



EAST AFRICAN CIVIL SOCIETY FOR SUSTAINABLE
ENERGY & CLIMATE ACTION
(EASE – CA) PROJECT

DISTRICT BASELINE: Nakasongola, Nakaseke and Nebbi in Uganda

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ACRONYMS

CBOs:	Community Based Organizations
CISU:	Civil Society Fund
EASE-CA:	East African Civil Society for Sustainable Energy and Climate Action project.
ESS:	Energy Saving Stoves.
UBOS:	Uganda Bureau of Statistics
INFORSE:	International Network for Sustainable Energy
JEEP:	Joint Energy and Environment Projects
MEMD:	Ministry of Environment and Mineral Development
NAADS:	National Agricultural Advisory Services.
NFA:	National Forestry Authority
NFRE:	Nordic Folkecenter for Renewable Energy
NGOs:	Non-Government Organizations
OWC:	Operation Wealth Creation
RETS:	Renewable Energy Technologies
SDGs:	Sustainable Development Goals
SUSWATCH:	Sustainable Environmental Development Watch
TaTEDO:	Tanzania Traditional Energy Development Organization
UBOS:	Uganda Bureau of Statistics
UCSD:	Uganda Coalition for Sustainable Development.

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This EASE-CA Baseline Study is part of a series of Baseline Studies made by the NGO cooperation Project: "East African Civil Society for Sustainable Energy & Climate Action (EASE &CA)" in 2019-22.

EASE-CA Project Partners are: UCSD, JEEP, SusWatch Kenya, TaTEDO, INFORSE & INFORSE-East Africa, and Nordic Folk center for Renewable Energy.

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More on the EASE-CA Project: www.inforse.org/africa/EASE.htm

EXECUTIVE SUMMARY

This report gives an update of the status for access to sustainable energy, knowledge and use of climate local solutions, water accessibility, income generating activities and the state of the environment of the rural poor communities in the three project districts of Nakasongola, Nakaseke and Nebbi in Uganda. It sets the benchmark for measuring change with reference to a new project called East African Civil Society for Sustainable Energy & Climate Action (EASE-CA) Project (July 2018 – June 2022).

The main objective of the project is to increase access to sustainable energy and other climate solutions to local communities in Uganda, Kenya and Tanzania with both women's and men's full and effective participation and leadership for improved livelihoods and reduction of poverty. This will be realised by combining Civil Society Organization (CSO) activities on local, national and international levels in ways, where they reinforce each other. The Project primarily works towards Sustainable Development Goal (SDG) 1 (poverty), SDG5 (gender), SDG7 (clean energy), SDG 13 (climate action), SDG 17 (partnerships).

In relation to JEEP, the EASE-CA project has 1 immediate objective:

- Empower poor rural communities in three districts in Uganda, and in East Africa more generally to get access to clean energy and improved livelihoods in an economic and climate friendly way as well as to refine methods from previous projects to realise this.

The report presents the findings of house to house data collected about basic energy access and knowledge and use of climate local solutions in the three project areas in Uganda and the information about the state of the environment in the three project districts.

The use of energy saving stoves for households was found to be extremely low in all the districts where the study was conducted. 60 % of the total respondents interviewed were using the inefficient way of cooking i.e. three stones and the majority were aware of the renewable energy technologies i.e. solar, energy saving stoves, tree planting but were not using them as yet. This therefore gives the EASE-CA project an opportunity to sensitize and contribute to increased energy access and promote local climate solutions in the districts.

The backbone of Uganda being agriculture, majority of the respondents were practicing subsistence farming as their main occupation where they were trading on a small scale to earn a living. The rate of vegetable eating was not so high (80%) of the respondents were practicing. Furthermore, the respondents were willing to incorporate green technologies in their businesses.

It was also found out during the baseline survey that majority of the respondents were using boreholes as the main source of water in all the three districts, and they were paying for maintenance of the boreholes on a monthly basis. In Nakasongola district, dams were also very common due to the fact that they always experience long dry spells and various NGOs had taken the initiative to construct valley dams to reduce on the problem of water shortage during the long dry spells. The survey also revealed that most of the respondents in Nakasongola mainly were willing to buy water in case a nearby water source is established.

Knowledge about sustainable environment conservation practices was low, only 46% of the respondents were aware of the good environmental conservation practices and the bad news is that they were not practicing them. It was also found out from the district and sub county leaders that only a few actions have been taken concerning environment conservation in the districts

such as tree planting campaigns by the government under Operation Wealth Creation (OWC), National Forestry Authority (NFA) and National Agriculture Advisory Services (NAADS). The leaders informed JEEP that more actions such as sensitization, implementation of the set bylaws are still needed so to ensure that people use the available resources sustainably. This therefore gives JEEP an opportunity to build the capacity of the community members in income generating activities such as operation of green enterprises as a way of ensuring sustainable use of natural resources.

Results from the baseline revealed that the major economic activity carried out in the three project areas was agriculture which was mainly on a subsistence formal scale. 69% of the respondents had never attended any formal training in business management and were not happy with their business. Hence a need for a formal training in business management.

A few NGOs were cited in the project districts working on environmental conservation such as World vision, Save the children, Action aid. This therefore calls for more interventions in the districts on sustainable environment conservation in a bid to increase access to sustainable energy and climate local solutions.

The low figures for access to sustainable energy emerging from this study reveal the necessity for action. Previous interventions on environmental conservation in the district have not worked sufficiently and new and improved methods have to be used. It is expected that demand created through EASE-CA will be able to largely increase the number of households with increased access to sustainable energy and climate local solutions. Vigorous trainings and sensitizations will hopefully pull these households further up the sustainable energy ladder to make sure that eventually the number of households with improved and sustainable energy and local climate solutions will also increase. It was however found that there is some variation among the 3 districts in access to water.

Households' knowledge on the importance of renewable energy technologies should be increased through the behavioural change component and during follow-up. Special attention should be put on the importance of renewable energy technologies more so energy saving stoves.

Involvement of local political and cultural leaders is crucial to increase the sustainability of the EASE CA project results. Special attention should be placed on monitoring. The importance of monitoring should be understood, and tools should be in place so that collected monitoring data is useful and complete (e.g. including information about inclusion), that this information is shared and used to improve actions in the future.

CHAPTER ONE: INTRODUCTION

1.1 Background of JEEP

JEEP is an indigenous environmental non-governmental organization founded in 1983 with a mission to combat environmental destruction and to conserve natural resources. JEEP's vision is a safe environment for a sure future.

Through its core strategic objective of creating awareness on the causes and effects of poor environmental management in urban and rural areas of Uganda, JEEP in partnership with the Nordic Folkecenter for Renewable Energy (NFRE), INFORSE, TaTEDO, SUSWATCH and UCSD are implementing a project called the East African Civil Society for Sustainable Energy and Climate Action.

The main objective of the project is to increase access to sustainable energy and other climate solutions to local communities in Uganda, Kenya and Tanzania with both women's and men's full and effective participation and leadership for improved livelihoods and reduction of poverty. This will be realised by combining Civil Society Organization (CSO) activities on local, national and international levels in ways, where they reinforce each other. The Project primarily works towards Sustainable Development Goal (SDG) 1 (poverty), SDG5 (gender), SDG7 (clean energy), SDG 13 (climate action), SDG 17 (partnerships).

