Data Collection Survey

on Sustainable Forest and Natural Resources Management in West Nile Region

Final Report

November 2021

Annex

Annex-1
Schedule of the field survey

First Mission Survey Schedule (1 – 23 April 2021)

Day	Date	Project Manager/Forest and Natural Resource Management	Electricity Planning	Collaboration with External/Private Funds	Peace Building Assessment/Community Development	Off-grid/Social Economy 1	Off-grid/Social Economy 2	Geospatial Analysis
1 Apr	Thu	-	-	-	-	-	-	Departure from Japan
2 Apr	Fri	-	-	-	-	-	-	Arrive in Uganda
3 Apr	Sat	Departure from Ethiopia	Departure from Japan					Move from Kampala to Arua
4 Apr	Sun	Arrive in Uganda, preparation for the survey						Site visit
5 Apr	Mon	Move from Kampala to Adjumani						Site visit
6 Apr	Tue	Meeting with Adjumani District Office (DAO, DFO, DNRO, DEO),OPM-RDO, and UNHCR Adjumani office, Site visit at wood lot and nursery	Meeting with UEDCL Adjumani office, UEDCL Moyo office and Benedict Medical Foundation	Meeting with Adjumani District Office (DAO, DFO, DNRO, DEO),OPM-RDO, and UNHCR Adjumani office, Site visit at wood lot and nursery	Meeting with OPM-RDO office、UNHCR Adjumani office、Site visit at Maaji2 settlement	Meeting with Moyo DFO、Moyo Local Council V、UNHCR Moyo office, Comboni、LWF, site visit at UNHCR nursery		Field Survey / Ground Truth, Move from Arua to Kampala
7 Apr	Wed	Meeting with Yumbe District office(DFO, DEO, DNRO), NFA, site visit at nursery, fish pond and cooking stoves inside of the hospital	Site visit at Tororo village, Bidibidi settlement（OPM, Wawaji primary school, households）	Meeting with Yumbe District office(DFO, DEO, DNRO), NFA, site visit at nursery, fish pond and cooking stoves inside of the hospital	Meeting with Moyo district office、UNHCR Moyo office、settlement commandant in Palorinya	Meeting with Obongi District Office (SEO, SLO) and Nyakuni and Sons Enterprises Limited, site visit at nursery		PCRtest、preparation for the Webinar
8 Apr	Thu	Meeting with Pakwach District Office（DFO, DNRO）, ZOMBO District Office（DFO, DNFO）,Green Life International Limited, West Nile Foresters, site visit at nursery	Meeting with WENRECO Regional Office and ELECTRO MAXX, Site visit at Nyagak hydro power plant	Meeting with Pakwach District Office（DFO, DNRO）, ZOMBO District Office（DFO, DNFO）, settlement commandant of Rhino, site visit at Rhino settlement	Meeting with Koboko District office, Maracha District office, settlement commandant of Rhino, site visit at Rhino settlement	Meeting with Maracha District Office（DFO）, Green Life International Limited, West Nile Foresters, site visit at nursery		Departure from Uganda
9 Apr	Fri	Meeting with Arua District Office (DFO)、Terego District Office（CAO）、Koboko DFO、Site visit at woodlot in Imvepi Settlement and RICE-WN nursery	Move from Arua to Kampala		Meeting with Arua District Office、Terego District Office（CAO）、settlement commandant of Imvepi, Site visit at woodlot in Imvepi Settlement and RICE-WN nursery	Meeting with Arua District Office (DFO)、Terego District Office（CAO）、Koboko DFO、 Site visit at woodlot in Imvepi Settlement and RICE-WN nursery		Arrival in Japan
10 Apr	Sat	Compilation of data and documents						-
11 Apr	Sun	Compilation of data and documents						-

First Mission Survey Schedule (1 – 23 April 2021)

Day	Date	Project Manager/Forest and Natural Resource Management	Electricity Planning	Collaboration with External/Private Funds	Peace Building Assessment/Community Development	Off-grid/Social Economy 1	Off-grid/Social Economy 2	Geospatial Analysis
12 Apr	Mon	Visit Nebbi District Office	compilation of data and documents and getting appointments		Meeting with Nebbi District Office	Meeting with Nebbi District Office (DFO)、Jenon Wastes Recycling, site visit at Acana secondary school and households in Acana		-
13 Apr	Tue	Move from Arua to Kampala	Compilation of data and documents and getting appointments	Move from Arua to Kampala				-
14 Apr	Wed	Meeting with JICA Uganda Office、compilation of data and documents, getting appointments, prepare Webinar presentation	Meeting with JICA Uganda Office and MEMD, compilation of data and documents, getting appointments, prepare Webinar presentation	Meeting with JICA Uganda Office、compilation of data and documents, getting appointments, prepare Webinar presentation, taking PCR test	Meeting with JICA Uganda Office、compilation of data and documents, prepare Webinar presentation	Meeting with JICA Uganda Office and Pesitho, preparation for the sub-contract, getting appointments, prepare Webinar presentation		-
15 Apr	Thu	Meeting with FAO, FAO-UNHCR, compilation of data and documents, prepare Webinar presentation	Meeting with UETCL, compilation of data and documents, getting appointments, prepare Webinar presentation	Departure from Uganda	Meeting with FAO, compilation of data and documents, prepare Webinar presentation	Meeting with FAO, FAO-UNHCR, preparation for the sub-contract, getting appointments, prepare Webinar presentation		-
16 Apr	Fri	Meeting with AFAAS, compilation of data and documents, getting appointments, prepare Webinar presentation, consider selection criteria and priority projects	Meeting with Electro Maxx, compilation of data and documents, getting appointments, prepare Webinar presentation, consider selection criteria and priority projects	Arrival in Japan	Compilation of data and documents, prepare Webinar presentation, consider selection criteria and priority projects	Awarding for the sub-contract, getting appointments, prepare webinar administration, compilation of data and documents, consider selection criteria and priority projects		-
17 Apr	Sat	Compilation of data and documents		-	Compilation of data and documents	Compilation of data and documents, prepare for the webinar administration		-
18 Apr	Sun	Compilation of data and documents		-	Compilation of data and documents			-
19 Apr	Mon	Prepare Webinar presentation, consider selection criteria and priority projects		-	Prepare Webinar presentation, consider selection criteria and priority projects	Meeting with CREEC, Negotiation with the candidate company of the sub-contract, prepare for the webinar administration, consider selection criteria and priority projects	Prepare for the webinar administration, consider selection criteria and priority projects	-

First Mission Survey Schedule (1 – 23 April 2021)

Day	Date	Project Manager/Forest and Natural Resource Management	Electricity Planning	Collaboration with External/Private Funds	Peace Building Assessment/Community Development	Off-grid/Social Economy 1	Off-grid/Social Economy 2	Geospatial Analysis
20 Apr	Tue	Prepare Webinar presentation, consider selection criteria and priority projects, PCR Test		-	Prepare Webinar presentation, consider selection criteria and priority projects, PCR Test	Meeting with Green Bio Energy and Village Power, prepare for the webinar administration, Webinar, consider selection criteria and priority projects, PCR Test	Prepare for the webinar administration, Webinar, consider selection criteria and priority projects, PCR Test	-
21 Apr	Wed	Webinar		-	Webinar			-
22 Apr	Thu	Departure from Uganda		-	Departure from Uganda			-
23 Apr	Fri	Arrival in Japan		-	Arrival in Japan			-

Second Mission Survey Schedule (26 September – 15 October 2021)

日付		Project Manager/Forest and Natural Resource Management	Off-grid/Social Economy 2	Electricity Planning	Peace Building Assessment/Community Development
26Sep.	Sun	Departure from Japan		-	-
27Sep.	Mon	Arrive in Uganda		-	-
28Sep.	Tue	Move to Arua(West Nile)		-	-
29Sep.	Wed	Courtesy call - UNHCR Arua Sub Office Meeting with DFO -Madi Okollo Courtesy call - Settlement Commandant and field visit in Madi Okollo (farmers group, woodlot site etc.)		-	-
30Sep.	Thu	Courtesy call - OPM RDO Arua, move to Kampala		-	-
01Oct.	Fri	Meeting with NFA		-	-
02Oct.	Sat	-	-	Departure from Japan	Departure from Japan
03Oct.	Sun	-	-	Arrive in Uganda	Arrive in Uganda
04Oct.	Mon	Meeting with DoR - OPM		Project profiling	Meeting with DoR - OPM
05Oct.	Tue	Meeting with MAAIF, project profiling		10:00-11:00 Mtg. w/REA, Project profiling	Survey in Kampala, Profile review from the perspective of peace building / Internal Mtg.
06Oct.	Wed	Meeting with JICA HQ, and FAO, project profiling		Project profiling	Meeting with JICA HQ
07Oct.	Thu	Meeting with AFAAS, and JICA Uganda Office, project profiling		Market price survey in Kampala, project profiling	Meeting with JICA Uganda Office
08Oct.	Fri	Meeting with FSSD/MWE, preparation for Webinar		Field visit: Winch Energy (Bunjako Island) preparation for Webinar	Project profiling, preparation for Webinar
09Oct.	Sat	-	-	-	-
10Oct.	Sun	-	-	-	PCR Test
11Oct.	Mon	Webinar			
12Oct.	Tue	Meeting with DAES/ MAAIF, JICA HQ, Reporting	Meeting with DAES/ MAAIF, JICA HQ, Reporting, administration works, PCR Test	Reporting, PCR Test	Departure from Uganda
13Oct.	Wed	Reporting	Administration and accounting works, reporting	Reporting	Arrival in Japan
14Oct.	Thu	Reporting, PCR Test	Departure from Uganda	Departure from Uganda	-
15Oct.	Fri	Departure from Uganda	Arrival in Japan	Arrival in Japan	-
16Oct.	Sat	To another JICA work	-	-	-

Annex-2

Final Report - Social Survey on Deforestation

Driver and Electrification/Clean Cooking

CONSULTANCY SERVICES FOR CONDUCTING A SOCIAL SURVEY ON SUSTAINABLE FOREST/NATURAL RESOURCE MANAGEMENT IN WEST NILE REGION IN THE REPUBLIC OF UGANDA

"Social Survey on Deforestation Driver and Demand on Electrification / Clean Cooking"

FINAL REPORT

JULY 2021

SUBMITTED BY

Table of Contents

`

List of Abbreviations

DCA	Danish Church Aid
DRDIP	Development Response for Displaced Project
DLG	District Local Government
FCA	FinChurchAid
FGD	Focus Group Discussion
GOU	Government of Uganda
HHs	HouseHolds
JICA	Japan International Coorparation Agency
KII	Key Informant Interview
LWF	Lutheran World Federation
NGO	Non-Governmental organization
OPM	Office of the Prime Minister
PRELONOR	Project for the Restoration of Livelihoods in Northern Uganda
RAD	Refugee Affected Districts
RDO	Refugee Desk Office
RHD	Refugee Hosting District
RWC	Refugee Welfare Council
SGBV	Sexual and Gender Based Violence
UEDCL	Uganda Electricity Distribution Company
UGX	Uganda Shilling
UNHCR	United Nations High Commission for Refgees
WENRECO	West Nile Rural Electrification Company

List of Tables

List of Figures

EXECUTIVE SUMMARY

Project Background
Uganda has been adopting a tolerant stance towards refugees accepting more than 1.39 million from mainly South Sudan, Democratic Republic of the Congo, Burundi and Somalia as of January 2020. The number of refugees from South Sudan rose sharply from approximately 200 thousand in February 2016 to 700 thousand after the armed conflict broke out in July 2016. As of January 2021, the number has reached approximately 767 thousand. Many of such refugees have flown into the West Nile Region in north Uganda.

As such, social tension has risen and depletion of forest and other natural resources has become a major problem. It is therefore important to ease the frustration and tension that exists between the host communities and refugees, and among the refugees, and thereby maintain and promote social harmonization and peaceful and mutual dependency, which helps with maintaining peace and stability in northern Uganda and the surrounding areas.

Both the refugee settlements and host communities earn a living that is heavily dependent on the forest and natural resources. Domestic fuel and housing materials are used at a level that exceeds the forests' natural regenerative capacity leading to the reduction and degradation of the forest and other natural resources, heightening tension between the settlements and host communities. Against this background, development assistance agencies such as JICA, in coordination with humanitarian assistance agencies, have been making efforts to reduce the load on host communities in the West Nile Region and to improve social services that are beneficial to both the settlements and host communities.

Therefore, JICA commissioned a social survey study for Information Collection and Verification Survey on Sustainable Forest/Natural Resource Management in West Nile Region in the Republic of Uganda. KKATT Consult Ltd was contracted to implement the data collection within the survey and produce a suitable report on the findings. The exercise shall cover a period of 3 months starting from May to July 2021.

Project Purpose
The social survey is intended to support JICA get a better understanding on the community dependence on natural resources and the drivers of deforestation within the RHD and the RAD of West Nile region. It is intended to give an insight into the livelihoods, HH energy demands and need for agricultural land. These demands from the community affects the environment in many ways especially from tree cutting and opening agriculture land. The survey also considered cross cutting themes of sexual gender-based violence related to access to forest resources especially during harvesting firewood. Thus, the purpose of this work is to conduct a social survey in the settlements and host communities in the West Nile region to understand the situation mentioned above.

Objective of the Social Survey
The main objective was to understand the present situation and issues related to forests and natural resource use, energy supply in the refugees accepted West Nile region.

Scope of Baseline Survey
The target of this survey is HHs in settlements and host communities in West Nile region. Target number of Districts was 12. The division of Refugee Hosting District and Refugee Affected District was done as follows:
- Refugee Hosting District (RHD) - Adjumani, Koboko, Yumbe, Obongi, Madi Okollo, Terego (Total 6 Districts);
- Refugee Affected District (RAD) - Moyo, Arua, Maracha, Zombo, Nebbi, Pakwach (Total 6 Districts).

Survey Sites

The surveys were carried out in the following districts as illustrated in the Table 0-1 below. There were some changes in the sub county and parish names for Adjumani, Yumbe and Obongi RHD and the correct names were adopted for the survey.

Table 0-1: Survey sites

District	Type of Districts	Sub-County	Parish	Settlement / Host Community
Refugee Hosting Districts (RHD)	Adjumani	Pakele	Lewa	Ayilo 1
	Adjumani	Pakele	Lewa	Host Community
	Yumbe	Kochi	Yayari	Bidibidi Zone 2
	Yumbe	Kochi	Yayari	Host Community
	Yumbe	Kei	Lombe	Host Community
	Obongi	Palorinya	Palorinya	Palorinya Zone 3
	Obongi	Itula	Kali	Host Community
	Terego	Odupi	Imvepi	Shiripi Zone 1
	Terego	Odupi	Imvepi	Host Community
	Madi Okollo	Rigbo	Odobu	Odobu Zone 1
	Madi Okollo	Rigbo	Odobu	Host Community
	Koboko	Lobule	Ponyura	Loubule Zone B
	Koboko	Lobule	Ponyura	Host Community
	Koboko	Kuluba	Nyambiri	Host Community
Refugee Affected Districts (RAD)	Arua	Logiri	Lazebu	Host Community
	Arua	Logiri	Anyavu	Host Community
	Moyo	Moyo	Eria	Host Community
	Moyo	Lefori	Gwere	Host Community
	Pakwach	Wadelai	Ragem Upper	Host Community
	Pakwach	Pakwach	Mukale	Host Community
	Nebbi	Nebbi	Kalowang	Host Community
	Nebbi	Kucwiny	Mvura	Host Community
	Zombo	Atyak	Anyola	Host Community
	Zombo	Atyak	Angol	Host Community
	Maracha	Kijomoro	Alivu	Host Community
	Maracha	Olufee	Otrabu	Host Community

Duration of the Survey

The baseline survey and livelihood assessment ran for a total of 24 days from Sunday 2nd May to 25th May 2021 covering; preliminary preparations, data collection. During this period, activities included: training of data collectors, pre-testing the data collection tools, logistical coordination and scheduling meetings within the settlement zones and HH data collection, interviews and focus group discussions.

Sample size and Number of HHs and Categories reached

A total of 336 HH were reached across all the settlements in the 12 Districts. In each district, 28 HHs were interviewed, and sub divisioned 14 for host community and 14 refugee community. At every survey site, FGDs were held for the community and organized both men and women and another one organized for only women because the main focus was on sexual gender-based violence related issue.

APPROACH AND METHODOLOGY
Our agreed approach and methodology for undertaking the assignment was developed with appropriate details added from the interactions with the client. These provided overall guidelines for undertaking the various Tasks of the work as set out in the findings.

General Approach
Understanding the task
The summary of the key tasks and the details of the activities that were undertaken as per the terms of reference are listed below:
- Data collection at OPM offices or Local government offices in each District;
- Conduct HH interviews in each District on HH livelihood and production information;
- Focus Group Discussion 1 focusing on factors of deforestgation;
- Focus Group Discussion 2 focusing on sexual gender-based violence.

Review of Survey Tools
Reviewing the survey tools was a key starting point for the effective implementation and completion of the work by the survey team. All questions in the tools that were not clear were revised through consultation with the client. This enabled the survey team to highlight to the client areas that need clarity and harmonization prior to starting data collection. The review also enabled the data analysts to think through the formats of analysis and presentation of the collected information.

Quality Control
Through the KKATT Quality Management Systems we prepared a Quality procedure specifically applicable to the project. The process of review shall depend on effectiveness of information sharing between the survey team and Team Leaders.

The quality control type, actions we took to ensure quality and some examples of quality control measures were:
- Work schedule and timelines control that includes preparing and implementing work plans
- Budget control to cater for project costs and purchase of equipment
- Technical verification and quality controls
- Risk management controls
- Project reviews
- Document control

Working with the Local Authorities
We worked stakeholders including public, private and civil society entities. In the survey we worked with the District local authorities, sub county leaders and the Local councils at the villages. At the Refugees settlements we worked with the Refugee Welfare councils.

Methodology

The Consultant carried out its tasks in eight stages listed in the table below.

	TASKS DESCRIPTION	Methodology
INCEPTION PHASE		
1	Team Mobilization	The Team was mobilized and held a meeting on 28th April 2021 to discuss the expectations, individual contribution, roles and responsibilities, terms of reference, Stakeholder mapping (stakeholders and their impact on the process / project). The minutes and attendance lists are attached to the report in Annex I.
2	Meeting the Client and Collecting documents from the Client	The Consultant met with the Client on 19th April 2021 to understand the scope of work. All data relevant to the project was shared by the client in soft copies. Another key step was to request the Client to introduce KKATT to the 12 Districts Local Governments in the Refugee-accepted Districts in the West Nile region which was communicated in writing.
3	Quality control	Project quality control assessments were undertaken as presented in the Approach.
QUESTIONNAIRE REVIEW AND PLANNING		
1	Review of Survey Tools	Reviewing the questionnaires presented in the ToRs was a key starting point for the effective completion of the work. The team was in close collaboration with the client to ensure collective decisions we taken to maintain the objectives of the survey. The updated survey tools are Annex II.
2	Developing a detailed Survey work plan	The Consultant drew up a realistic work plan or timetable of activities from the first stages of planning for the survey until after the end of the fieldwork. The work plan included each of the following activities; - General management (including purchase of equipment); - questionnaire development; - drawing the sample; assigning, hiring and training staff; data entry and data management; fieldwork activities; and - data analysis, processing, documentation, and report writing. - For each of these specific areas, a list of tasks to be completed, and the dates of their completion (in other words deadlines), shall be made. - Major milestones, such as the pilot test and the first day of fieldwork, should be highlighted. This list, which can often be displayed in a chart, is the work plan of the survey. The Activity implementation work plan covered 3 months as shown in Annex III.
TRAINING OF SURVEY TEAM		
1	Staffing and training of Survey Team	**Survey Team** The team was led by a highly experienced Team Leader with a wealth of knowledge in the region. The core team included a Team Leader / Lead Sociologist and 2 Assistant Sociologists.

		Qualifications of enumerators The Consultant used competent Enumerators to administer the questionnaires during data collection exercise. **Selection criteria** The Enumerators were identified with the help of District local leaders, Local NGOs and trained before commencement of the social survey. The selection criteria included a minimum of the following; - Possession of at least Uganda Certificate of Education (O-Level), pass in English and Mathematics; - Residency in the area and will be verified by the identification card and recommendation from local leaders; 50% were men and 50% women; Fluency in the local language and English.
2	Pre-testing / Pilot test	The Consultant conducted pilot tests of the prepared questionnaires by interviewing 15-20 HHs from a selection of 2 Districts (1 RAD & 1 RHD) amongst the 12 Districts that were covered by the social survey.
3	Print final version of questionnaires	These were printed after the approval of the Client.
DATA MANAGEMENT		
1	Management	According to the ToRs, data collected was entered in and analyzed in MS Excel software. We used Excel sheets for all data collected and input all the data collected in this survey. Errors such as incorrect skip patterns, missing information or inconsistent responses were checked. a) The data analyst prepared, cleaned and analyzed the data b) The electronically captured GPS points were visually inspected against the original sampling point on a map. A Data file was created on all survey data. The final cleaned data file was saved and stored securely.
FIELDWORK		
1	Management of Field Staff	Each supervisor was responsible for a small number of Enumerators: not more than 4no. At least half of each supervisor's time was devoted to checking the quality of the work of the Enumerators. A relatively short checklist was developed for the use of supervisors in checking completed questionnaires submitted by Enumerators; this ensured that some basic rules for completing the interviews were followed in every surveyed HH. Each survey questionnaire was checked with respect to the items on this list. In addition, the supervisor observed the interviewer while he or she is interviewing a HH, to verify that the interviewer is following all the procedures taught in the pilot training.

		DATA ANALYSIS & REPPORTING		
1	Draft data entry and analysis plan	The final activity after the data collection was analysis. Ample time was given for data analysis in the activity implementation schedule.		
		The survey team consulted with the individuals who analyzed the data and ensured data analysis was completed within the set timetable.		
		Data processing was carefully undertaken and supervised to ensure clean data was entered.		
		Data Quality Check		
		The following was done to achieve accurate data processing (analysis and analysis).		
		- Checked consistency and completeness before data entry process		
		- Each completed questionnaire was given a unique identification number filled in.		
		- Used trained and data entrants		
2	Inputting data & Final report and documentation	**Excel Data Analysis tool**		
		According to the ToRs, Excel was used for inputting data collected from the social survey.		
		The data was interrogated to check errors such as incorrect skip patterns, missing information or inconsistent responses. After checking of the data, analysis of the collected data was carried out as shown in section 3 of the report.		
		Final Reporting		
		Below is the outline of the final report and documentation:		
		1. Titles and tables		
		2. Executive summary		
		3. Introduction		
		4. Approach and Methodology		
		5. Social survey findings		
		6. Conclusions and recommendations		
		7. Annexes		
		8. References		

Challenges Encountered during Data Collection

The data collection exercise and field work during the social survey ran smoothly with the exception of a few incidences highlighted below:

Challenges	Remedial Measures
Majority of the Districts Local government the Chief Administrative Officers (CAO) were out of station so.	The Consultant engaged the Deputy CAO or Assistant CAO
The poor state of some sections of the district roads we faced challenges reaching a few survey sites because it was a rainy season. In addition, at one of the Districts the ferry crossing was not operating because of the high levels of water.	The Consultant opted to use alternative roads though they caused some delays in the surveys
A number of the data collectors identified from within the settlements faced challenges interacting the refugee communities during HH survey due to language limitations.	This was identified early enough and handled through translators from the refugee communities who were able to speak the local language.
Due to the COVID -19 pandemic and the restrictions of the lockdown, physical contact was not always possible and at Koboko and Yumbe telephone interviews were conducted for two key informants. Further disruption in reporting due to a total lockdown as staff could not freely move and complete the reporting in time.	The Consultant requested from the Client Extension of Time on the contract to complete the services.

Findings

Data Collection from OPM or Local Government Offices

Information was collected about the presence of infrastructure and services in the settlements and host communities of the RHD and RAD. The source of this information was from Office of the Prime Minister (OPM) and District Local Government offices using questionnaire Annex 1.

No.	Infrastructure / service	Findings
1	Hospitals.	The RAD had 1,836 health facilities compared to the RHD with 872 health facilities.
2	Schools	The RHD had 597 primary schools, 85 secondary schools and 17 tertiary institutions compared to the 533 primary schools, 75 secondary schools and 10 tertiary institutions in the RAD. Obongi district had no tertiary institution.
3	Toilets	The minimum toilet coverage in the RAD and RHD was at 60% in Madi-Okollo and Pakwach district, while the highest toilet coverage was 89% in Maracha district. Terego district didn't have any toilet coverage data.
4	Electricity	All the Districts used hydro power electricity. Adjumani and Moyo were connected to UECDL National grid. WENRECO was the distributer with the highest coverage in the districts especially in the RAD and also RHD. Madi-Okollo, Terego and Obongi use Solar and generator power as a source of electricity.
5	Mobile Network	The commonly used telecom networks in the RAD an RHD districts were MTN and Airtel Uganda.

No.	Infrastructure / service	Findings
6	Big industrial, commercial, and public facilities	Generally, there were noticeable big industries, commercial and public facilities in both the RAD and RHD however majority of the facilities were for food processing. Adjumani had noticeable infrastructure like an industrial park, drinking water treatment facility and fecal sludge treatment plant compared to the rest of the districts except Arua, Maracha and Koboko districts
7	Dissemination rate of improved ovens	The RAD coverage of the dissemination of cooking stoves was between 50% - 70% showing that at least half of the population had the improved stoves. The dissemination of the cooking stoves was generally low in the RHD compared to the RAD.
8	Donor support.	Donor support in the region showed that a number of international agencies have programmes in the region. The presence of support organizations was more visible in RHD compared to RAD. In the RAD mainly national NGOs were found to be operating.
9	Data from OPM / DLGs	Data collected only from OPM district offices in Adjumani and Arua was about size of agricultural land allocated to each HH and others in settlements showed that I the settlements the land allocated was 30mx30m at Adjumani and 30mx20m at Arua settlements.

Main Uses of the Forest Products

No	HH Information	Findings
1	Materials for houses	Most of the houses in RAD and RHD have walls made out of adobe bricks and thatch/leaves/straw roofs. Implying that most of the buildings are temporary in nature.
2	Information on family composition	Majority of the HHs in RAD and RHD were born in the area that is 92% and 53% respectively. Majority of the HHs who were not born there are found to be from South Sudan (80%).
3	HH elements	Most popular house element owned by majority of the HHs was found to be cell phones in both RAD and RHD and the constituted 34% and 39% respectively.
4	Land	Majority of the HHs from both RAD and RHD owned land and the tenure system was based on inheritance. The respondents also considered the productivity of the land to be constant.
5	Charcoal	Most HHs did not engage in charcoal production in both RAD and RHD.
6	Firewood	Majority of HHs do not sell firewood which shows that most firewood was for home consumption.
7	Energy	Firewood was the major source of energy for the HHs from RAD and RHD followed by charcoal majorly used for lighting and cooking respectively.
8	Water	Majority of the water sources from RAD were found to be managed by water user committees created by the local community and in RHD most of the water sources were managed by the community themselves. A few water systems were also managed NGOs (water mission Uganda). Majority of the respondents from both RAD and RHD spent less than an hour to get water implying that generally water sources are closer to the HHs.

No	HH Information	Findings
9	Breeding	Both communities share breeding patterns as both rare the same animals in enclosers at almost equal frequencies like goats and hens majorly for Sale as a source of income to the HHs.
10	Grassing	While most seem not to know when they require it, its common Practice to burn pasture to ensure growth of fresh pastures which is more nutritious to animals bred while also being inexpensive to other methods like the use of chemicals
11	Hunting/Trapping	Hunting is mainly shunned upon but the very few that manage to in both RAD and RHD do it in the forest lands using various trapping methods like traps, arrows and dogs. Some of the delicacies they hunt are wild rabbits considered a very good delicacy.
12	Fishing	Since the Nile passes through Most of the RAD, this means that a number of HHs engage in Fishing and mainly for Sale and this is carried out throughout the year as fish supply is never seasonal. The Nile perch and mud fish are the most common types of fish catch for both RAD and RHD and fishermen mainly use fishnets as there most preferred method of catching fish.
13	Energy source	Firewood was found to be the major source of energy for the respondents from RAD and RHD and constituted 44% of the respondents each, followed by charcoal that constituted 30% of the respondents from RAD and 26% of the respondents from RHD.
14	Water	Most of the water sources charged less than UGX 5,000 from both RAD and RHD. This implies that majority of the water sources were cheap and the HHs can easily access them.

FGDs focusing on Factors of Deforestation and Electrification

The section presents information on factors of deforestation and electrification in the hosting district and the affected Districts.

No.	Survey issue	Findings
1	Right to occupy land	83% in RHD have ownership to occupy land and 17% don't and in contrast 100% in RAD said they have ownership or right to occupy land.
2	Forest decline or increase	Both RAD and RHD said the forests have decreased. In the RAD, 92% said the forests have decreased a lot and 8% said it has decreased a little.
3	Reasons for decline or increase	• In RADs, 75% said for forest decline was because of opening of agriculture land and 25% said decline was because of cutting trees for charcoal. • RHDs, the 83% said forest decline was because of opening up agriculture land and 8% said it was because of cutting trees for firewood
4	Getting wood for firewood, charcoal and building materials	It was found that it was getting difficult to get forest products. In addition, the pandemic of COVID-19 did not have any effect because decrease of natural resources was evident even before the onset of the pandemic
5	Conflicts regarding natural resources and land	• Survey revealed there are conflicts. In RHDs, 92% said conflicts exist and in RADs, 100% said there are conflicts • In RADs, 46% said the main conflicts are related to boundaries of land and 38% said there are land conflicts. In the RHDs, 36% said the conflicts are boundary related and 18% said there are land related conflicts.

FGD 2. Sexual Gender Based Violence

The FGDs were conducted to understand the Sexual and Gender Based Violence in the communities of the RHD and RAD communities. The participation was only for women from the settlements and from the host community. 67% of the respondents in the RAD acknowledged the presence of SGBV while 33% said there were no sexual gender-based violence acts in the community. In the compared RHD, 75% said there were cases of SGBV and 25% said there were no cases. This indicates that the gender-based violence acts were more in the RAD than in the RHD. The most common GBV types were:

- theft
- Rape
- Attempted Rape
- Harassment
- Assault
- Arrest
- Murder

The study also indicated that COVID-19 pandemic had no effect on the occurrence of the SGBV acts.

Conclusion

In conclusion,

- Three major products got from the forests were firewood, construction wood and charcoal as shown in the study for mainly construction of houses and home consumption due to the increased population pressure from the growing numbers of refugees in West Nile region. These products are harvested from the forests by cutting of trees to get branches and trunks in turn leading to destruction and depletion of the forest cover;
- Land ownership in these areas was found to be through inheritance and they were inherited from the different stakeholders in the areas though majority of the HHs inherited them from the family members who were either the parents or the relatives.

Recommendations

The major recommendations are:

- Other Government agencies may conduct advocacy through NGOs to promote growing of trees in order to reduce on depletion of the forest cover;
- Different stakeholders like Government, private partners and NGOs may be brought on board and innovate the energy systems to be used in cooking so as to reduce on the depletion of the forest cover;
- Government, private NGOs and other donor sources may promote other sources of lighting such as solar, and also connect hydroelectric power since it is less costly.

1   BACKGROUND

1.1   Project Background

Uganda has been adopting a tolerant stance towards refugees accepting more than 1.39 million from mainly South Sudan, Democratic Republic of the Congo, Burundi and Somalia as of January 2020. The number of refugees from South Sudan rose sharply from approximately 200,000 in February 2016 to 700,000 after the armed conflict broke out in July 2016. As of January 2021, the number had reached approximately 767,000. Many of such refugees have moved into the West Nile Region in Northern Uganda.

As such, social tension has risen and depletion of forest and other natural resources has become a major problem. It is therefore important to ease the frustration and tension that exists between the host communities and refugees, and among the refugees, and thereby maintain and promote social harmonization and peaceful and mutual dependency, which helps with maintaining peace and stability in northern Uganda and the surrounding areas.

Both the refugee settlements and host communities earn a living that is heavily dependent on the forest and natural resources. Domestic fuel and housing materials are used at a level that exceeds the forests' natural regenerative capacity leading to the reduction and degradation of the forest and other natural resources, heightening tension between the settlements and host communities. Against this background, development assistance agencies such as JICA, in coordination with humanitarian assistance agencies, have been making efforts to reduce the load on host communities in the West Nile Region and to improve social services that are beneficial to both the settlements and host communities.

Therefore, JICA commissioned a Social Survey Study for Information Collection and Verification Survey on Sustainable Forest/Natural Resource Management in West Nile Region in the Republic of Uganda. KKATT Consult Ltd was contracted to implement the data collection within the Survey area and produce a suitable report on the findings. The exercise shall cover a period of 3 months starting from May 2021 to July 2021.

