BUTALEJA DISTRICT STATE OF ENVIRONMENT REPORT 2005/2006:

DRAFT

ACKNOWLEDGEMENT:

Butaleja District Local Government proudly presents the first District State of Environment Report (DSOER), 2005/2006, since its inception as a district in July 2005. While the report was in fulfillment of our obligation under the National Environment Act 119 section14. (h), it provides with information on the conditions and the health of the district's component of the environment. This report describes the quality of environment for the district of Butaleja through a systematic and analytical approach exercised by the district environment office on environment conditions. The trends provide a justifiable state of developments being undertaken within the district. I am indebted as Chief Administrative Officer to those who sacrificed in making up this report successfully, at a time when there was no money allocated for it. I wish to extend my sincere thanks to the District Environment Officer for coordinating and facilitating the production of the District State of Environment Report. I do further appreciate the volunteers to environment office and heads of departments who facilitated a smooth flow of the process and provided up to date data on the process respectively. The contribution of the editors and secretaries is also acknowledged. Finally, we are grateful to NEMA for the technical back stopping to the district environment office in particular with the relevant literature. We therefore strive to improve future editions. Butaleja District welcomes your comments and suggestions on this report.

I wish you a good reading.

Wanje Michael.
Ag. CHIEF ADMINISTRATIVE OFFICER.

FORWARD.

The contribution of the environment and natural resources is much emphasized in Butaleja District. Like many of the Districts in Uganda, the economy of Butaleja District depends on agriculture and this employs 100% of the active rural population. The fairly fertile soils coupled with the suitable climate, support the cultivation of a number of crops in the different parts of the district. Energy, water, food and other resources for supporting livelihoods are derived from the environment. However, over dependence on the natural resource base has led to the change in the quality and quantity of the natural resources. According to the National Environment act CAP 153, each district is required to prepare a State of Environment Report annually. This report aims at providing information on the state of natural resources in the district. It further gives the interlinkages between environment and development. The quality of environment is described through a systematic acquisition, analysis, presentation of information and the assessment of key driving forces and policies that cause or influence environmental trends in the district. In this case, it is intended to stimulate actions to reverse the negative environmental trends so as to achieve a sustainable development. The report focuses on principles of sustainable development and highlights the relationship between environment conditions, pressure impacts and responses. It emphasizes that sound environment and natural resource management is important in the context of poverty eradication in the district. As the custodians of the natural resources, the poor are the most affected by environment and natural resource degradation and vulnerable to environmental disasters for example drought, floods and diseases. Although Butaleja District Local Council has embraced environmental management policy of government, developed District Environment Action Plan, due to implement the national laws, regulations and standards, quality of the environment continues to decline. This is evident through poor crop yields, diseases and poor standard of living and the main causes are poor sanitation, loss of soil fertility, deforestation, wetlands and riverbanks degradation, water and air pollution and so many others. Uncontrolled population growth is the main driver of most of these causes. The challenge for all the stakeholders is therefore to reverse the serious trend of environment degradation. On behalf of Butaleja District Local council, I wish to extend my sincere appreciation for the production of the report. I would like to recognize the technical support provided by NEMA as well as the District Departmental Staff. I am sincerely thankful to all those individuals, departments and organizations whose contributions made the preparation of the report possible, especially the District Environment Office.

I wish you all a good reading. I urge you to forward any comments that could make future reports better to Butaleja District Environment Office.

WAYA RICHARD
BUTALEJA DISTRICT CHAIRPERSON.

CHAPTER ONE: INTRODUCTION

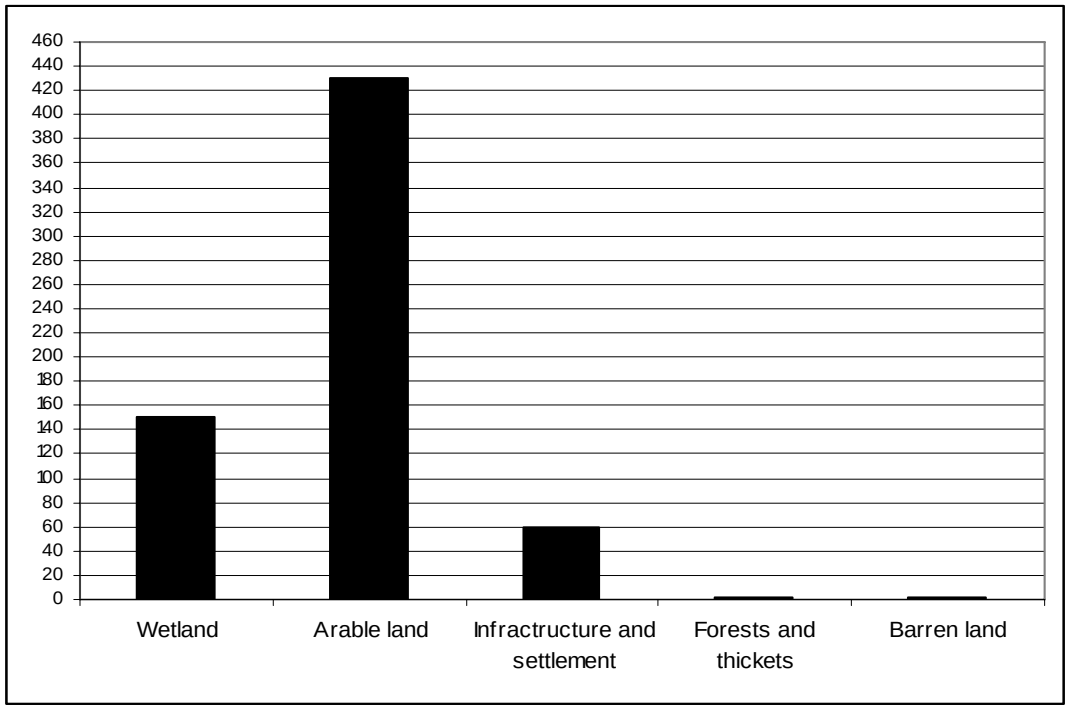
1.1. LOCATION OF BUTALEJA DISTRICT

Butaleja District is located in Eastern Uganda and it borders Mbale District to east, Tororo to the South, Budaka and Pallisa to the North and Namutumba to the West (Figure 1). It has 7 Sub Counties and 2 Town councils. The District is also surrounded by a mass of papyrus mashes and wetland systems of Doho- Namatala and Mpologoma in the North and West respectively.

Figure 1

1.2. LAND AREA:

The District covers a land area of about 644 square kilometer and the categorization is as follows:



(Source-Butaleja district planning unit)

1.3. POPULATION DYNAMICS:

The population of Butaleja District as per 2002 population and housing Census projection at 3.6% growth rate is now expected at about 185,380 people, from 161,000 in 2002. The male population is 91,088 while females are estimated at 94,294 *(District Planning Unit – Butaleja).* The population Density in the District is estimated at 346 persons per Square Kilometre and a growth rate 3.6%. The Sex ratio is 1:1.9 of male to female.