In relation to JEEP, the EASE-CA project's immediate objective is: Empower poor rural communities in three districts in Uganda, and in East Africa more generally to get access to clean energy and improved livelihoods in an economic and climate friendly way as well as to refine methods from previous projects to realise this. This is in framework of the major objective of increasing access to sustainable energy and local climate solutions among the rural poor communities in East Africa for a period of three years.

1.2 Energy Situation in Uganda

Uganda meets more than 93% of its energy demand with biomass, 6% with fossil fuel combustion and only 1% with electricity from hydro and fossil fuelled thermal power plants. Only about 10% of the population has access to electricity, and in rural areas, it's less than 5%. The demand for firewood for cooking exceeds natural reproduction, leading to deforestation.

Wood fuels are largely used for cooking in rural areas while charcoal mostly provides for the cooking needs of the urban population. High demand for wood fuels used inefficiently results in overuse and depletion of forests. In 2012, 14.1% of Uganda's land area was covered with forest. The land available is becoming scarce and households prefer to use the land for food crops rather than planting trees.

Since 1990 the forested area decreased from 49,240 km² down to 29,880 km². This means that from 1990 until 2010 more than 19,360 km², equalling 39 % of the existing forest disappeared. Currently about 90,000 hectares (equals 900 km²) of forest cover are lost annually, which leads to fuel wood scarcity in rural areas and increasing price levels of charcoal and fuel wood.

Between 2005 and 2008 the charcoal price rose at an enormous nominal rate of 14% per year. In addition, illegal cutting of trees increases. The production of charcoal is carried out under primitive conditions with an extremely low efficiency at 10 to 12% on weight-out to weigh-in basis and an efficiency rate on calorific value basis at 22%. At the same time, households use biomass in a very inefficient way as the three-stone fire is still widely spread. Urban and rural households are facing increasing energy costs or spend more time collecting firewood. Furthermore, the traditional use of firewood is responsible for high indoor air pollution levels, thus causing respiratory diseases that affect women and children in particular. Moreover, the

latter spend many hours and travel long distances to collect fuel wood. This deprives women of valuable time to engage in income generating activities and children to go to school and study.

A total of 93% of rural households without access to electricity are currently using traditional lighting technologies such as candles or kerosene lamps that give poor quality lighting, emit noxious fumes and present hazards in terms of fires or burns (in particular for small children). Furthermore, the majority of public institutions (e.g. schools and health centres) in rural areas do not have access to electricity, which leads to inferior health and education services in comparison to electrified institutions. Lack of access to electricity also severely constrains the economic development of rural areas of Uganda, preventing the establishment of businesses that require electric power or forcing companies to buy diesel or petrol generators that are costly to operate and negatively impact the environment. Furthermore, job creation is being seriously constrained by the lack of adequate investment in the provision of rural infrastructure services, of which electricity is a key component. Lack of electricity also prevents access to information and communication technologies (e.g. mobile phones, computers, internet). This contributes to further isolation of rural areas from the rest of the country. Further, the quality of rural life is hampered by lack of electricity, particularly as rural public institutions such as health, educational and water facilities would be able to provide better services if they had access to electricity.

Uganda is richly endowed with a variety of renewable energy resources, which include plentiful woody and non-woody biomass, solar, wind, geothermal and hydrological resources (MEMD, 2007). The hydro resources range from large-scale to mini-, micro- and pico-scale. Presently, with the exception of biomass, only a meagre fraction of the country's renewable energy potential is exploited. It is estimated that renewable sources of energy, excluding large hydropower, contribute less than 2 per cent of Uganda's total energy consumption.

**State of the environment in the three project areas:
Nakaseke District, Nakasongola District, Nebbi district**



Nakaseke District is bordered by Nakasongola District to the north and northeast, Luweero District to the southeast, Wakiso District to the south, Mityana District to the southwest. Kiboga District and Kyankwanzi District lie to the west and Masindi District lies to the northwest.

Nakaseke district is divided into the following administrative units; Kapeeka, Ngoma, Kinyogoga, Wakyaato, Nakaseke town council, Kasangombe, Semuto and Kikamulo. Farming is the main economic activity in the district. Activities include cultivation of coffee, maize, beans, bananas, cassava, sweet potatoes, vegetables such as cabbages, tomatoes and fruits including pineapples and mangoes. Fishing in the area swamps, raising of cattle (for meat and milk), goats and chicken are some of the activities carried out in the area. About 90 percent of the farmers use traditional farming methods and techniques. The produce finds ready market in Kampala.

The ‘Tadooba’ remained the most common source of lighting being used by 52 percent of the households. Only one in every five households (20%) had access to electricity. On the other hand, Wood fuel was the most common fuel used for cooking, with only six percent (one in every 16) of the households using other fuels. The major environmental challenges in the district include, uncontrolled tree cutting, poor farming practices, pests and diseases wetland encroachment and soil erosion.

Nakasongola District is located in the north western part of central region of Uganda and it is made of one county, Buruli county. The district is bordered by Apac and Lira districts to the north, Luwero district in the south, Kayunga district to the east and Masindi to the west.

Nakasongola District is composed of five sub counties (Lwampanga, Kakooge, Kalungi, Nabiswera, Wabinyonyi and Nakasongola Town Council). Lwampanga subcounty has the highest of number of households (5 633) in the sub county. Nakasongola District had a population of 125 297 people from the last population census (2004). However, the District's population is growing at rate of 2 percent less than the national population growth rate of 3.3 percent (UBOS, 2006). The population density of Nakasongola District is one of the lowest in the country at 41 persons per square kilometre. The major environmental problems and challenges in Nakasongola District are soil exhaustion, lack of soil conservation practices, over grazing, Bush fires, deforestation, poor environmental health, low safe water coverage, nadequate environmental awareness, wetland degradation, lake exhaustion and inadequate institutional capacity in environmental management.

Nebbi district is located in North-Western Uganda between 2°30" and 2°45" north of equator and 30°45" and 31°10" east of the prime meridian. Arua District borders it to the North, Amuru District to the east, Masindi district to the south-east and the Democratic Republic of the Congo to the west and south-west. Generally, Nebbi District is in the West Nile Sub-region. It covers a total area of 3,288 sq km (which is 1.2% of the total national area), with a perimeter of 353 km. This is sub-divided into arable land (62%), game reserves (29.1%), swamps and open water (6.4%) and forest reserves (2.5%). The wetlands (permanent is 32.7 sq km, papyrus swamps are 27.7 sq km, reed swamp is 40 sq. km; seasonal, 78.6 sq. km) constitute 111.3 sq km. The major environmental challenges in Nebbi district include soil degradation, deforestation, over fishing, wetland / river bank encroachment, uncontrolled bush burning and poor waste solid management.