1.2   Project Purpose

The social survey is intended to support JICA get a better understanding on the community dependence on natural resources and the drivers of deforestation within the RHD and the RAD of West Nile region. It is intended to give an insight into the livelihoods, HH energy demands and need for agricultural land. These demands from the community affects the environment in many ways especially from tree cutting and opening agriculture land. The survey also considered cross cutting themes of sexual gender-based violence related to access to forest resources especially during harvesting firewood. Thus, the purpose of this work is to conduct a social survey in the settlements and host communities in the West Nile region to understand the situation mentioned above.

1.3   Objective of the Social Survey

The major objective of the survey can be deduced to:
- understand the present situation and issues related to forests and natural resource use, energy supply in the settlements (RHD &RAD);
- provide JICA with first hand baseline information on forest and natural resources use in the RHD & RAD;
- assess the HH socio-economic conditions, use and dependence on forests in the selected settlements;
- collect general information on production and livelihoods and of refugees and host communities;
- establish prevalence rate of SGBV and what is causing the violence within the settlements.

1.4   Scope of the Baseline Survey
1.4.1   Geographic Scope
The target of this survey is HHs in settlements and host communities in West Nile region. A target number of Districts was assessed to be 12 districts. The Division of Refugee Hosting District (RHD) and Refugee Affected District (RAD) was done as follows:

- Refugee Hosting District - Adjumani, Koboko, Yumbe, Obongi, Madi Okollo, Terego (Total 6 Districts);
- Refugee Affected District - Moyo, Arua, Maracha, Zombo, Nebbi, Pakwach (Total 6 Districts).

1.4.2   Survey Sites
The surveys were carried out in the following districts as illustrated in the table 1-1 below. There were some changes in the sub county and parish names for Adjumani, Yumbe and Obongi RHD and the correct names were adopted for the survey.

Lobule Zone B refugee settlement camp was selected because of a higher refugee population that Zone A. In addition, Palorinya village hosts the largest number of refuges than Tukaliri, Ajipala and Aliribu according to the information from OPM Base Office at Lobule. This highlights issues regarding the Host community of Ponyura that are largely affected by the presence of the refugees and the demand for construction materials and other natural resources.

Table 1-1: Survey sites

District	Type of Districts	Sub-County	Parish	Settlement / Host Community
		Adjumani	Pakele	Lewa	Ayilo 1
		Adjumani	Pakele	Lewa	Host Community
		Yumbe	Kochi	Yayari	Bidibidi Zone 2
		Yumbe	Kochi	Yayari	Host Community
Refugee Hosting Districts (RHD)	Yumbe	Kei	Lombe	Host Community
	Obongi	Palorinya	Palorinya	Palorinya Zone 3
	Obongi	Itula	Kali	Host Community
	Terego	Odupi	Imvepi	Shiripi Zone 1
	Terego	Odupi	Imvepi	Host Community
	Madi Okollo	Rigbo	Odobu	Odobu Zone 1
	Madi Okollo	Rigbo	Odobu	Host Community
	Koboko	Lobule	Ponyura	Loubule Zone B
	Koboko	Lobule	Ponyura	Host Community
	Koboko	Kuluba	Nyambiri	Host Community
Refugee Affected Districts (RAD)	Arua	Logiri	Lazebu	Host Community
	Arua	Logiri	Anyavu	Host Community
	Moyo	Moyo	Eria	Host Community
	Moyo	Lefori	Gwere	Host Community
	Pakwach	Wadelai	Ragem Upper	Host Community
	Pakwach	Pakwach	Mukale	Host Community
	Nebbi	Nebbi	Kalowang	Host Community
	Nebbi	Kucwiny	Mvura	Host Community
	Zombo	Atyak	Anyola	Host Community
	Zombo	Atyak	Angol	Host Community
	Maracha	Kijomoro	Alivu	Host Community
	Maracha	Olufee	Otrabu	Host Community

1.4.3   Duration of the Survey

The social survey was carried out for a total of 24 days from 2nd May 2021 to 25th May 2021. During this period, activities including training of data collectors, pre-testing the data collection tools, logistical coordination and scheduling meetings within the settlement zones and HH data collection, interviews and focus group discussions were carried out. See survey schedule in Annex IV.

1.4.3. Sample Size, Number of HHs and Categories reached

Table 1-2 below represents the categories of respondents reached by location and the methods used for data collection. A total of 336 HHs were reached across all the settlements in the 12 Districts. A detailed breakdown below includes the categories for the focus groups and key informats at Ditsrict Headquaters.

Table 1-2: Cartegories of respondents reached during the social survey.

Type of Districts	District	Sub-county	Parish	Settlement / Host community	Key Informant Interview	FGD1	FDG 2	Nos of HHs surveyed
Refugee Hosting Districts (RHD)	Adjumani	Pakele	Lewa	Ayilo 1	1	1	1	14
	Adjumani	Pakele	Lewa	Host Community		1	1	14
	Yumbe	Kochi	Yayari	Bidibidi Zone 2	1	1	1	14
	Yumbe	Kochi	Yayari	Host Community				7
	Yumbe	Kei	Lombe	Host Community		1	1	14
	Obongi	Palorinya	Palorinya	Palorinya Zone 3	1	1	1	14
	Obongi	Itula	Kali	Host Community		1	1	14
	Terego	Odupi	Imvepi	Shiripi Zone 1	1	1	1	14
	Terego	Odupi	Imvepi	Host Community		1	1	14
	Madi Okollo	Rigbo	Odobu	Odobu Zone 1	1	1	1	14
	Madi Okollo	Rigbo	Odobu	Host Community		1	1	14
	Koboko	Lobule	Ponyura	Loubule Zone B	1	1	1	7
	Koboko	Lobule	Ponyura	Host Community				7
	Koboko	Kuluba	Nyambiri	Host Community		1	1	14
Refugee Affected Districts (RAD)	Arua	Logiri	Lazebu	Host Community	1	1	1	14
	Arua	Logiri	Anyavu	Host Community		1	1	14
	Moyo	Moyo	Eria	Host Community	1	1	1	14
	Moyo	Lefori	Gwere	Host Community		1	1	14
	Pakwach	Wadelai	Ragem Upper	Host Community	1	1	1	14
	Pakwach	Pakwach	Mukale	Host Community		1	1	14
	Nebbi	Nebbi	Kalowang	Host Community	1	1	1	14
	Nebbi	Kucwiny	Mvura	Host Community		1	1	14
	Zombo	Atyak	Anyola	Host Community	1	1	1	14
	Zombo	Atyak	Angol	Host Community		1	1	14
	Maracha	Kijomoro	Alivu	Host Community	1	1	1	14
	Maracha	Olufee	Otrabu	Host Community		1	1	14
Total					12	24	24	336

2   APPROACH AND METHODOLOGY

This Chapter presents the agreed approach and methodology for undertaking the assignment with appropriate details added from the interactions with the Client.

2.1   General Approach

2.1.1   Understanding the Task

The table 2-1 below presents the summary of the key tasks and the details of the activities that were undertaken as per the ToRs.

Table 2-1: Summary of Key tasks and details

No.	Task	Detail
1	Data collection at OPM offices or Local government offices in each District.	Hold meetings at OPM offices in Adjumani and Arua Collect settlements and parishes data of RHD and RAD using annex 1 tool.
2	Conduct HHs interviews in each District	Use of Annex 2: to conduct HH surveys in all the survey districts. RHD • Adjumani - 28 HHs • Yumbe - 28 HHs • Obongi -28 HHs • Terego -28 HHs • Madi Okollo -28 HHs • Koboko -28 HHs RAD • Pakwach -28 HHs • Arua _-28 HHs • Moyo --28 HHs • Nebbi -28 HHs • Zombo -28 HHs • Maracha -28 HHs Selecting women headed HHs was part of the requirements.
3	Focus Group Discussion 1	Hold Focus Group Discussions (FGD) in each survey site using Annex 3. The FGD 1: was to target both men and women. The focus was mainly on deforestation and electrification.
4	Focus Group Discussion 2	Use Annex 4: to identify Sexual and gender-based violence issues Female interviewers were to be used.

2.1.2   Review of Survey Tools

Reviewing the survey tools was a key starting point for the effective implementation and completion of the work by the survey team. All questions in the tools that were not clear were revised through consultation with the client. This enabled the survey team to highlight to the client areas that need clarity and harmonization prior to starting data collection. The review also enabled the data analysts to think through the formats of analysis and presentation of the collected information.

2.1.3   Quality Control

Through the KKATT Quality Management Systems, the Consultant prepared a Quality procedure specifically applicable to the project. The process of review depended on effectiveness of information sharing between the survey team and Team Leaders.

The table 2-2 below explains the quality control type, actions were taken to ensure quality is adhered to, and some examples of quality control measures.

Table 2-2: Quality control type, actions taken to ensure quality and some examples of quality control measures

Quality control type	Control or action to be taken	Examples of action taken
Work schedule and timelines control	• Prepared an activity schedule for each activity that clearly stated the start and end dates. • Indicated tasks and who should do it. • Indicated a plan for rescheduling and reasons for the change in time. (A detailed work plan was shared with the Client and also included in the methodology for this assignment. This followed the Terms of Reference).	• Planned before undertaking any tasks. • Accuracy in description of each activity • Clear description of team roles • Trained team members • Ensured Teamwork and effectiveness of roles.
Budget and cost controls	We considered all important elements for the work while preparing a budget for the assignment like; • Staff costs, • materials and equipment, • Field expenses transport etc. A comprehensive budget provided us with an understanding of how to us the budget over the project life.	• Approval of all expenditures by management. • Requisition for supplies and equipment • Preparation of invoices or Purchase Orders • Preparation of financial reports
Technical verification and quality controls	We ensured adherence to quality control procedures, which are carried out to check compliance with the QP.	• Standards, specifications and templates for documenting activities, monitoring and for reporting results
Risk management controls	All assignments were scheduled with clear responsibilities and levels of authority and lines of communication.	• Internal risk's identification checklist • Risk assessment • Risk mitigation schedule
Project Document control	All information is saved on the KKATT server to ensure easy access and tracking by both management and the team.	• Clear description of project records on the server
Project reviews and progress	We held regular team review meetings to assess progress of the work.	• Preparation of Weekly Minutes.

2.1.4   Working with Local Authorities

We worked closely with Stakeholders including district local authorities, sub county leaders and the Local councils at the villages. At the Refugees settlements we worked with the Settlement Commandants and Refugee Welfare Councils.

2.2 Detailed Methodology

The Consultant used the methods presented in the table 2-3 below to execute the tasks as required in the ToRs.

Table 2-3: Detailed Methodology

TASKS DESCRIPTION		Methodology
INCEPTION PHASE		
1	Team Mobilization	The Team was mobilized and held a meeting on 28th April to discuss the expectations, individual contribution, roles and responsibilities, terms of reference, Stakeholder mapping (stakeholders and their impact on the process / project). The minutes and attendance lists are attached to the report in annex I
2	Meeting the Client and Collecting documents from the Client	The Consultant met with the Client on 19th April 2021 to understand the scope of work. All data relevant to the project was shared by the client in soft copies. Another key step was to request the Client to introduce KKATT to the 12 Districts Local Governments in the refugee-accepted Districts in the West Nile region which was communicated in writing.
3	Quality control	Project quality control assessments were undertaken as presented in the Approach.
QUESTIONNAIRE REVIEW AND PLANNING		
1	Review of Survey Tools	Reviewing the questionnaires presented in the ToRs was a key starting point for the effective completion of the work. The team was in close collaboration with the client to ensure collective decisions we taken to maintain the objectives of the survey. The updated survey tools are annex II.
2	Developing a detailed Survey work plan	The Consultant drew up a realistic work plan or timetable of activities from the first stages of planning for the survey until after the end of the fieldwork. The work plan included each of the following activities; - General management (including purchase of equipment); - questionnaire development; - drawing the sample; assigning, hiring and training staff; data entry and data management; fieldwork activities; and - data analysis, processing, documentation, and report writing. - For each of these specific areas, a list of tasks to be completed, and the dates of their completion (in other words deadlines), shall be made. - Major milestones, such as the pilot test and the first day of fieldwork, should be highlighted. This list, which can often be displayed in a chart, is the work plan of the survey. The Activity implementation work plan covered 3 months as shown See Annex III.
TRAINING OF SURVEY TEAM		
1	Staffing and training of Survey Team	**Survey Team**

TASKS DESCRIPTION		Methodology
		The team was led by a highly experienced Team Leader with a wealth of knowledge in the region. The core team included a Team Leader / Lead Sociologist and 2 Assistant Sociologists. **Qualifications of enumerators** The Consultant used competent Enumerators to administer the questionnaires during data collection exercise. **Selection criteria** The Enumerators were identified with the help of District local leaders, Local NGOs and trained before commencement of the social survey. The selection criteria included a minimum of the following; • Possession of at least Uganda Certificate of Education (O-Level), pass in English and Mathematics; • Residency in the area and will be verified by the identification card and recommendation from local leaders; • 50% were men and 50% women; Fluency in the local language and English.
2	Pre-testing / Pilot test	The Consultant conducted pilot tests of the prepared questionnaires by interviewing 15-20 HHs from a selection of 2 Districts (1 RAD & 1 RHD) amongst the 12 Districts that were covered by the social survey.
3	Print final version of questionnaires	These were printed after the approval of the Client.
DATA MANAGEMENT		
1	Management	According to the ToRs, data collected was entered in and analyzed in MS Excel software. We used Excel sheets for all data collected and input all the data collected in this survey. Errors such as incorrect skip patterns, missing information or inconsistent responses were checked. c) The data analyst prepared, cleaned and analyzed the data d) The electronically captured GPS points were visually inspected against the original sampling point on a map. A Data file was created on all survey data. The final cleaned data file was saved and stored securely.
FIELDWORK		
1	Management of Field Staff	Each supervisor was responsible for a small number of Enumerators: not more than 4no. At least half of each supervisor's time was devoted to checking the quality of the work of the Enumerators. A relatively short checklist was developed for the use of supervisors in checking completed questionnaires submitted by Enumerators; this ensured that some basic rules for completing the interviews were followed in every surveyed HH. Each survey questionnaire was checked with respect to the items on this list. In addition, the supervisor observed the interviewer while he or she is interviewing a HH, to verify that the interviewer is following all the procedures taught in the pilot training.

TASKS DESCRIPTION		Methodology
DATA ANALYSIS & REPPORTING

1	Draft data entry and analysis plan	The final activity after the data collection was data processing. Ample time was given for data analysis in the activity implementation schedule.
		The survey team consulted with the individuals who analyzed the data and ensured data analysis was completed within the set timetable.
		
		Data Quality Check
		The following was done to achieve accurate data processing and analysis:
		  - Checked consistency and completeness before data entry process;
		  - Each completed questionnaire was given a unique identification number filled in;
		  - Used trained and data entrants.

2	Inputting data & Final report and documentation	**Excel Data Analysis tool**
		According to the ToRs, Excel was used for inputting data collected from the social survey.
		The data was interrogated to check errors such as incorrect skip patterns, missing information or inconsistent responses. After checking of the data, analysis of the collected data was carried out as shown in section 3 of the report.
		
		Final Reporting
		Below is the outline of the final report and documentation:
		  9. Titles and tables
		  10. Executive summary
		  11. Introduction
		  12. Approach and Methodology
		  13. Social survey findings
		  14. Conclusions and recommendations
		  15. Annexes
		  16. References

3   PRESENTATION AND ANALYSIS OF THE FINDINGS

3.1   Data Collection from the OPM or Local Government Offices – Annex 1

The Consultant was required to collect information about presence of infrastructure and services in both the RHD and RAD through meeting key informants at the Office of the Prime Minister (OPM) and District Local Government offices using the survey tool attached in Appendix II, Annex 1.

3.1.1   Age, Sex and Functions of the Respondents
The sex profile of the key respondents across the RAD and RHD indicated that majority of the respondents were male compared to female. All the respondents interviewed were adults above 30 years of age as indicated in the Figure 3-1 below.
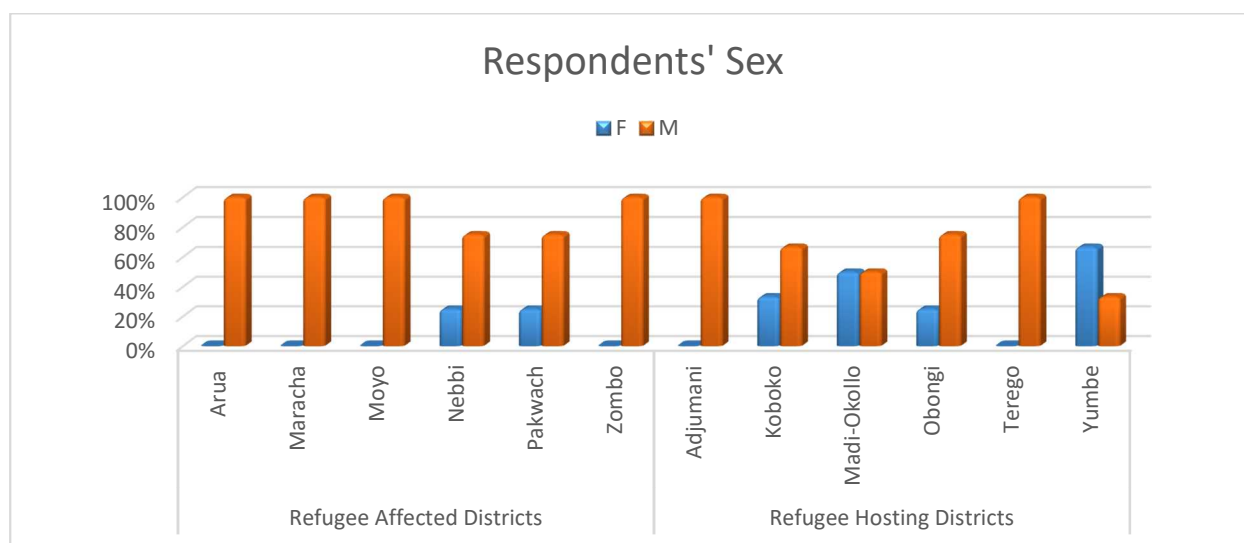
Figure 3-1: Sex of the Respondents

The functions of the respodents as illustrated in Figure 3-2 below.
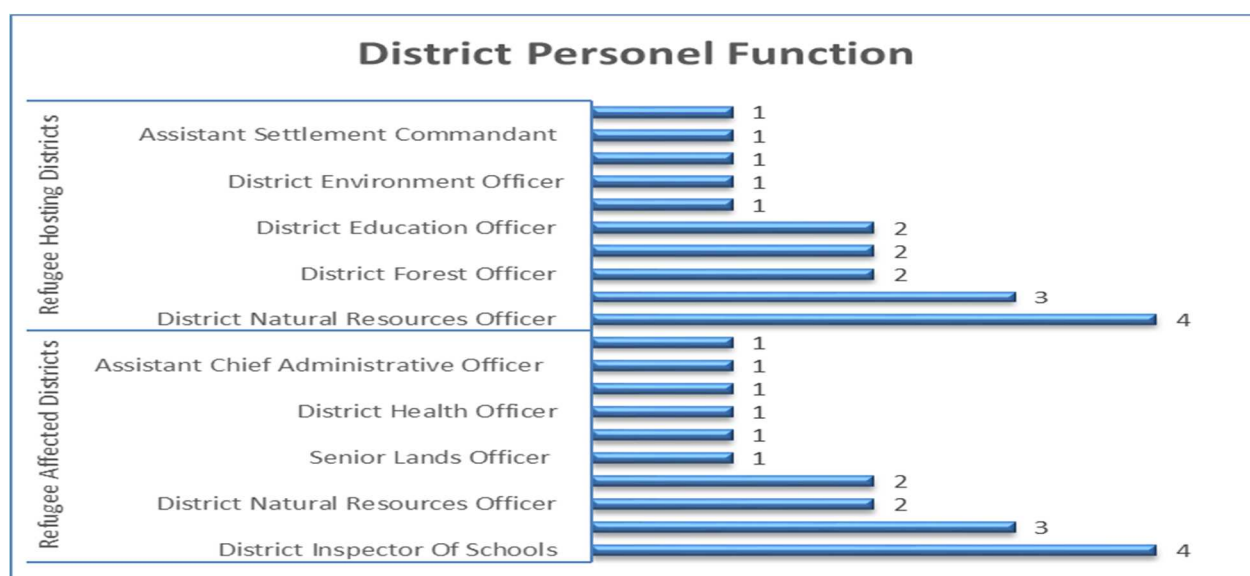
Figure 3-2: Functions of the Respondents

3.1.2   Health Facilities

The study indicated that only Maracha and Nebbi districts had HCI among the RAD, however, each district had the rest of the health center types apart from Packwach that had no hospital as illustrated in the table 3-1 below.

Table 3-1: Number of Health Centers in the RAD.

RAD	HCI	HCII	HCIII	HC IV	Hospitals
Arua	0	22	21	4	1
Maracha	408	4	12	1	1
Moyo	0	10	9	1	1
Nebbi	1278	11	11	1	2
Pakwach	0	11	7	1	0
Zombo	0	9	8	1	1
Total	**1686**	**67**	**68**	**9**	**6**

Adjumani and Madi Okollo districts were the only districts with HCI in RHD. Madi-Okollo and Obongi did not have hospitals as illustrated in the table 3-2 below.

Table 3-2: Number of Health Centres in the RHD

Refugee Hosting Districts	HCI	HCII	HCIII	HC IV	Hospitals
Adjumani	412	22	7	1	1
Koboko	0	8	7	1	1
Madi-Okollo	321	8	9	1	0
Obongi	0	11	4	1	0
Terego	0	12	15	1	1
Yumbe	0	20	6	1	1
Total	**733**	**81**	**48**	**6**	**4**

3.1.3   Schools

As shown in Figure 3-3 below, both the refugee and host communities had more primary schools compared to the secondary and tertiary institutions. The RHD had 597 primary schools, 85 secondary schools and 17 tertiary institutions compared to the 533 primary schools, 75 secondary schools and 10 tertiary institutions in the RAD. Obongi district had no tertiary institution.
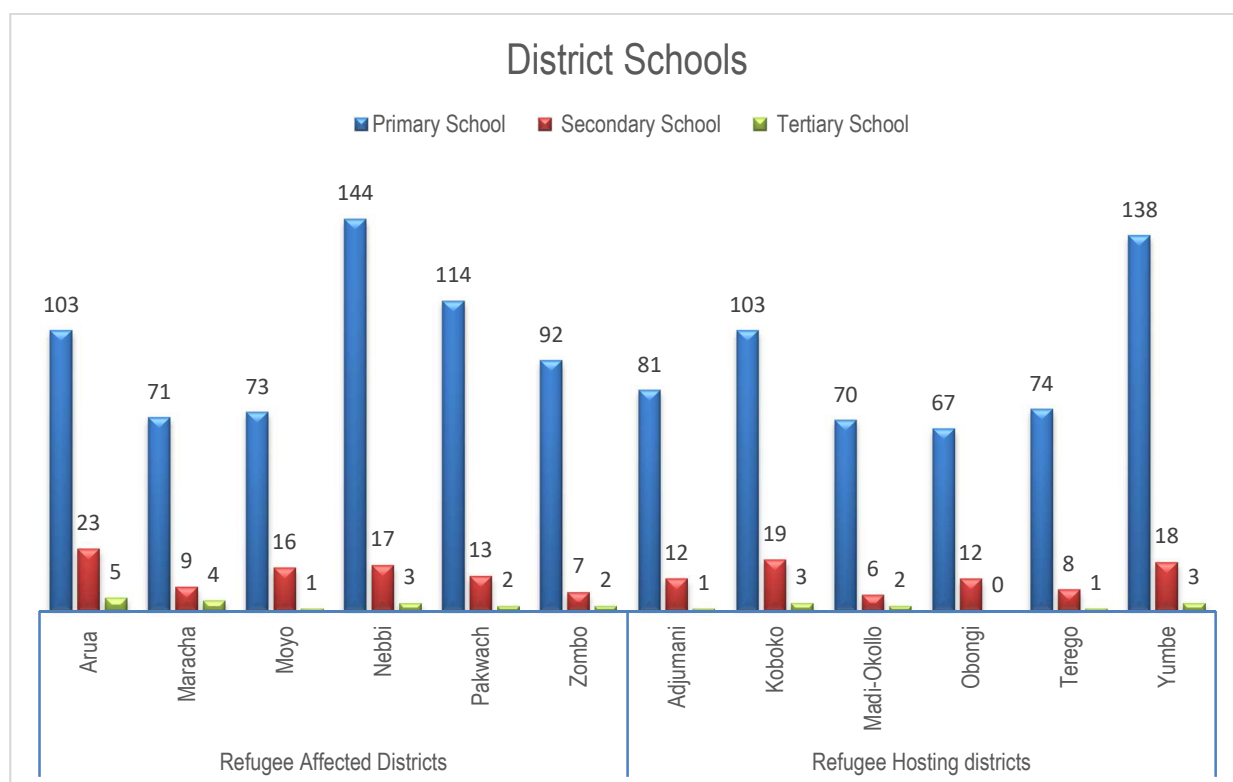
Figure 3-3: District Schools

3.1.4 Electricity

The comparison of the electricity distribution in the RAD and RHD indicated that at least all the RAD had hydro power electricity compared to only four districts of Adjumani, Koboko and Yumbe for the RHD. WENRECO was the distributer with the highest coverage in the districts.

Madi-Okollo, Terego and Obongi use Solar and generator power as a source of electricity as illustrated in table 3-3 below.

Table 3-3: Type of Electricity Coverage in the Districts

Type of District	District	Electricity Coverage
Refugee Affected Districts (RAD)	Arua	WENRECO
	Maracha	WENRECO
	Moyo	UEDCL
	Nebbi	UEDCL and Bio gas
	Pakwach	WENRECO
	Zombo	WENRECO
Refugee Hosting District (RHD)	Adjumani	UEDCL
	Koboko	WENRECO
	Madi-Okollo	Solar and Generators
	Obongi	Solar and Generators
	Terego	Solar and Generators
	Yumbe	UEDCL

3.1.5   Mobile Networks

The commonly used telecom networks in both RAD and RHD districts were MTN and Airtel Uganda as illustrated in the table 3-4 below.

Table 3-4: Mobile Networks

Type of District	District	Mobile Network
Refugee Affected Districts (RAD)	Arua	MTN Uganda, AIRTEL Uganda, AFRICELL
	Maracha	MTN Uganda and AIRTEL Uganda
	Moyo	MTN Uganda, AIRTEL Uganda and AFRICELL
	Nebbi	MTN Uganda, AIRTEL Uganda and AFRICELL
	Pakwach	MTN Uganda, AIRTEL Uganda and AFRICELL
	Zombo	MTN Uganda and AIRTEL Uganda
Refugee Hosting District (RHD)	Adjumani	MTN Uganda, AIRTEL Uganda and UTL
	Koboko	MTN Uganda, AIRTEL Uganda, UTL and AFRICELL
	Madi-Okollo	MTN Uganda and AIRTEL Uganda
	Obongi	MTN Uganda and AIRTEL Uganda
	Terego	MTN Uganda and AIRTEL Uganda
	Yumbe	MTN Uganda and AIRTEL Uganda

3.1.6 Radio Towers

The table 3-5 below shows the radio towers in both the RAD and RHD. The RAD had more radio towers compared to the RHD. However, some districts like Maracha, Madi-Okollo, Obongi, Terego and Yumbe didn't have any radio towers.

Table 3-5: Table Illustrating the Radio Towers

Type of District	District	Radio Tower
Refugee Affected Districts (RAD)	Arua	• Arua One • Nile FM • Radio Pacis • Capital FM
	Maracha	None
	Moyo	• Transboundary services • Voice of the Nile • Radio Pacis
	Nebbi	• Radio Maria • Radio Nebbi
	Pakwach	• Pakwach FM
	Zombo	• Radio Paidah
Refugee Hosting District (RHD)	Adjumani	• Radio Aman • Awulogo FM • Salama FM
	Koboko	• Spirit FM • Radio Koboko
	Madi-Okollo	None
	Obongi	None
	Terego	None
	Yumbe	None

3.1.6   Big Industrial, Commercial and Public Facilities

Generally, there were few noticeable big industries, commercial and public facilities in both the RAD and RHD however majority of the facilities were food processing industries as illustrated in table 3-6 below.

Adjumani had noticeable infrastructure like an industrial park, drinking water treatment facility and feacal sludge treatment plant compared to the rest of the districts except Arua, Maracha and Koboko districts.

Table 3-6: Big Industrial, commercial and Public Facilities

Type of District	District	Big Industrial, Commercial and Public facilities
Refugee Affected Districts (RAD)	Arua	• Arua Airstrip • Arua central market • NWSC Water Treatment Plant • Barifa Staduim
	Maracha	None
	Moyo	• Moyo Hospital lagoon • Sub county weekly markets • Moyo gravity water scheme
	Nebbi	Grain millers like Nile challenge Angir Millers.
	Pakwach	Cotton Ginnery (formerly West Nile Cooperative Union)
	Zombo	• Kawa Com-coffee beans processing • Small scale Grain milling plants • Okoro Coffee Union Cooperative
Refugee Hosting District (RHD)	Adjumani	• East Madi Ginnery, • Adjumani Industrial Park (100 acres), • Feacal sludge treatment plant at Dzaipi, • Paridi stadium infrastructure at Adjumani Town council, • Adjumani central market, • Drinking water treatment facility for Adjumani at the Nile banks
	Koboko	None
	Madi-Okollo	Sesame and ginning cotton
	Obongi	• Obongi Ferry land infrastructure • Obongi DLG council halls and Offices & Resources center
	Terego	• Mainly agro-processing • Small scale industries • Maize milling
	Yumbe	• Lodonga fruit processing Plant, • Large community weekly markets at Okubani, Ariwa & Awinga

Generally, all the RAD and RHD did not have big industries and other commercial and public facilities were still on a very low scale.

3.1.7 Toilet Coverage

The minimum toilet coverage in the RAD and RHD was at 60% in Madi-Okollo and Packwach district, while the highest toilet coverage was 89% in Maracha district as illustrated in the table 3-7 below. However, Terego district didn't have any toilet coverage data.

Table 3-7: Latrine Coverage

Type of District	District	Toilet Coverage
Refugee Affected Districts (RAD)	Arua	82 % coverage in the District
	Maracha	89% coverage in host community
	Moyo	78.5% District coverage
	Nebbi	80% coverage in the District
	Pakwach	60% coverage in host community
	Zombo	70% coverage
Refugee Hosting District (RHD)	Adjumani	89% coverage in the District
	Koboko	80% for district
	Madi-Okollo	60% coverage in the district
	Obongi	78% coverage in the District
	Terego	No Data
	Yumbe	67% coverage hygiene and sanitation facilities

3.1.8 Dissemination Rate of Improved Cook Stoves

The RAD had an average coverage of the dissemination of cooking stoves between 50% - 70% indicating that at least half of the population had the improved stoves. While at 45% coverage for Moyo district, efforts are underway by GOU and Lutheran World Federation (LWF) to ensure its increased coverage as illustrated in the table 3-8 below.

Table 3-8: Dissemination Rate of Cooking Stoves in Refugee Affected Districts

Refugee Affected Districts	Dissemination rate of improved cook stoves
Arua	68.3%. coverage for improved cook stove in the rural community
Maracha	50% coverage for improved cook stove in the rural community
Moyo	Coverage for improved cook stoves is estimated at 45%. However, there is a GOU program for Distribution of energy saving 2,140 cook stoves. Refugees were also supplied with 4,500 stoves by Lutheran World Federation (LWF).
Nebbi	About 50% coverage for Training in improved cook stoves have been done in the rural community and town.
Pakwach	About 70% coverage for Training in improved cook stoves in the rural areas
Zombo	About 60% cook stove dissemination rate and use in the sub counties.

The RHD had a maximum coverage of the dissemination of cooking stoves at 70% in Adjumani district, followed by 55% in Obongi district and 50% in Madi-Okollo district. However, Koboko and Yumbe registered low coverage of 13% and 18% respectively. Several initiatives are being undertaken to improve the dissemination rates as illustrated in table 3-9 below.

There was no data for Terego District because the officials were unable to provide the necessary information due to the fact that it's a new district, created on 1st July, 2020 from Arua district, so data was not readily available at the time of the survey.

Table 3-9: Dissemination Rate of cooking Stoves in RHD

Refugee Hosting Districts	Dissemination rate of improved cook stoves
Adjumani	70% of refugee population were using improved cook stoves, 43% of host community were using improved cook stoves
Koboko	Several initiatives have been undertaken by MEMD, Civil Society Organizations and development partners in promoting and dissemination of HH and institutional stoves. However, the adoption rates were still low as exhibited by the national level at only 13%
Madi-Okollo	50% coverage for improved cook stove in shiripi especially in the settlement camp and energy saving stoves in Olepu
Obongi	The coverage for improved stoves was estimated at 55% for the district. There was an ongoing promotion and distribution of energy saving cooking stoves using firewood by Lutheran World Federation and DR DIP Projects.
Terego	No Data (was created on 1st July 2020 from Arua so data was not yet available)
Yumbe	The coverage for improved cook stoves in Yumbe was estimated at 18%. However, this shall improve because there was an ongoing Program for equipping institutions with improve cook stoves using firewood at Hospitals, Health centers and schools by the District Directorate of Natural Resources. Trainer Of Trainees were conducted in the community on construction of Lorena cook stove using firewood more efficiently.