The people of Butaleja District are mainly Banyole by ethnicity who take about 85%, with other ethnics of Japadholla, Ateso, Karamojongo, Bagwere, Bagishu and Basoga, all taking about 15%.

The health indicators include the following:-

Indicator	
Infant mortality rate	98.1 per 1000 live births
Maternal Mortality rate	12 per 1000 live births
Crude birth rate	52 per 1000
Under 5 years mortality rate	148 per 1000 live births
Fertility rate	7.1
Immunization Coverage	68%
Doctor Population ratio	1:38000
Midwife to women ratio	1:3,720
Population residing within 5km of a health facility.	44.3%
Nutritional Level:- - Starting rate - Under Weight - Wasting	 41% 15% 5%

(Source: Management Information System 2001).

The Adult Literacy rate is at 52.6% (District Development Plan 2006).

1.4. SCHOOL ENROLLMENTS

There are 57758 School going children, out of which is segregated as follows:-

Primary school:	Boys	27540
	Girls	29220

Detailed Segregation runs as follows:-

Primary.1.	15749
Primary.2.	10161
Primary.3.	9421
Primary.4.	7871
Primary.5.	6659
Primary.6.	5116
Primary.7.	660
TOTAL	**56760**

There are also 2002 Boys in Secondary Schools and 1249 girls in both Public and Private Secondary schools. Analysis of this show that there are more girls than boys in primary schools. This is possibly due to more girl child being reproduced than boy child.

1.5. POVERTY ANALYSIS:

Butaleja is an Agricultural District with 88.7% of its income derived from natural resources and these are mainly crop cultivation and animal raring. The estimated per capital income is about 108,160 Uganda Shillings which is about 60 US $ per annum. This was based on Official records from Production Office and random survey done in various Agro Business dealers in the District and cross examination of various stakeholders. The enterprises used for justification of the District income are the major cash crops and livestock which are:-rice, millet, maize, cotton, livestock and others compounded together.

Generally, about 42% - 45% of the population is living below the poverty line. About 80% of households do not live an average modest life thus, having a constraint with shortage of basic household goods, medical and yet food purchase ranks highest in their budgets.

The people in the District have a very low consumption power, which is evidenced in the low rate of turnover of most essential household consumables and the increasing collapse of small scale businesses in all trading Centers and Town Councils. Another challenge is that a big population of the District is addicted to Alcohol Consumption *(Alcohol Consumption report 2006).* This study showed that Alcohol contributes to Poverty by 63% especially to people who drink it.

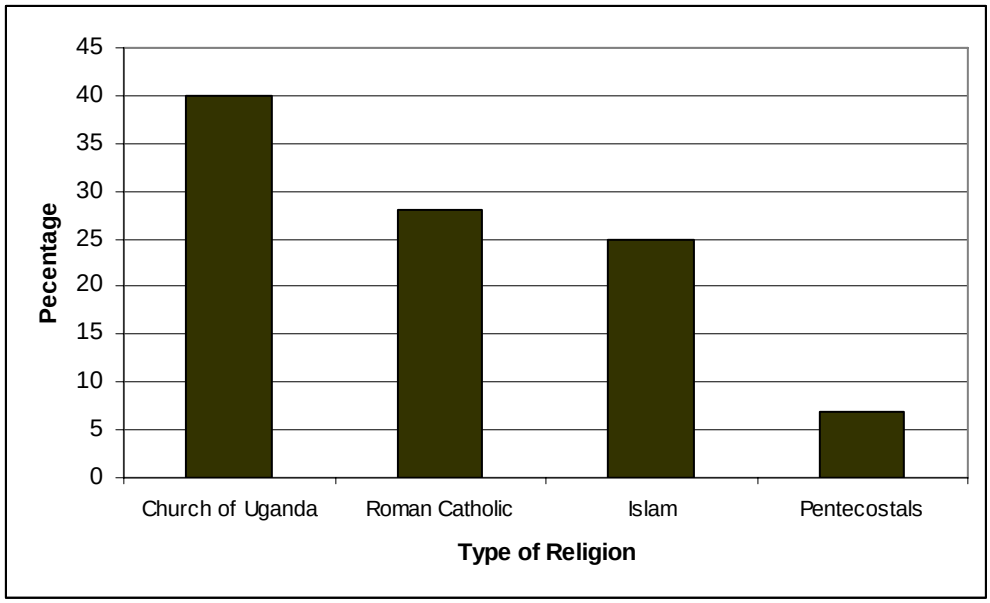
1.6. POVERTY AND ENVIRONMENT:

From the current state of poverty at about 45% living below the poverty line, it becomes obvious that the struggle for survival through over exploitation of the existing natural resources is high in the district. Uganda is a country whose income solely depends on natural resources which is the same case for Butaleja District. Based on the limited land resources in a steadily increasing population at a rate of 3.6% per annum, vital natural resources are degraded massively. The biggest challenge is loss of soil fertility due to a high pressure on land and poor farming methods. It is also noted that some animals and plants have declined or are extinct due to destruction of wetlands for rice cultivation.

1.7. SOCIAL STATUS:

The major Religions in the District are Anglican Church of Uganda, Roman Catholic, Islam and Pentecostal Churches. The percentages are listed below:

The Traditional Beliefs in the District are quite prominent, which include among others; belief in rain making, Cursing, Crop failure witchcraft, Disaster creation. Such beliefs



are a characteristic of under developed societies which have a negative bearing on level of adoption of Modern Practices in development. The people in Districts have various independent clans with Traditional Administrative structures which makes them socially bound which makes them socially living. They are generally social people and accommodative to any foreigner. In this way, they have such other social Practices as Communal burials of the lost dears, communal drinking of alcohol, Communal grazing of livestock and existence of various community groups. Their social identity goes further in that, they may be different at home but one outside. However the Banyole are talented in speaking most Bantu languages so fluently that they get assimilated to different cultures so easy such as circumcision of the Bagishu.

In this way, much as the population of Banyole in the country, could be as high as 600,000 people, the Census figure put them to 350,000 *(Population Census 2002)* which is a typical characteristic of the practice of assimilation of other peoples' cultures including denial of tribe.

1.1. (H) DISTRICT RESOURCE CAPACITY:

Like the National Potential of Natural Resources, the District boasts of the following Natural Resource base:-

- Rivers and Wetlands.
- Diversity of Wetlands plants and Animals including Migratory birds.
- Isolates Rocks.
- Seasonal streams and Watersheds.
- Land and Soils.
- Bi annual rainfall

- Good sunshine
- Fresh air
- Sand.
- Mar rum
- Isolated tress and shrubs
- Fairly flat land surface

In order to guide development, the District has1171 staff members. At district head office, there are materials which includes the following:

Material	**Number**
Vehicles	4
Computers	6
Printers	4
Motorcycles	25
Machinery (Printery)	1

Furniture:

- Office Chairs	43
-Office table	35
- Filing Cabinet	5

The Districts receives 2,033,059,000/= for payment of Salaries to staff which directly contributes to personal income of people within the District.