1.3 Objectives of the baseline study

The objective of the baseline was to establish a benchmark for the implementation of the EASE-CA project and contribute to a better understanding of the energy and climate change situation in the project area. The specific objectives were:

- i. To create an initial baseline of sustainable energy access to facilitate the measurement of progress during implementation of EASE-CA.
- ii. Provide a reliable database to facilitate comparison of baseline and progress information on climate change mitigation
- iii. Provide an aggregate data source that facilitates monitoring and review for learning from the Project.

1.4 Report Structure

This report is divided into five (5) main sections which include introduction, methodology, results and findings, conclusions and recommendations. The introductory section gives a background of the energy situation in Uganda, a brief of the EASE-CA project and the objectives of the baseline study. The methodology discusses data collection tools, sample size determination, selection and training of enumerators and data collection and analysis. In section 3, the results and findings on outcome indicators are presented. The section of results and findings focuses on the demographic characteristics of respondents and households; outcome indicators mentioned in the previous section. The final section summarizes conclusions from the study and distils recommendations for monitoring and evaluation of the EASE-CA project.

CHAPTER TWO: METHODOLOGY

2.1 Study design

This report is based on a combination of desk review, quantitative household survey, observations and key informant discussions with key climate actors in the country and specifically in Nakasongola, Nakaseke and Nebbi district. The questionnaire used for the assessment was developed in a participatory manner by the JEEP team and Prior to its administration; it was reviewed and pre-tested to ensure that it was well suited for the task. Enumerators engaged in the data collection exercise received intensive training on data collection methods as well as ethical aspects to observe during the exercise.

2.2 Data collection methods

The baseline survey was conducted among beneficiary households, district leaders, sub county leaders and NGOs / CBOs in the three project districts.

Combinations of quantitative and qualitative methods have been applied, comprising of a household survey, key informant interviews, desk reviews and observations. The survey interviews have been conducted by assisting teams of external enumerators with multi-linguistic skills that reflect the variety of languages spoken in the different locations.

A desk-study using available written national information (reports, strategies, plans from government bodies such as NEMA, UBOS, and others) were reviewed. Sources are listed in the reference section of this report.

2.3 Sampling strategy

2.3.1 Study Population

The study population included district leaders, sub county leaders, NGOs / CBOs and community members.

2.3.2 Sample size and sampling procedures

The baseline survey was conducted through a two-tailed sampling strategy. Quantitatively, stratified sampling was used to define the parishes in the three project district sub counties and achieve varied representation. After this stratification, every after 3 houses, a household was interviewed within the selected parishes. Qualitatively, participants to participate in qualitative interviews were selected purposively from the sampled four project districts. The study respondents included mainly the district leaders and sub county leaders.

In terms of sample size, for survey participants, an online sample size calculator was used to generate the sample of district and community leaders to take the survey questionnaire. The representative sample was calculated at 95% confidence interval, using Raosoft sample size calculator, 5% error margin; 50% response distribution. The number per district and in each group of leaders depended on those to be trained. A total of 58 district leaders, 82 sub county leaders, 15 NGOs and 278 community members were surveyed.

2.4 Data handling and analysis

The collected data was checked for completeness, coded, entered and analyzed using MS Excel software. Data was analyzed at two levels; univariate that involved generation of summary (frequency) tables and graphs, bivariate level that involved cross tabulations of two variables. All the analysis was gender disaggregated.

2.5 Ethical Considerations

While conducting the survey, care was taken to respect human dignity and secure informed consent from the respondents. Also, the information acquired was kept confidential and used for the project work only.

CHAPTER THREE: RESULTS AND FINDINGS

3.1 Introduction

This chapter presents the results from the baseline survey conducted in Nakasongola, Nebbi and Nakaseke district for the community members, district, sub county leaders and NGOs / CBOs.

3.2 Results from the community members

3.2.1 Gender of the households

The baseline survey was based on a total sample of 278 community members from the three districts of Nakaseke, Nakasongola and Nebbi. 51% of the respondents were males and 49% were females. This is attributed to the fact that agriculture being regarded as the backbone of Uganda, in the village setting its believed that garden work is meant for women and men are just supposed to look for money for other necessities. Because of this belief most women were not found in their homes for the interview hence interviewing more of the men.

Table 1: Number of community members interviewed

District	Female	Male	Grand Total
Nakaseke	49%	51%	100%
Nakasongola	56%	44%	100%
Nebbi	41%	59%	100%
	49%	51%	100%

3.2.2 Knowledge on renewable energy technologies

In all the districts surveyed, it was reported that majority of respondents were aware of some of the renewable energy technologies such as solar, energy saving stoves, tree planting unlike hay baskets were only a few of the community members had knowledge on the hay baskets as shown in the table below.

However much the community members were aware of the existence of these renewable energy technologies and options, it was found out that they were not using them because of the limited knowledge on their importance and high poverty rates in the communities. This therefore calls for more awareness on the use and benefits of the renewable energy technologies in a bid to conserve the environment and mitigate climate change. In addition to sensitizations, there is also a need to build the capacity of the communities in income generating activities so as to be able generate money for buying the renewable energy technologies.

Table 2: Knowledge on renewable energy technologies.

	Nakaseke		Nakasongola		Nebbi	
Knowledge on renewable energy technologies	Number	%	Number	%	Number	%
Solar	94	83	99	98	75	87
Energy saving stoves	83	74	86	87	60	66
Tree planting	99	94	91	100	82	96
Hay basket	24	13	6	6	6	7
Other	11		4		1	

3.2.3 Information source for the renewable energy technologies

Furthermore, the baseline survey revealed that in Nakaseke, 36% of the respondents acquired information about renewable energy technologies from fellow community members, 41% over the radio and 8% from other sources such as NGOs, sub counties. In Nakasongola district 26% of the respondents acquired knowledge from community, 41% over the radio and 58% from other sources where as in Nebbi information on Renewable Energy Technologies (RETs) 38% was from community, 18% over the radio and 33% from other sources.

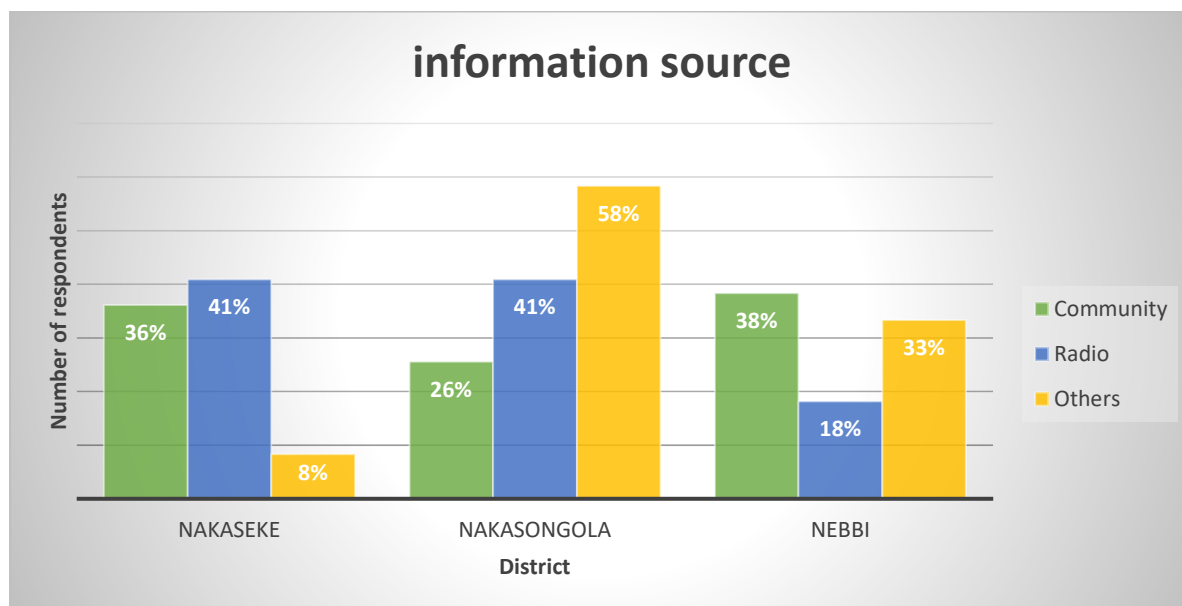


Figure 1: Information source on renewable energy technologies.