The dissemination of the cooking stoves was generally low in the RHD compared to the RAD however some intervations were being undertaken by the government and donor agencies to ensure total coverage in all the districts.

3.1.9   Donor Support

At least every district in the RAD has donor support agency to support the livelihoods, agriculture, tree planting, and electrification as illustrated in the table 3-10 below. However only Maracha and Zombo had donor support in areas of improved cooking as illustrated in the table 3-10 below.

The most common donor support agency in the RAD are GIZ supporting improvement of the livelihoods through energy mainstreaming and solar installations to provide electricity to the communities.

Table 3-10: Table illustrating Donor Support agencies in RAD

Refugee Affected Districts	Donor support in terms of deforestation, land degradation, electrification, clean cooking, improvement of livelihood, and agriculture.
Arua	- GOU and NWSC– Tree seedlings distribution and tree planting - Dan Church Aid (DCA) – tree seedlings distribution and tree planting - GIZ-Energy mainstreaming in development plans and budgets - NAADS / OWC livelihoods and supply of agricultural inputs
Maracha	- FIEFOC 2 / GOU – Tree seedlings distribution and planting - Dan Church Aid (DCA) – seedlings distributing and planting - Maracha District Farmers association – agricultural inputs support to rural farmers - Ministry of Water – wetlands boundary demarcation and opening - GIZ-clean energy solutions and establishing institutional energy saving stoves - schools & hospitals) - NAADS / OWC livelihoods and supply of agricultural inputs
Moyo	- Partner Project Agreement – between District and UNHCR since 2017 to 2020 supporting environmental conservation & protection, strengthening coordination and partnerships - National Forestry Authority – raising and distributing tree seedlings to farmers - LWF supporting in areas of energy and environmental protection - Fin Church AID, SAVE the children and Moyo District Farmers Association – livelihood support and agriculture - Other direct support from UNHCR to Moyo District Local Government for strengthening coordination and accountability
Nebbi	- AFARD– Tree seedlings distribution and planting - Danish Refugee Council (DRC) – seedlings distribution and planting - JEEP – Training communities in molding brickets - GIZ-Energy mainstreaming in development plans and budgets
Pakwach	- Send a cow– promote stability in homes (General wellbeing) - NWSC – seedlings distribution and planting in Schools - UCF-Uganda Conservation foundation Established Nursery at Polytech and giving them out freely to the community - GIZ-Rehabilitating and installing solar panels in Health facilities - FIEFOC 2-Farm Income Enhancement and Forest conservation
Zombo	- Northern Uganda Resilience Initiative (NURI) – Tree seedlings distribution and planting in Atyaka - Dan Church Aid (DCA) – tree seedlings distribution and tree planting - AFARD– agricultural inputs support to rural farmers - GIZ-clean energy Support & TOTs in making cook stoves - CEFORD - Supporting care givers with Agriculture in puts.

At least every district in the RHD had donor to support the livelihoods, agriculture, tree planting, and electrification. However only Adjumani and Yumbe had donor support in areas of improved cooking as illustrated in the table 3-11 below.

The most common donor support agency in the RHD was Northern Uganda Resilience Initiative (NURI) supporting the local livelihoods in all the districts apart from Terego and Yumbe districts.

Table 3-11: Table showing Donor Support Agencies in Refugee Hosting Districts

Refugee Hosting Districts	Donor support in terms of deforestation, land degradation, electrification, clean cooking, improvement of livelihood, and agriculture.
Adjumani	• DR DIP (GOU & World Bank Funded) 3-year project on integrated natural resources management & sustainable energy solutions for HHs and institutions (institutional energy saving cook stoves), soil & water preservation, small scale irrigation. • Project for restoration of northern Uganda –(PRELNOR) – GOU/IFAD – promoting community based natural resources management including climate smart agriculture practices, climate smart roads infrastructure, apiary, tree planting, water harvesting, installing 2 weather stations. • LWF, Save the Children planting trees in refugee hosting areas 4. • GIZ promoting clean cooking using solar energy & Ministry of Energy– supporting mainstreaming of energy in the District Development Plan for 2019 -2020. • NORAD – extending electricity power lines to refugee settlements and all sub counties. • RICW/WN with support from WWF– providing HH solar panels and energy saving cook stoves. • Northern Uganda Resilience Initiative (NURI) – building valley dams and developing the micro catchment areas & supporting the food forest concept within the local community
Koboko	• AFARD-support to farmers with agri-inputs • HADS- support to framers with agri-inputs • Northern Uganda Resilience Initiative (NURI)-supporting framers with agri-inputs • UNHCR-resettlement support to refugees • Danish Refugee council (DRC)- tree planting and agricultural support • War Child - child protection initiatives • NAADS/OWC-supporting farmers with seeds and farm implements
Madi-Okollo	• DINU – Development initiative for Northern Uganda (Promoting growing of oil crops-Soya, sesame, sun flower and creating partnership with Mukwano for ready market. • RICE – WN promoting Bricket making and planting trees. • Agriculture cluster Development project– promotion of agricultural products especially oil crops • Northern Uganda Resilience Initiative (NURI)-Promotion of regeneration of trees / forests. • Dan Church Aid (DCA) -Implementing partners for UNHCR
Obongi	• Distribution of tree seedlings and tree planting supported by Lutheran World Federation (LWF) • Northern Uganda Resilience Initiative (NURI) – support to local community livelihoods projects • Danish Refugee Council and Save the children in Uganda – implementing and cash for work scheme, tree planting drives and extending credit to individuals with business plans.

Refugee Hosting Districts	Donor support in terms of deforestation, land degradation, electrification, clean cooking, improvement of livelihood, and agriculture.
	• Moyo District Farmers Association (MODIFA) – tree planting interventions and supporting agriculture by providing inputs like seeds and post-harvest handling tools • National Forest Authority – distribution of high values tree seedlings to the local host community and refugees.
Terego	• GIZ - Livelihood support • DRC -coordination of refugee settlement support interventions • CEFORD - improvement of food and nutrition
Yumbe	• Development Response to the Displaced Project (DR DIP) - Training locals on sustainable environmental management 2019 to 2020 • Dan Church Aid (DCA) promoting sustainable energy solutions • Yumbe DLG in collaboration with Implementing partners – Trainer of Trainees in making Lorena stoves (energy saving stoves using firewood) & distribution of 10,000 energy saving cook stoves for the local host community. • IRC and ADRA – providing clean & safe water by supporting water supply systems. • UNHCR – support to refugees with improved cooking stoves using firewood.

Generally, donor support was available in all the RHD and RAD mainly in terms of agriculture and tree planting. The rest of the interventions were in areas of management of natural resources, rural electrification, construction of water sources such as building of valley dams, support for the communities to use improved stoves and child protection services.

3.1.10 Size of Agricultural Land Allocated to each HH and others in Settlements

The HHs in Arua District were allocated 60m^2 of land and 90m^2 for those in Adjumani district as shown in the table 3-12 below.

Table 3-12: Size of Agricultural Land Allocated

District	Size of Agricultural Land allocated to each HH and others in the settlements
Arua	30m by 20m
Ajumani	30m by 30m

3.2   Socio-Economical Household Survey Findings Annex 2

This section of the report presents general information about HHs, use and dependence of forests, production and livelihoods, eneragy and water sources. Annex 2 under Appendix II used to collect the information presented below.

3.2.1   Demographic Information of the Households
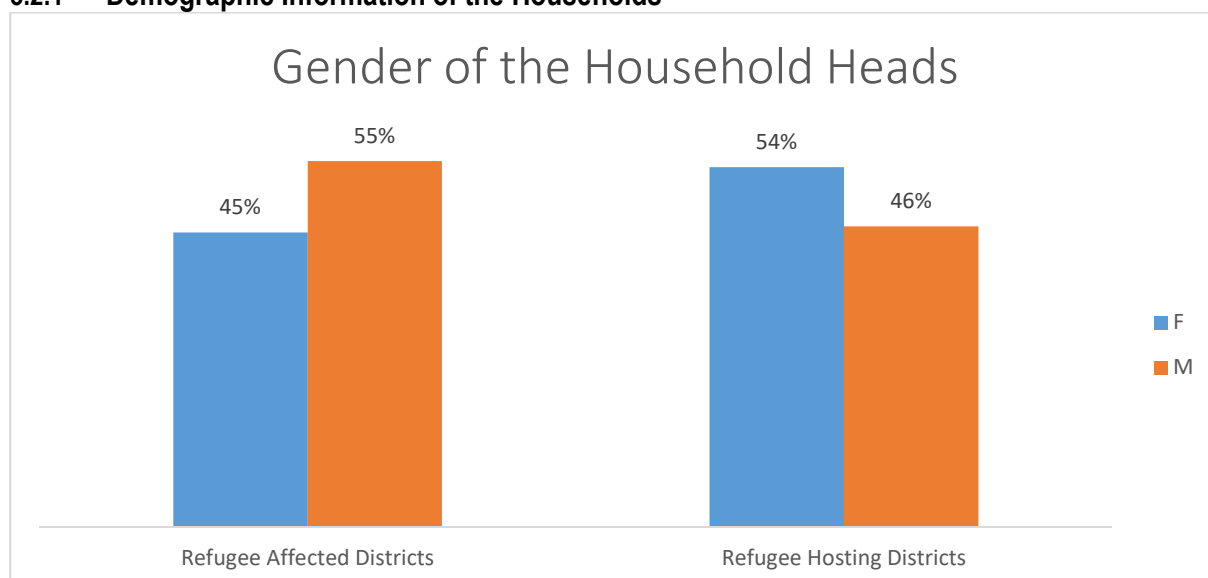
Figure 3-4: Gender of the HHs

Figure 3-4 reveals that 55% of the HHs in RAD were male headed compared to 54% female headed HHs in RHD. The female headed HHs in RAD were 45% compared to 46% male headed HHs in RHD.
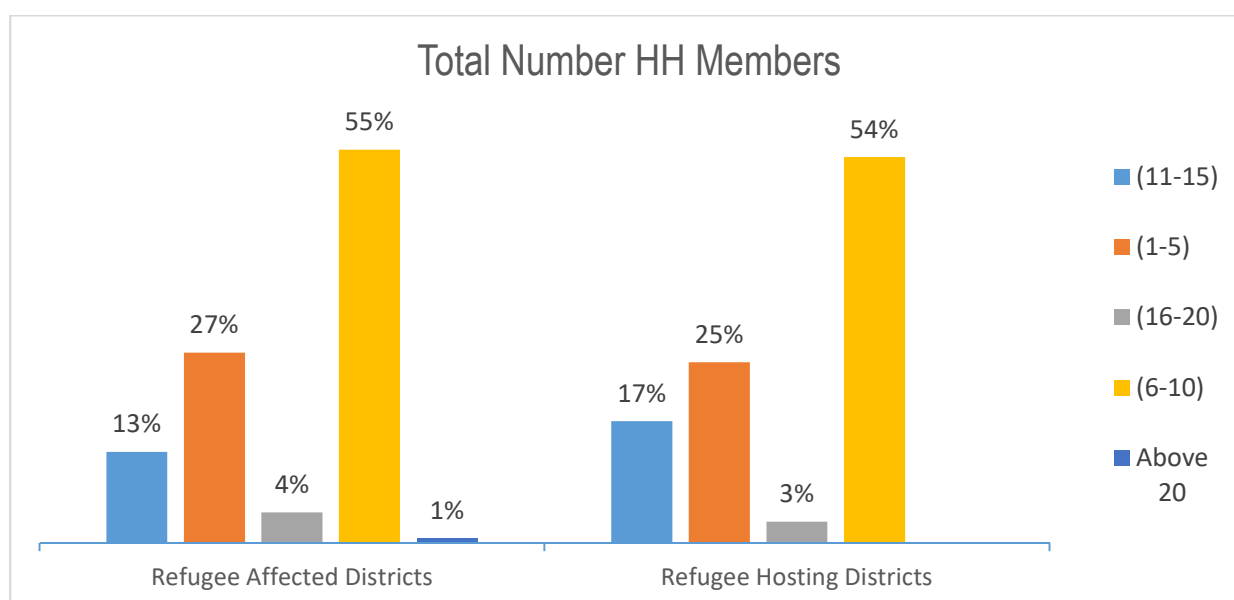
Figure 3-5: Total Number HH Members
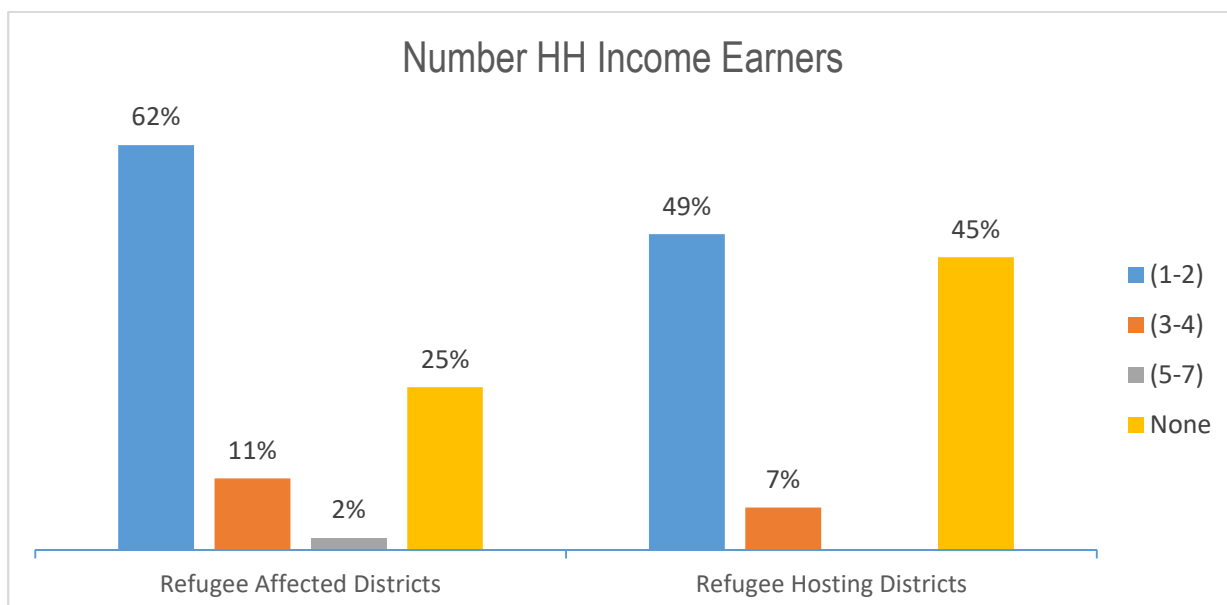
Figure 3-6: Number HH Income Earners

The study indicates that 62% of the respodents in the RAD have 1-2 members of the HHs earning income, 11% have 3-4 members and 25% have none. In the RHD, 49% have 1-2 members of the HHs earning income, 7% have 3-4 members and 45% have none.
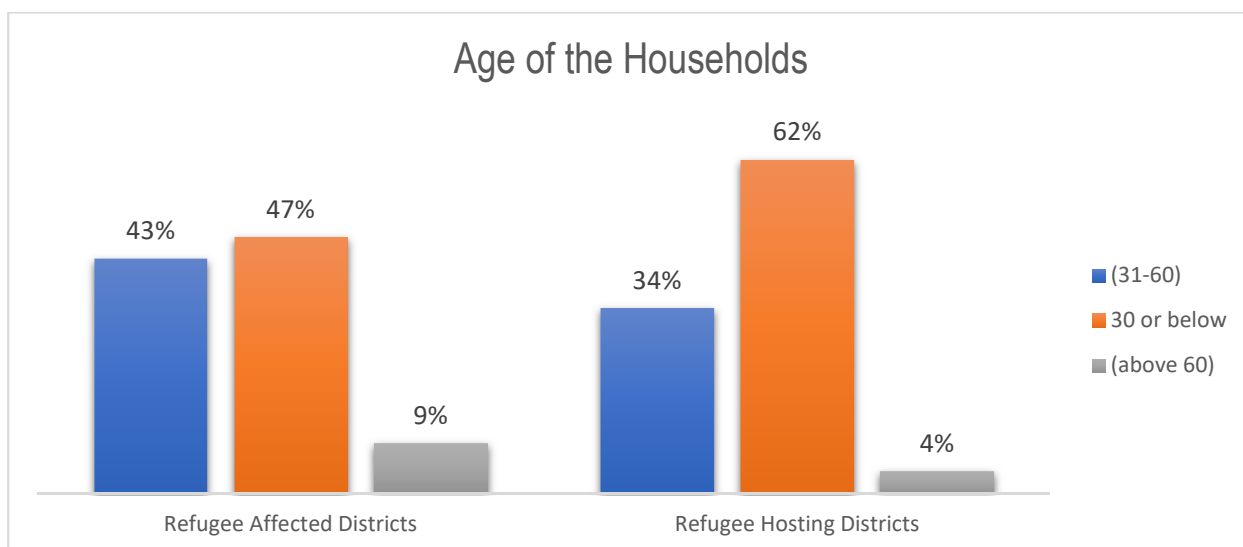
Figure 3-7: Age of the HHs

Figure 3-7 shows the majority of the HHs were below the age of 30years from both RAD and RHD constituting 47% and 62% respectively, followed by those who were between 31-60years from both RAD (43%) and RHD (34%) and only 9% from RAD and 4% from RHD were above 60 years of age. The results reveal that they were more young people involved in the survey.
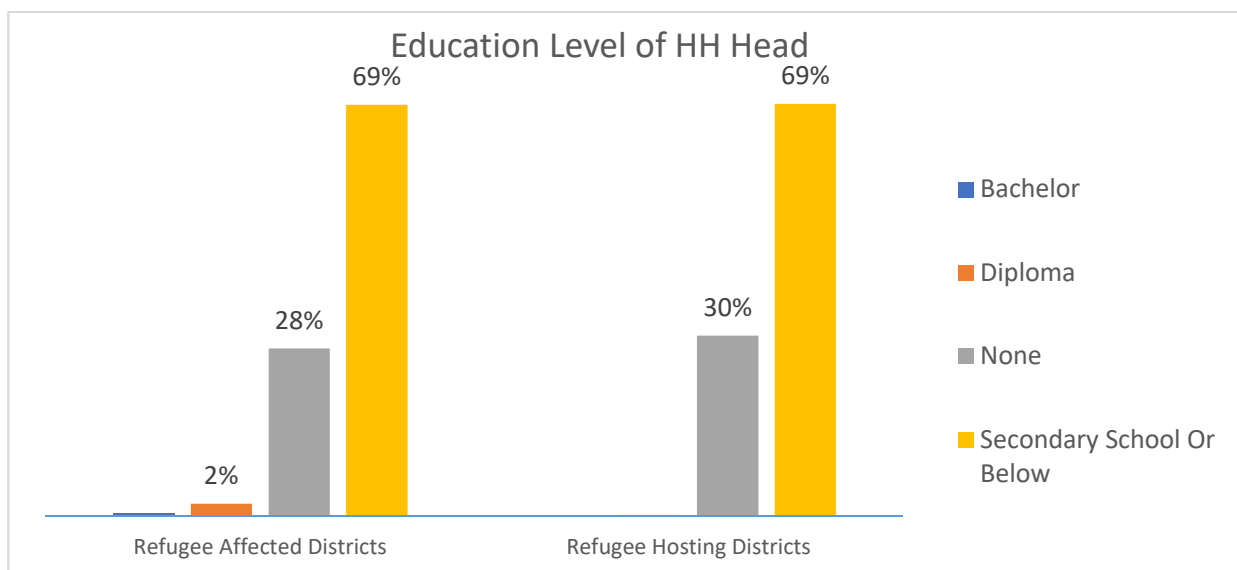
Figure 3-8: Education Level of HHs

Figure 3-8 indicates that majority of the HHs Heads in both RAD (69%) and RHD (69%) had attained secondary or below level of education. Followed by the HHs who didn't attend school and constituted 28% and 30% in RAD and RHD respectively. The least percentage of respondents in RAD attained Bachelors whereas in RHD attained diploma. This implies that majority of the HHs who were involved in the study were educated.
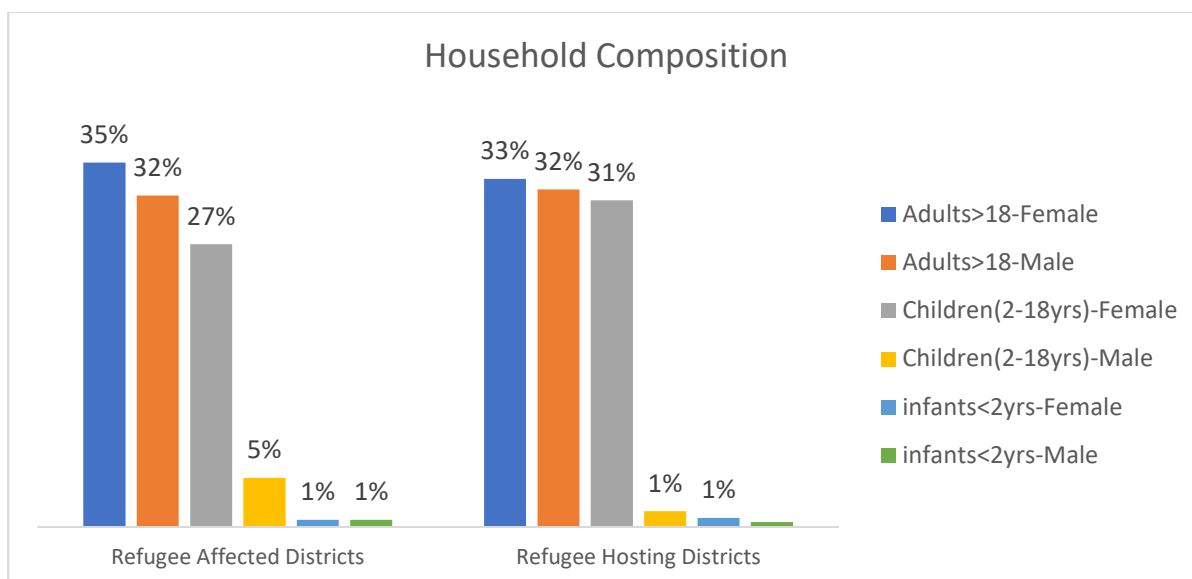
Figure 3-9: HH Composition

Figure 3-9 shows the composition in the HHs and the findings reveal that most HHs in RAD and RHD had more female adults constituting 35% and 33% respectively, followed by male adults at RAD (32%) and RHD (32%). The least category for both RAD and RHD were infants.

3.2.2   General Household Information

3.2.2.1   Material of Houses

House Wall Material

The study reveals that the most used house wall material by the RAD and RHD were different. The majority of the HHs (72%) from RHD majorly had walls made out of adobe bricks whereas majority (48%) from RAD had walls made out of baked bricks. The second most used wall material by the HHs from RHD was baked bricks with 21% compared to 40% of the RAD HHs who had walls made out of adobe bricks as indicated in the Figure 3-10 below.
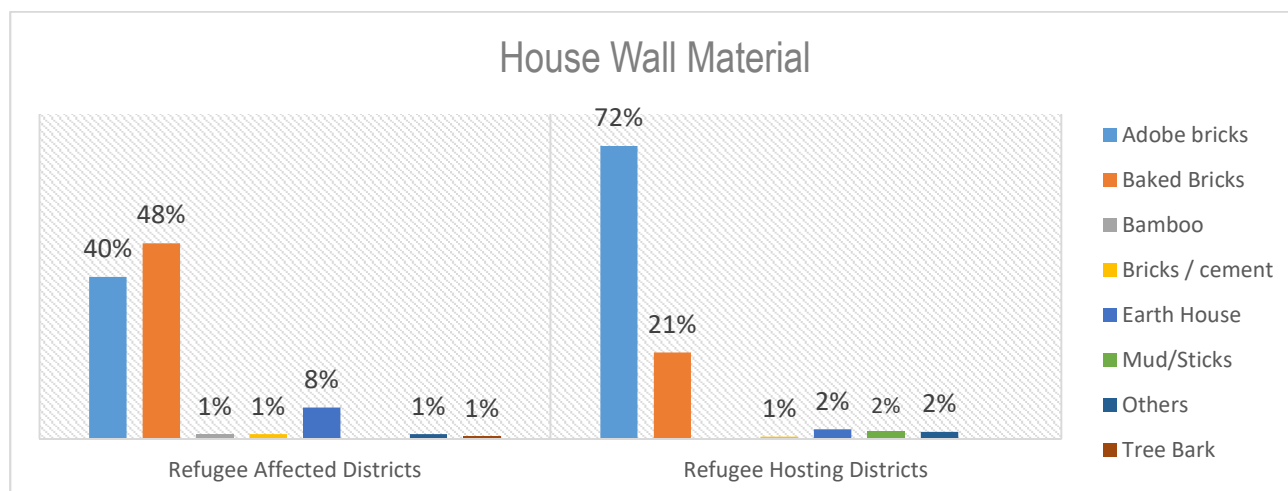
Figure 3-10: House wall Material

House Roof Material
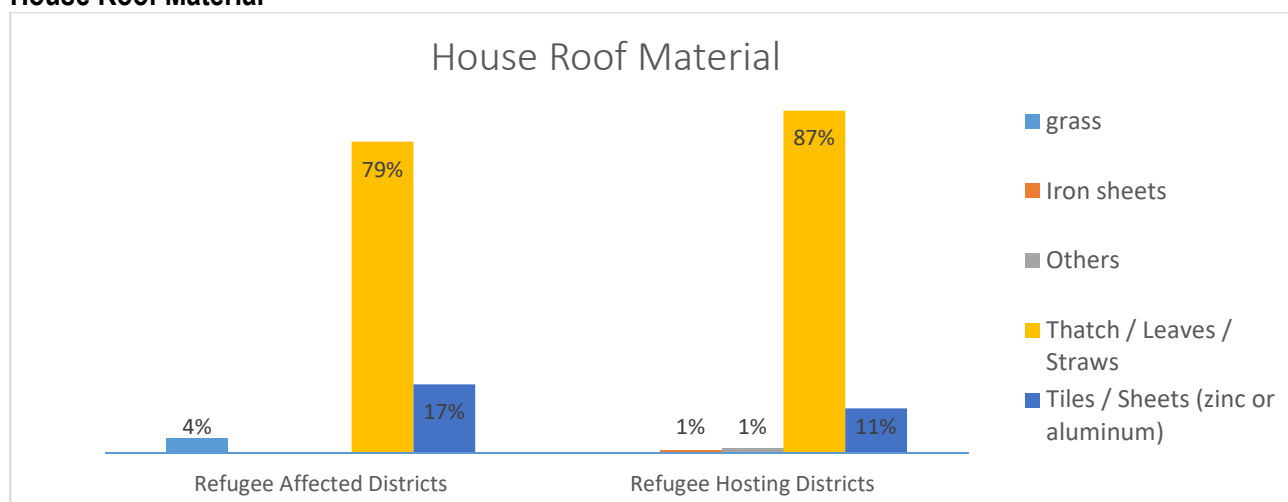
Figure 3-11: House Roof Material

Figure 3-11 above indicates that majority of the HHs in both RAD and RHD had houses with roofs made of thatch/leaves/straws constituting 79% and 87% respectively.
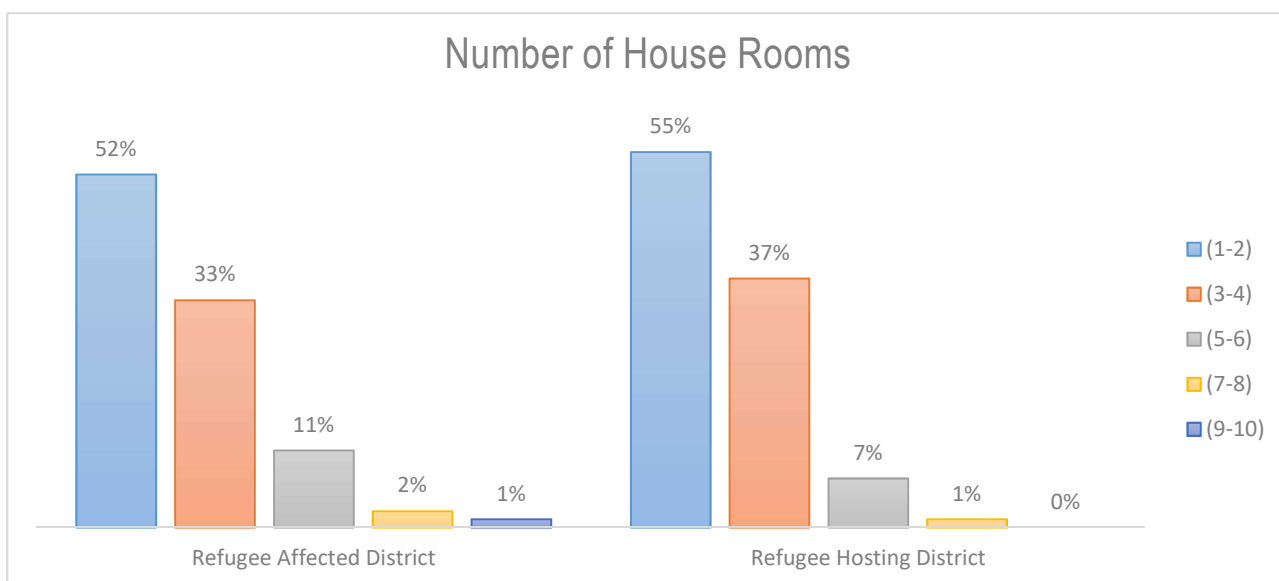
Figure 3-12: House Rooms

Figure 3-12 above shows that, majority of the respondents in both RAD and RHD had between 1-2 rooms and consisted of 52% and 55% respectively. The results also show that HHs with 3-4 rooms constituted the second highest number of respondents for both RAD and RHD with 33% and 37% respectively. The HHs that constituted the least population of respondents for RAD where those who had between 9-10 rooms with 1% respondents whereas RHD had those with 7-8 rooms constituting the least with 1%.