CHAPTER TWO: THE STATE OF ENVIRONMENT:

Given the Natural Resources in totality, a reflection of the sate of Air, Water, Plants, Animals, Soil, Mineral Wealth and Energy are looked at as per the description in the district state of Natural Resources as below.

2.1. DISTRICT STATE OF NATURAL RESOURCES:

2.1. (A) AIR:

For purposes of this report, the State of air is particularly in respect of oxygen (O_2) for Animal life, Carbon dioxide (CO_2) and Methane (CH_4) which are attributes of the quality of Atmosphere.

Given the low number of Vehicles in the District of about 150 emitting Carbons per day, and a substantial volume of Biomass, the quality of oxygen in the District is regarded good for Animal life, with a minimal pollution.

Methane gas is also produced in localized environments especially in congested communities and rice fields. Since it is not in large quantities, it does not cause significant impacts on the nearby Communities but contributes to the green house emitions over time. This is so because the tree coverage which acts as a direct sink was removed in a process of Deforestation and continued crop cultivation.
The state of quality was based on oral observation of Environmental conditions rather than scientific analysis based on Laboratory work which we could not afford.

However, during the Months of January – March, the District is characterized by massive bush burning especially in Wetlands, for purposes of rejuvenation of pastures, bush clearing for crop farming and Local hunting of Animals.
The District also faces a dusty and hazy conditions during the same period, which arise from the Sahara Desert storm blowing southwards and ends in April, about the beginning of the 1st rain season.
There are also localized dusty conditions arising out of moving Vehicles along the roads that we have, especially during dry weather conditions.

2.1. (B). WATER:

The State of water is looked at as per its quality and quantity as well as water sources such as rainfall, water shed/springs, wetlands, Boreholes and Piped water.

Water Quality:

Generally, the quality of water is poor in the District, especially stream/river or wetlands water, spring water and Borehole although the later at a lesser extent.
The quality of water deteriorating follows the pollution of Watersheds, wetlands, streams and valleys by human activity especially Agriculture and *Waragi* brewing. Agriculture is responsible for wide spread situation of water ways and wells.

The quantity of water is directly influenced by the hydrologic cycle process which is mainly influenced by the amount of rainfall received per year.

Butaleja District does not have a weather station and the weather record of Tororo which is the nearest point does not reflect the true picture of rainfall in Butaleja District. Based on this we have not integrated the rainfall data based on Tororo station but given a general description over the year as follows:-

January-March 2006	no rain
April-July	Inadequate rain in many parts of the district
August-September	no rain in many parts of the district
November-December	El-Niño rains started which caused floods

The rains are influenced by mainly Mt.Elgon ranges and Lake Victoria in the West of the District.
The District receives a biomodial rainfall with first rains starting in early April to July while the second season starting in September to November.

2.1. (C) WETLANDS:

Butaleja District which was about 40% of its land area Wetlands is now having about 20%. The decline is a result of massive cultivation of Wetland areas for rice and other Cereal Crops which caused drying of many wetlands. They have now dried up thus, being viewed under a GIS photograph as dry lands.
All Wetlands in the District are threatened with encroachment for crop cultivation and bush burning.

The major Wetland are identified as per the following table:

NAME	SUB COUNTY	CONDITION
Nambale	Kachonga	Turned into a rice scheme with trees cut down.
Kaiti	Kachonga	Forest vegetation cut down and turned it into rice gardens.
Namawa	Kachonga	Wetlands forests cut but substantial papyrus coverage remains over a big area. It is however

		threatened.
Manghanga	Kachonga	Papyrus vegetation intact but peripheral trees cut down for crop cultivation.
Nattoli	Budumba	Cleared all forests for rice cultivation.
Dumbu Budusu	Budumba	Papyrus still intact and river Mpologoma waters still flood in the whole papyrus plans. Water animals as fish, crocodiles, and statunga exist.
Mpologoma	Budumba	Papyrus still intact and river Mpologoma waters still floods in the whole papyrus plans. Water animals as fish, crocodiles and statunga exist.
Bunawale	Budumba	Papyrus still intact but peripheral forest cut down.
Dumbu-Buwesa	Budumba	Papyrus still intact but peripheral forest cut down.
Sango-Buwesa	Budumba	Papyrus still intact but peripheral forest cut down
Magongolo	Busaba	Papyrus intact but no forest at the river bank. There is existence of animals in it.
Namugwera	Busaba	Papyrus intact but no forest at the bank. There is existence of animals in it.
Nanjere-Mulanga	Busaba	Papyrus intact but no forest at the bank. There is existence of animals in it.
Bubuhe-Budoba	Busaba	Papyrus intact but no forest at the bank. There is existence of animals in it.
Napollo – Bugalo	Nawanjofu	Big part drained for rice cultivation and it became seasonal wetland.
Buhadyo-Hisiro	Nawanjofu	Papyrus intact and not threatened.
Hisiro-Tirinyi system	Nawanjofu	Unthreatened by development and most of wild animals ran to this area which included, Pythons, Crocodiles, big fish,

		Monkies, big snakes,statunga etc.
Doho- Koli	Kachonga	Wetland drained for maize cultivation, sweet potatoes, rice and sugar cane cultivation. Wetland vegetation is not there.
Masulula	Mazimasa	River banks all cultivated for rice and other crops Forest cut down and course of river changed for irrigation purpose. Most parts of wetland drained. Aquatic animals migrated away.
Wangale/Kidoko	Mazimasa	Wetland vegetation cut down, and all of it under rice cultivation, Aquatic loving animals migrated away.
Kangalaba	Mazimasa	River banks cultivated and all forests cut down for firewood as well as crop farming.
Namulo-Nakwasi	Butaleja	Papyrus cut down for rice cultivation and peripheral forests cut down. A notoritious water hyacinth was maliciously introduced in the wetland thus depriving the Community of fresh water and fish.
Bunghaji	Butaleja	Papyrus vegetation cut for sugar production, yams and vegetables and river banks cultivated. Siltation of river was very high.
Hisega	Butaleja	Most parts of papyrus areas were cut down for rice, yams and sugarcane cultivation, peripheral trees were dominated. The wetland has become seasonal will animals are no longer there.

Butaleja Hisoho	Butaleja	Papyrus is intact and well utilized by the people around for mats. The mashes are still in existence but peripheral forests cut down for wood fuel.
Nahinghande-Lunghule	Butaleja	Nahinghande part was cultivated for rice but Lunghule part is still intact.
Nakwiga	Busolwe	Nakwiga part was all cultivated for rice.
Nahagulu-Nagundo	Busaba	Papyrus was intact and water was all the time present.
Namahoho	Nawanjofu	Papyrus was intact and water was present all the time.
Bingo	Nawanjofu	People encroached on it for rice and other Cereal cultivation. They drained the rivers and the whole Eco-system is changing.
Bubinge Toffe	Nawanjofu	Rice cultivation was at the edges but mach of papyrus still remains intact. However, the volume of reduced.

There is generally a serious decline of the quality and quantity of wetlands in the District as a result of Agricultural Practices extended into them.