3.2.4 Main source of light in the project areas

In all the three project districts, solar lamp use was revealed to be extremely high (49%) followed by kerosene lamps (23%), hydroelectricity power (15%), candles (8%) and other sources (5%) such as torches and open fire places, Figure 2. This finding therefore calls for more awareness on the importance of renewable energy sources in a bid to get rid of inefficient sources of lighting such as candles and kerosene. In addition, more awareness is needed on how solar energy can be used productively for improved livelihoods and poverty reduction.

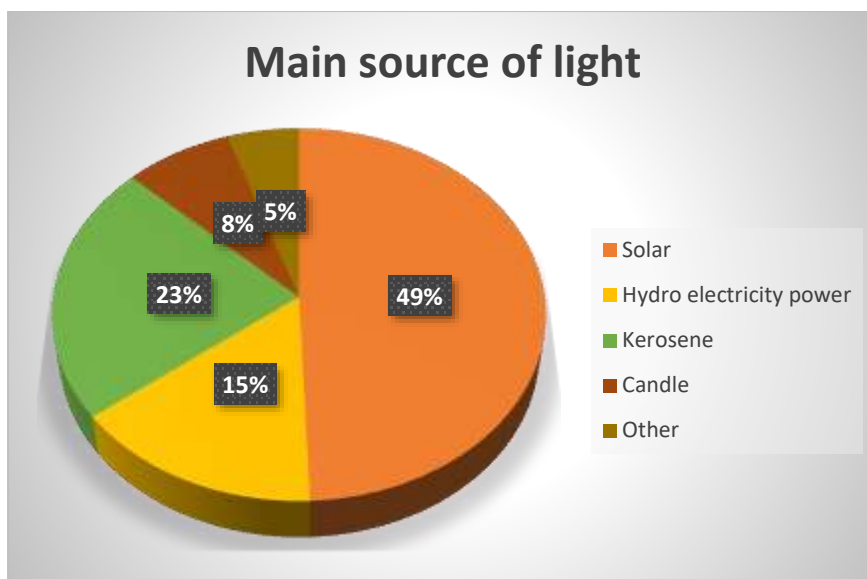


Figure 2: Source of light

Furthermore, it was also revealed that the solar lamps are mainly being accessed from shops in towns and hawkers who usually move within the communities. Those without solar lamps confirmed that it was very hard to access solar within their villages because one is supposed to move to the towns to acquire it. In addition to this it was also found out that durability of solar from the hawkers was extremely low thus preventing them from using solar light but rather resort to other unsustainable energy sources such as Kerosene and dry-cell torches. This therefore calls JEEP for the implementation of EASE-CA project an opportunity of establishing green shops in a bid to increase access to sustainable energy.

3.2.5 Cooking stoves

It was found that majority (62% Nakaseke, 58% Nakasongola and 77% Nebbi) of the people in the three project districts were cooking inefficiently using 3stone stoves (local ordinary stoves), followed by ordinary charcoal stoves (22% from Nakaseke, 26% from Nakasongola and 23% from Nebbi), firewood improved cookstoves (17% from Nakasongola, 15% Nakasongola, 14% Nebbi), followed by charcoal energy saving stoves (5% from Nakaseke, 16% Nakasongola, 6% Nebbi), see Table 3. During the baseline survey, it was also revealed that Hydro Electricity Power (HEP) use is not so common in the three project areas, only 1% of the respondents in Nakaseke district were using HEP and none of the respondents in Nakasongola and Nebbi.

Many reported that 3 stone stoves consume a lot of fuel and firewood is more and more a scarce resource now. In fact, many were found using inferior fuels like farm residues e.g. twigs, cassava stems, maize cobs. This presents an opportunity for using energy saving stoves and hay baskets as well as calling for more awareness on the benefits of renewable energy technologies.

Table 3: Types of cooking stoves used

District	Charcoal Energy Saving Stoves	Firewood Energy Saving Stoves	3 Stones	Hydro Electricity Power	Charcoal stove
Nakaseke	5%	17%	62%	1%	22%
Nakasongola	16%	15%	58%	0%	26%
Nebbi	6%	14%	77%	0%	23%
Total	27%	46%	197%	1%	71%

3.2.6 Fuels for cooking

In addition to the above, firewood was found out to be the most commonly used fuel for cooking accounting for 83% in Nakaseke, 72% in Nakasongola and 86% in Nebbi. This therefore implies that more trees are being fell down in the search for firewood which are no longer existing.

The use of charcoal for cooking was found to be 43% in Nakasongola, 22% in Nakaseke and 28% in Nebbi district. Charcoal use was found to be high in Nakasongola because charcoal burning is extremely high in the district making it very cheap and easy to access.

This therefore gives EASE-CA project an opportunity to sensitize communities on the use and benefits of renewable energy technologies and fuels such as briquettes given the fact that all the three districts have plenty of feed stocks which can be used to make briquettes.

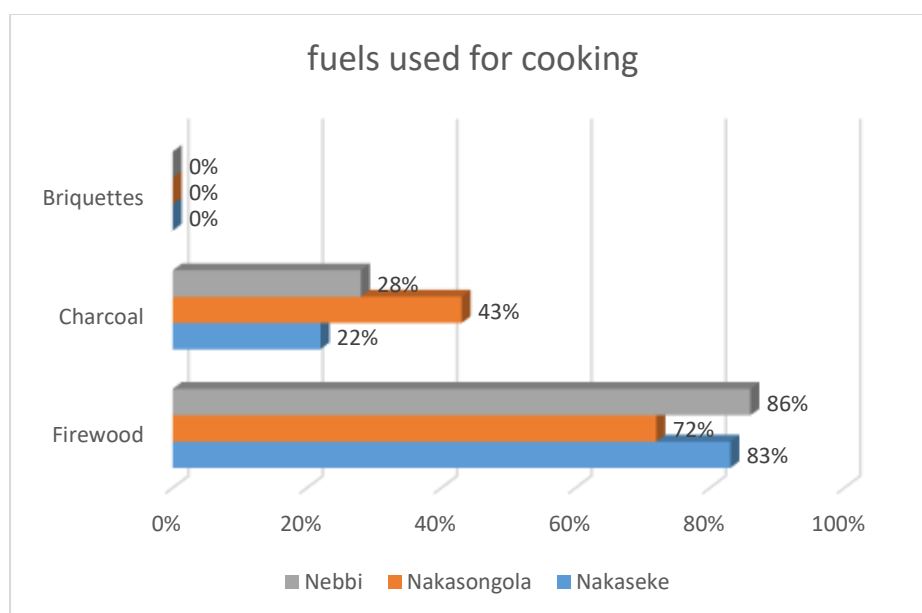


Figure 3: Fuels used for cooking.

