</b>	<b>385,209,800</b>	<b>396,591,750</b>	<b>409,500,000</b>	<b>421,000,000</b>
<b>Lands Department</b>											
Carrying surveys of LG Facilities	500,000	4	4	4	5	5	2,000,000	2100000	2,200,000	3,000,000	4,000,000
Process land titles for LLGs	1,600,000	2	5	5	6	6	3,200,000	8,000,000	8,000,000	9,600,000	10,000,000

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Activity	Unit Cost	Target					Budget				
		2011/12	2012/13	2013/14	2014/15	2015/16	2011/12	2012/13	2013/14	2014/15	2015/16
Process free hold offers	100,000	28	30	35	40	45	2,800,000	3,000,000	3,500,000	4,000,000	4,500,000
Purchase lands and survey equipments	1,500,000 (a set)	1	1	1	1	1	1,500,000	1,575,000	1,653,750	1,736,437	1,823,258
<b>Sub-total</b>							<b>9,500,000</b>	<b>14675000</b>	<b>15,353,750</b>	<b>18,336,437</b>	<b>20,323,258</b>
<b>Grand Total</b>							<b>406,085,600</b>	<b>449,307,461</b>	<b>474,589,518</b>	<b>499,478,600</b>	<b>522,008,062</b>

## CHAPTER FIVE

### RECOMMENDATIONS AND CONCLUSIONS

#### 5.1. Introduction

In terms of progress, the Constitution of the Republic of Uganda recognizes a healthy environment as a fundamental right of all Ugandans. There are also comprehensive set of cross-sectoral and sectoral laws, policies, regulations and standards. However, enforcement of the existing environmental instruments is still a problem. The District still faces series of environmental challenges despite all the good legal frame work and institutions in place. Thus, there is need to identify strategies to address the challenges. These sections of the report presents the recommendations and conclusions made by key stakeholders during consultative and review meetings to better ongoing interventions and bring forward new ones in order to fulfill, upheld and sustain the legal provisions.

#### 5.2. Recommendations

The stakeholders prioritized the following recommendations for the implementation of the National Environment Management Policy, environmental laws, regulations, standards, guidelines and other sector policies.

- Formulation of District Environment policy to complement the national sector policies, laws, regulations, standards and guidelines.
- Full integration of District Environment Action Plan into District Development Plan.
- Continuous public awareness and education on environmental management issues.
- Increased funding to the Environment sector especially for public awareness and education, inspection and enforcement of environmental laws.
- Environment inspectors and enforcers need to be well equipped to handle environmental crimes. Thus, there is need for a multi-media approach to compliance inspection and monitoring. All sectors should be involved in compliance monitoring for quality assurance and adherence to sector policy and professional standards.
- Effective Stakeholder involvement at all levels (Central Government, Lower Local Government and Community, civil society, private sector and donors) in planning and management of the environment.
- Performance of Local Environment Committees at Sub-county, parish and village levels should be enhanced by building their capacity and backup support provision and mentoring.
- Assigning a specific staff in the Environment Department to handle oil and gas exploration and production activities.
- Building the capacity of the LLGs to formulate and enforce of bye laws on the environment.

- Need for a continuous restoration of the degraded fragile ecosystems like the lakeshores, riverbanks, hilly areas and the wetlands is worthwhile.
- Translation of the existing public education and awareness materials into Luo/Alur language so as to improve on readership and understanding of the environmental issues.

### **5.3. Conclusion**

Nebbi District Local Government is looking forward to improving the environmental situation in the District. However, there is still a lot to be done. Unless the strategies to address the environmental problems are taken into consideration and implemented there will be no much difference in the State of Environment in Nebbi District in five years to come.

The Local Governments in conjunction with Central Government should identify a conditional source of fund for Environmental Management to facilitate improvement in the District and National State of Environment. Thus, there is need for all stakeholders (communities, the private sector, Civil Society Organization and Government) to collaborate in the management of the environment in the District and Uganda as a whole. This however, calls for:

- Funding to the sector.
- Stakeholders playing their roles diligently, effectively and efficiently.
- Collaboration among the stakeholders.
- Building capacity of staff and other stakeholders for sound environmental management.
- A positive change of attitude of especially the communities towards sound environmental management.

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