2.1. (D) DOMESTIC WATER:

The District gets water for domestic use mainly from Boreholes, spring wells, river as well as piped water in especially Sub Counties of Kachonga, Mazimasa and Busolwe.

There are ……. Number of Boreholes in the District but out of which… have dried up. This is possibly due to the declined water table for sustaining the existing boreholes.

Spring wells have also dried up due to deforestation of water shed areas which were supporting those wells.

The volume of river waters decline and increase, following drought and rainfall intensities over the year. This makes rivers looking more of seasonal than it was 10 years back. The situation is worsened by the heavy siltation which takes place in those rivers and springs, season by season.

There is piped water in Kachonga, Mazimasa and Busolwe sub-counties but there was no data on how many people access that system.

The cost of piped water unit in Busolwe however is 950/=, which brings the cost of a jerican at about19/=but still not all people can afford it. Even those who afford it prefer using other more direct free sources than the mitered water. This is possibly due to the poor attitude that water users do have, of expecting net free water.

2.1. (D) PLANTS:

Crops Available:

Like in any other Natural habitat, the District has thousands of known and unknown plant Species which comprise both crops and wild plants. Some of the available crops grown in the Local names are as follows:-

Common Name	**Scientific Nomenclature**
Finger Millet	*Eleucine Spp*
Maize	*Zea – Mays*
Rice	*Oraynze Sativa*
Sorghum	*Sorghum Surgicolla*
Cassava	*Manihot Spp*
Sweet Potato	*Impomea Butaus*
Yams	*Exathoma Spp*
Ground nuts	*Arachis Hypogea*
Cow peas	
Banana	*Musa Spp*
Citrus Oranges	*Citrus Spp*
Mangoes	*Mangofera Spp*
Tomato	*Lycopascon Spp*
Egg Plants	*Sodom Spp*
Water Melon	
Coffee	*Coffee Spp*
Cabbage	*Brasca Spp*
Jack Fruit	
Pawpaw	*Papaya Spp*
Passion Fruit	*Pasflora Edulis*

However, there is a general decline of various crops in terms of yield and some species facing general extinction in the area. Such notable ones includes the Bambara nuts Aerial yams, Green or Black grams and Cashew nuts. The rate of decline is so high that the new

generation does not even know some crops and plants that used to exist, except reading about it in books.

The factor for the decline is mainly due to change in cropping patterns and too much Commercialization of farming, where only crops with available markets are advocated for while suppressing the gene bank for some species in the area.

WILD PLANTS:

There are thousands of plants species still existing in the wilderness but numerous number of which, facing extinction threats. This is due to over cultivation of bushes, bush burning and lack of culture of biodiversity conservation by people in the area.
Most species of herbal interest have disappeared and this has increased the demand and price of herbal medicine in the area, due to the increasing shortage of species.

However, what is most harvested from the bushes includes seasonal mushrooms, wild *Amaranthus* Spp. Some of what have completely disappeared includes, wild yams, wild fruits in general. What is threatened is the Tama line Spp. Whose fruits are a local vegetable, herb and its stem producing the best quality of Charcoal.

Some of the wetlands plants existing include the following enlisted:

No.	Name	Status
1.	*Cyprus Papyrus*	Still plenty in major wetlands
2.	*Cyprus Retundas*	Highly threatened
3.	*Cyprus Articulata*	Threatened
4.	*Sasbania Sasban*	Highly threatened
5.	*Vossia Cuspidata*	Exists only deep in the river parts protected by thick papyrus.
6.	*Miscanthus Spp.*(Read swamp grass)	Almost extincted in the District.
7.	*Azolla Spp*	Abundant in shallow waters and flooded rice field in Doho Rice Scheme.
8	*Eichornia Crassipes*(Water hyacinth)	Maliciously introduced in river Manafa/Nakwasi system and paving a big threat to the Community.
9.	*Marantachloa*(Commonly known as Amasalire in Lunyole)	These are almost extincted in the District due to deforestation and wetland cultivation.

10.	*Nymphaeae Spp*(Water lily)	Only found in deep rivers inside Papyrus.
11.	*Pistia Spp*(Nile Cabbage)	Ceased to exist, with disappearance of spring wells in Communities.
12.	*Typha Domingensis*(Reed swamps)	Nearly extincted in the District.
13.	*Alchonia SP*	Disappearing in sights of many in the District.
14.	*Phoenix Redinate* (commonly known as Ebihindu)	Highly threatened by swamp farming.
15.	*Acacia SP*	Highly threatened by swamp farming.

The mostly planted crops for food are: - Millet, Maize, Sorghum, and Sweet potato, Cassava, Beans and Groundnuts.
Those mostly planted for Cash are: - Rice, Cotton and Oranges. Coffee is also planted but at a miled scale.

2.1. (E). ANIMALS:

Domesticated Animals kept in the District includes the enlisted below:

- Cattle
- Goats
- Sheep
- Chicken
- Turkeys
- Pigs
- Ducks
- Rabbits
- Pigeon
- Guinea Fowl

They also keep dogs and Cats as home pets. Some wild animals found existing either fully or seasonally includes a range of birds and other animals.

However, with great Financial Constraint for facilitating the project of biodiversity data collection, it was not easy to determine the actual number of birds and wild animal species that were available in the District.
Based on the fact that their Natural habitats were destroyed for Agricultural activities, the number certainly has declined, with many birds and other animal species migrating to safer and far away areas.
Despite all that, observable were some animals which include the following common wild birds.

Species Name	**Indigenous Name**	**Status**
Grey Heron	Munaha	Plenty and stays in areas of

		human settlements.
Crested Crane	Wawalu	Number has reduced to less than 100 in the District.
Addle bill Stock	Sugali	Migratory to District
White Egret	Nyange	They still exist in big numbers.
Yellow billed stock		Exist in rice growing fields during flooding periods.
Guinea Fowl	Ekanga	They are threatened by hunting and poisoning.
Weaver birds	Esogo	They have almost moved out of the District because of destruction of their habitats.
Quail Queria	Namire	Migratory to District.
Other Wild animals		
Marsh Mongoose	Lugunjwi	Their numbers have gone down by cultivation of thickets and wetland marshes.
Snakes	Emisota	All big snakes that used to exist have disappeared, due to cultivation of their habitants.
African Python	Enjatu/Emiryamirya	They are facing extinction in the District and now a rare species.
Lizards	Micholo/Namunanga	They are plenty.
Monitor Lizard	Embulu	Their numbers has gone down due to destruction of their habitants.
Bats	Pundupundo/Amalenya	They are facing extinction in the District and their Ecological value loss is evidence.
Giant Rat	Hangala Bugeso	Still exist but highly harassed by hunting.
Field Rats	Embeba	There has been an outbreak which threatened crops in the field during this year.
Squirrels	Ekerenghe/Embahi	They are threatened by hunting and destruction of their habitants.

Various species of birds and other animals of known and unknown migratory nature are existing but we could not identify them because of lack of necessary logistics.

There is evidence that majority of wild species have moved out of the District because of expanded crop cultivation which interfered with their habitants.