3.2.7 Tree planting in the communities.

It was found out that 69% of the respondents in the three project areas had ever planted trees and only 31% of the community members had never planted trees.

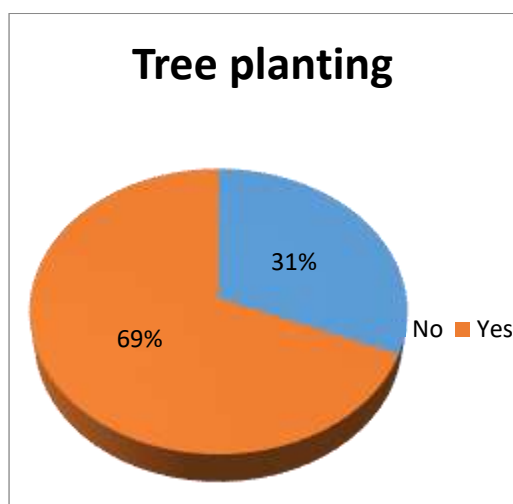


Figure 4: Tree planting in the 3 project districts.

3.2.8 Source of seedlings

Furthermore, it was found out in Nakaseke those who had planted trees, 38% got the seedlings from nursery bed attendants, 38% from self-germination and 23% from the district / sub county. In Nakasongola district, 45% of the respondents got the seedlings from district / subcounty, 25% was self-germination and 23% of the respondents bought the seedlings from tree nurseries within the district. 38% of the respondents in Nebbi district bought the seedlings from tree nurseries within the district, 37% self-germination and 32% from the district / sub county. who had planted trees, 24% of them got the seedlings from Government of Uganda's Operation Wealth Creation, 23% from NAADS, 17% NGOs & sub counties, 11% from their own beds and only 8% had bought seedlings from the nursery beds in communities as illustrated in the pie chart below;

This therefore implies a need for establishment of tree nursery beds within the communities so ensure last mile delivery of seeds / seedlings even to the rural poor community.

Table 4: Tree seedling source.

Plant trees	Self-germination / Friends	District / Sub county	Bought
Nakaseke	38%	23%	39%
Nakasongola	25%	45%	23%
Nebbi	37%	32%	38%
Grand Total	100.00%	100.00%	100.00%

3.2.9 Availability of space for tree planting

During the baseline survey, it was found out that 66% of the respondents had space for planting for planting more trees and only 34% reported no space for tree planting, see table 5. In addition, communities in the three districts reported their willingness to plant more trees in case tree nurseries are established in their communities for easy access of seedlings. This therefore gives EASE-CA project an opportunity for providing availability of a market for the seedlings. This would be provided in the tree nurseries which the project is to establish.

Table 5: Space for tree planting

District	Percentage of respondents with space for tree planting		
	No	Yes	Grand Total
Nakaseke	54%	46%	100%
nakasongola	35%	65%	100%
Nebbi	10%	90%	100%
	34%	66%	100%

3.2.10 Willing to plant more

According to the baseline survey, it was revealed that 69% of the respondents were willing to plant more trees in the available space they have and only 31% had no plans of planting trees in the space they have but rather practice other activities which they think are much more profitable and beneficial such as agriculture, constructions and alike. This therefore calls for more awareness on the benefits of tree planting in the three project areas.

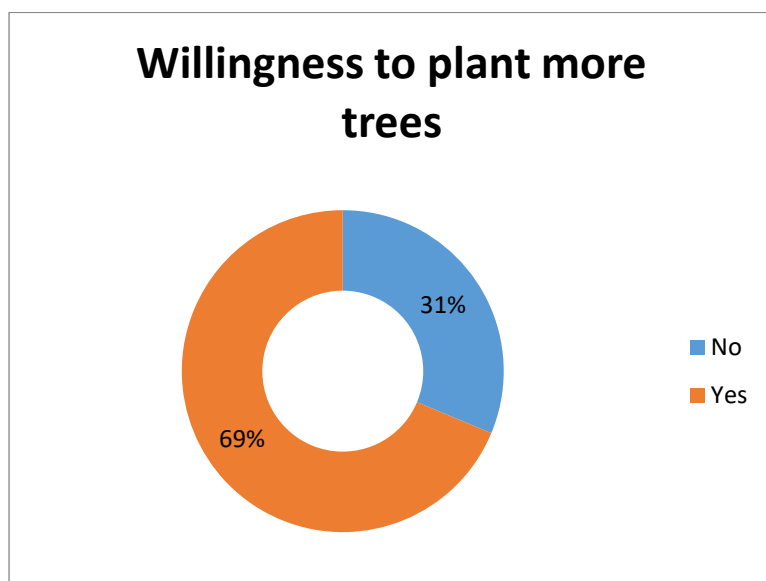


Figure 5: Willingness to plant trees.

3.2.11 Preferred tree species

It was also found out during the baseline survey that among the community members who were willing to plant trees, 192 were mainly interested in fruit trees such as Jack fruit, mangoes and oranges for food as well as sell, eucalyptus (144), pine (131), maesopsis (120) a mainly for

timber and because they are fast growing and 32 Of the respondents were interested in other tree species. Other tree species included Neem tree (medicinal purposes), *Maesopsis* and so many more. This therefore implies that once tree nurseries are established more focus should be on fruit trees and fast growing species which can be intercropped by other food crops grown in the areas. However, more awareness is also needed on tree species, which are environmentally friendly.

Table 6: Preferred tree species.

District	fruit trees	Eucalyptus	Pine	Maesopsis	Other species
Nakaseke	62	57	58	60	18
Nakasongola	70	62	58	49	3
Nebbi	60	25	15	11	11
Grand Total	192	144	131	120	32

3.2.12 Backyard gardening

3.2.12.1 Vegetable eating

During the baseline survey, it was found out that majority of the respondents (98% in Nakaseke, 83% in Nakasongola and 89% in Nebbi, see Table 7, eat vegetables as part of their family meals. Only 2%, 17% and 11% of the respondents from Nakaseke, Nakasongola and Nebbi district respectively. Households were mainly practicing vegetable growing for home consumption and not for sale. This therefore gives EASE-CA project an opportunity to build the capacity of the rural communities in how vegetable growing can be practiced on a small scale at the same time for food and sell in attempt to improve on household incomes.

Table 7: Vegetable eating

District	Percentage of respondents who eat vegetables as part of daily meal.		Grand Total
	No	Yes	
Nakaseke	2%	98%	100.00%
nakasongola	17%	83%	100.00%
Nebbi	11%	89%	100.00%

In addition to the above, results from the baseline survey also revealed that 79% of the respondents who were practicing vegetable growing were accessing them seasonally during the rainy season and only 21% had the vegetables throughout the year. This therefore calls for more awareness on how backyard gardening can be practiced sustainably even during the dry season for improved livelihoods and health among the three project areas.