Kitchen Wall Material

The study reveals that adobe bricks were the most used kitchen wall material by HHs from both RAD and RHD. The kitchen walls with adobe bricks from RAD constituted 44% whereas from RHD constituted 70%. The study also reveals that second most used kitchen wall materials was baked bricks with 33% for RAD and whereas 13% of RHD.
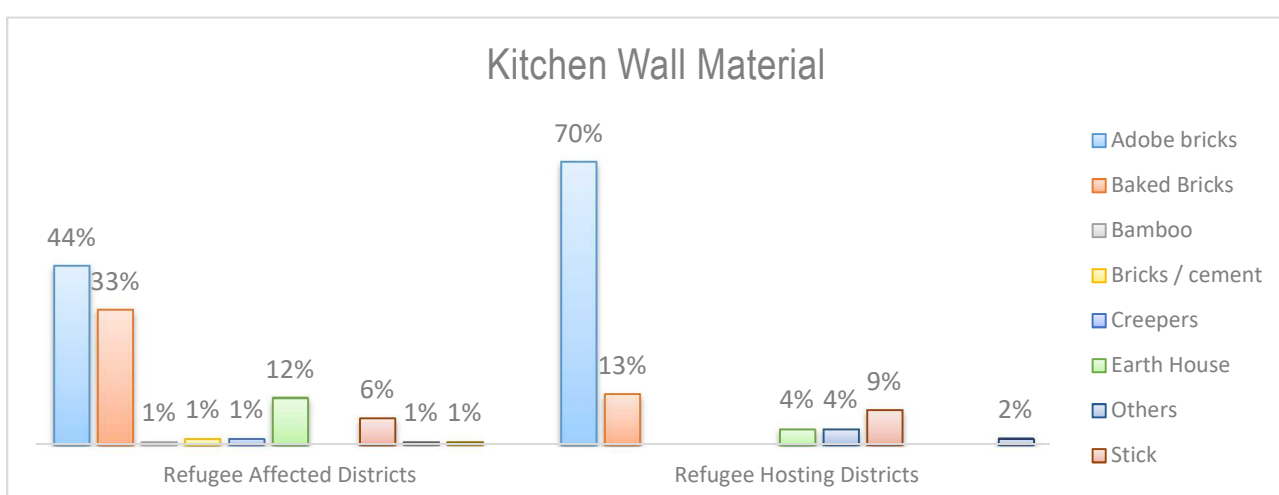
Figure 3-13: Kitchen Wall Material

Kitchen Roof Material

The Figure 3-14 below indicates that both RAD and RHD HHs mostly used thatch/leaves/straws for kitchen roofs although RAD had more (91%) thatched / leaves / straw kitchen roofs compared to RHD who had only 70%. The number of HHs without kitchens for both RAD and RHD is 11% and 26% respectively. The least kitchen roofs in RHD had creepers constituting 1% whereas their counterparts never had any kitchen roofs containing creepers.
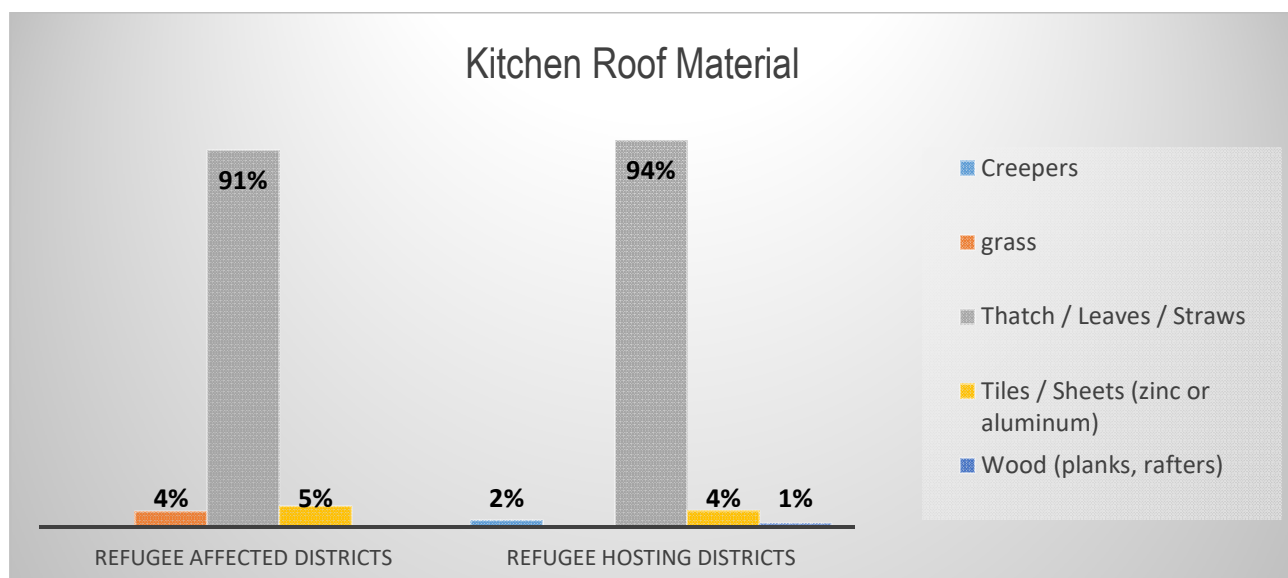
Figure 3-14: Kitchen Roof Material

Latrine Wall Material
The study also revealed that, majority of the HHs in RAD and RHD have latrines with walls built using adobe bricks. The latrines with adobe walls are 48% and 63% for HHs in RAD and RHD respectively. Within the RAD baked bricks constituted of 33% whereas in RHD they were at 16% as indicated in Figure 3-15 below.
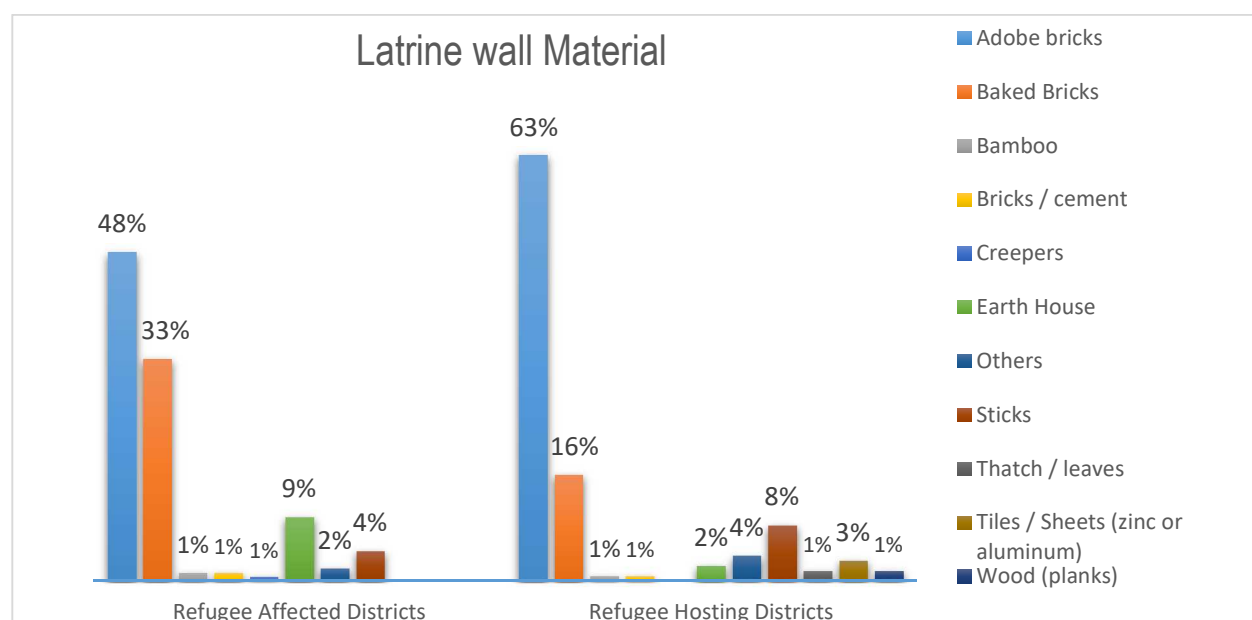
Figure 3-15: Latrine Wall Material

Latrine Roof Material

The Figure 3-16 below indicates that majority of the latrine roofs in RAD and RHD were made of thatch/leaves/straws. The latrines in RAD had more (87%) thatch/ leaves/straws roofs compared to RHD with 74%. The second most used material to construct the roofs in the two categories were different, those in RAD had grass that constituted 6% whereas RHD had tiles/sheets with 18%. The least materials used in RHD was tapoline and grass constituting 1% whereas the least used material in RAD was others that constituted 3%.
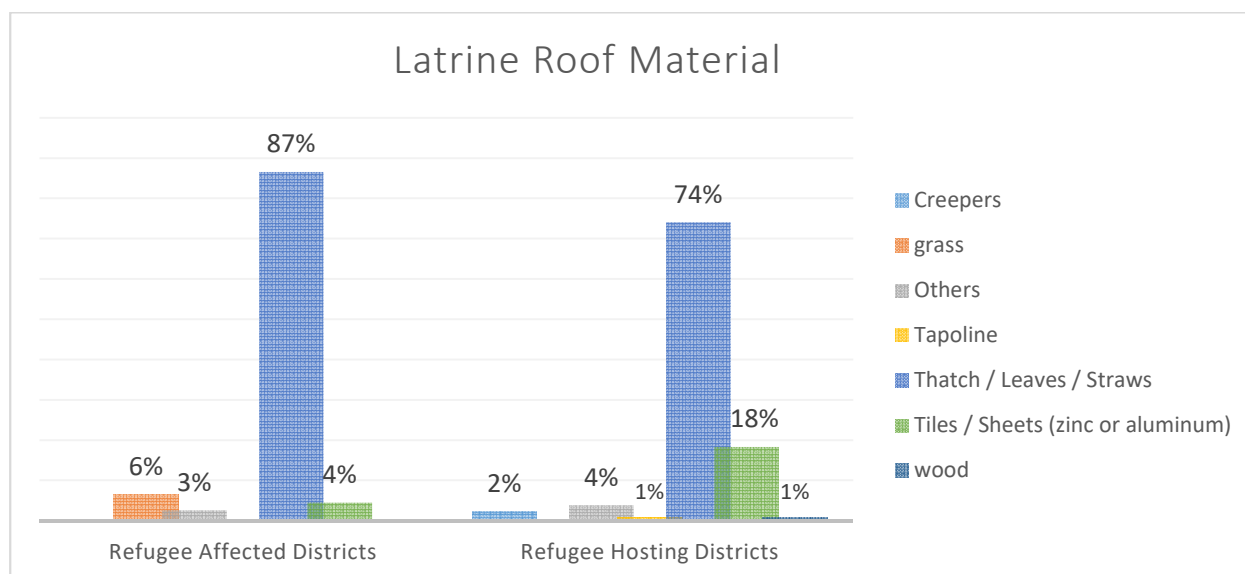
Figure 3-16: Latrine Roof Material
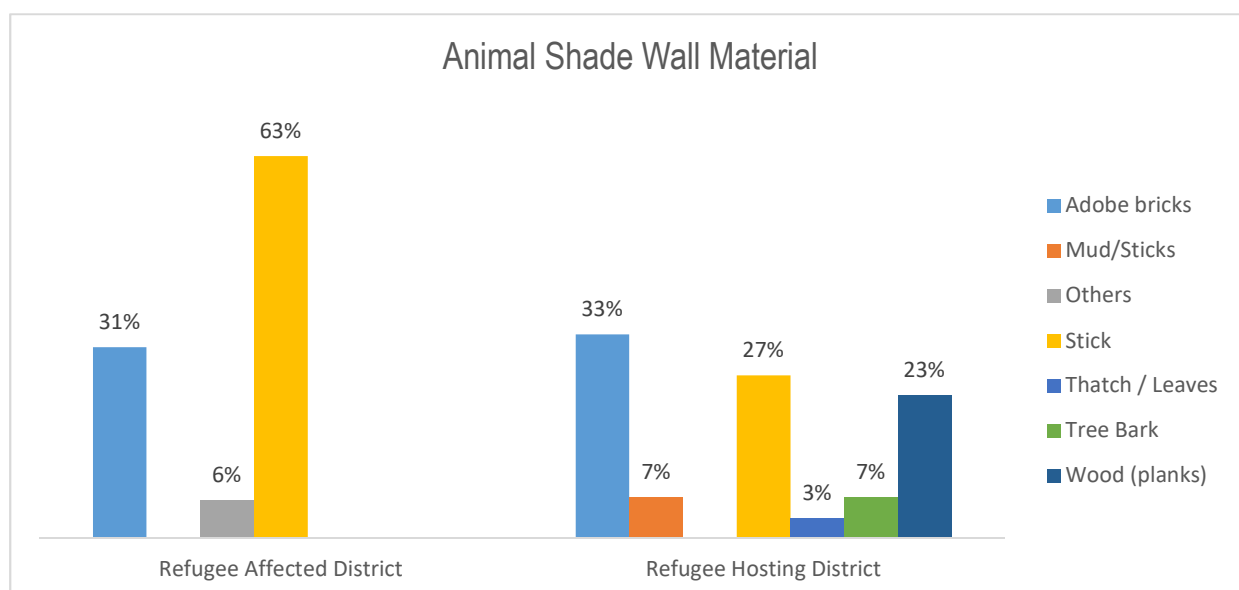
Figure 3-17: Animal Shade Wall Material

Figure 3-17 shows that the majority of the HHs (63%) from RAD had their animal walls made out of sticks whereas majority (33%) from RHD had their animal walls made out of adobe bricks. The second highest respondents (31%) from RAD used adobe bricks whereas 27% from RHD used sticks and the least number of HHs (6%) from RAD used other wall material for their animal walls whereas 3% from RHD used thatch/leaves.
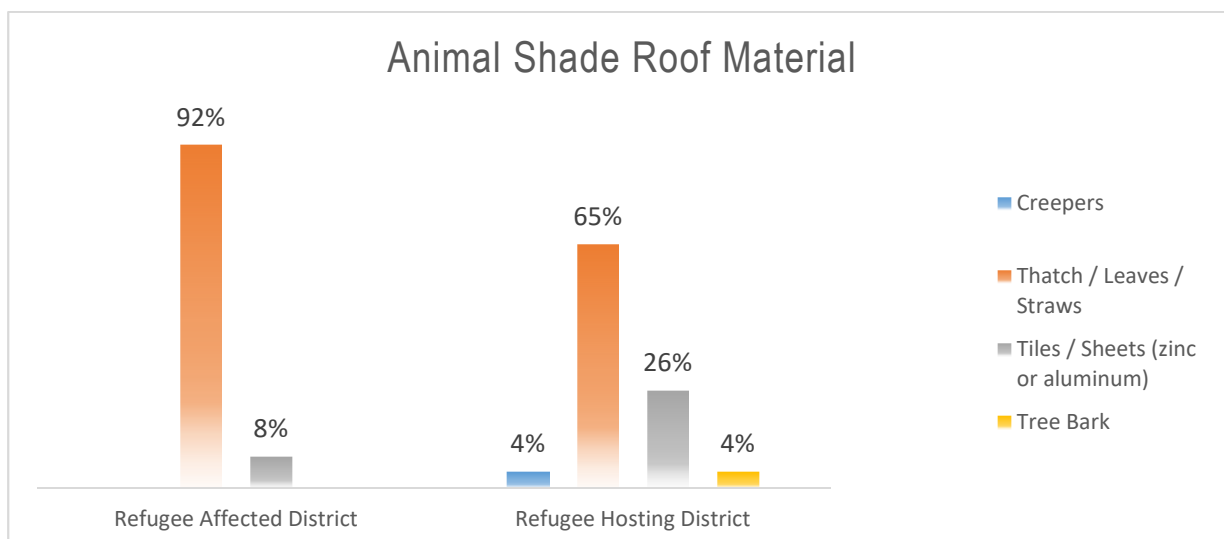
Figure 3-18: Animal Shade Roof Material

Figure 3-18 shows that majority of the HHs from both RAD and RHD used thatch/leaves/straws to make the roofs of animal shade constituting 92% and 65% respectively, followed by HHs who used tiles/sheets from both RAD and RHD with 8% and 26% respectively. The results further show that the least number of HHs from RHD used tree bark and creepers constituting 4% respectively where their counterparts from RAD didn't use of the two materials.
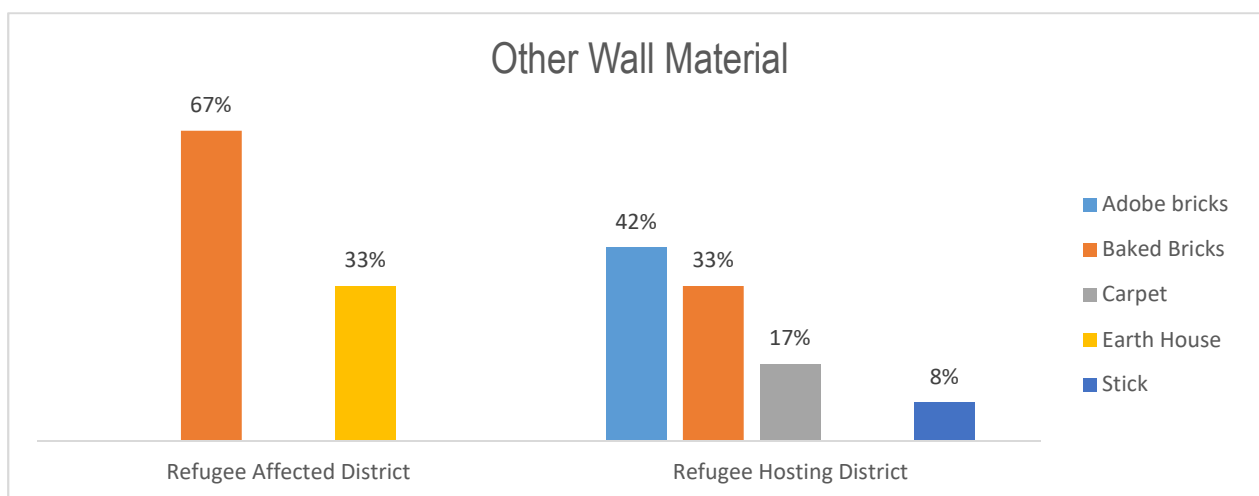
Figure 3-19: Other Wall Material

Figure 3-19 reveals that the highest number of the HHs (67%) from RAD used baked bricks to make the walls of other structures whereas their counterparts mostly used adobe bricks to make the walls of others structures constituting 42% of the HHs. The second highest number of HHs (33%) from RHD used baked bricks whereas the second highest and least number of HHs (33%) from RAD used earth house material and the least (8%) from RHD used sticks to make the walls.
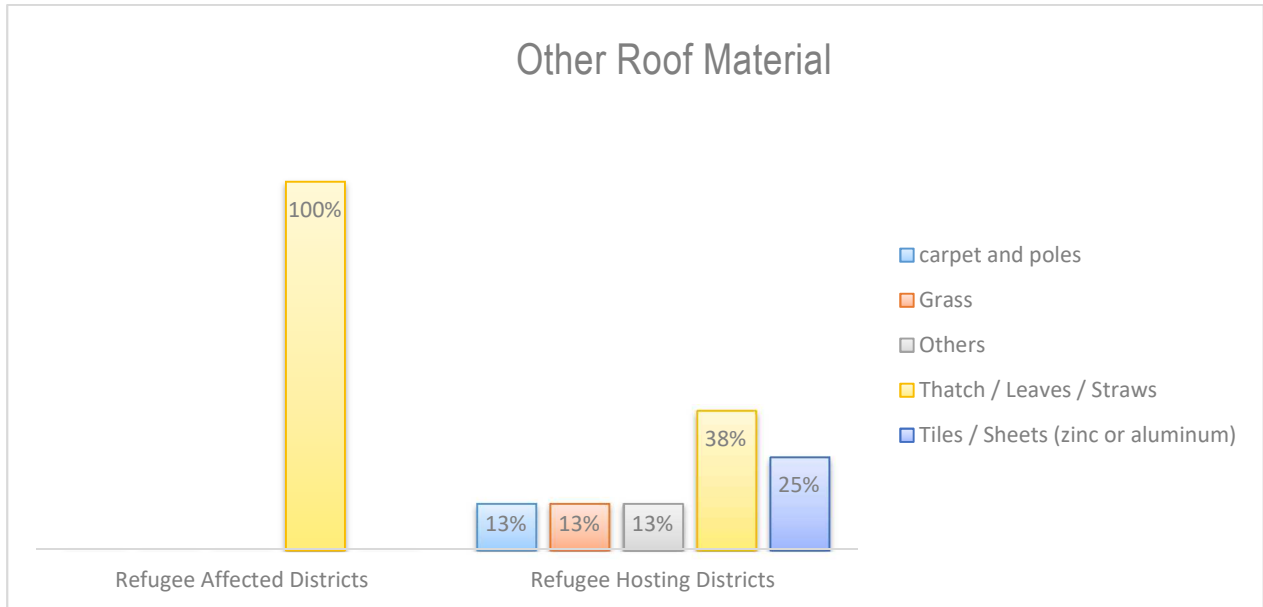
Figure 3-20: Other Roof Material

Figure 3-20 shows that out of the HHs that had other structures with roofs, all those from RAD used thatches/leaves/straws to make the roofs whereas the highest number of HHs (38%) from RHD used thatch/leaves/straws, followed 25% who used tiles/sheets and only 13% used carpet poles, grass and others respectively.

Fence Wall Material

The study reveals that most of the HHs in both RAD and RHD never had fences. The HHs from RAD completely (100%) never had fences compared to RHD where 93% of the HHs who never had. The study further reveals that only 7% of the HHs had fences in RHD and they all used stick material to construct the walls as indicated in the Figure 3-21 below.
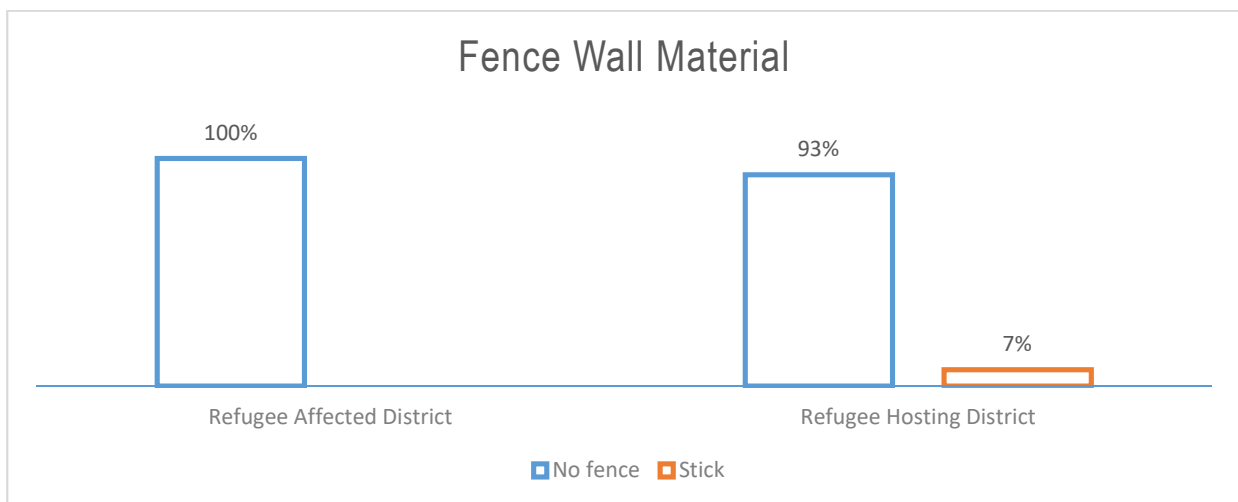
Figure 3-21: Fence Wall Material

Fence Roof Material
The study reveals that out of all the HHs who had fences, they all had no roofs.

3.2.2.2   Information on Composition of the Family
Members Born in the Area
The survey revealed 92% of the respondents in the RAD were born within those districts as compared to only 53% in the RHD as indicated in the Figure 3-22 below.
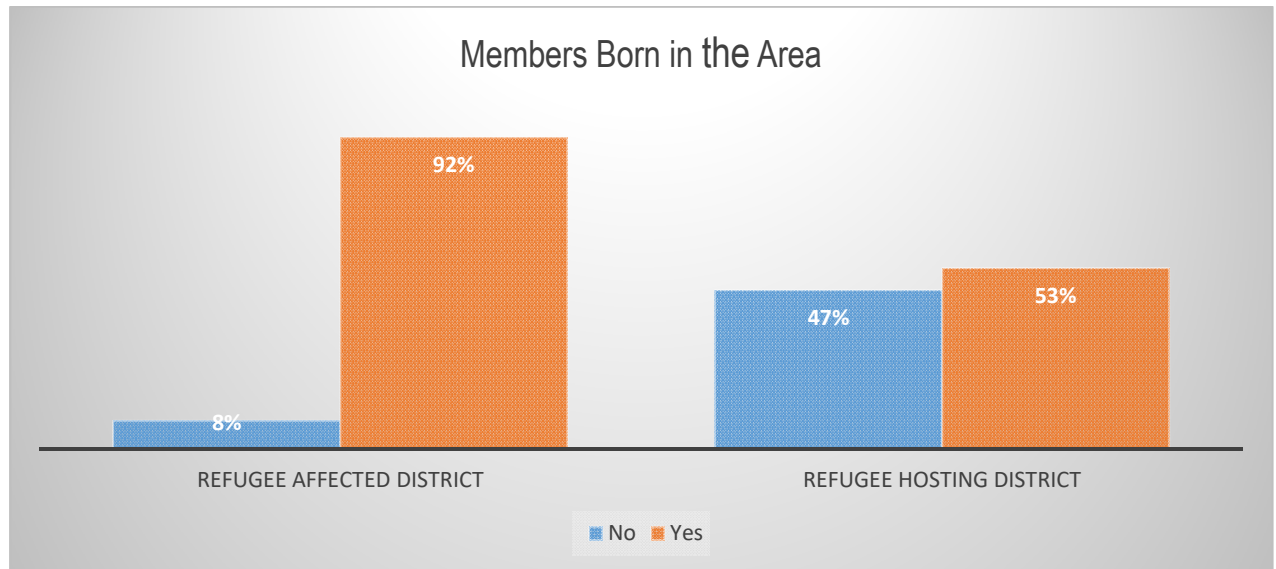
Figure 3-22: Born in the Area
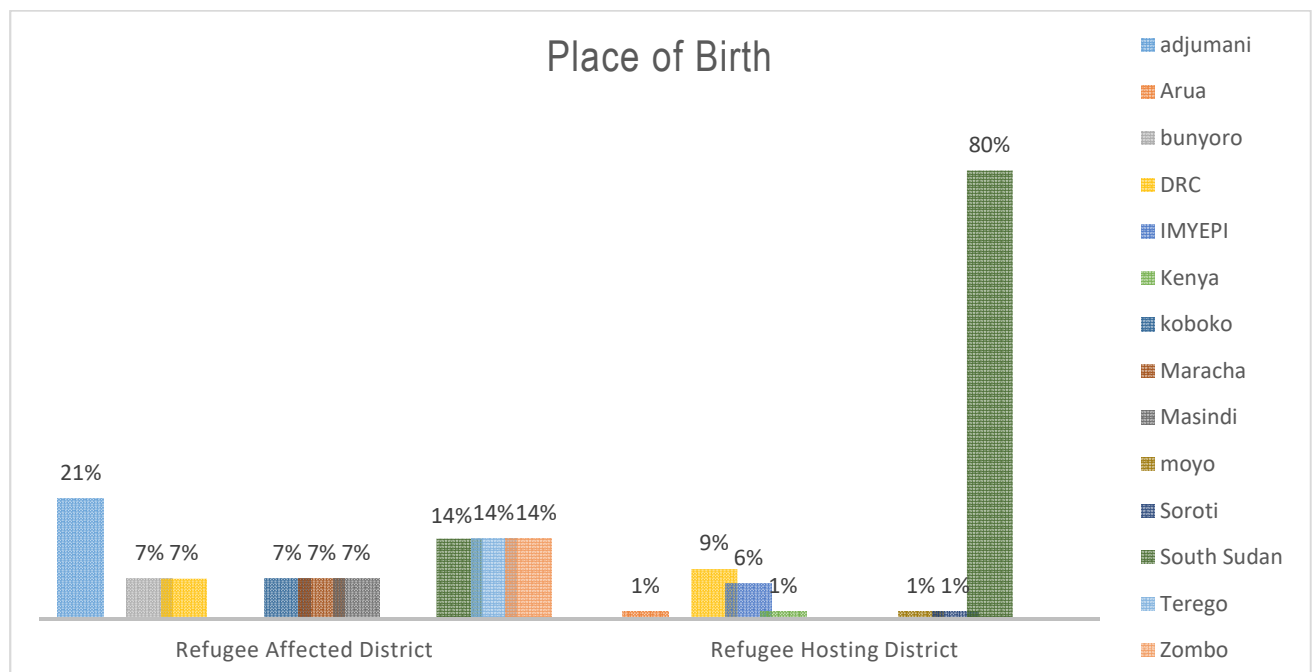
Figure 3-23: Place of Birth

Figure 3-23 above shows that majority of the HHs (80%) from RHD were from South Sudan.

Migration Period

Majority of the migrants in both RAD (60%) and RHD (95%) migrated between 2001 and 2020 as indicated 3-22 below. However, a significant 27% of the respondents in RAD migrated between 1981 to 2000.
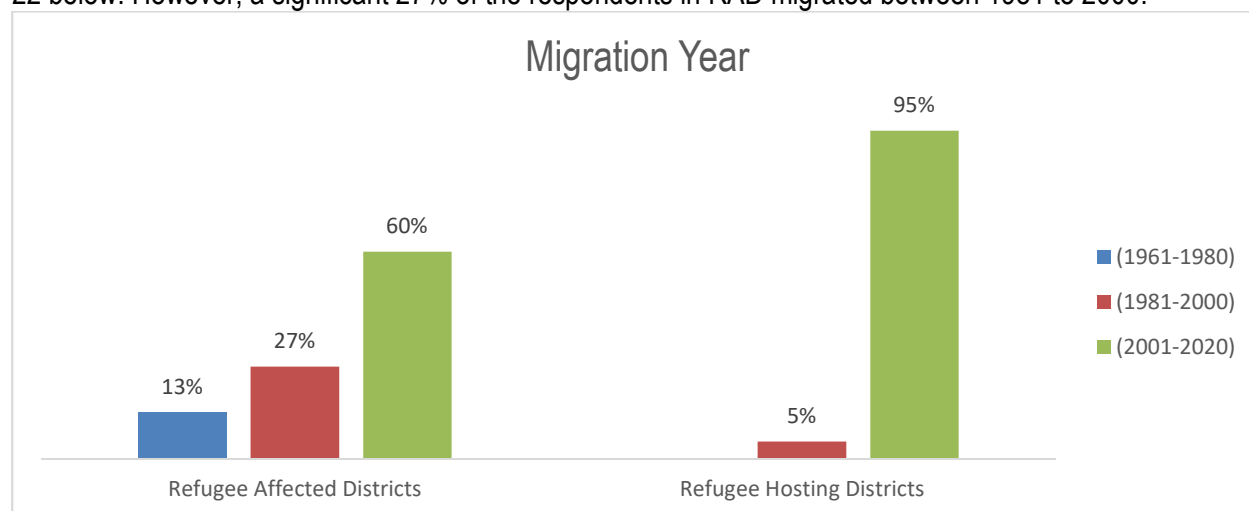
Figure 3-24: Migration Year
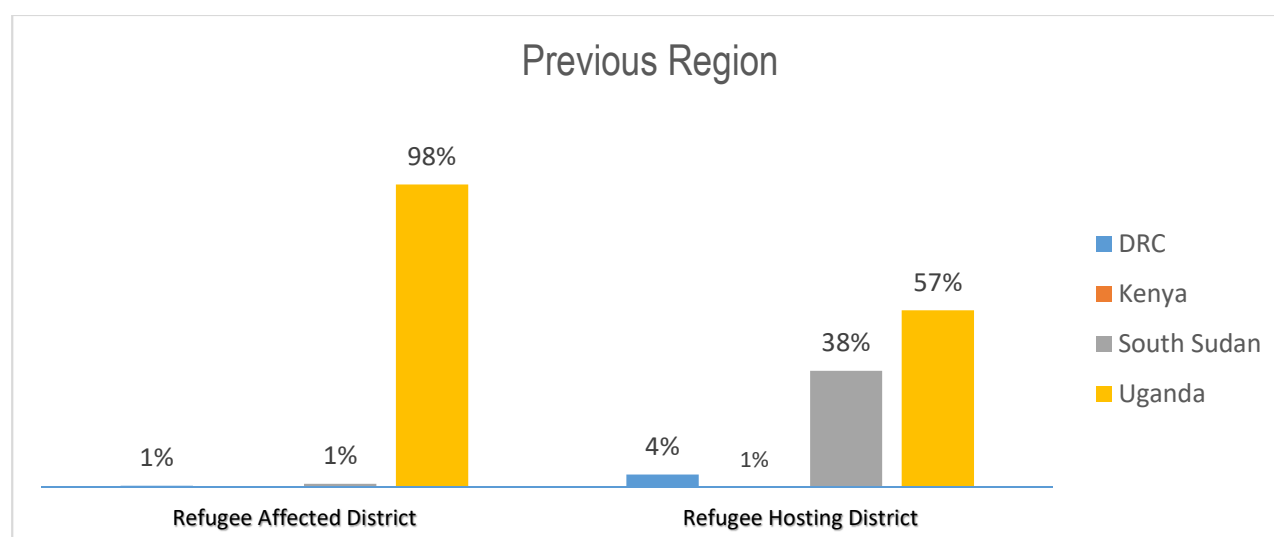
Figure 3-25: Previous Region

Figure 3-25 above shows that, majority of HHs from both RAD (98%) migrated from Uganda while only 57% of the RHD were from Uganda. A significant number of HHs from RHD (38%) were from South Sudan.