2.1. (F) ENERGY SECTOR:

The state of Energy Sector in the District is equally bad in that almost 100% of the Population depend on biomass for their energy supply which biomass level has declined so highly because of expanded land cultivation.

The available sources of energy in the District are mainly:

- Biomass
- Petroleum
- Electricity
- Solar Energy.

Like any other rural situation, energy for cooking in homes and Institutions is basically firewood or charcoal. However, Petroleum and electricity provide basically light energy and food processing power to the available mills.
The solar energy which is also picking up is basically reserve of the fairly rich class of residents.

Given the pressure on biomass energy in the District and the highly limited Natural Resources which supply it, the state of wood fuel is so bad that every household is now feeling it.
The forests are no more, the source of firewood now is maize strews, tree stump roots especially the Mvule stumps.

A study carried out in Kachonga Sub County by the Department followed that the Sub County spends about 30 Million Shillings (about 16,660 United States dollars) per month on wood fuel alone per month. At this rate, it means that the District spends about 2.5 billion shillings (about 1,388,890 $) per year on wood fuel alone. Given that they have also to spend on petroleum fuel for lighting, and to some extent electricity by the few privileged ones, the total expenditure on energy goes as high as about 3 billion per year.

2.2.ECONOMIC ANALYSIS OF ENVIRONMENT:

2.2.1. AGRICULTURE:

2.2.1. (A) CROP FARMING:

Butaleja District is purely an Agricultural dependent District with about 96% of the households earning their livelihood through Crop cultivation. They mainly grow millet, maize, rice, Cassava, Sweet potatoes, Ground nuts, Beans and Cotton as their survival for both food and cash. The prominent cash crops being rice and cotton; they sale all other crops for earning some income.

People in the District are mainly subsistence crop farmers who produce for food and cash, except for cotton and rice which is produced with a major intention of selling.

Given the steady increasing population on limited land resource, the soils have declined in soil fertility so high that on the actual description of Agricultural soil, it ranges between top levels to about 5 – 10 cm in most Sub counties. This is because much of it is washed away by soil erosion hazard every time when it rains. This is much accelerated by low levels of adaptation of modern farming practices by the soil users.
The soils in Butaleja have low levels of nutrients which is caused by poor farming practices in addition to soil erosion.
The soil analysis report indicated a low organic matter of below 6.8 which is the critical minimum.
Soil fertility decline is observed in declining crop and pasture yields. The average crop yield of major crops in the District run as follows:-

Crop	**Yield Per ha (kg)**
Finger Millet	800
Maize	1700
Rice	2500
Groundnuts	600
Sweet Potato	800
Sorghum	1200
Cassava	10000
Beans	500
Cotton	600

With exception of rice and cotton, the rest are basically grown as food crops for families, although sold for some cash. It therefore follows that cotton, rice, millet and maize are the major crops where farmers earn money.

Food Situation:

The analysis of the state of food security is based on the common foods which are grown as follows:

Crop	**Estimated Acrage (ha)**	**Estimated Yield (tones)**

Finger Millet	4556	3645
Maize	5380	9146
Cassava	1161	11610
Sweet Potato	2780	22240
Sorghum	2196	2635
Beans	3470	1735
Ground nuts	5445	3267
TOTAL	**24988**	**54278**

Based on the food crops grown for mainly home consumption, above it follows that about 54278 tones are available in 2006.
This therefore gives a percapita food availability of 301.5kg per person in 2006. It therefore shows that the food available is inadequate for feeding the estimated population of about 180,000 people, given the ideal of 2kg per person per day.
This simple analysis shows that there is a deficit of about 48.8% of the total requirement. This being translated into figures, the District requires to produce 22, 688. 2 tones of various food staffs more, to support the population effectively in 2006/2007.

In a nutshell therefore, although it is presumed by some circles as the food situation being good, this analysis shows a food insecurity situation in the District in a short run period, which requires an increased food production to sustain the population.

CASH CROP INCOME:

As already noted, Cash from crop farming is mainly realized through sale of rice, cotton, millet, maize and some others such as vegetables and pulses.

Based on official records from Production Office and cross examination with key farmers, business people dealing in produce business and food processors, the following analytical results were established:

Crop	**Estimated tones sold per year**	**Average Price per Kg**	**Income**
Rice Milled rice Husks	 1500 5000	 800 20	 12,000,000,000 100,000,000
Millet	6500	450	2,925,000,000
Maize Grain	2050	400	820,000,000
Cotton seed	1800	450	810,000,000
Others			830,000,000
TOTAL			**17,485,000,000**

It therefore follows that about Uganda Shillings 17,485,000,000 is realized annually, through sale of food and cash crops in the District per annum, given the above average prices.

2.2.1. (B) LIVESTOCK INDUSTRY

This Sector is under the Department of Production and it is headed by the District Veterinary Officer. It is concerned with domesticated animals. Due to lack of Entomology Officer, the Veterinary Officer is responsible for even Bee keeping in the District.
From official statistics, the following developments were noted:

- 24 Poultry Units of 3 Exotic and 21 Local
- 561 Layer birds
- 256 Improved Boer goats
- Pigs are reared but not promoted by the department in all Sub Counties, thus left to farmers to do what they could.
- Records of slaughter for animals indicated that 334 cattle, 443 goats, 103 sheep, 173 pigs, 124 Turkeys had been slaughtered. This put an average animals slaughter at 1200 including the estimate for chicken slaughtered. Given the average Carcus weight of each at 150, 14, 14, 30 and 9 kgs respectively, the livestock meat available for the population including the estimated chicken meat is analyzed and percapita meat consumption determined.
  The above estimates were out of consultation with cattle traders in Busolwe Town Council and official records. This analysis shows that average percapita consumption of meat in the District is about 0.4kg per year and the reality being that the peak is during Christmas feastivities.
  This indicates a serious shortage of animal protein to most people in the District.

With the available records from the District Veterinary Office, there were about the following number:-

-36950 heads of cattle
- 93000 goats
- 1820 sheep
- 155760 Poultry

This figure shows that there are about 287,540 numbers of various livestock in the District. There are also about 3000 Pets which were mainly dogs and Cats.

Based on the figure of livestock and average selling potential at 5% it means that about the following number of livestock is sold per year.

1850 Cattle
4650 Goats
90 Sheep
7790 Poultry.

At an average price of 200,000 for cattle, 28000 for goat and sheep and 3500 poultry, respectively.
The Districts earns as follows from this Sub-sector:-

Cattle	370,000,000
Goats	130,200,000
Sheep	2,520,000
Poultry	27,265,000
Total	**529,985,000/=.pa (0.529985 bn) $ 294,436.**

This income is far below the expected output of the sub sector, given that is once contributed to the greatest income of the region, and regarded as "poor man's bank".
Majority of elites in the District were educated through sale of cattle and cotton. Now that cattle keeping is almost impossible, it reciprocates an proportionate economic decline and hard labouring in crop cultivation with little economic gain as opposed to ease through livestock keeping.

The PEAP report 2005 enlists livestock keeping as more paying that crop cultivation, at a national perspective *(PEAP 2005).* Based on this fact, it follows that shortage of livestock in the District contributes to wide spread poverty prevailing.