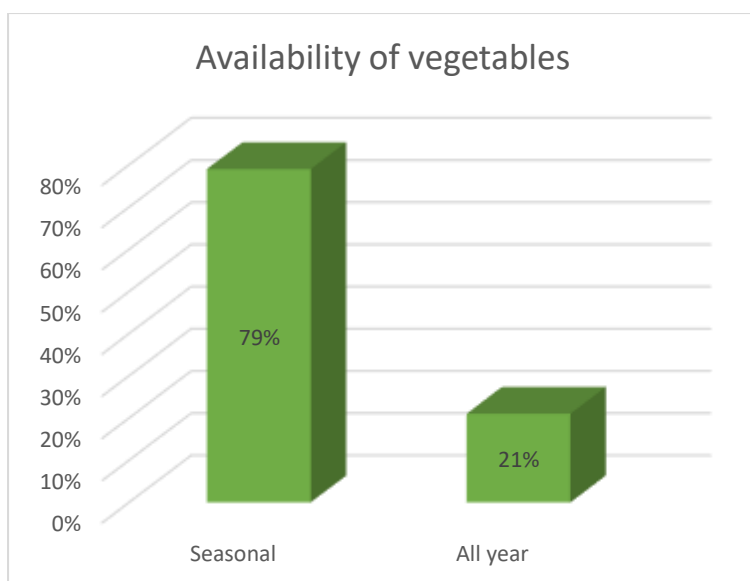


Figure 6: Availability of vegetables

3.2.13 Vegetable gardening for sale

During the survey it was also revealed that majority of the respondents (61%, 72% and 82% of the respondents from Nakaseke, Nakasongola and Nebbi district respectively are willing to practice vegetable gardening for sell in an attempt to improve their household incomes, see Table 8 below. Only a few of the respondents were not willing to practise vegetable growing for sell ie 39%, 28% and 18% of the respondents from Nakaseke, Nakasongola and Nebbi district respectively. This therefore implies the possibility of improved incomes and health among the three project areas.

Table 8: Vegetable gardening for sale.

District	Percentage of respondents willing to practice vegetable gardening for sale		
	no	Yes	Grand Total
Nakaseke	39%	61%	100%
Nakasongola	28%	72%	100%
Nebbi	18%	82%	100%

3.2.14 Preferred vegetables

In addition to the above, it was also found out that majority of the respondents were mainly interested in cabbages, Sukuma wiki and Nakati and other vegetables such as eggplants, onions.

Table 9: Preferred vegetables

District	Cabbages	Sukuma	Nakati	Others
Nakaseke	40%	21%	36%	5%
Nakasongola	34%	5%	47%	14%
Nebbi	16%	44%	7%	33%
Grand Total	100%	100%	100%	100%

3.2.15 Water accessibility

It was reported during the baseline survey that the main water source in the three project districts was boreholes (38% Nakaseke, 24% in Nakasongola and 38% in Nebbi) followed by unprotected water sources (23% in Nakaseke, 30% in Nakasongola and 8% in Nebbi) rain water collection (10% in Nakaseke, 36% in Nakasongola and 26% in Nebbi), swamps (26% Nebbi, 6% Nakasongola and 21% in Nakaseke) and other sources of water such as dams, springs. This difference in accessibility to clean and safe water across districts is significant. The major source of clean water is tube well/borehole in all the districts however these always break down during the dry season leading to water shortages, death and alike. This therefore gives an opportunity for the EASE-CA project solar water pump that once its established it will help reduce on the problem of borehole breakdowns.

Table 10: Main water source in the districts

District	Borehole	Rain water collection	Swamps	Public taps	Unprotected surface water
Nakaseke	38%	10%	21%	8%	23%
Nakasongola	24%	36%	6%	4%	30%
Nebbi	38%	26%	26%	2%	8.%
Grand Total	100%	100%	100%	100%	100%

In addition to the above it was also found out that 73% of the community members interviewed don't buy water, whereas the 27% reported that they buy the water they use at home. It was further revealed that however much the communities do not buy water, they always pay some fee (between 5000- 10,000 Uganda shillings) monthly to the local leaders for maintenance of the boreholes as illustrated in the table below; Communities further affirmed that in case a nearby water source is established within their communities they are willing to buy the water because they also pay for maintenance services for the boreholes within their communities.

Table 11: Water buying

Buy water	Number of respondents	Percentage of respondents
No	202	72.66%
Yes	76	27.34%
Grand Total	278	100.00%

3.2.16 Distance to the water source

It was also revealed that there is a significant mean difference in terms of ease of access to a water source among the three project areas. The findings show that 62% of the respondents in Nebbi and Nakaseke have easy access to the water source as these move a distance of 0-0.5 Km compared to 38% respondents in Nakasongola district. This which makes them spend

more time to reach the water source. The implication is that many people, especially in Nakasongola district, travel long distance to collect water which represents a substantial burden that affects water quantity and quality in the household. This can also be attributed to the long dry spells experienced in Nakasongola district compared to the rest of the project areas because in such seasons the available boreholes always break down thus forcing them to look for water from the swamps and Lake Kyoga. This therefore gives an opportunity for the EASE-CA project solar water pump that once installed, water demand is high and it will help contribute to improved water quantity and quality in the households hence improved households.

3.2.17 Willingness to buy water.

It was also found out during the baseline survey that 61% of the respondents interviewed are willing to buy water in case a near and reliable water source is established in their areas of residence and only 39% out of respondents interviewed were not willing to buy the water because of the so many boreholes drilled in the districts, which are so close to their homesteads. Results from the respective districts revealed that 63%, 54% and 67% of the respondents from Nakaseke, Nakasongola and Nebbi district respectively were willing to buy water in case a nearby water source is established and only 37%, 46% and 33% of the respondents from Nakaseke, Nakasongola and Nebbi district respectively were not willing to buy water. This is attributed to low income levels in the villages and the short distances to access the boreholes. This therefore implies that the EASE-CA project intervention of constructing a solar water pump will be viable because of the high demand for water in the districts.

Table 12: Willingness to buy the water

District	Willingness to buy water		Grand Total
	No	Yes	
Nakaseke	37%	63%	100%
Nakasongola	46%	54%	100%
Nebbi	33%	67%	100%

3.2.18 Enterprise development

3.2.18.1 Entrepreneurial training

Baseline results indicate that 69% of the communities interviewed had never attended any formal training in entrepreneurship and only 31% had ever attended a formal training in entrepreneurship, see Figure 7. However, much the communities were operating some businesses they had little knowledge on proper business management. Thus giving EASE-CA an opportunity to build their capacity in green income generating activities for increased profitability and improved livelihoods.