Reasons for Migration

The Figure 3-26 reveals that majority 60% of the respondents from RAD migrated to the area of settlement because of marriage whereas RHD 89% were refugees in the area.
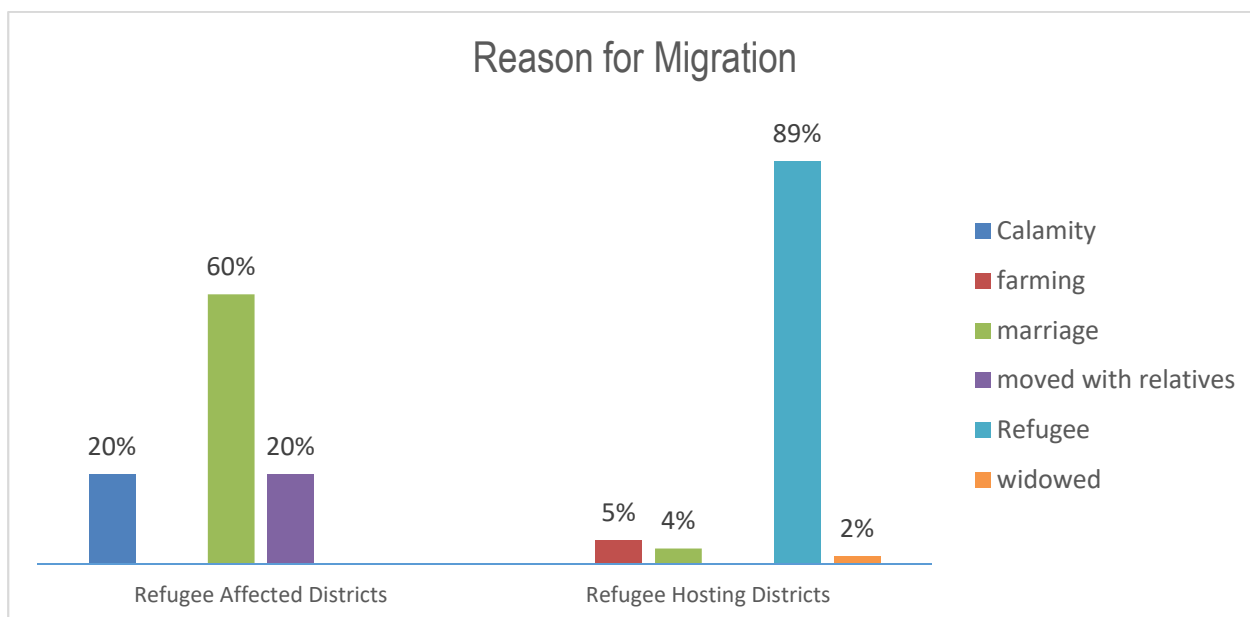
Figure 3-26: Reason for Migration

Languages Spoken

The Survey data shows indicates that the most spoken languages among HHs from RAD and RHD were different. The language that was mostly spoken among the RAD was Alur & English constituting 49% of the HHs whereas the most spoken language among the RHD was Madi with 22% of the HHs. The second most spoken language among the RAD was Lugbara majority (4%) of HHs in RAD speak Alur & English followed by Lugbara with 33% of the HHs compared to 19% of RHD that spoke Alur & English.

The results further reveal that kakwa was the least spoken language among the RAD and it constituted 1% of the HHs compared to 2% who spoke Acholi language among the RHD as indicated in Figure 3-27 below.
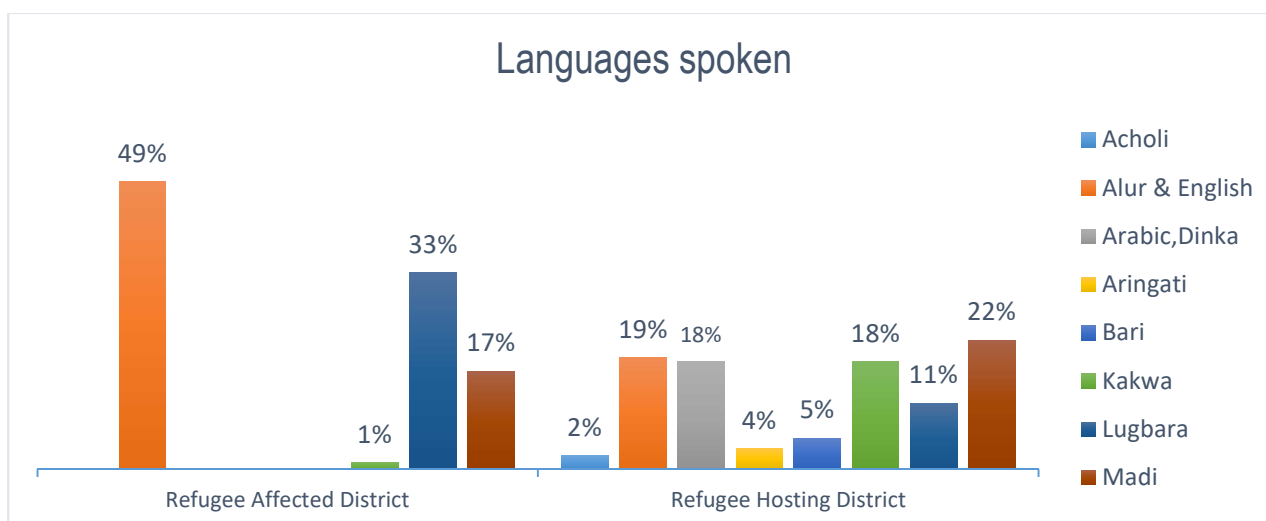
Figure 3-27: Languages Spoken

Ethnicity

The survey findings indicate majority of the HHs from RAD were Alur with 54% of the HHs while RHD had Madi with 23% of the HHs. The second leading ethic group in RAD was Lugbara with 36% of the respondents compared to RHD that had 21% consisting of Alur group. the results further reveal that the Langu consisted

the least group in RAD with 1% whereas the Luo and Acholi consisted the least HHs with 2% of the respondents respectively as indicated in Figure 3-28 below.
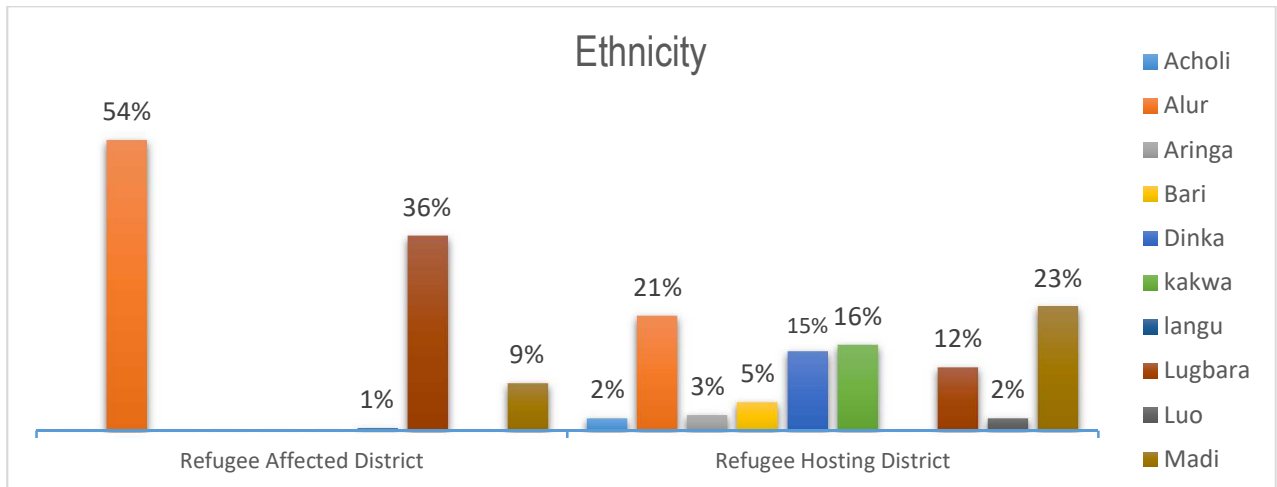
Figure 3-28: ethinicity

Current Status of HHs

Figure 3-29 below shows that 99% of the respondents in the RAD were hosts, while 59% were identified in the RHD. The least number of HHs in RAD were returnees with 1% whereas the least HHs in RHD were refugees with 41% of the respondents.
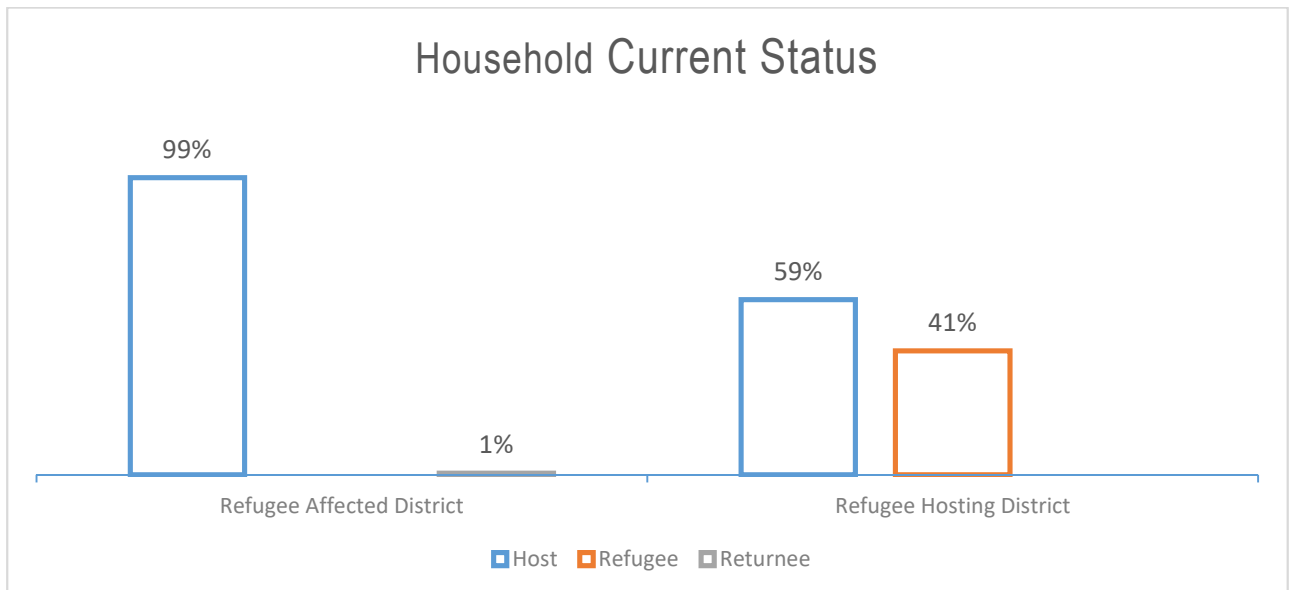
Figure 3-29: HH Current Status

Job Before Settlement

The results indicate that majority of the respondents from both RAD and RHD were farmers before settlement. The results show that, there were more farmers 53% in RHD before settlement compared to 48% in RAD. The HHs that were unemployed followed for both RAD and RHD constituting 45% and 34% respectively as indicated in the Figure 3-30 below.
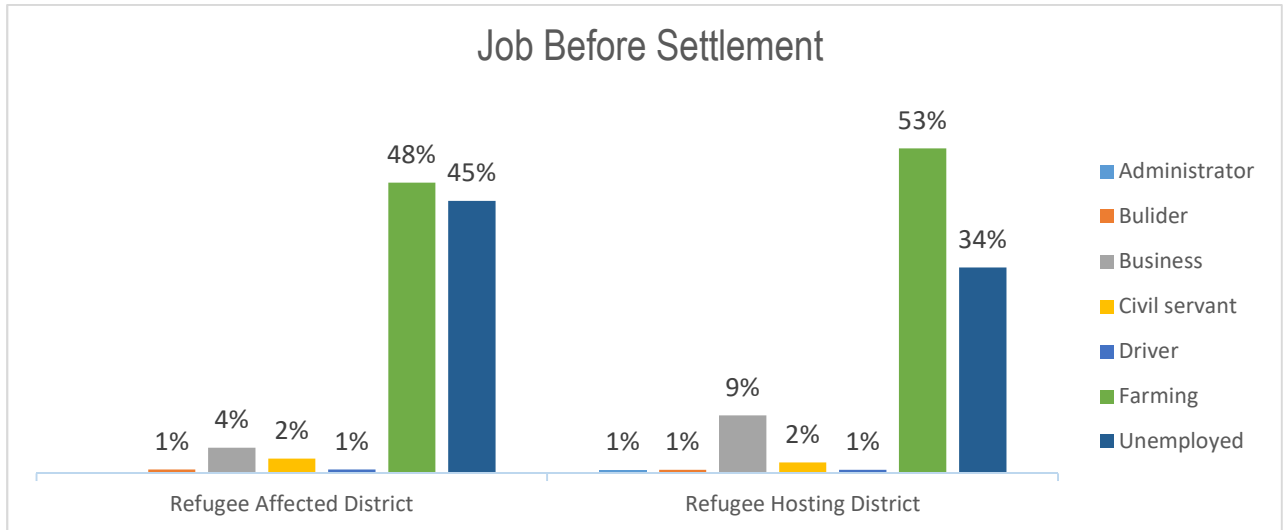
Figure 3-30: Job before Settlement

Main Working Place Before Settlement

The survey results indicate majority of the HHs from both RAD (52%) and RHD (64%) were employed inside settlements. The unemployed HHs were the second highest for both RAD and RHD constituting 45% and 32% respectively as indicated in Figure 3-31 below.
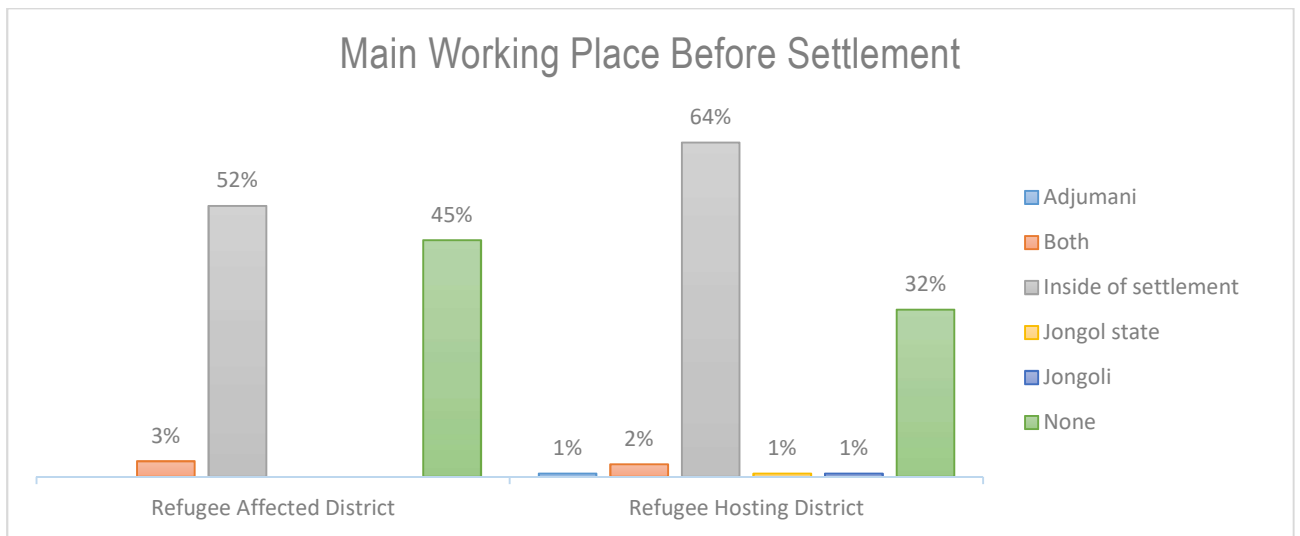
Figure 3-31: Main Working Place Before Settlement
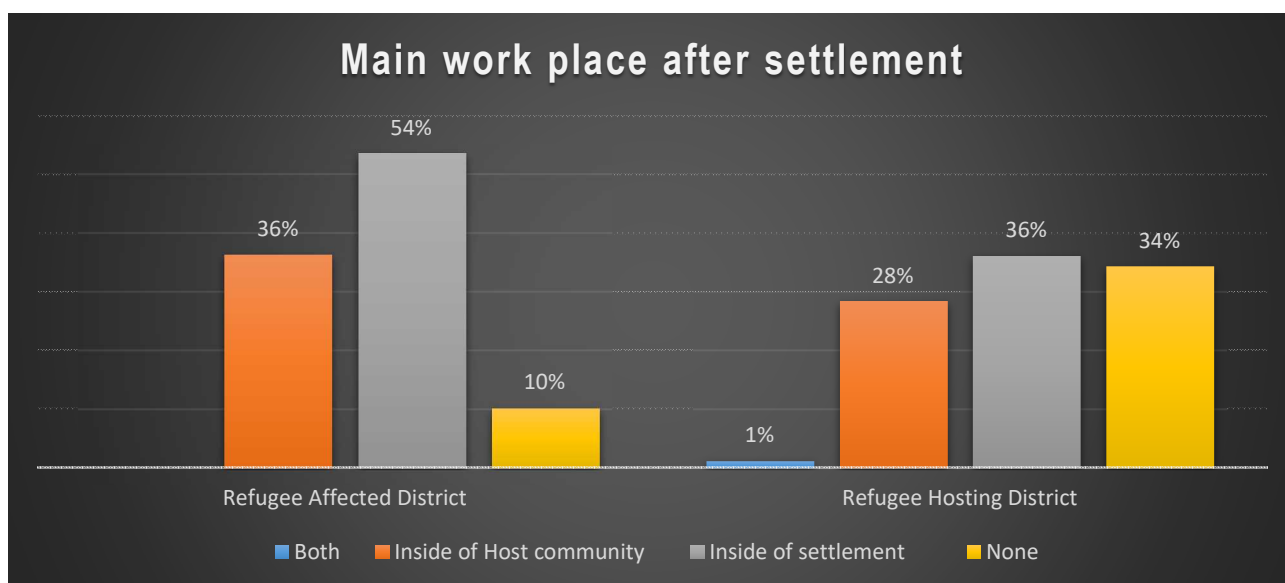
Figure 3-32: Main Work place after settlement

The survey findings show that majority of the HHs in the RAD and RHD were employed inside of settlements constituting 54% and 36% respectively. The HHs who worked inside of the host community for the RAD stood at 36% and 28% for the RHD. The HHs were that were at 10% for the RAD and 34% for the RHD as shown in Figure 3-32 above.

Current Household Income Source

Figure 3-33 below shows that majority of the HHs from both RAD and RHD earned income from exchange of sale of food constituting 65% and 45% respectively. The second most group of HHs from both RAD and RHD had no income source constituting 29% and 41% respectively as indicated in Figure 3-33 below.
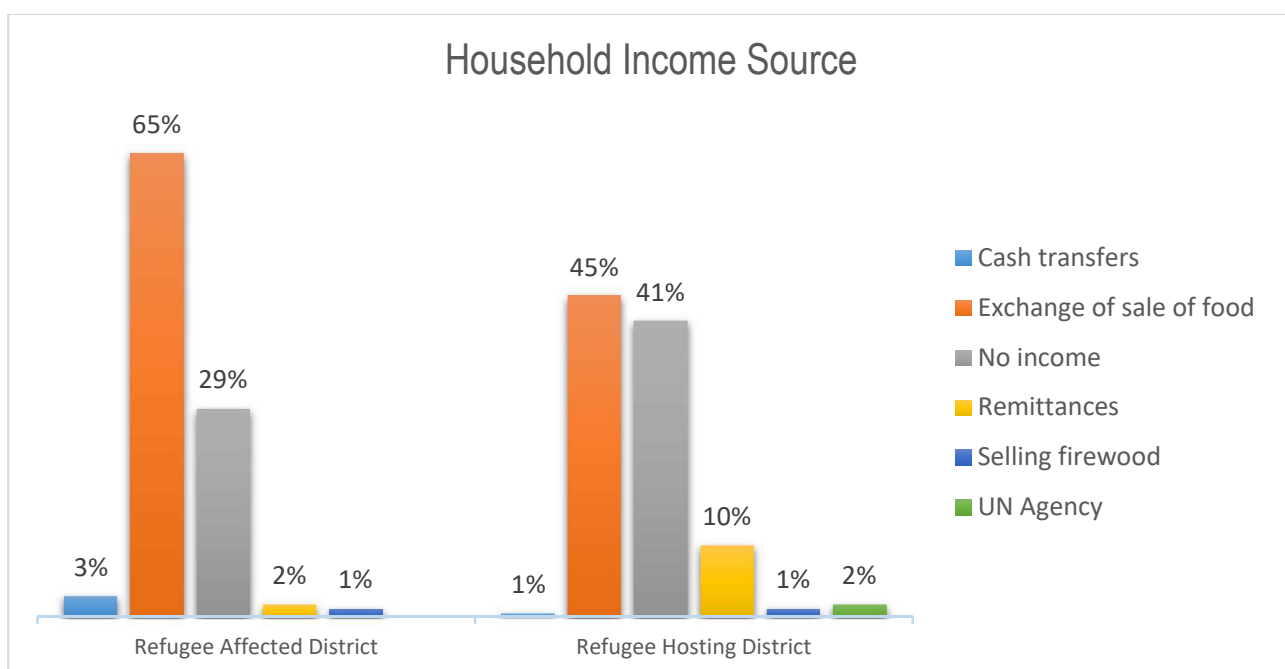
Figure 3-33: HH Income Source

Other Income Sources

The survey results reveal that majority (65%) of the HHs from RAD considered business to be the other source of income whereas majority (46%) of their counterparts from RHD considered farming to be their other source of income. The second leading other source of income for RAD HHs was farming with 20% compared to their counterparts who considered Business with 34% of the respondents.

The results furthermore reveal that the least HHs (2%) from RAD considered building, mechanic and payment from government to be the other sources of income where those from RHD considered employment, agency, relatives, and building to be the other sources of income constituting 2% of the respondents as indicated in Figure 3-34.
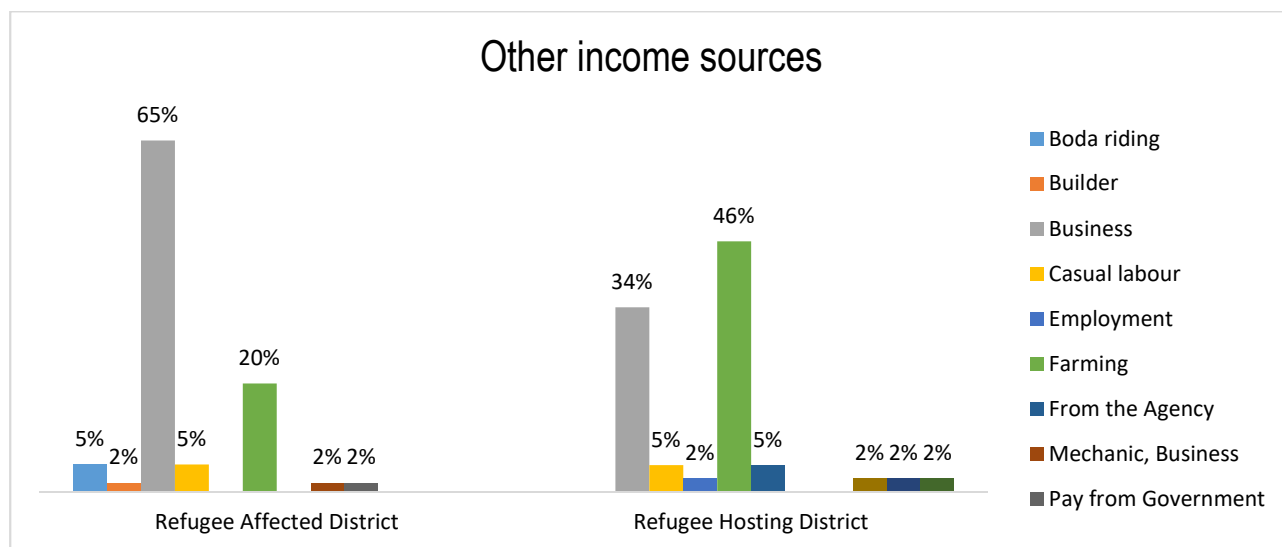
Figure 3-34: Other Income Sources

HH Average Income per Month

The survey results reveal that out of the HHs, majority of the respondents considered their average income to be ranging from UGX 0 to UGX 100,000 for both RAD and RHD constituting 76% and 68% respectively. The HHs whose average income range from UGX 100,001 to UGX 200,000 followed for both RAD and RHD with 13% and 22% respectively.

The study also revealed that least number of HHs earned an average ranging income from UGX 400,001 to UGX 500,000, UGX 900,001 to UGX 1,000,000 while others were not sure and the constituted 2% respectively for those from RAD whereas the HHs from RHD earned average income ranging from UGX 600,001 to UGX 700,000 while others were not sure constituting 1% respectively as indicated in Figure 3-35 below.
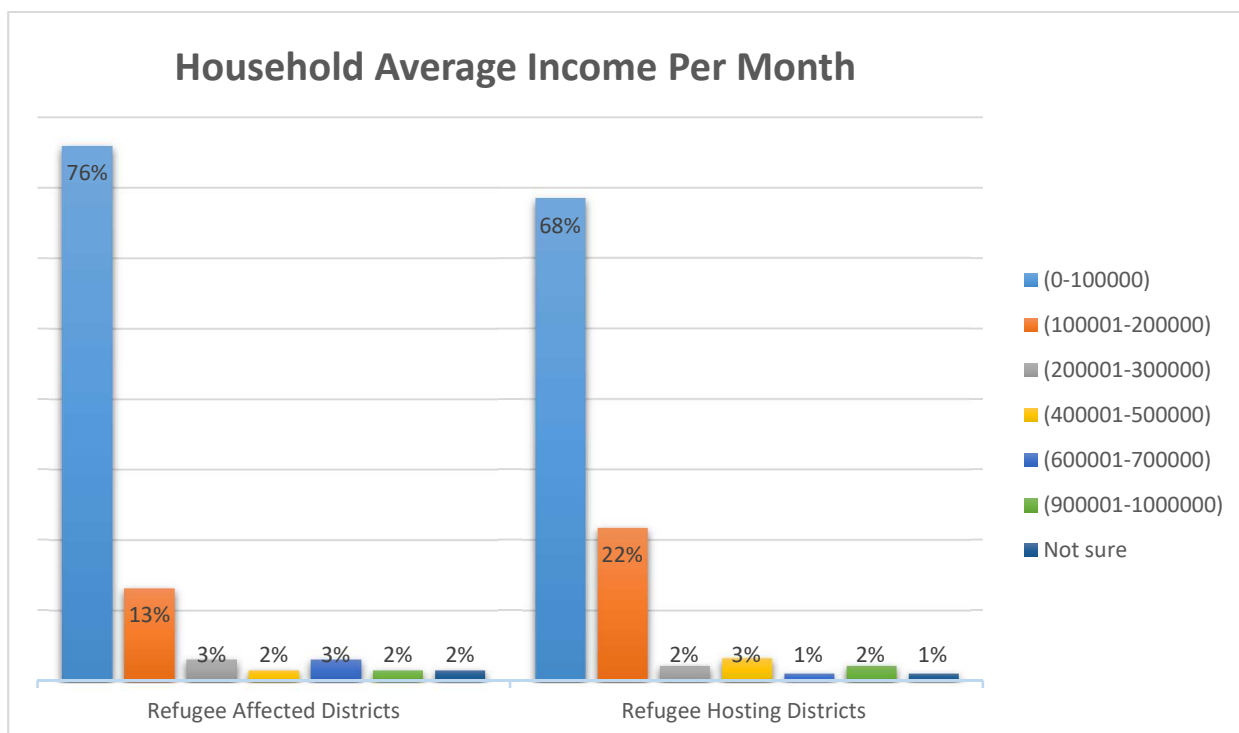
Figure 3-35: HH Average Income per month
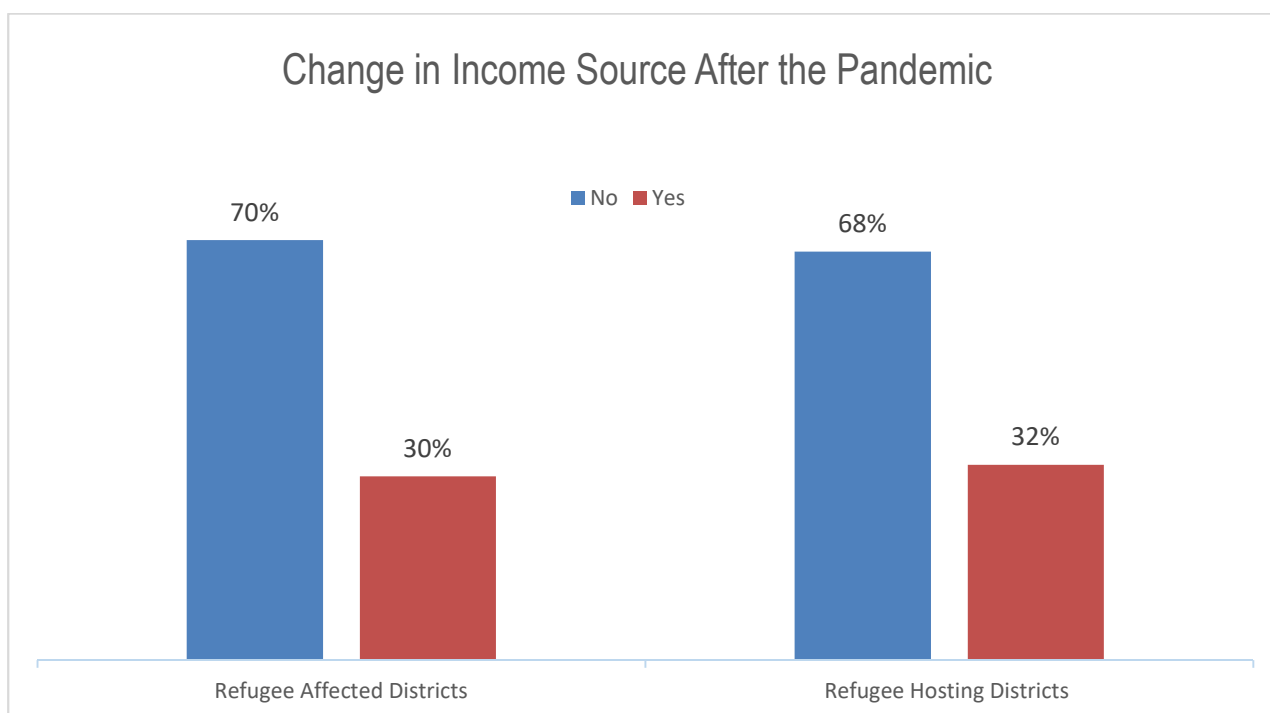
Figure 3-36: Change in Income Source after Pandemic

Figure 3-36 shows that majority of the HHs from both RAD and RHD disagreed that their income sources changed after the pandemic constituting 70% and 68% of the respondents respectively. The least number of HHs from both RAD and RHD agreed that their income sources change after the pandemic constituting 30% and 32% of the respondents respectively.

Previous Income

The survey results reveal that majority of the HHs from both RAD and RHD considered their previous source of income to be exchange of sale of food constituting 57% and 53% respectively. The second largest group of HHs from both RAD and RHD revealed that they had no income source previously constituting 37% and 28% respectively.

The results further reveal that least number HHs from RAD considered their previous sources of income to be selling firewood and cultivation constituting 3% respectively whereas the least respondents from RHD considered remittances constituting 19% as indicated in figure 3-37 below.
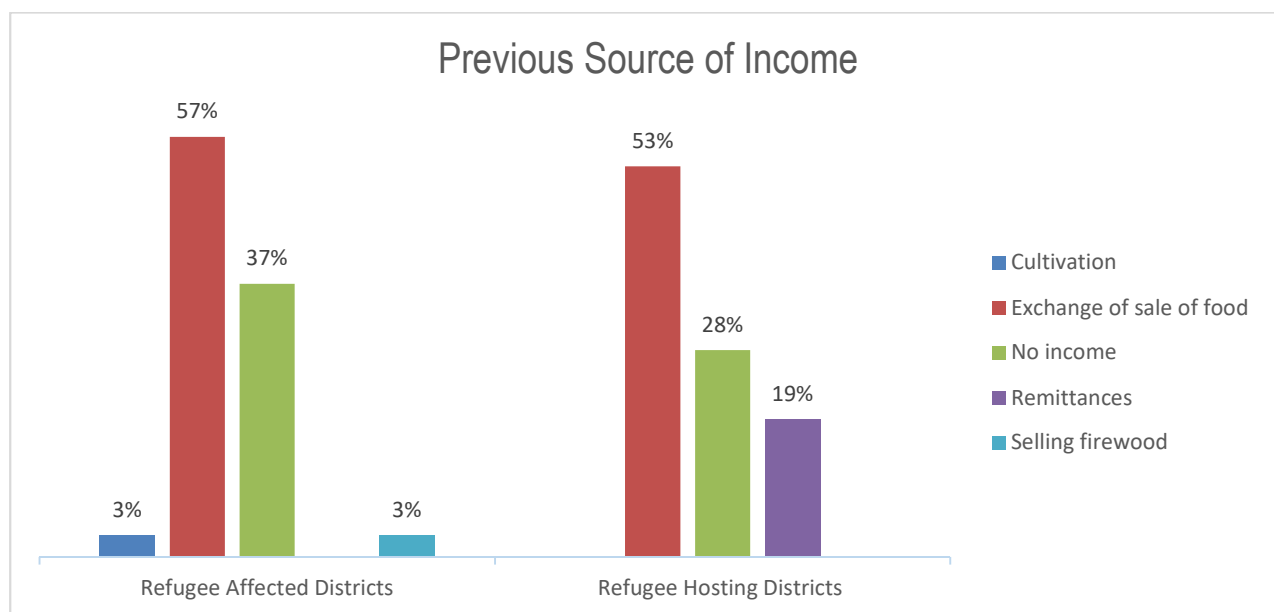
Figure 3-37: Previous Source of Income

Change in the amount of income after the pandemic of COVID-19
Figure 3-38 below shows that out of the HHs who agreed that their income change after COVID 19 pandemic, 91% from RAD and 97% from RHD considered their income to have decreased, constituting the majority.