2.2.1 (C) FISHERIES SUB SECTOR:

Although the District comprise of about 20% of its land to being wetlands, the fishery potential is not yet developed.
Periods before, people used to get local fish by hooking in seasonal wetlands and permanent wet plains. However, with decline in quality of wetlands by expanded crop cultivation, water pollution and poor conservation of watersheds, the local fish species disappeared completely from the seasonal wetlands. The few remaining ones from big wetlands has also dwindled such that the local fish catch is history to tell.

The District is struggling to promote Aquiculture where at least 3 fish ponds had been dug up and equipped with fish. All this is a sign of drive towards development of an Industry However, due to the el-Niño rains fish that had been installed was washed away by flood waters.

The fish received for consumption is from Lake Victoria and Lake Kyoga which is brought in a stilthly way, because of being under sized. This smuggling process has made fish very expensive in the District to such a way that a kilo of fresh fish is 2500= to3000= while a piece of smoked fish ranges between 1000 – 4000 in open market.
Given that it is not locally got, the income out of it is not clearly followed since the Sellers are mainly traders from outside the District.

During flooding, there are episodes of fish catching which comprise of mainly *Claria ssp*(Emale) and *Protopterus spp* (Emonye), using crude methods of cutting at night.
Other species like *Clarias Bagrus*(Ekonye) and *Schilbe spp* (Ebiganye) are almost extincted from all the District wetlands due to hard conditions and continual drying of wetland waters.

2.2.1(D) AGRICULTURAL MARKETING:

Gone are days of cooperative marketing for crops, in Butaleja District as it used to be in the region years back. Given the mistrust in the cooperative movement and the threat of corruption by officials, the current marketing process is through individual marketing and the small scale middlemen commonly known as "bicycle boys". These boys move with their small weighing scales in their waists, from home to home looking for all types of produce.
Their major concern is to get any marketable produce be it crop or livestock, as long as they can get a difference.
In this way, they corrupt the system in the following ways:-

- They compromise the quality of produce, given that they buy all what is available for sale, regardless of quality.
- They exploit the primary producers in that they take a bigger market margin compared to what the producer would get.
- They adulterate the produce/products in order to increase on the quantity of what they would have got. In this way, milk, millet and rice are prime products potential for adalteration.

- They misinform the primary producers, about the prevailing prices and trends.
- They compromise the potential for external markets by lowering the quality of products through adulteration.

Quality of produce is a key essential element in Agricultural marketing.
However, given the prevalent marketing situation, farmers in Butaleja District are very poor in considering such an essential element. This stems from time of planting, where they prefer home saved seeds or adulterated cheap seeds for planting other than selecting or planting certified seeds from recognized seed dealers which are slightly at higher price. It is worse where they mix chaff into good grains in order raise the tonnage.
In this case, the mentality of Butaleja farmers and their middle men "bicycles boys" is centered at maximizing by lowering the quality.

This situation has made rice from Busolwe, millet from the whole District and milk from some places getting rejected by external buyers. In the whole District, there is no farmer or firm which supplies World Food Programme under the farmer support programme.

There is also a tendency of drying rice onto milling dry yards. This tendency creates an over flooding of the produce at the mills thus lowering the price of which the farmers would have got if they had supplied at the mills intermittently.
This is to the disadvantage of farmers and to the advantage of the middle men and traders from outside the District. Interventions are being made to sensitize the farmers but to no avail over this effect.

2.2.2. FORESTRY SECTOR

2.2.2. (A) STATE OF FORESTS:

Out of the total land area of Butaleja District of 644 km^2, there is only 1 gazzatted Central Forest reserve, with an Acrage of 111 ha which is currently under the management of the Natural Forestry Authority (NFA).
However, even the gazatted 111 ha of Nakwiga Forest Reserve; there are only 2 ha as a Forest where isolated Eucalyptus trees stands, the rest being rice fields.

The District mainly comprise of Savannah grassland, with dotted tree stands of different species, which among others include:- *Milicia exelse, Ficus Spp, albizia spp, Combretum spp, Cacia spp, Mangifera Indica, Termanindus Indica, Sapim Elipticum etc.*

The well known valuable Mvule for its timber is depleted to almost total eradication of all the grown up sized ones living less than 250 mature Mvule in the District still standing.

Private Forestry is on a limited scale, with farmers having small woodlots of Eucalyptus around their homes. These supply building materials and firewood. Generally, tree planting in the district is very low, with only 4 tree nursery operators but all of them

having over-grown tree seedlings due to lack of market. With the deepened sensitization however, there is an increasing trend for people buying tree seedlings.
Apparently, there are no Local Government Forest reserves in the district but with all what used to exist around Sub County Headquarters being peoples' gardens.

All the wetland forests were cleared down for rice cultivation and their Natural and Artificial values is just history.

Tree harvesting for timber, charcoal, brick making and crop cultivation, have contributed greatly to the degradation of the forest resources, with critical values such as firewood, being an expensive commodity.

A study carried out show that 2.5bn is spent on purchase of firewood for domestic and Institutional energy use per every year as a result of extinction of forests.

2.2.2. (B) AGROFORESTRY:

This is a new technology being introduced in the district, where crop cultivation is integrated together with tree planting, in a bid to harness the technique of diversification of land use productivity. It also involves techniques and practices such as wood energy saving, soil fertility management, all being critical issues in sustainable development of the District.
The Integration of trees and crops reduces the pressure on individual land use for a single enterprise, given that the land is limited, with the steadily increasing population.

However, even in communities where such practices and technologies were introduced, the adoption process is almost zero thus, requiring a serious social intervention by all stakeholders.
Apparently, there isn't any where one can locate a charcoal saving stove sold in the district. This indicates that the technologies are not yet picked up.

2.2.2. (C) INTERVATIONS:

- The District Forestry sector has established a district tree nursery at Nakwiga-Busolwe, for providing tree planting materials to farmers, in addition to the three private nurseries.
- Different tree species both Indigenous and introduced types have been raised. The most targeted species being fruits and Agro forestry trees where in every rain season, a target of 40,000 seedlings are available.
- Although there are 7 private nursery operators in the District, only 4 are functional.
- Nursery management skills are provided to all nursery operators and any willing farmer wishing to get it.
- Sensitization of farmers on Forestry management has started by the Department of Natural Resources, with some assistance from some NGO like Environmental Elert, Uganda wetland Education Foundation which sensitized over 300 farmer leaders.

However, the major constraints include the following:-

- Inadequate funding of the Natural Resource Department, especially Forestry sector.
- Inadequate technical manpower.
- Lack of transport facilities
- A very high demand for forest products.
- Climatic changes.

All these and unmentioned others have affected the performance and development of the forestry sector in the District.

2.2.3. INDUSTRIALISATION:

2.2.3. (A) AGRO PROCESSING:

Given that Butaleja District is an Agricultural based district, all Industries in place are Agro processing, with few artisans making Agricultural implements such as sickles, knives, slashers and welding of metals respectively.
The processing plants available in the District include the following:-

- 1 cotton ginnery
- Un established number of rice, and other grain milling machines.
- Un established number of bread bakeries.
- 1 Honey processing unit in Mazimasa Sub County.