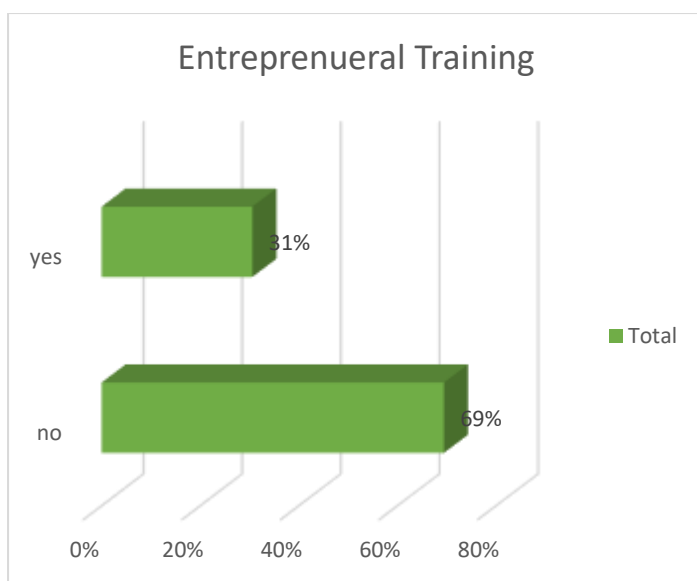


Figure 7: Entrepreneurial training

3.2.19 Business ownership

Results also revealed that correspondents from the communities interviewed, in the three project areas, were operating small business (59% in Nakaseke, 48% in Nakasongola and 46% in Nebbi), see Table 13. Uganda’s economic base being agriculture, it was found out that the common activity done by the rural poor households was farming in Nebbi and Nakaseke. Unlike Nakasongola where most of the respondents were cattle traders and charcoal burners. 41%, 52% and 54% of the respondents from Nakaseke, Nakasongola and Nebbi district respectively were not operating any business. This therefore gives EASE-CA project an opportunity to build the capacity of the communities in sustainable green enterprises they can operate and how best they can incorporate it in what they already have for improved livelihoods and poverty reduction.

Table 13: Business ownership

	Percentage of respondents with businesses		Grand Total
	No	Yes	
Have a business			
Nakaseke	41%	59%	100%
Nakasongola	52%	48%	100%
Nebbi	54%	46%	100%

3.2.20 How is your business doing

In addition to the above, it was also reported that only 42% of the respondents were happy about how their businesses were doing and 53% were not happy about their businesses, see Table 14. This was attributed to a number of problems experienced in their daily business operations. This therefore calls for capacity building in business management for improved livelihoods.

Table 14: How is your Business doing.

Happy with business.				
District	No	Yes	Grand Total	
Nakaseke	53%	47%	100%	
Nakasongola	56%	44%	100%	
Nebbi	64%	36%	100%	
	58%	42%	100%	

3.2.21: Business challenges

It was reported during the follow up that the most commonly reported business challenges faced by the respondents is by price fluctuations followed by inadequate capital and few customers, see Table 15 below. This therefore calls for formal business trainings to the communities on how to boost their businesses amidst these challenges.

Table 15: Business challenges

District	Price fluctuation	Few customers	inadequate capital	Others
Nakaseke	28%	39%	30%	13%
Nakasongola	39%	18%	40%	3%
Nebbi	53%	21%	11%	15%
Grand Total	100%	100%	100%	100%

3.2.21 Willingness to incorporate green enterprises in already existing businesses

62% of the respondents interviewed were willing to incorporate green enterprises in their already existing businesses and only 38% were not willing.

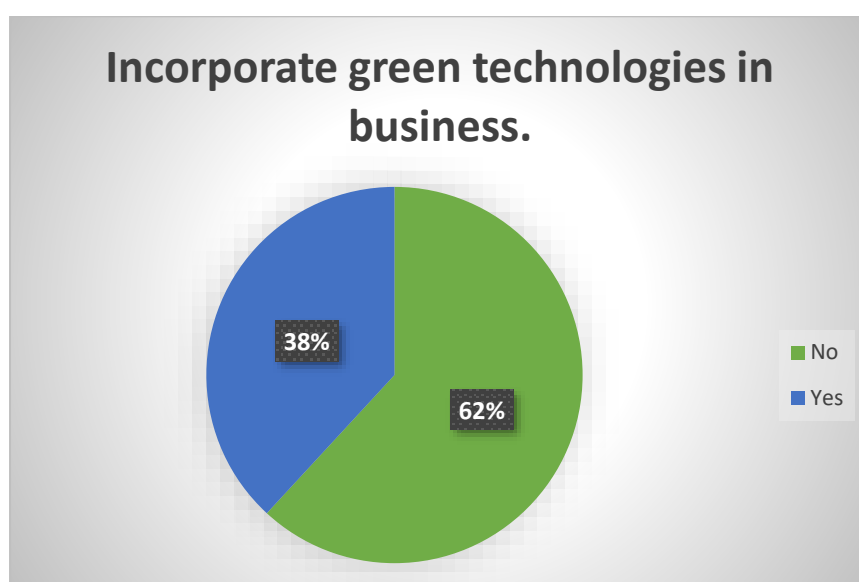


Figure 8: Willingness to incorporate green technologies in business

3.2.22 Village Savings and Loan Associations (VSLAs)

It was revealed during the baseline that 51% (115 respondents) of the respondents were members of VSLAs and only 49% (163 respondents) were not. This therefore calls for more awareness about the importance of VSLAs in the communities. More females (62) were reported to be members of VSLAs compared to males (52).

Table 16: VSLA membership

Sex	VSLA membership		Grand Total
	No	Yes	
Female	73	63	136
Male	90	52	142
Grand Total	163	115	278

3.2.23 Environmental Challenges

Data from the baseline survey revealed that drought is the biggest environmental problem followed by deforestation, poor waste management and pests and diseases. 35%, 43% and 22% of the respondents from Nakaseke, Nakasongola and Nebbi districts respectively interviewed reported drought to be the main environmental challenge faced in their district followed by deforestation (36%, 31% and 23% respondents from Nakaseke, Nakasongola and Nebbi respectively) followed by pests and diseases (28%, 16% and 38% respondents from Nakaseke, Nakasongola and Nebbi respectively and other environmental challenges such as poor waste management, swamp and river bank encroachment). This therefore calls for more sensitizations on mitigation measures to reduce the environmental challenges among the communities.

Table 17: Environmental challenges

District	Deforestation	Drought	Pests and diseases	Other
Nakaseke	36%	35%	28%	1%
Nakasongola	31%	43%	16%	10%
Nebbi	23%	22%	38%	17%
Grand Total	100%	100%	100%	100%

3.2.24 Aware of good environment conservation practices.

It was therefore revealed that 62% of the respondents were aware of good environmental conservation practices and only 38% had no idea about them thus calling for more awareness on sustainable environmental conservation practices such as community sensitizations, tree planting and sustainable agriculture. Unfortunately, however much the 62% had knowledge about the good environmental conservation practices, few of them were practicing these approaches. This therefore gives the EASE-CA project an opportunity to conduct more sensitizations on sustainable environmental conservation practices.