The results further show that least number of HHs from both RAD and RHD considered that their income had changed by increasing constituting 9% and 3% of the respondents respectively.
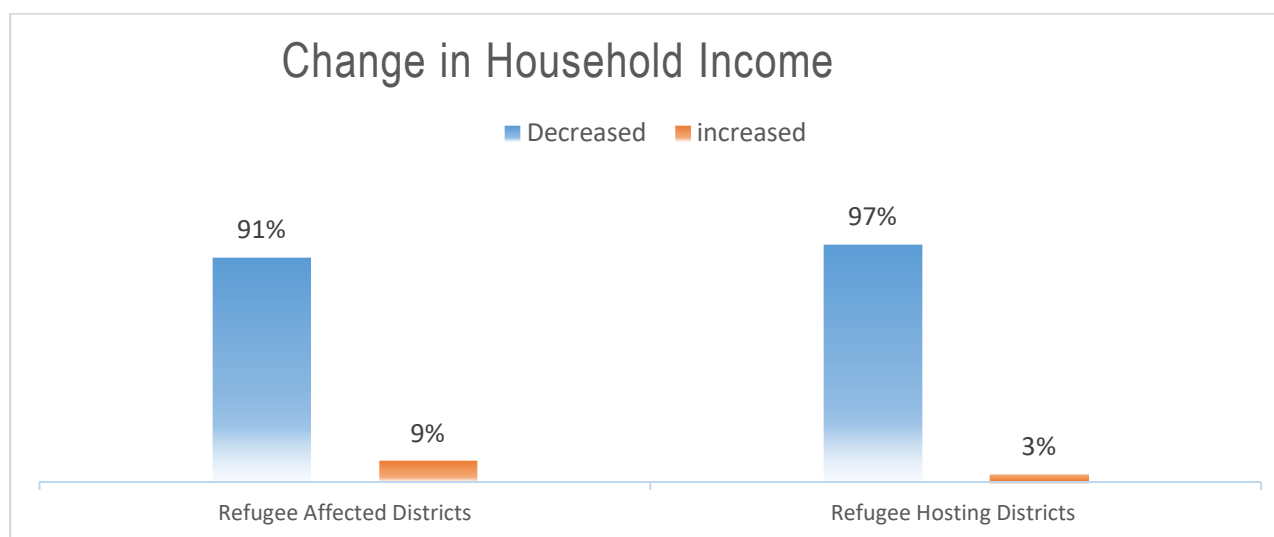
Figure 3-38: Change in HH Income

Income Generation Activity to be Undertaken

The survey findings show that majority from both RAD and RHD considered business to be the activity that they would like to undertake constituting 54% and 52% respectively. The HHs who considered farming consisted the second highest number of respondents from both RAD and RHD constituting 24% and 25% respectively.

The results of the study also reveal that the least number of respondents considered vocational skills, unable to work, mechanics and building constituting 1% respectively whereas those from RHD considered vocational studies constituting 1% as indicated in the figure 3-39 below.
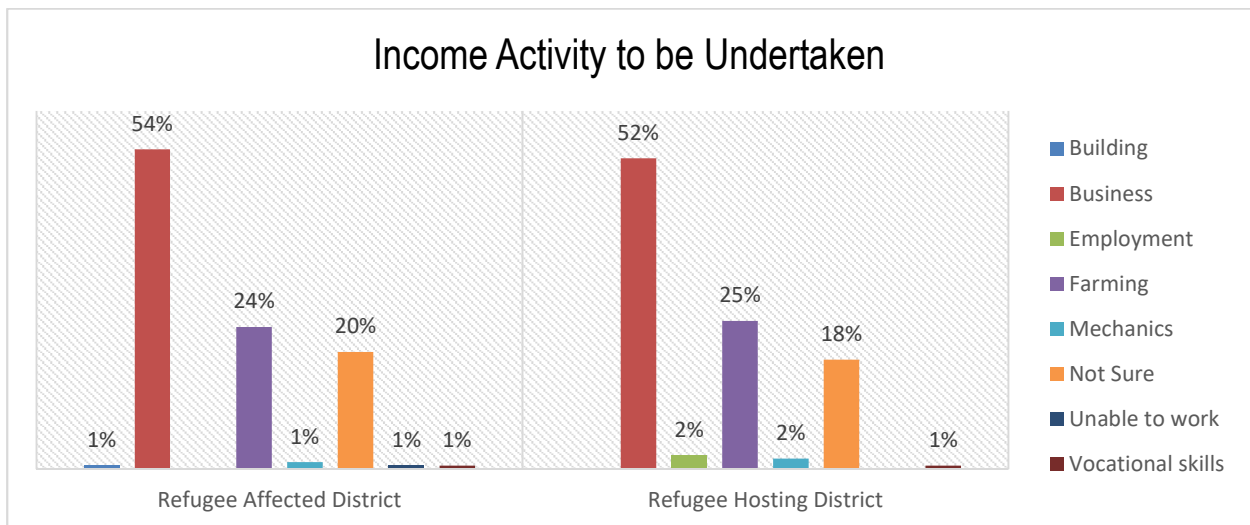
Figure 3-39: Income Activity to be undertaken

3.2.2.3 HH Elements
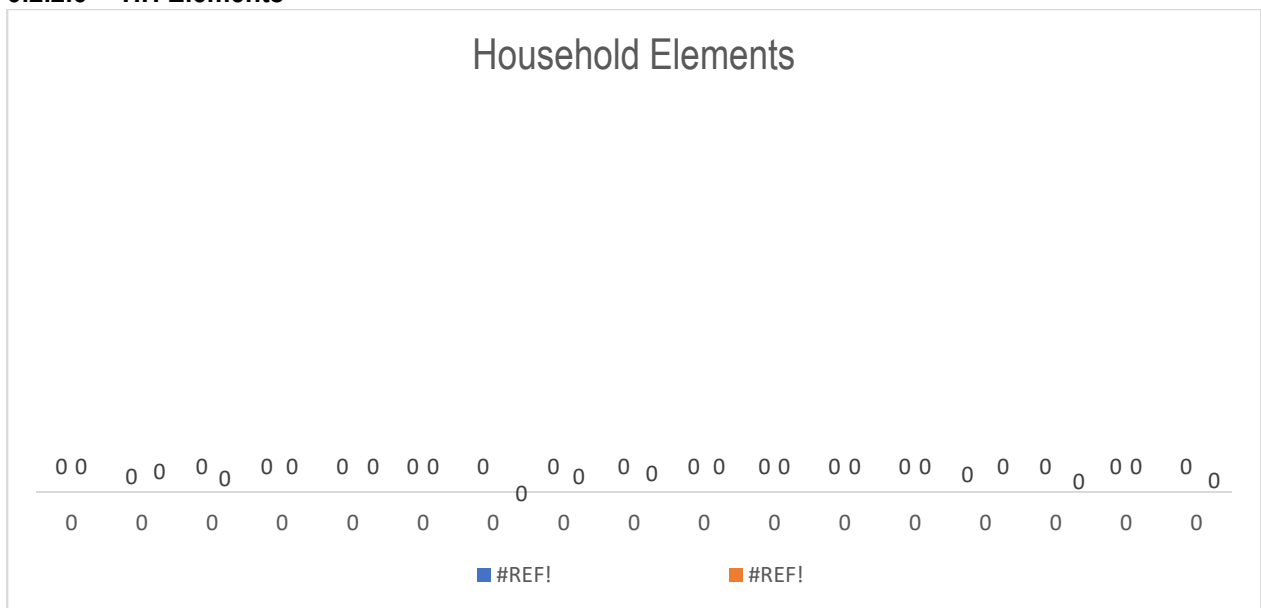
Figure 3-40: HH Elements

Figure 3-40 shows that majority of the HHs both in the RAD and RHD had cell phones constituting 34% and 39% respectively, whereas those in the RAD had light coming second with 33% while those in the RHD had

flash light come second with 30% of the HHs. The least number of HHs (1%) in RAD had cameras, sawing machines, vacuum clearners and television while those in RHD had cameras, and sawing machines. The results also reveals that none of the in the RHD had computers and vacuum cleaners compared to the counterparts. The results furthermore reveals that none of the HHs in both categories had electric cooking stove, refrigerator, microwave oven, eletric fan air conditioner, washing machine, car/truck/tractor, canoe/rowboat, motorboat/motorized dugout and chain saw.

3.2.2.4   Land Tenure
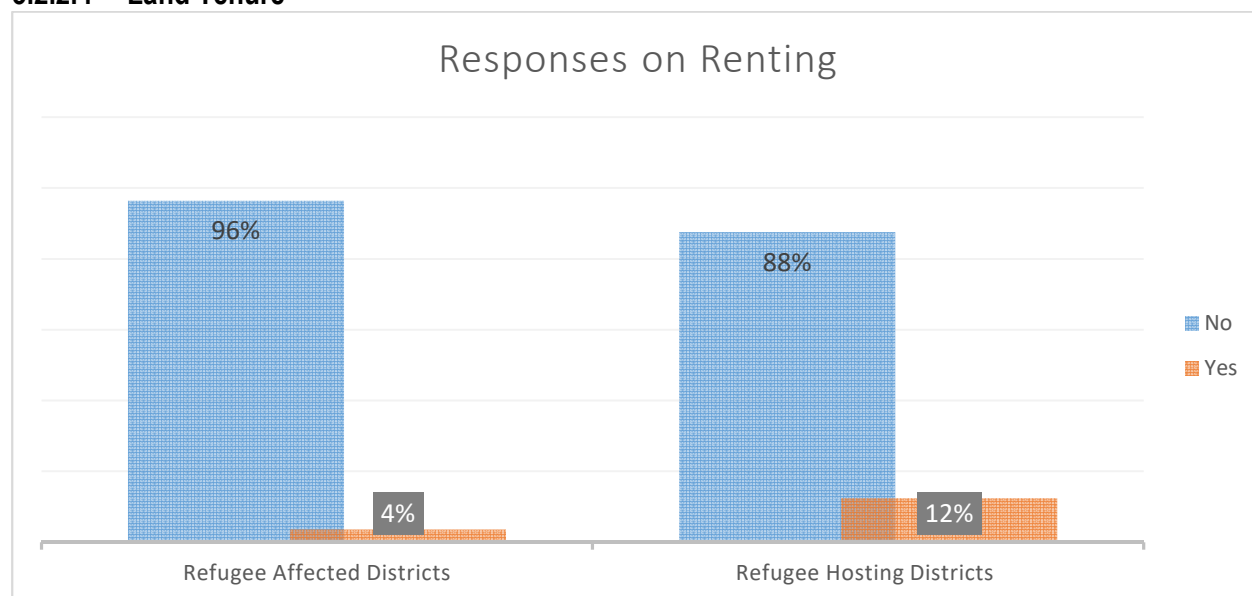
Figure 3-41: Land Tenure

Figure 3-41 shows that majority of the HHs in both RAD and RHD do not rent land constituting 96% and 88% respectively while the least number of HHs rent land in both RAD and RHD constituting 4% and 12% respectively. The results also reveal that there are more HHs who do not rent land in RAD compared to those in RHD whereas more HHs rent land in RHD compared to those in RAD.

The results further reveal that out of the HHs who rent land, the HH who rented more land rented 10 acres of land and was coming from the RAD while majority rented 1 acre and most of them were from the RHD and the constituted and the rest rented land below an acre. The findings also reveal that the cost of renting land was ranging from UGX 10,000 to UGX 100,000 in the RAD where for their counterparts in RHD the cost of renting land was ranging from UGX 7,000 to UGX 100,000, some were also rented out in exchange for livestock while others would give out to be used at zero cost.

The findings also reveal that the ownership of the land that was rented out was completely and constituted different stakeholders that include government, individuals, host community land, community lands, friends, local natives and UN agency. The results also reveal that renting of land in the RAD and RHD has last for long starting from 1980 to 2021.

The survey findings also reveal that HHs in both RAD and RHD considered renting the land for cultivation and only a few of them consider building houses.

The results furthermore reveal that majority of the HHs were renting land for a period of one year both from the RAD and RHD while a few respondents in the RHD considered either until further notice or until they go back Sudan.
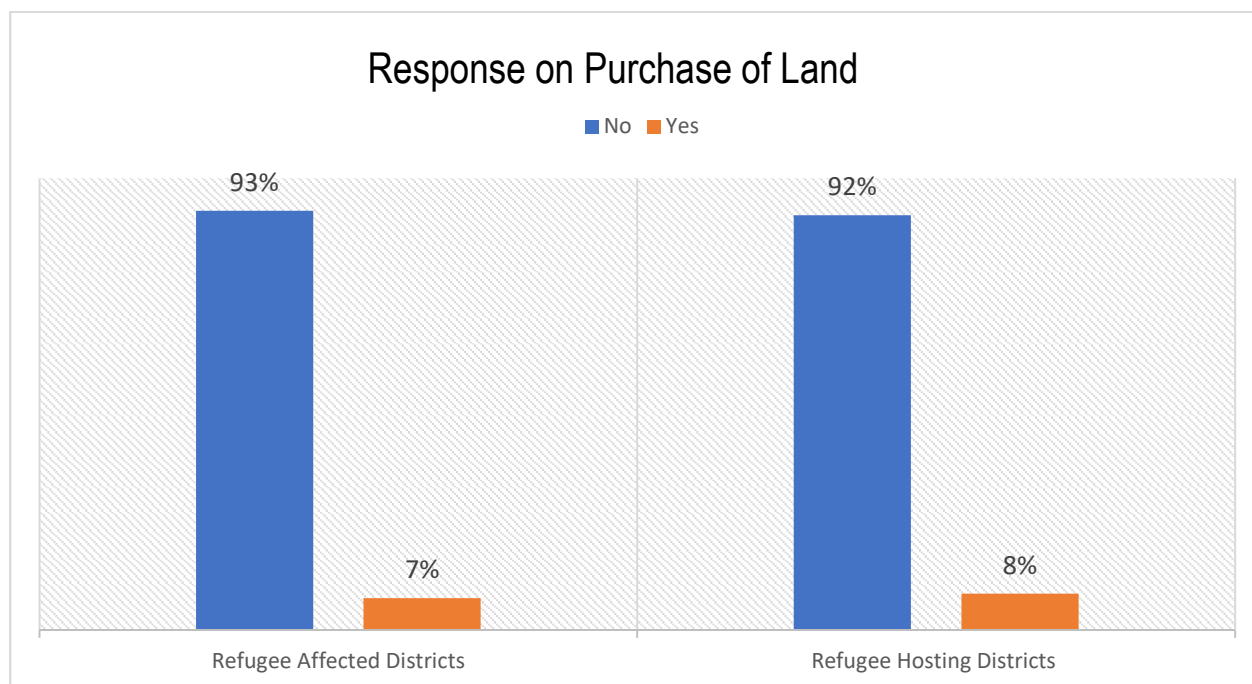
Figure 3-42: Response on Purchase of Land

Figure 3-42 shows that majority of the HHs did not purchase land in both the RAD and RHD constituting93% and 92% respectively and only 8% and 7% of the HHs had purchased land in the RHD and RAD respectively. The results reveal that those who had purchased land in the host district were more than those who had purchased land in the affected districts.

Majority of those who had purchased land from the RADhad purchased small portions of land ranging 2 acres below compared to their counterparts who had purchased land ranging from 2 to 6 acres. The survey findings also reveal that land was found to be relatively cheaper in the RADranging UGX 30,000 to UGX 1,000,000 compared to the host district where it was ranging from UGX 75,000 to UGX 5,000,000.

The results also reveal that the HHs who purchased land got them from different authorities that include community landlords, local natives, individuals, and others were given land by government. Few HHs had purchased land because most of them had inherited the land.
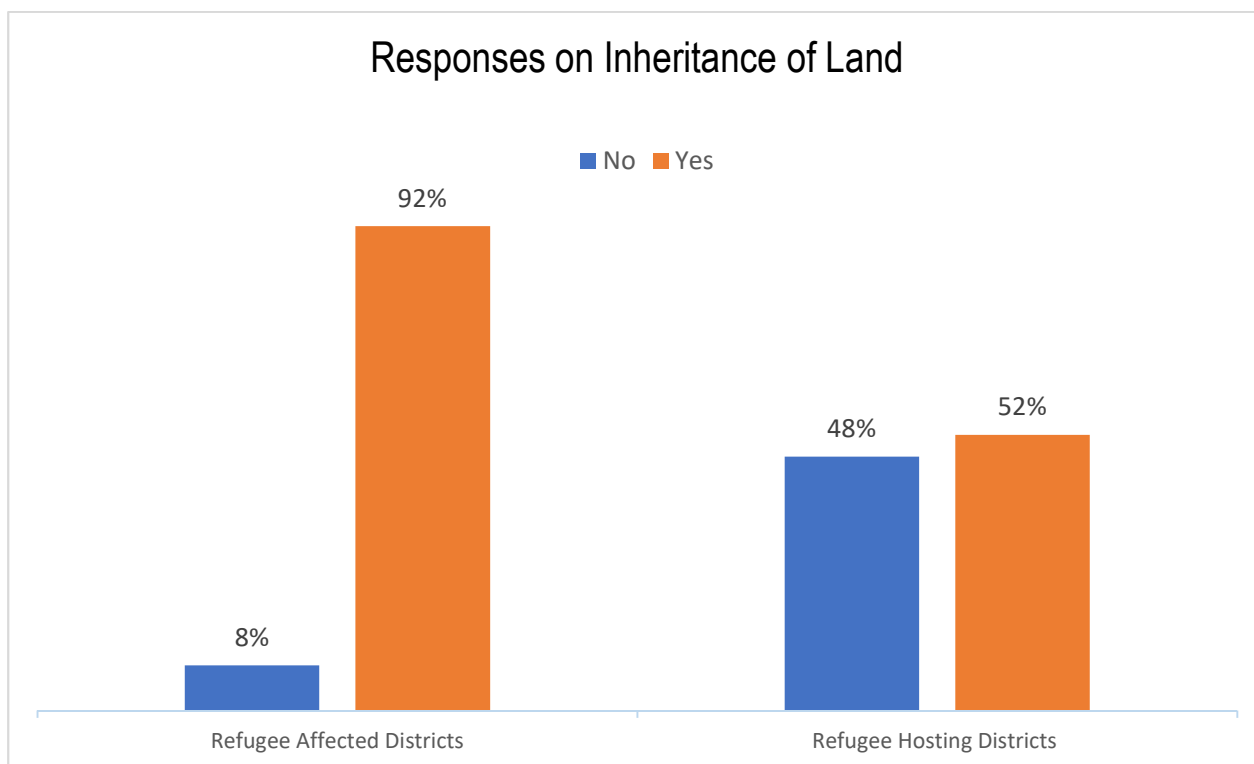
Figure 3-43: Response on inheritance of land

Figure 3-43 shows that majority of the HHs in the RAD and RHDowned land through inheritance. The HHs who had inherited land in the RAD were more than those in the RHD constituting92% and 52% respectively while those who had not inherited land in the hosting district were more than those in the RAD constituting 48% and 8% respectively.

The HHs who had inherited land from the RAD had inherited more land ranging from 0.5 acres to 10 acres with majority falling in between 4-6acres as compared to their counterparts from the RHDwho had inherited less acres of land ranging from 0.5 acres to 8 acres with majority inheriting 1 acre of land.

The survey also reveals that majority of the HHs from both RHD and RAD had inherited the land from their family linage that include the parents or grand parents where there were also a few who had inherited land from UN and customary land and all these HHs were from the hosting districts. The result further reveals that inheritance of the land by both the RHD and RAD occur many years back majority of the dating back to 20 years ago and more. The survey also furthermore reveals that most of the HHs from both categories who inherited land used them for cultivation and only a few of the used the land for making houses.
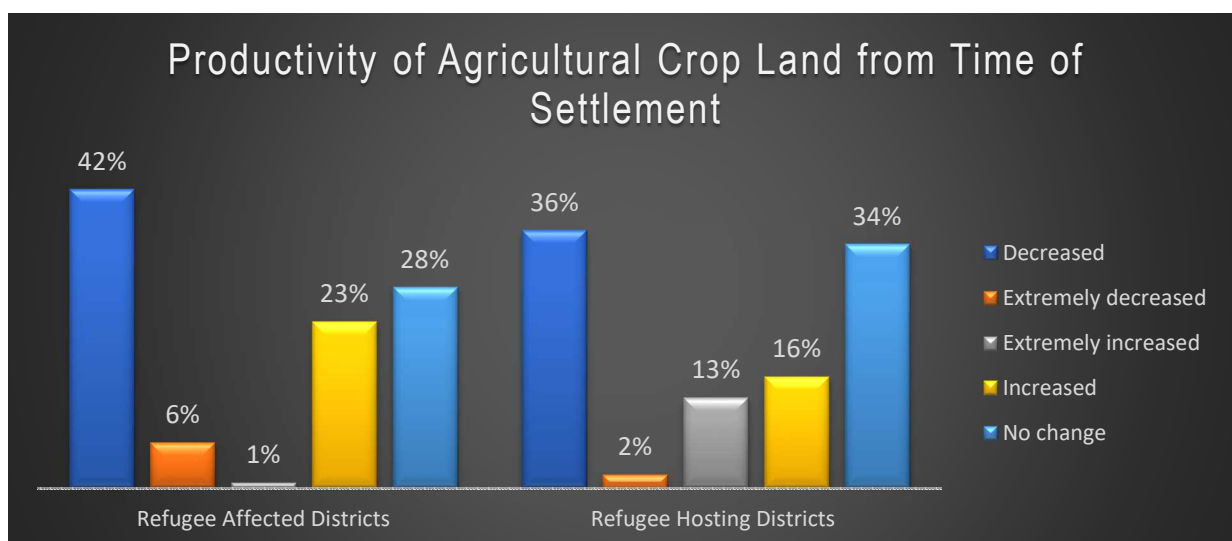
Figure 3-44: Productivity of agricultural crop land from time of settlement

Figure 3-44 shows that of the HHs in the RAD and RHD considered productivity of agricultural crop land to be decreasing from the time of their settlement. The HHs from the RADhad more respondents considering a decrease than those from the RHDconstituting 42% and 36% respectively.

The HHs who considered no change followed in both categories though the RHD had more HHs considering no change compared to those in the RAD constituting 34% and 28% respectively. The least number of HHs in the two categories had different views, those in the RADconsidered productivity of the agricultural land to be extremely increased constituting 1% of the respondents, and those in RHDconsidered extremely decreased constituting 2% of the HHs.
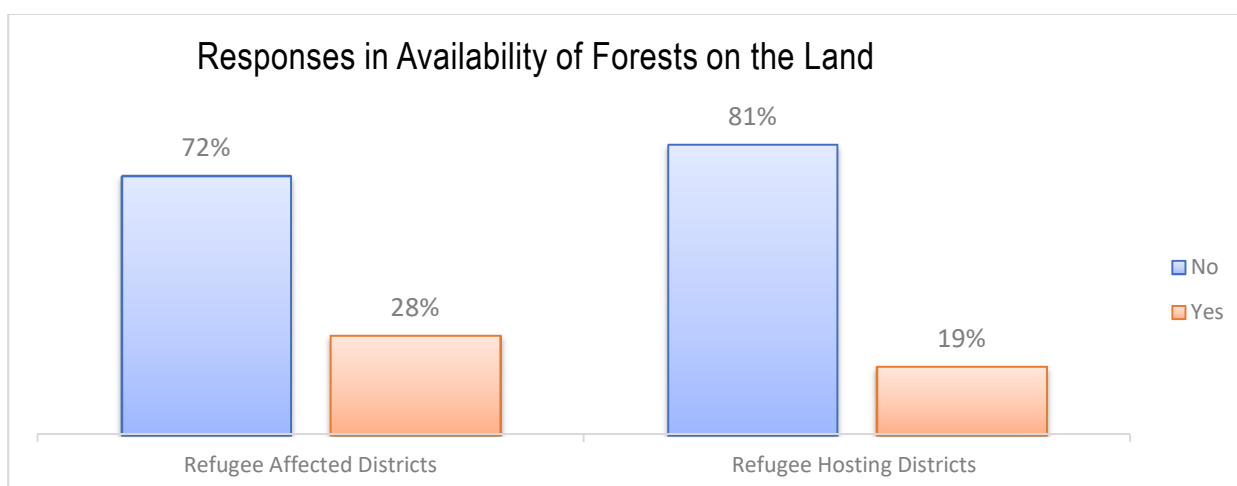
Figure 3-45: Response on availability of forests in the land

Figure 3-45 majority of the HHs from both the RAD (72%) and RHD (81%) considered their land not to be having forests on it. This reveals that more HHs in the RHD disagreed that they had forests on their land compared to their counterparts from the RAD.

The respondents who agreed in both categories were few though those in the RAD were more than those in the RHD constituting 28% and 19% of the of the HHs respectively. The results also reveal that out of the HHs who agreed that they had forests on their, very few of them agreed that they sold timber from them while majority disagreed. The respondents who agreed also revealed that they majorly sold them in sacks.

3.2.2.5 HH Livelihood
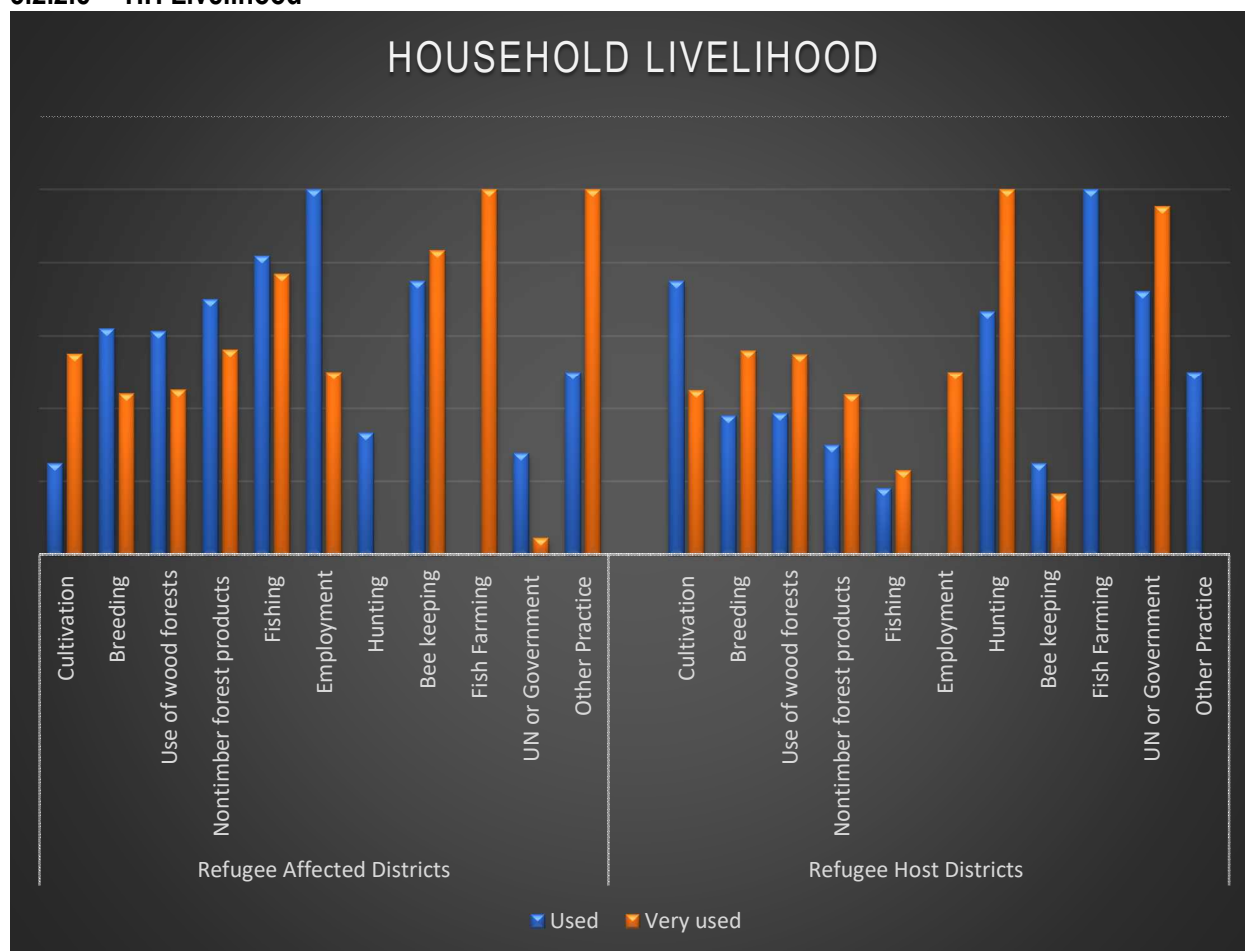
Figure 3-46: HH livelihood

Figure 3-46 shows that activities of the HHs in both RAD and RHD and their rate of usage was different based on the location. The results show that majority of the all the HHs in the RHD utilized hunting and fish farming to the maximum while their counterparts the in the RAD also utilized fish farming to it's maximum, and hunting at 33%.

The RAD also utilized employment and other practices compared to their counterparts the host who utilized employment at 50% and others at also 50%. The results further reveal that UN or Government was the least utilized activity in the refugee affected areas where as bee keeping was the least utilized in the RHD.

3.2.3 Use and Depedance of the Forests
3.2.3.1 The Seven Main Forest Products

Figure 3-47 shows the seven most used forest products and the findings reveal that majority of the respondents from both RAD and RHD considered firewood to be the leading forest product constituting 28% and 27% respectively, followed by those who considered construction firewood constituting 23% and 21% respectively of respondents and only 4% from RAD and 3% from RHD considered fish to be the mostly used product constituting the least number of respondents.
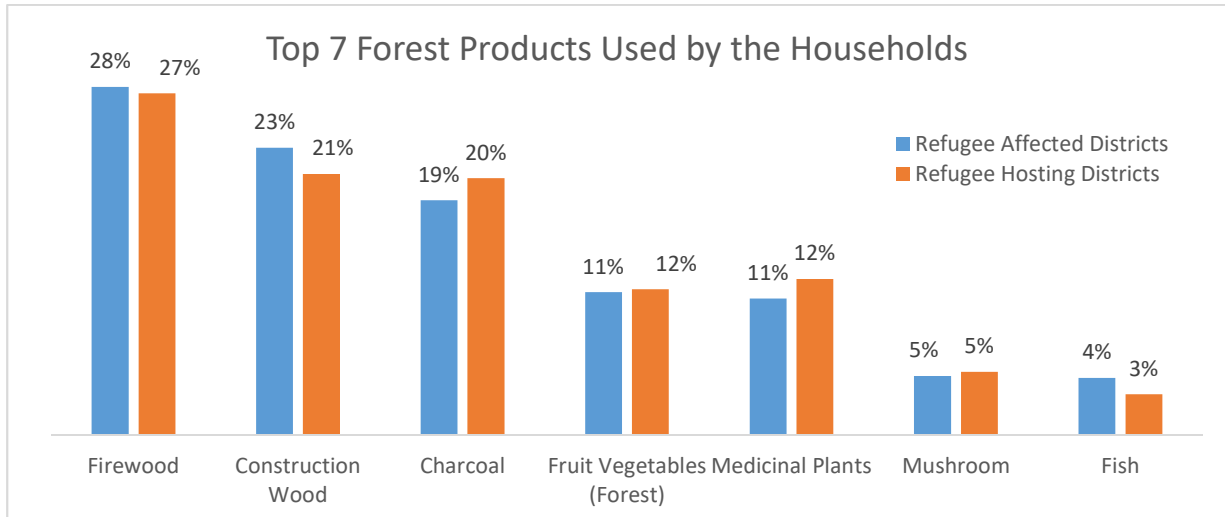
Figure 3-47: Top 7 Forest products Used by HHs
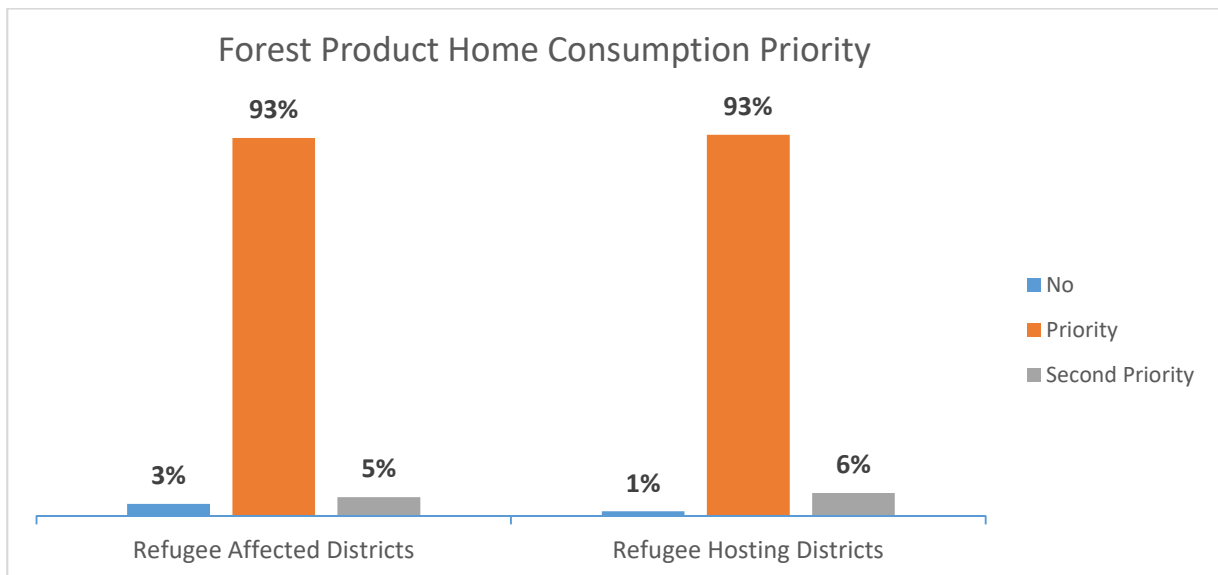
Figure 3-48: Forest Product Home Consumption Priority

Figure 3-48 above indicates that 93% of the respondents in both the RAD and RHD use forest products for home consumption as a Priority. This atributed to the fact that, the products are used as a major source of lighting and cooking.