2.2.3. (B) MINING:

In Butaleja District, there is no established mining Unit which is recognized. However, there some small mines of stones, sand, clay and marram for supplying the construction industry.
These small mining places are informed and distributed all through the District.
The income from these mines cannot be established because they are informal income for supplementing Agriculture.

2.2.3. (C) MANUFACTURING

As already hinted, the District does not have a manufacturing plant of any sort but similar to that
are the welders who mold metals into useful products.

2.2.4. (D) TRANSPORT SUB SECTOR:

ROAD NET WORK

There are 116.4kms of feeder roads which are currently in bad conditions, due to floods. There are also 310.3kms of Community roads which requires to be up gradable to motorable conditions. The Ministry of works has 50km roads it manages under its jurisdictions.

2.2.4(E) WATER AND SANITATION

This section of service deals with the most essential aspect of life (water) of which all people depend on. Generally, the type of water systems available in the District includes the ones below:

- Borehole water for domestic use and animals.
- Spring wells. This water is also used for domestic use as well as for livestock.
- Streams and rivers are also used for drawing water for domestic use especially in river bank settlement communities. It is used by all for livestock use.
- Piped water and Sewerage Corporation in the Sub Counties of Kachonga and Mazimasa. There is also piped water in Busolwe Town council which is being extended to Mulagi, Buhalya trading centres.

Records from Busolwe water Officer show that 219 are connected to the water supply line, of which 166 are active and the 53 being inactive. However, much as their Water Unit costs 897=, the people there prefer borehole water and shallow wells thus, making the management of water supply non cost effective.

The records from Water Department as concerns the status of existing boreholes was unavailable and therefore, establishing the exact number of functional boreholes from the non functional ones was not positive, with the limited budgets that we had at competition of this report.

2.2.4.(F) WASTE MANAGEMENT:

Much of the accumulated wastes are at domestic level and it involves biodegradable as well as non degradable materials Toxic wastes are also disposed off at domestic level which mainly include dry cells. The volume of wastes generated and disposed off was not easily established but atleast 5kg of polythene papers of high density Kavera is disposed off in each trading centre.

Taking an average therefore of 5kg, with the number of urban centres, it follows that, 200kg is disposed off in the environment per day. This means that 72 tones of kavera is disporsed off in the environment per year and it is usually indiscriminately done so that, kavera is seen littered in all parts of the District.

2.2.5. HEALTH SECTOR

2.2.5 (a) Disease Prevalence.

The common diseases are:-

- Malaria
- Pneumonia
- Worm infections
- Eye infections
- Skin infections
- Upper Respiratory Infections(ARI)
- Anemia
- Trauma
- Dental Infections

However, alcoholism is a serious common disease which unfortunately is recognized by many people in the district.

2.2.5(B) MEDICAL SERVICES:

The district has 17 Health units which include a district referral hospital in Busolwe. There are 140 health workers four of whom are medical officers.
The doctor-people (patient) ratio stands at 1:60,000 which is a very high ratio.
However, the medical services available include

- A hospital
- Public health center ii and iii
- Private health units
- Medical clinics distributed in almost every trading centre.

Much as there is availability of those units, the biggest problem is the affordability of the costs of treatment.
On average, it costs about 7,000/= for treatment of a single dose of malaria.
With an average of two episodes of malaria per year, the cost of treatment of malaria per person is 14,000/=. This means that the district spends about 2,520,000,000 Uganda shillings on malaria alone in the district. This direct ort indirect expenditure on treatment cost for malaria and of course other diseases which goes over 2.5bn has a direct contribution to the prevalent poverty in the district.

2.2.5(c) Major activities:

The major activities in these trading centre and urban settings include the following:-

- General trading of goods
- Agro processing machines which include mainly rice mills, other cereal milling
- One cotton ginnery in Busolwe Town Council
- Saloon business
- Motor vehicle, motorcycle and bicycle repairs.
- Medical clinics
- Food kiosks
- bars and film halls
- Fuel outlets in Butaleja and Busolwe Town Councils.
- Transport business especially *boda-boda* cyclists.

2.2.6 SERVICE SECTOR:

2.2.6. (A) Formal Employment:

The District has 1171 people employed in Public sector as teachers, Medical workers and Traditional Civil Servant. The breakdown of which runs as follows:

Category	**Number**
Teachers	886
Health workers	142
Traditional Civil Servants	143
Total	**1171**

Of the workers working in the District however, we have un established number from the category of those formally employed in NGO Health Units, Private schools and other agencies thus, the estimated income from employment is based on Public sectors workers who otherwise comprise of about 99% of the Formally employed category in the District.

Based on the budget performance report for the District in 2005/2006 financial year. The District receives 3,689,848,152=, with 25,044,659= as Local revenue and 3,664,803,493= as Central Government transfer released.
Out of this money, 2,033,059,000= was spent on payment of salaries and wages.
This wage bill is a direct contribution to personal income of the people in Butaleja per year estimate.

2.2.6. (B) INFORMAL EMPLOYMENT:

With exception of about 1200 people in the District taken as employed in the formal sector, the rest of the working population is employed in the Informal sector which includes such as:

- Subsistence Agricultural Farmers
- Small scale petty traders
- Transporters mainly vehicles and Boda Boda “Bicycle riders”.

Being informal in nature, it is difficult to identify how many are engaged in which sector but what is evidenced commonly is that all of them are engaged in subsistence crop farming, including the formally employed workers.

However, there is a general tendency of potential people especially the youth in idling along roadsides and trading centres doing no work.
This situation is hinting the Agricultural sector so much that, there is shortage of man power for Agricultural production. It also follows that few people are engaged in

producing food for the majority who comprise of the children, the idle youths and the elderly. This is a serious threat to food security in the District.

2.2.6. (C) TRADE AND COMMERCE

The trading activities in the District are mainly to produce Marketing and retail shop running. They are all informal business hence, unregistered for paying business taxes. The business units available in the District include:

- General trading shops.
- Hardware stores.
- Produce stores
- Food kiosks/restaurants
- Beer drinking pubs/joints.
- Agro input stockists.
- Meat butchery.

What is common is that they are all not specific in such a way that they are specialized. They deal in whatever product that has bigger profit margin at the time. This practice undermines the principles of specialization which in turn affects the quality of products on market, due to competition. This also lowers their profit margins.

The situation is very serious, in seeing the only foreign investor running a ginnery, also getting involved in selling rice and other grain and food staffs produce in a retail shop, like the indigenous people.