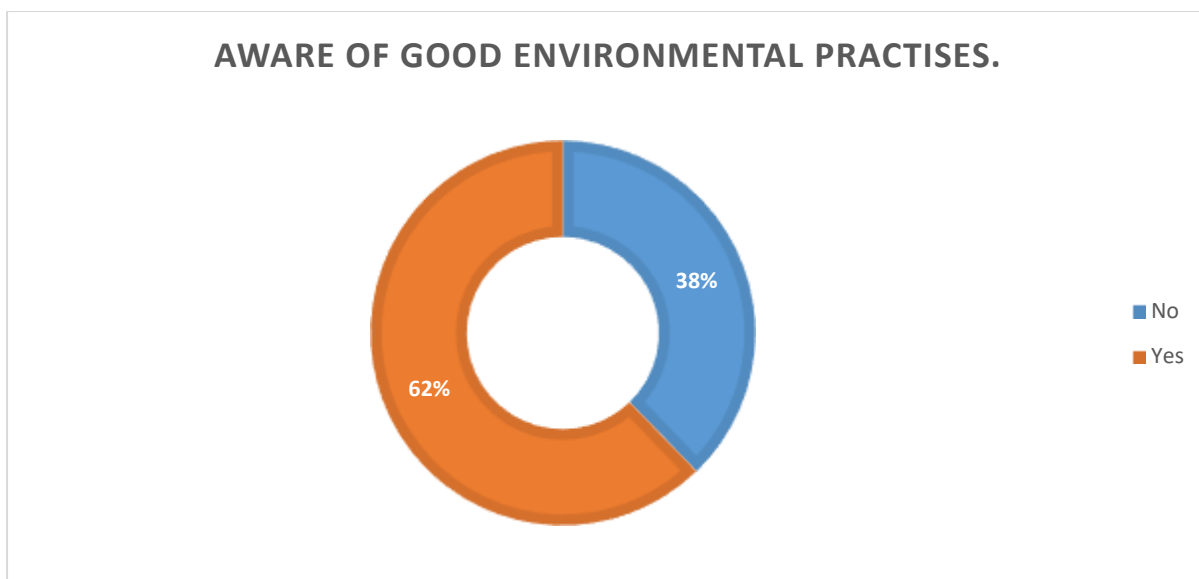


Figure 9: Knowledge on good environmental conservation practices.

3.2.25 NGOs operating environmental activities in the district

During the baseline survey it was revealed that only 22% were aware of the environmental organizations operating in the area and 78% were not aware of any, see Table 18. This gives EASE-CA an assurance of no possible overlaps in implementation since most of the community members interviewed were not beneficiaries in any other environmental projects within the districts.

Table 18: Aware of NGOs operating in the district.

District	Aware of NGOs operating in the district		Grand Total
	No	Yes	
Nakaseke	85%	15%	100%
Nakasongola	69%	31%	100%
Nebbi	80%	20%	100%
Grand Total	78%	22%	100%

3.3 Results from district leaders

3.3.1 Gender of the respondents.

During the baseline survey, a total number of 58 district leaders were interviewed in the three project districts. Majority (72%) of the district leaders interviewed were males and 28% females. 82 sub county leaders were interviewed and 72% of them were males and 28% females as illustrated in the table 9 below. The survey involved both the technical, political leaders at the district and sub county level. Cultural and religious leaders were also put into consideration in the communities.

Table 19: Gender disaggregated data of the leaders interviewed

District	Female	Male	Grand total
Nakaseke	12	221	33
Nakasongola		11	11
Nebbi	4	10	14
Grand total	16	42	58
% Total	28%	72%	100%
Sub county leaders			
Kasangombe	6	9	15
Nakaseke	8	19	8
Kakooge	4	5	9
Nabiswera	0	9	9
Kucwiny	2	10	12
Parombo	3	7	10
Grand total	23	59	82
% Total	28%	72%	100%

3.3.2 Environmental challenges in the districts

Information from the leaders revealed that the main environment challenges faced in the districts were drought (long dry spells), deforestation, soil erosion, pests and diseases, poor waste management as a result of the poor environment conservation practices by the communities thus making them victims of climate change. In addition to the above, it was also established that there is poor enforcement set policies / bylaws on environmental conservation due to the limited budget provided by the government.

In addition to the above, few NGOs are implementing interventions on environment conservation to supplement the small government budgets thus leaving the environment prone to destruction. This calls for more awareness on the good and sustainable environment conservation practises in the areas. This therefore implies that the EASE-CA project implementation will be limited to overlaps / duplication of project activities by other NGOs hence ensuring easy measure of project impact in the districts.

3.3.3 Actions taken to address the challenges

Leaders during the baseline revealed that there are some actions have been taken by the districts and sub counties to address the environmental challenges in the districts. However, more interventions are still needed to combat climate change in the districts. Some of the actions taken include;

- i) Community sensitization on the benefits of tree planting
- ii) Tree planting campaigns under Operation Wealth Creation program were free tree seedlings are being given out to the communities. The bad news is that most of the communities have not taken the initiative to plant the given trees.
- iii) Bye-law formulation on environmental conservation i.e. in Nakasongola district a bylaw on charcoal production was formulated though not yet implemented. In addition to this 22 of the leaders from the 33 districts assess informed us that bye-laws on environmental conservation have been formulated but the implementation is still very poor in all the districts.

- iv) Information from the leaders indicated that there are NGOs operating in their districts but a few of them are implementing interventions on environmental conservation. The few working on environment conservation include; World Vision and Save the Children (in Nakasongola), Ministry of water and environment, ActionAid (Nebbi) and in Nakaseke most the NGOs are concentrated in the refugee camps leaving out the host communities. This therefore provides an opportunity for EASE-CA to roll out the planned intervention to partly fill in the gap

3.3.4 Willingness to support the EASE-CA project

It was noted during the baseline survey, that both the district and sub county leaders in Nakaseke, Nebbi and Nakasongola are very much willing to support the project in attempt to make sure its objectives are achieved. The leaders promised to collaborate with JEEP through mobilization of community members, sensitization as well as advocating for good environmental conservation practices within their districts.

3.5 Findings from the NGOs / CBOs.

During the follow-up a total number of 12 NGOs were interviewed from all the three project areas. and most of them were doing little on environmental conservation implying no serious overlaps are to be encountered during the course of the project implementation. These included World Vision, Action Aid, Save the Children, Caritas and so many other communities based organizations.

Table 20: NGOs operating in the district

NGO / CBO	ACTIVITY
World vision	Tree planting, cook stoves, borehole drilling, education.
Save the children	Education, health
Namayanja project (Nakaseke)	Cook stoves
Action aid	Environmental social protection, child protection.
Caritas	Emergency relief, livelihood protection, eco justice.
Operation Wealth Creation	Tree planting, animal husbandry

CHAPTER FOUR: CONCLUSIONS AND RECCOMENDATIONS

4.1 Conclusions

EASE-CA project is looking forward to improving the environmental situation; 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 not much difference in the state of environment in Nakasongola, Nakaseke and Nebbi District and Uganda as a whole in five to seven years to come.

4.2 Overall Recommendations:

The following Strategies are recommended to address the existing environmental problems.

- 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.
- Effective stakeholder involvement. All stakeholders should be involved at various levels (Central Government, Lower Local Government and Community, civil society, private sector and donors) in planning and management of the environment.