Figure 3-49 illustrates that the sale of forest products was not a priority to the majority of the HHs in both RAD and RHD and constituting 67% and 94% HHs respectively. The least number of HHs (14%) in RAD considered sale of forest products to be a prioty whereas in RHD the least (4%) considered it as a second priority. This finding is consistent with the analysis in figure 3-48.
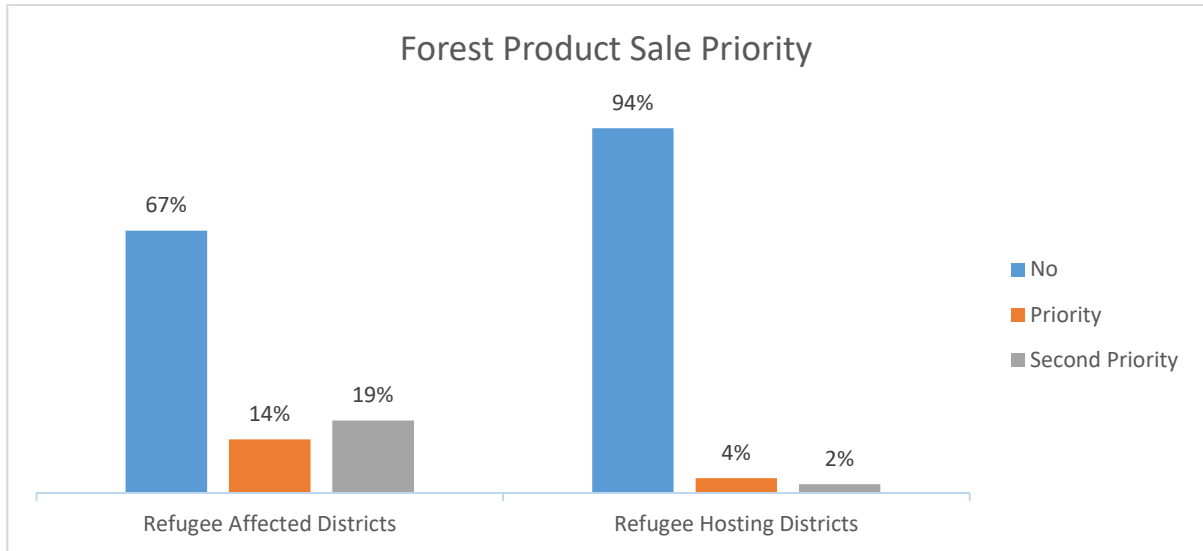
Figure 3-49: Forest Product Sale Priority

.
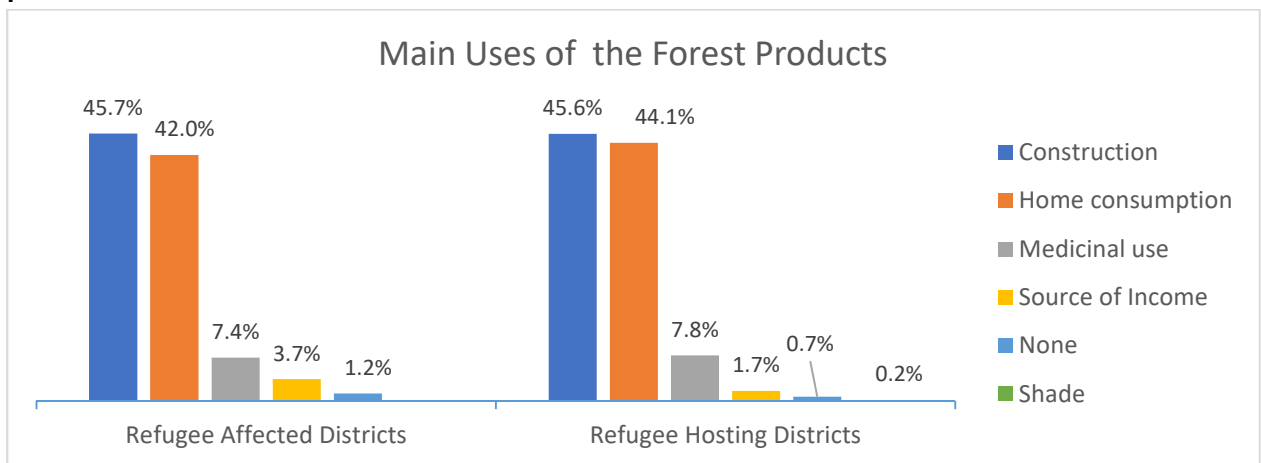
Figure 3-50: Main Uses of the Forest Products

Figure 3-50 above revealed that, the main uses of forest products were construction and home consumption. It is evident in the HH photographs that majority of the houses both within the RAD and RHD are grass thatched as well as the use of the 3 stone fire.

3.2.3.2   Amount of Uses and Source of Collection of the Five Main Forest Products Except Firewood and Charcoal

5 Main Products Besides Firewood And Charcoal
■ Refugee Affected Districts   ■ Refugee Hosting Districts

Product	RAD	RHD
Construction Wood	42%	39%
Medicinal Plants	20%	23%
Fruit Vegetables (Forest)	21%	22%
Mushroom	9%	9%
Fish	8%	6%
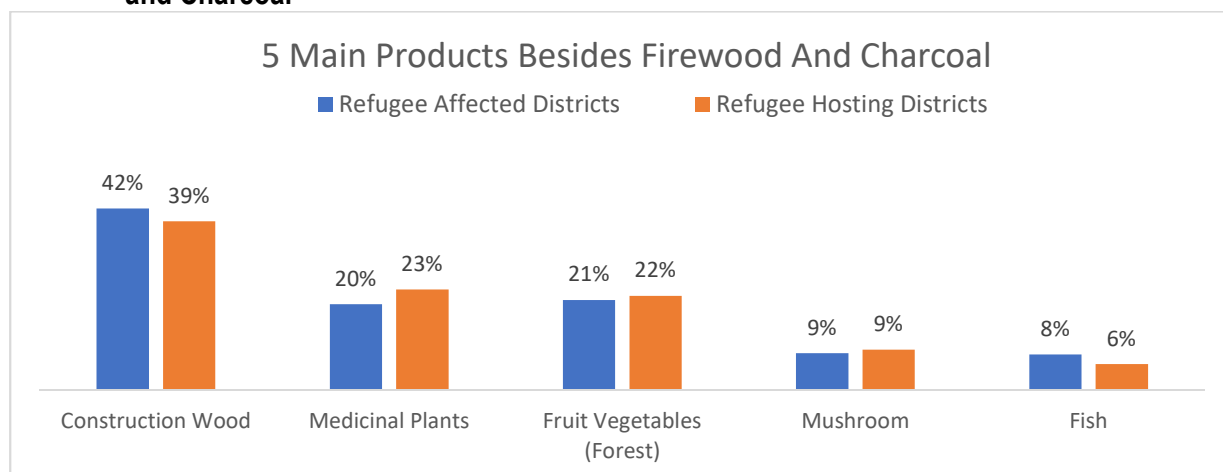
Figure 3-51: Five Main products besises firewood and charcoal

Figure 3-51 shows 5 main (top) products besides firewood and charcoal in both RAD and RHD, construction wood being the most used product at 42% and 39% for RAD and RHD respectively and most is got from community woodlands for both communities.

Medicinal plants come in second at 20% for RAD and 23% for RHD where most are got from gardens and bushes. The survey further shows that a number of HHs who engage in fishing constituted the least number of respondents from both RAD and RHD comprising of 8% and 6% respectively.

The quantities of the products consumed were not clear to the respondents as they never took time to measure the products.

3.2.3.3   Firewood

Uganda's forest cover has reduced from 24% to 9% between 1990 to 2015, according to the Ugandan Ministry of Water and Environment's 2016 State of Uganda's Forestry report. Half of the country's unprotected forests have been lost in the last 25 years. According to the study report, migration is a significant contributor to loss of forest cover, as community's clear forest for firewood, settlement and construction of houses.

Methods of Collecting Firewood

The study in figure 3-52 below shows that majority of the HHs in both RAD and RHD cut tree branches to get firewood at 43% and 45% respectively, especially in the districts of Arua and Koboko and this was followed by harvesting fallen wood.
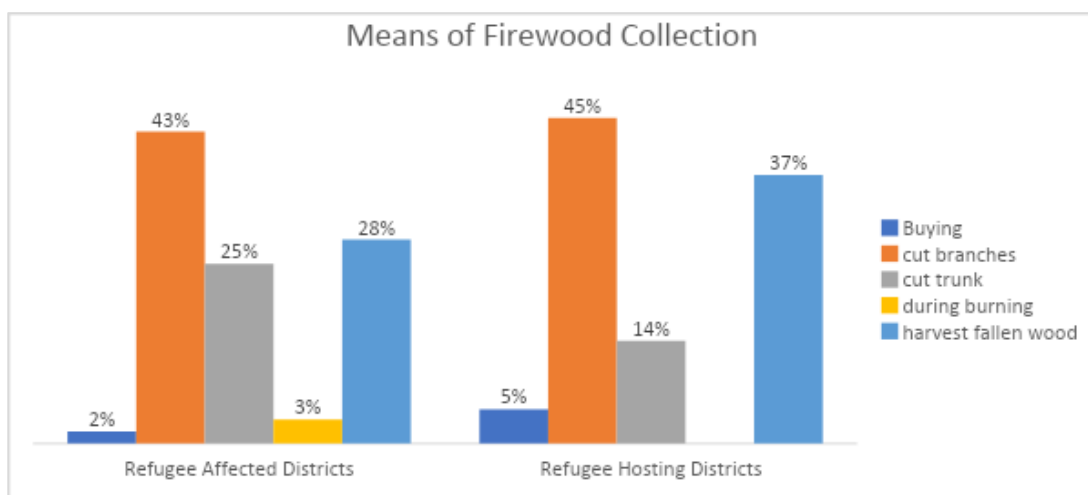
Figure 3-52: Means of Firewood Collection

The figure 3-53 below shows that majority of the HHs use an axe for collecting firewood in both RAD and RHD constituting 88% and 65% respectively.
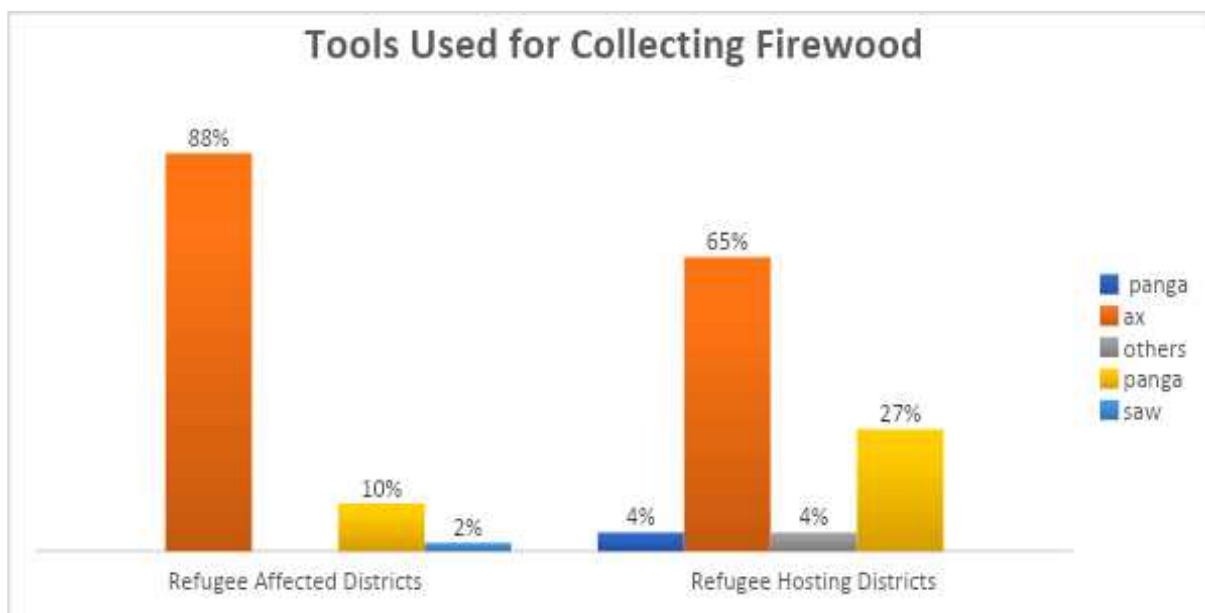
Figure 3-53: Tools used for collecting firewood

Source of Firewood
Majority of the HHs in both RAD and RHD get firewood from the bushes followed by forests constituting 60% and 40% respectively as illustrated in figure 3-54 below.
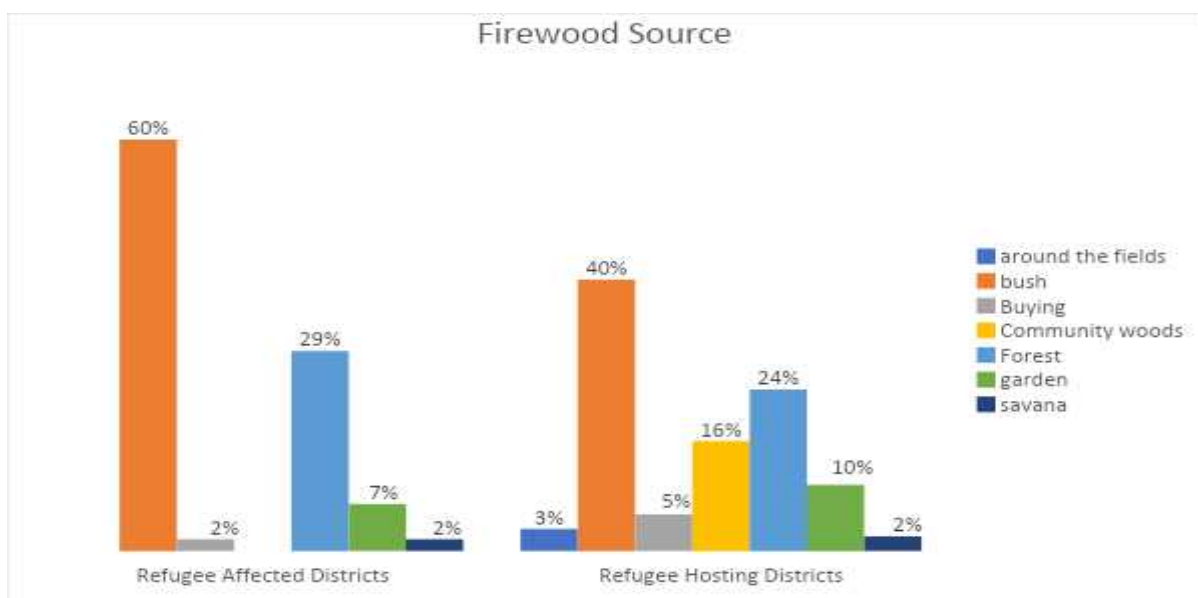
Figure 3-54: Firewood Source
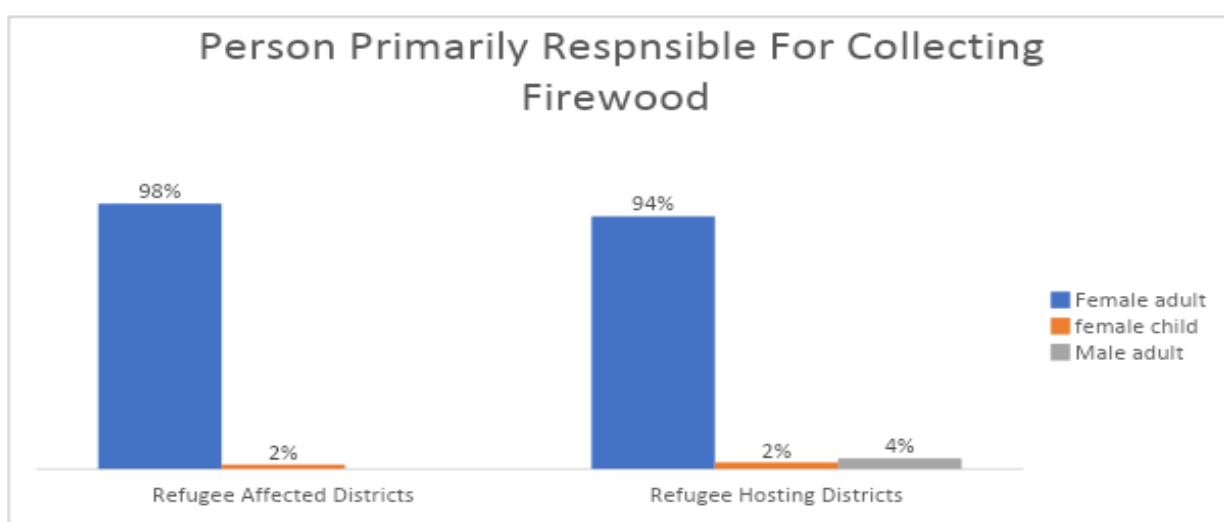
Figure 3-55: Person Primarily Responsible for Collecting Firewood

The female adults are primarily responsible for collecting firewood within the HH for both RAD and RHD constituting 98% and 94% respectively and the least number of people responsible for collecting firewood are female children constituting 2% and 2% respectively for both RAD and RHD as illustrated in figure 3-55 above.

Average time spent to make a firewood collection trip
Figure 3-56 shows that majority of the respondents from RAD spend on average 6 hours (22%) for the total firewood collection trip, followed by 3 hours (20%) and the least (2%) is half an hour. The results also indicated that majority of the respondents from RHD spend on average 2 hours (31%) for the total firewood collection trip, followed by 3 hours (23%) and the least (1%) is both 7 hours and not sure.
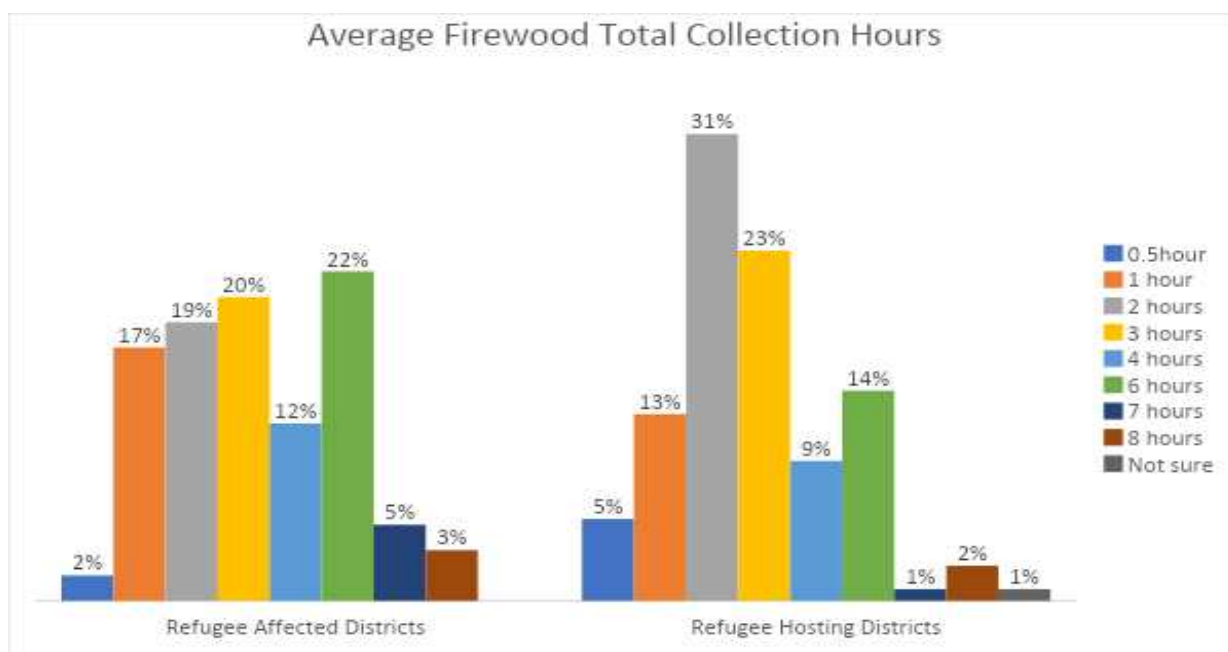
Figure 3-56: Average Firewood Total Collection Hours
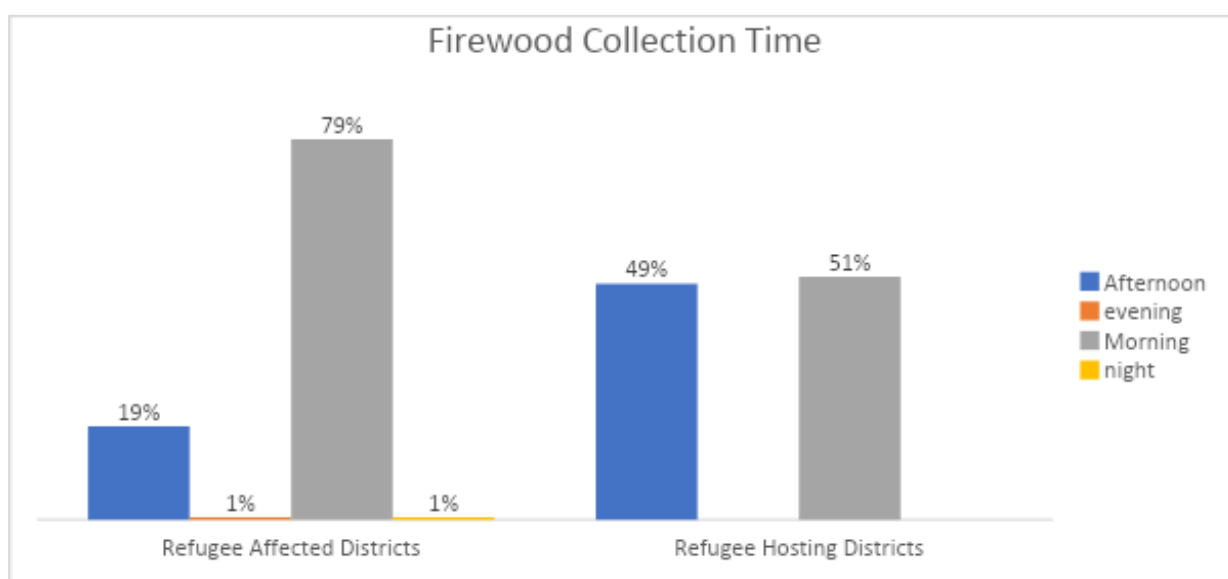
Figure 3-57: Firewood collection time

Figure 3-57 above indicates that in the RAD, most of the HHs collect firewood in the morning (79%), in the afternoon (19%) and in the evening and night at 1%, while in the RHD, most of the HHs collect firewood in both morning (51%) and afternoon (49%).

Time Taken to Collect Firewood after COVID-19
Figure 3-58 below shows that 93% of the HHs RAD and 98% of the HHs in RHD do not take a long time to collect firewood, even after the COVID-19 pandemic. 7% of the HHs RAD and 2% of the HHs in RHD take a long time to collect firewood, even after the COVID-19 pandemic.
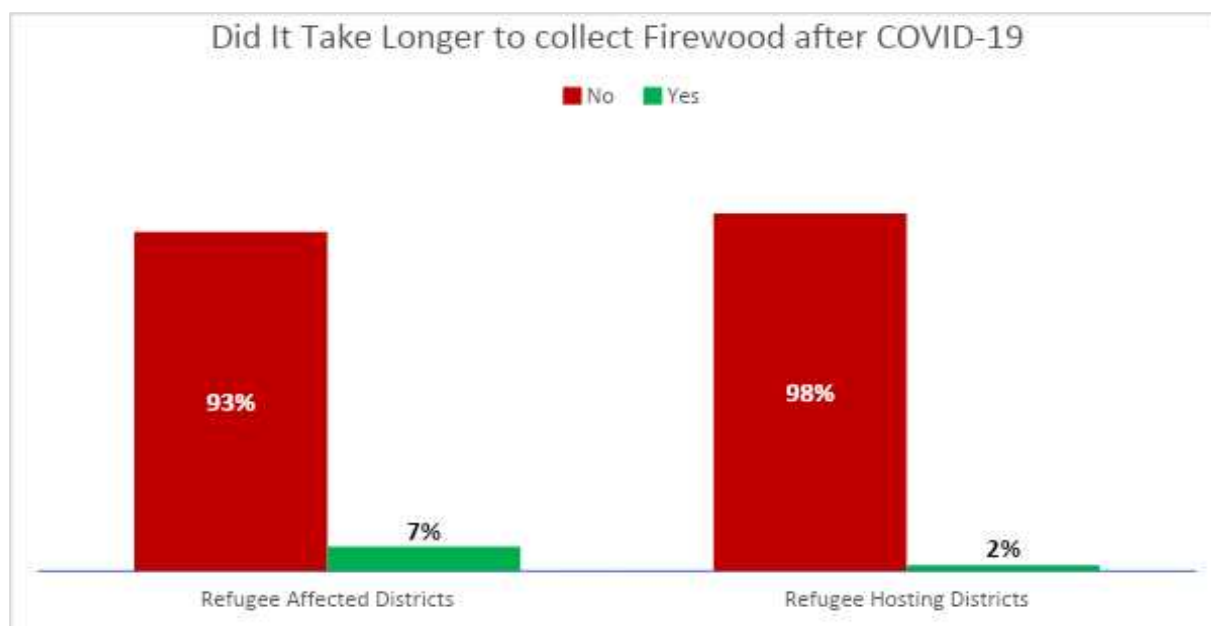
Figure 3-58: Time Take to collect firewood after COVID - 19

Amount of Firewood Collected Per day

The HHs in both the RAD and RHD collect 1-10 kgs of firewood per day and this constituted 38% and 29% respectively as highest, then followed by 11-20kgs of firewood and this constituted 23% and 28% respectively. The least number of respondents (5%) for the RAD said that is the collect 31-40 kgs of firewood and the least number of respondents (3%) for the RHD said that they collect above 50 kgs of firewood as illustrated in the figure 3-59 below.
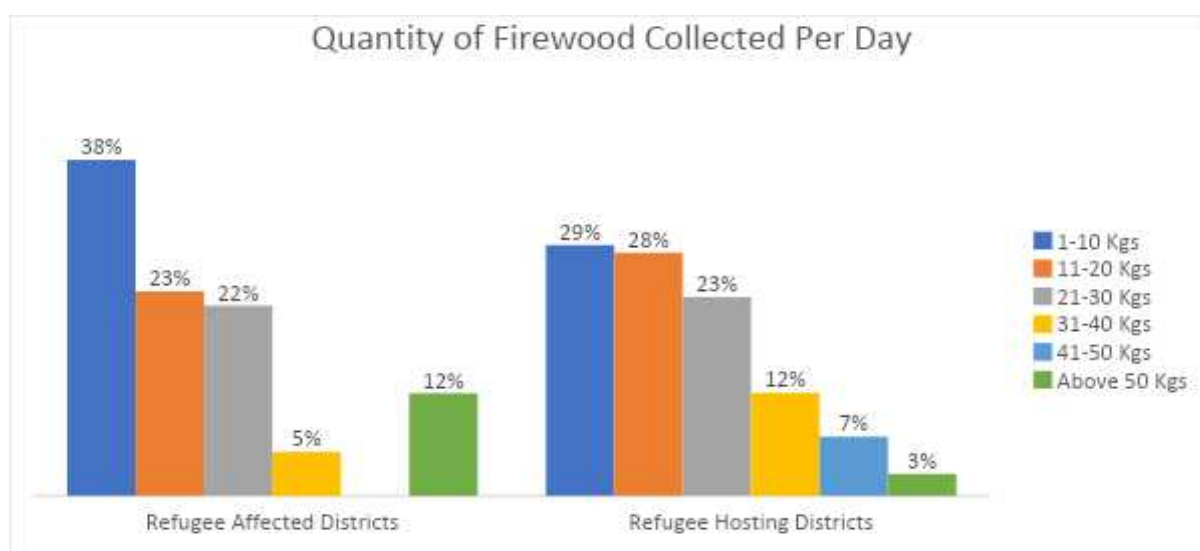
Figure 3-59: Quantity of Firewood Collected Per Day

Effect of COVID-19 pandemic on firewood collected

Figure 3-60 below shows that the amount of firewood collected didn't change even after the COVID-19 pandemic as majority of the HHs in both the RAD and RHDsaid the amount of firewood did not change and this constituted 89% and 96% respectively as highest and the least number of respondents agreed that the amount of firewood changed after the COVID-19 pandemic and this constituted 11% and 4% respectively.
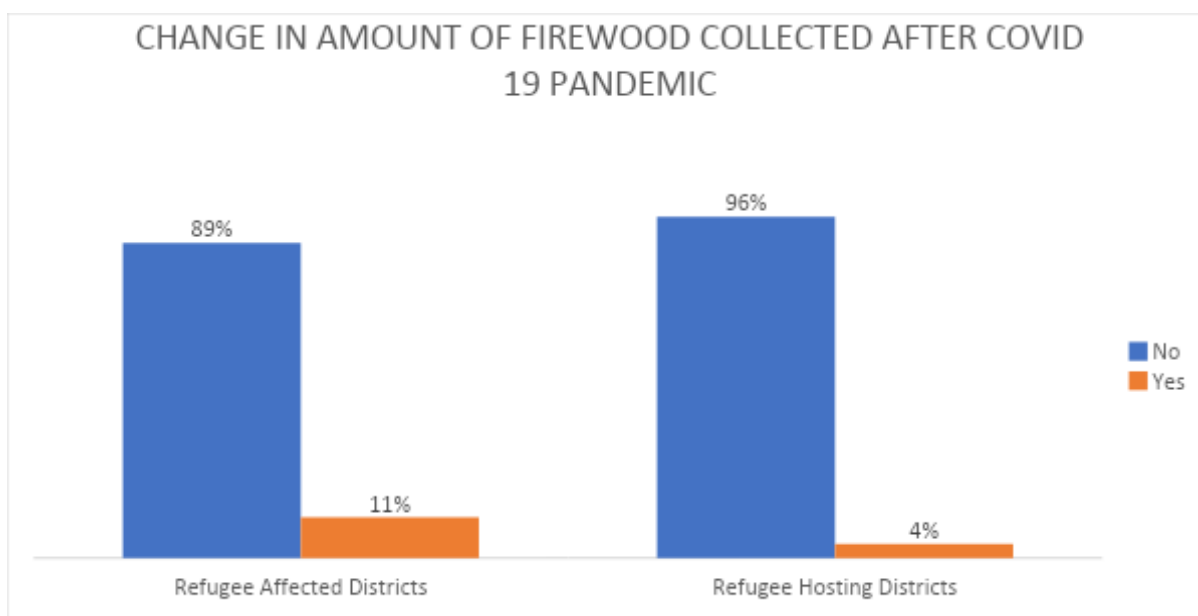
Figure 3-60: Change in amount of Firewood collected after COVID 19 Pandemic
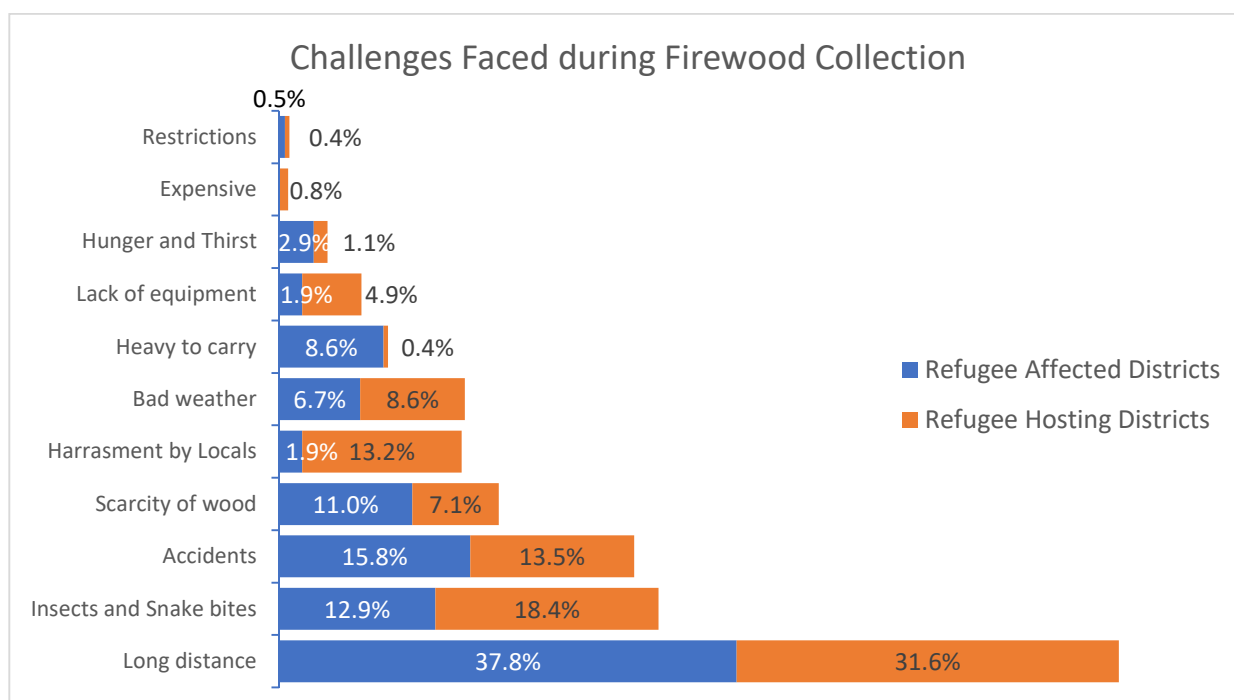
Figure 3-61: Challenges Faced during Firewood Collection

Figure 3-61 shows the challenges faced during firewood collection are similar in both the RAD and RHD. The results reveal that majority of the HHs from both RAD and RHD considered long distance to be the major challenge constituting 37.8% and 31.6% respectively. The RAD considered restrictions to be the least (0.5%) challenge faced and RHD considered restrictions and heavy to carry. The least faced challenge for both RAD and RHD was Restrictions at 0.5% and 0.4% respectively.