2.2.7 EDUCATION SECTOR.

2.2.7(A) SCHOOLS:

There are 111 primary schools out of which 89 are government Aided primary schools. The rest are privately supported by the communities. There are also 17 private and government Aides secondary schools in the district where the 3 tertially institutions are providing vocational trainings in the district.
The school enrollment for boys and girls as well as respective trends is analyzed as per the following:-
Total enrollment for primary and secondary runs as follows:

Primary school enrollment trends

Class	Boys	Girls	Total
P.1	7,735	8,014	15,749
P.2	5,052	5,109	10,161
P.3	4,604	4,817	9,421
P.4	3,898	3,973	7,871
P.5	3,383	3,276	6,659
P.6	2,558	2,681	5,116
P.7	318	342	660
Total	**27,540**	**29,220**	**56,760**

Secondary school enrollment trends:

Class	Boys	Girls	Total
S.1	814	591	1405
S.2	600	420	1020
S.3	559	334	893
S.4	622	346	968
S.5	137	23	160
S.6	99	13	112
Total	**2,831**	**1,727**	**4,558**

(Analysis of secondary data from Education dep't by District Environment Officer)

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Analysis;

The data above shows an unstable decline of school enrollment in primary schools with girls being in greater numbers than boys. This is possibly due to the following:-

1. The number of girl child produced is higher than that of boy child.
2. The progressive unstable decline is due to the forces of people's culture of not educating the girl child matching alongside public advocacy for girl child education.

As for secondary enrollment, the trend is such that boys are greater than girls. The decline is so sharp due to early pregnancies and sometimes due to lack of school in the nearby vicinity as well as school fees.

3. Between senior 3 and senior 4, there is an increase of enrollment. This is possibly due to public intervention in advocating for girl child education, which causes a remobilization of dropped out students.
4. However, on joining of Advanced level, there is a sharp decline due to examination failure, while others dropping off for fees reasons.

2.2.7(B) Teacher-Pupil relationship.

There are 886 Primary and Secondary teachers in the district, teaching in the 128 schools, to 61,318 pupils in the primary ands secondary schools.
Majority of the 886 teachers are primary school teachers.
This scenario indicates a teacher pupil ratio of 1:69 which is higher than the ideal 1:40.

2.2.7(C) Professional output

The rate of professional output is mainly evidenced in areas of primary teacher education, vocational/training colleges of Mukujju, Nyondo and Iganga for primary education.
However, there is no official statistics in the district indicting the exact number of professional output in the district.
Generally, the rate at which people get higher professional qualifications is very low to such that less than 20 people get degrees in the district with in a year, which is comparable to some villages in some regions of the country.

2.2.7 (D) MEDICAL SERVICES:

The district has 17 Health units which include a district referral hospital in Busolwe. There are 140 health workers four of whom are medical officers.
The doctor-people (patient) ratio stands at 1:60,000 which is a very high ratio.
However, the medical services available include

- A hospital
- Public health center ii and iii
- Private health units
- Medical clinics distributed in almost every trading centre.

Much as there is availability of those units, the biggest problem is the affordability of the costs of treatment.
On average, it costs about 7,000/= for treatment of a single dose of malaria.
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2.2.8 URBANISATION

2.2.8(A) Urban Centers:

Although the district is regarded as a rural district, there are 2 town councils of Busolwe and Butaleja as gazetted urban centers.
There are also 40 trading centres distributes within the district, at least where people do commercial activities as well as sleeping there in form of urban life setting.
There are about 50,000 people living urban life in those centres (*independent survey, 2006).*

2.2.8(B) Major activities:

The major activities in these trading centre and urban settings include the following:-

- General trading of goods
- Agro processing machines which include mainly rice mills, other cereal milling
- One cotton ginnery in Busolwe Town Council
- Saloon business
- Motor vehicle, motorcycle and bicycle repairs.
- Medical clinics
- Food kiosks
- bars and film halls
- Fuel outlets in Butaleja and Busolwe Town Councils.
- Transport business especially *boda-boda* cyclists.

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- bars and film halls
- Fuel outlets in Butaleja and Busolwe Town Councils.
- Transport business especially *boda-boda* cyclists.

2.2.8(C) Major constraints:

The major constraints in these urban settings range from social to economic, depending on circumstances.

With increasing unplanned urbanization, such associated problems includes:-

- Poor waste management
- Lack of water
- Poor housing construction leading to development of slums in the district.
- Poor road networks.

The associated social problems includes:-

- Increasing insecurity and burglary, due to idleness of many youths in the district.
- Too much alcohol abuse
- Moral decline due to the increasing exposure by the film industry in trading centers.
- Increasing land prices and scarcity.

All these and poor planning in the mushrooming urban centers are creating social economic problems which are linked to poverty and development

2.2.9 GENERAL ECONOMIC ANALYSIS.

Given that the income of the district is mainly based on natural resources, the natural resource based department s of Agriculture, veterinary, trade and commerce are together with formal employment the principal earners to the district, which provides an annual earnings as analyzed below:-

Area	**Estimated earnings, 2006**
Crop sector	17,487,750,000/=
Livestock	529,985,000/=
Salaries and wages	2,033,059,000/=
Total	**20,050,794,000/=**

From the analysis of incomes from all sectors as looked at in this report, it follows that the district earns about 20,033bn, out of which 88.7% is through natural resources while 11.3% from other sectors which is mainly salaries and wages.

At an estimated income of the district at 20.05bn per annum, the percapita income stands at about 125,317.5/= which is about US $ 69.9 per annum.

CHAPTER 3: ENVIRONMENTAL INTERVATIONS:

3.1 POLITICAL INTERVATIONS:

Political interventions in the district so far done includes both political and technical and involve such as the following

- The district gets substantial support from the district and sub county leadership, on matters of budget support for environmental activities in areas on mainly production, health, water, education especially primary education.
- However, the department of Natural resources is ill supported, due to the limited budgets ceilings allocated to it.
- Besides this, there is a district environment committee which does the district environment planning and advocacy for the district. There are also sub county environment committees, which are assisted by local environment committees in each of the lower local government.

  These political teams are instrumental in supporting environment management despite that they have a weak capacity at the moment.

3.2 TECHNICAL INTERVENTIONS:

The department of Natural resources through environment sector has done numerous technical interventions during the year.

The ones most prominent include:-

- Sensitization of 480 people in the district in areas of wetland management, biodiversity management, environment mainstreaming.
- Soil conservation training was also conducted in the district, with technical assistance by the department of production.
- Integration of environmental issues in the districts and sub county development plans.
- Promotion of a forestation by advocating for tree planting by public or private stakeholders. In this aspect, the district established a tree nursery of 40,000 seedlings, which were given out to people and institutions.
- A national Environment day celebration was held within the district and most notably was the World Environment Day which was held in the District on 22 June 2006 at the District Headquarters.
- Worked closely with NEMA and Wetland Inspection Division of the Ministry of Water and Environment, on matters of building the capacity of the district.

3.3 CONCLUSION:

In summary, much as a lot of efforts are being done at the district and sub counties, there is little or no consideration of matters of sustainable development, by various development stakeholders, especially those linked for Natural resources, for purposes of survival. In this way, there is a serious level of environmental degradation, especially in

wetland sector for rice cultivation. In this case, there is a general decline of natural resources thus, the district having unsustainable development that would not sustain the future generation.

The analysis also shows a declining economic prosperity and increasing poverty levels as well as food availability potential to sustain the population.