Generally, the study shows that there are no restrictions in movement following the COVID-19 pandemic as illustrated in figure 3-62 below. Majority of the HHs in both the RAD and RHD said that there were no restrictions constituting 70% and 78% respectively and those that agreed to presence of the restrictions were at 30% and 22% respectively.
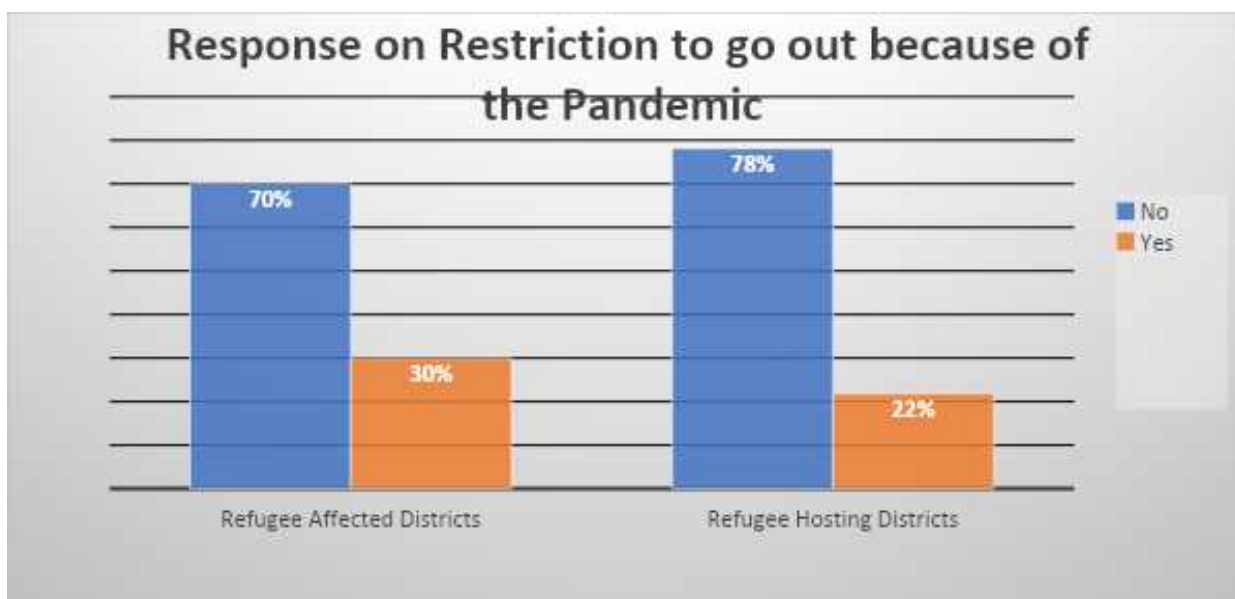
Figure 3-62: Response on Restrictions to go out because of the pandemic

Figure 3-63 below reveals that majority of the respondents from the RAD considered restricted movement (66%) and RHD considered wearing mask (44%) to be the most serious restriction during the COVID 19 pandemic. For the RAD, wearing masks (32%) and for the RHD, restricted movemement (36%) was considered as the second most serious restriction during the COVID 19 pandemic. Washing hands was considered as the least serious restriction during the COVID 19 pandemic at 2% for the RAD and 20% for the RHD.
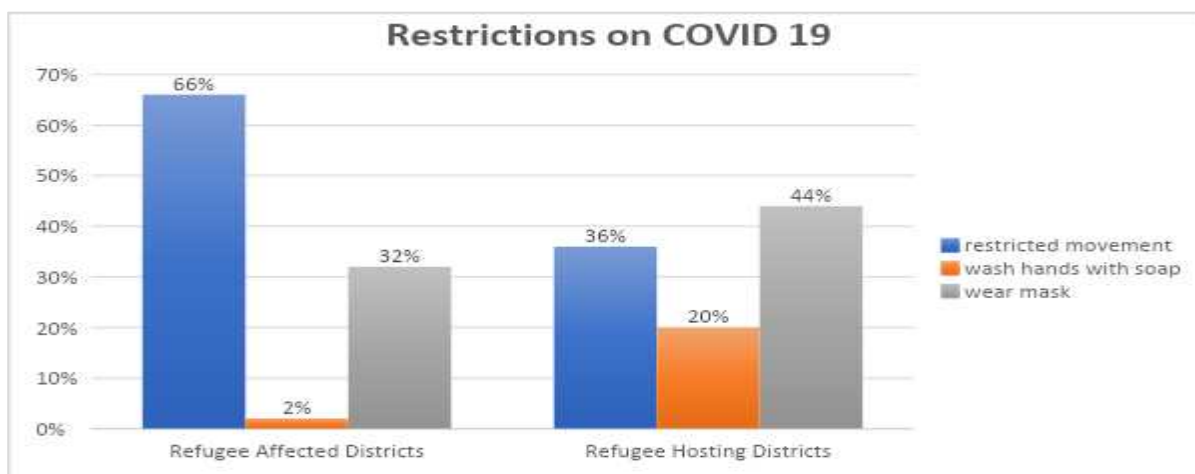
Figure 3-63: Restrictions on COVID 19

Amount of Firewood Consumed Per Day

Figure 3-64 shows that majority of the HHs in both the RAD and RHDconsume 1-5 Kgs of firewood per day. This constituted 68% and 47% respectively as highest, then followed by 6-10kgs of firewood at 21% and 41% respectively. The least number of respondents said that they consume 16-20 kgs of firewood from both RAD and RHD constituting 3%.
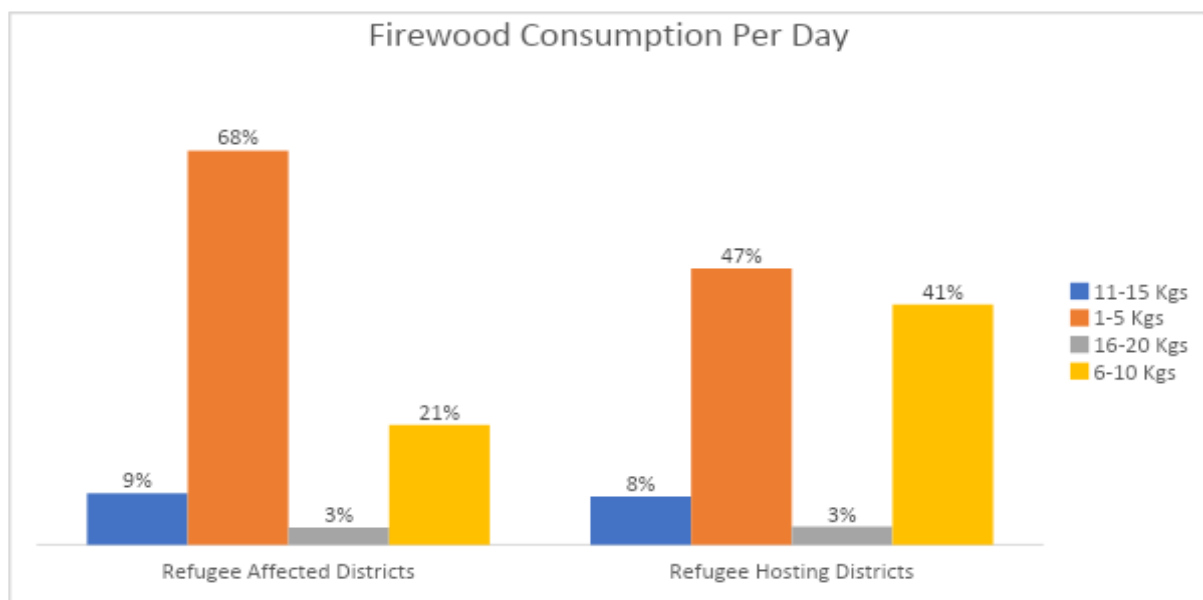
Figure 3-64: Firewood Consumption Per Day
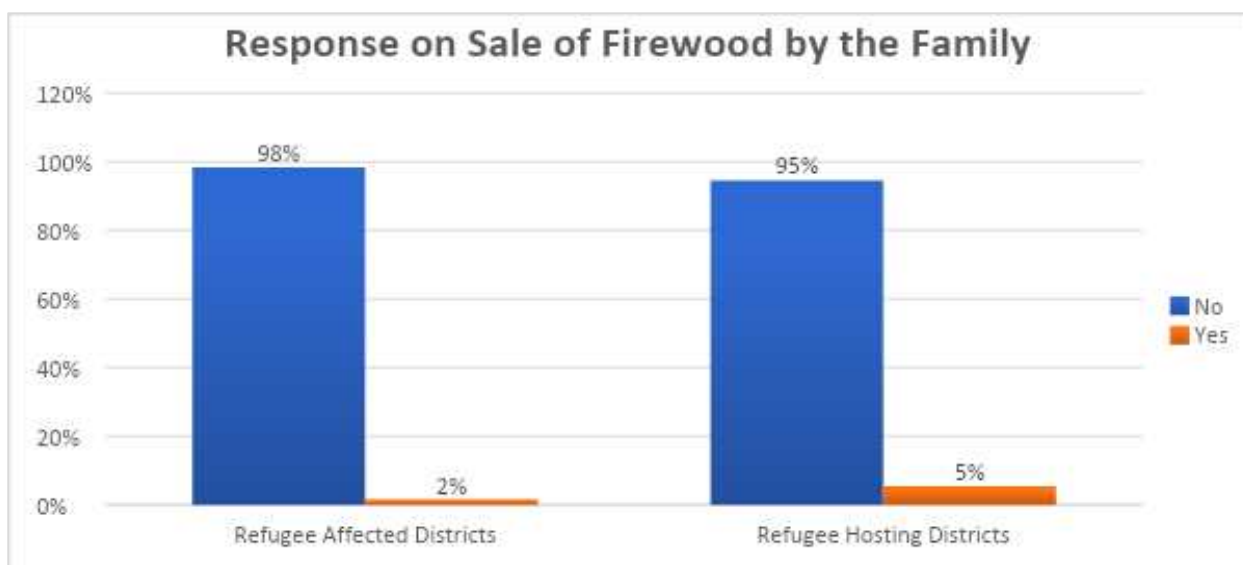
Figure 3-65: Resaponse on Sale of Firewood by the Family

Figure 3-65 above reveals that majority of the HHs disagreed that they sell firewood from both RAD and RHD at 98% and 95% respectively compared to the 2% (RAD) and 5% (RHD) who agreed that they sell firewood.

Where Fire Wood is Sold

50% of of the respondents in the RAD sell some of the firewood the markets and villages. Whereas 67% of the respondents in the RHD sold with in the village. A small minority sell of the respondents in the RHD sell in the market as illustrated in the figure 3-66 below.
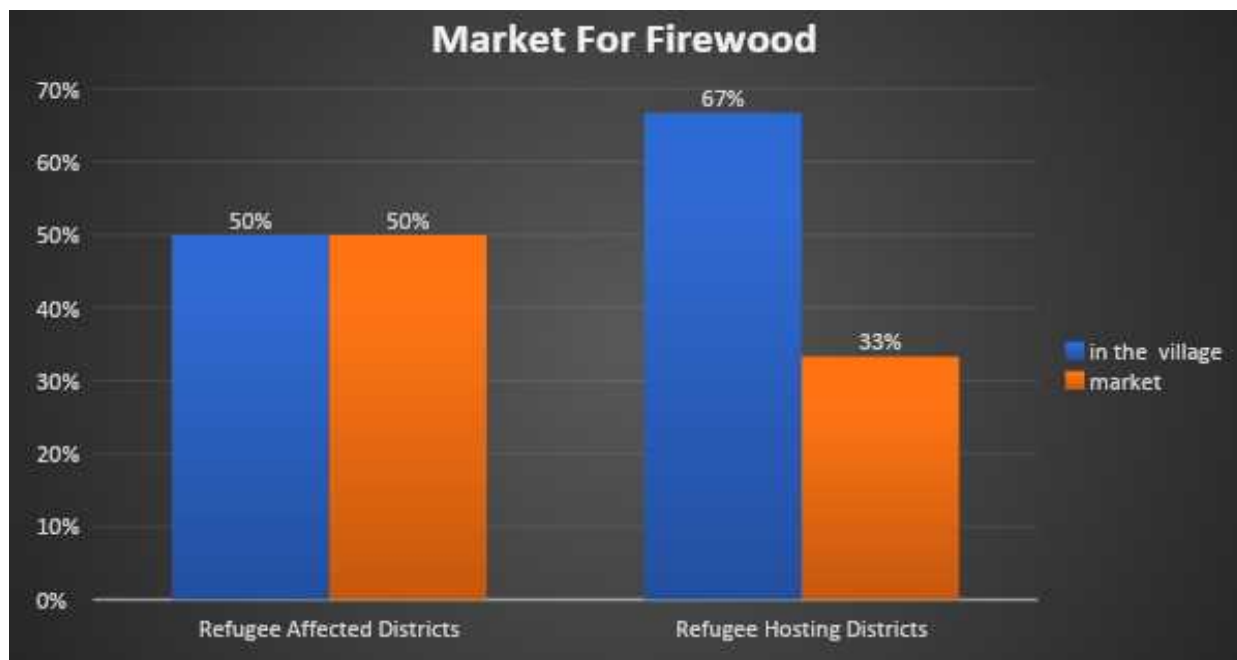
Figure 3-66: Market for Firewood

Species Suitable for Firewood

The table 3-13 below shows the rank for the most suitable firewood species for both RAD and RHD and the results reveal that the Acacia hokii species was ranked first by the respondents from RAD, followed by Combrerum molle and Acacia seyal was ranked last whereas their counterparts from RHD ranked Acacia hokii first, followed by Combrerum mole and Afzelia Africana was ranked last.

Table 3-13: Species Suitable for firewood

Type of District	Rank	Species
Refugee Affected Districts	1	Acacia hokii
	2	Combrerum molle
	3	Grewia mollis
	4	Combretum molle
	5	Acacia seyal
Refugee Hosting Districts	1	Acacia hokii
	2	Combrerum molle
	3	Piliostigma thonningii
	4	Ficus hokii
	5	Afzelia africana

3.2.3.4 Charcoal

Family Charcoal Production

According to the study conducted by UNDP in 2015 about sources of wood for charcoal production, it revealed that, without dedicated forest plantations for charcoal production in Uganda, the main sources of wood used for charcoal production are privately owned forests (43%), central forest reserves (22%), and farmland trees (20%). This explains the limited numbers of the families involved in charcoal production as the study shows that majority of the families both in the RAD and RHD do not produce charcoal represented by 85% and 95% as illustrated in figure 3-67 below.
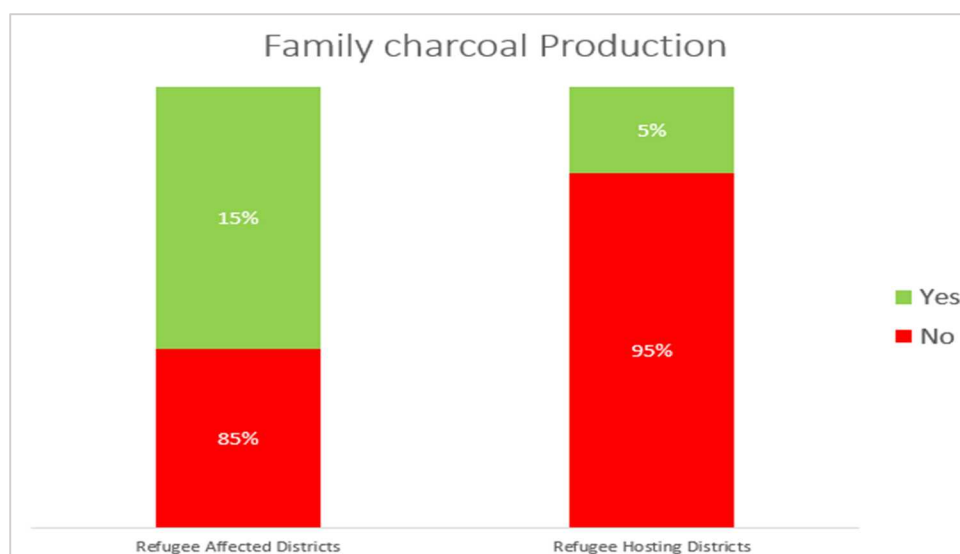
Figure 3-67: Family Charcoal Production

Furthermore figure 3-68 below shows that the HHs in RHD and RAD don't engage in a lot in the charcoal production as indicated by the amount of Kgs of charcoal produced annually. This is because most HHs seem to prefer firewood to the charcoal, and those that do engage in its production do it on a small scale as represented by the production of charcoal between 1-50 Kgs. At 10% for RADs and 6% for RHDs these are the families that decide to produce charcoal commercially to earn income from it.
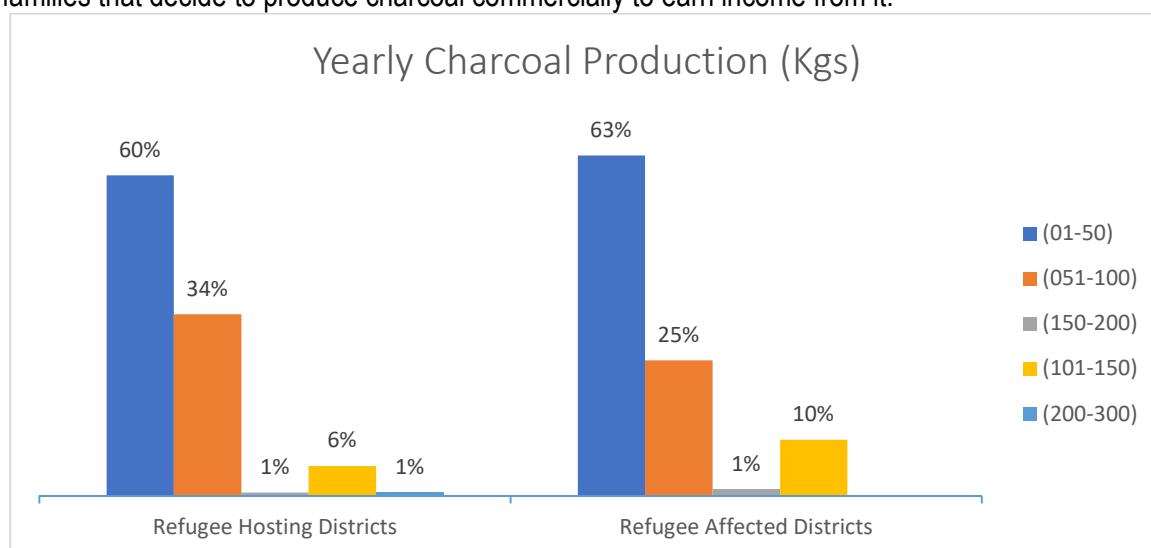
Figure 3-68: Yearly Charcoal Production (kgs)

Table 3-14: Wood species for Charcoal Production

Type of District	Rank	Species
Refugee Affected Districts	1	Combretum molle (Oduk)
	2	Dalbergia melanoxylon

	3	Azadirachta indica
	4	Vitelleria paradoxum
	5	Vitex doniana
Refugee Hosting Districts	1	Acacia hokii
	2	Combretum molle
	3	Piliostigma thonningii
	4	Ficus capensis
	5	Afzelia africana

The main species wood for charcoal production are cut branches, trunks, harvesting fallen wood from the trees in the forests and bushes. The tree species used for charcoal in the communities are shown in table 3-14 above ranked according to their frequent use.

Sale of Charcoal

The survey data indicated that majority of the HHs in both RAD and RHD do not sell charcoal constituting 85% and 93% respectively compared to the least number of HHs that sell charcoal constituting 15% and 7% as shown in figure 3-69 below.
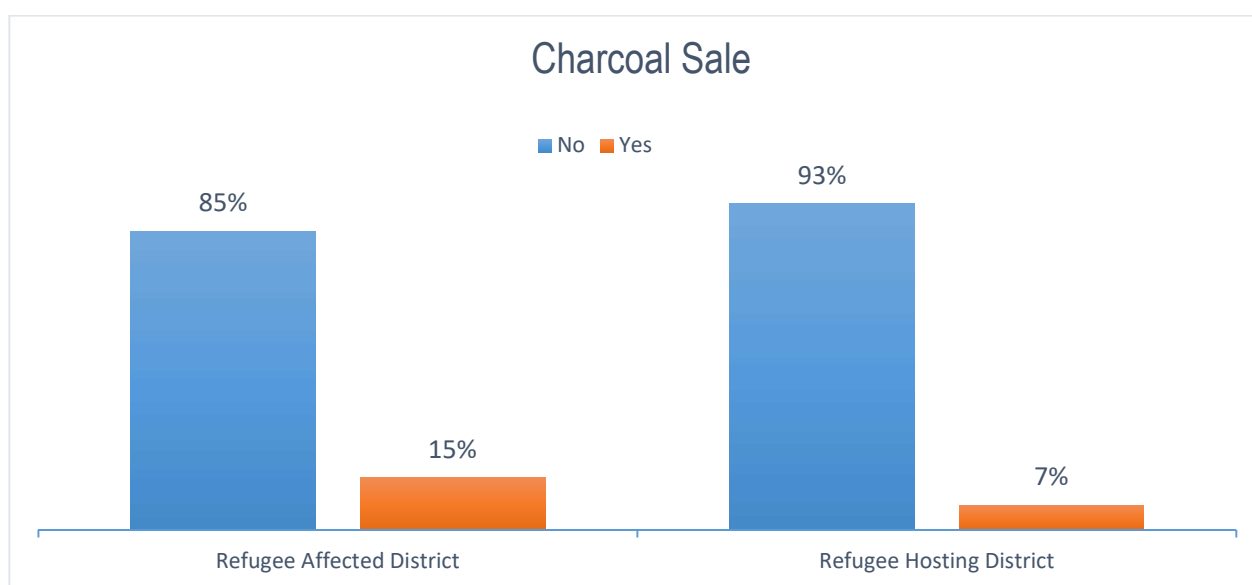
Figure 3-69: Sales of Charcoal

Price of Charcoal per Sack

The data analysed from the study shows that majority of the HHs in the RAD sell charcoal for a price range of (UGX 5,000-15,000)at 47%, (UGX 25,001-35,000) at 27%, UGX35,001-45,000 at 7% and (UGX 45,001-50,000) at 7%. For the HHs in the RHD sell charcoal for a price range of (UGX 5,000-15,000) at 75%, and (UGX 25,001-35,000) at 25%.
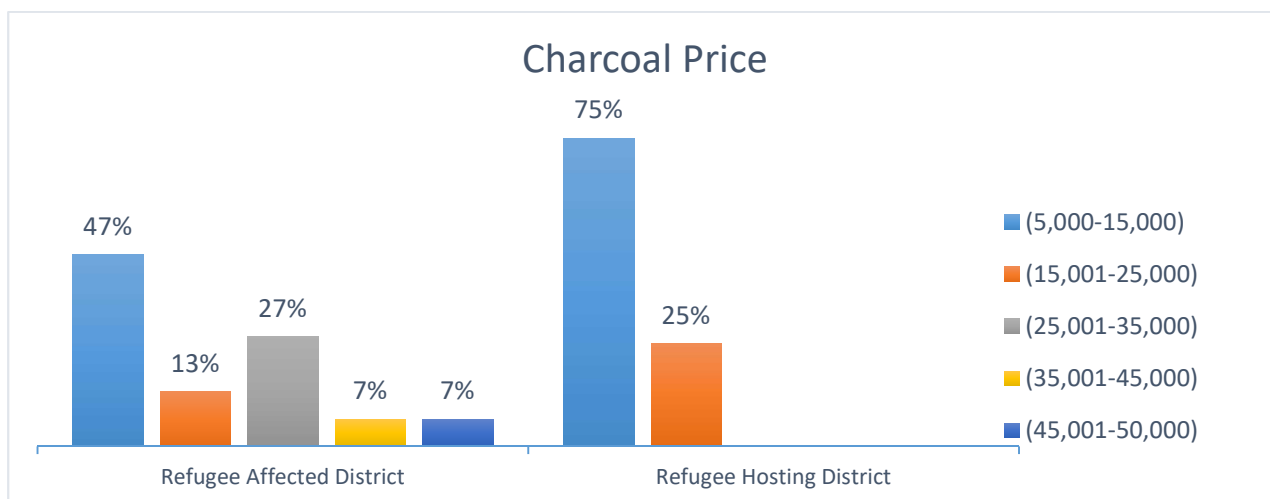
Figure 3-70: Charcoal Price

Effect of COVID-19 on the price of Charcoal

The data collected indicated that a number of the HHs in both RAD and RHD had no charcoal price changes after COVID-19 constituting 36% and 75% respectively. Those that experienced the price change after COVID-19 in both RAD and RHD are 64% and 25% respectively as shown in figure 3-71 below.
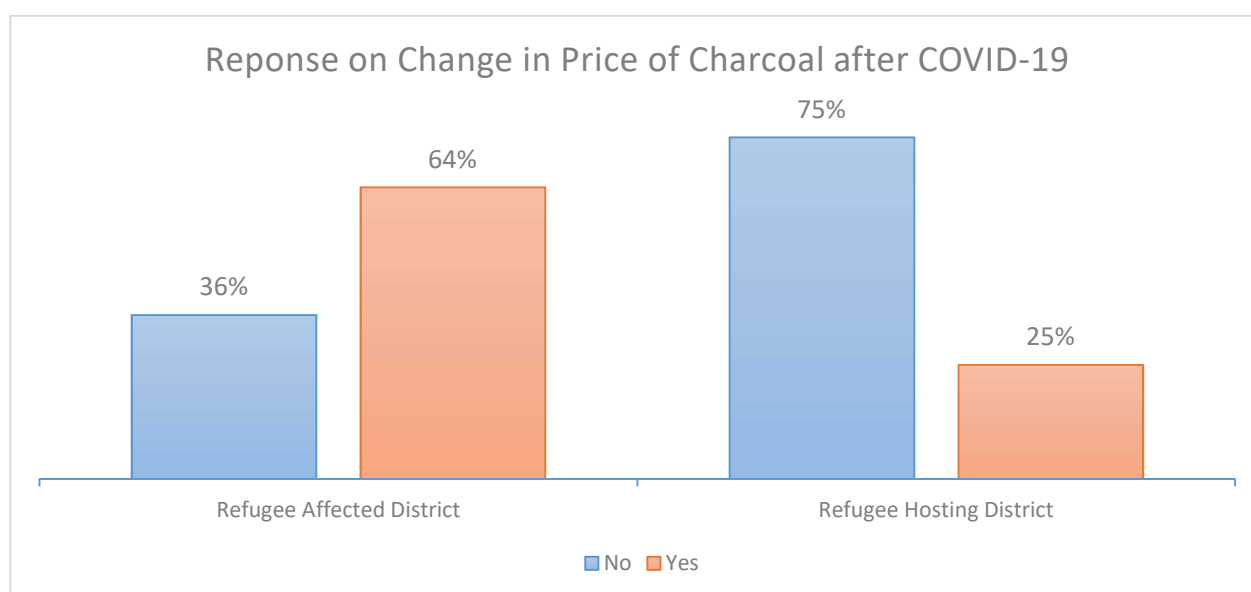
Figure 3-71: Response on Change in Price of Charcoal after COVID-19
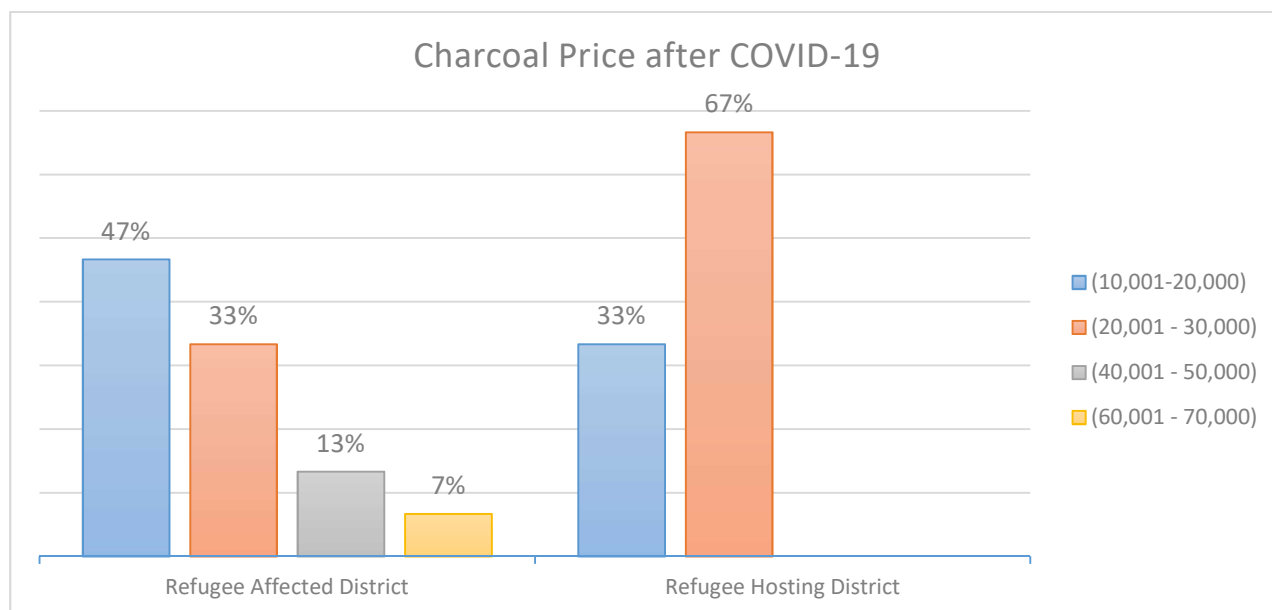
Figure 3-72: Charcoal Price after COVID-19

Figure 3-72 shows that majority of the HHs in RAD considered selling charcoal after COVID 19 between UGX 10,001-20,000 and RHD considered between UGX 20,001-30,000 and the least HHs (7%) in RAD considered between UGX 60,001-70,000 and in RHD 33%.

The study shows that majority of the HHs in both RAD and RHD sell charcoal in the village constituting 64% and 75% respectively. The least number of HHs that sell charcoal at the market are 36% and 25% for RAD and RHD respectively as presented in figure 3-73 below.
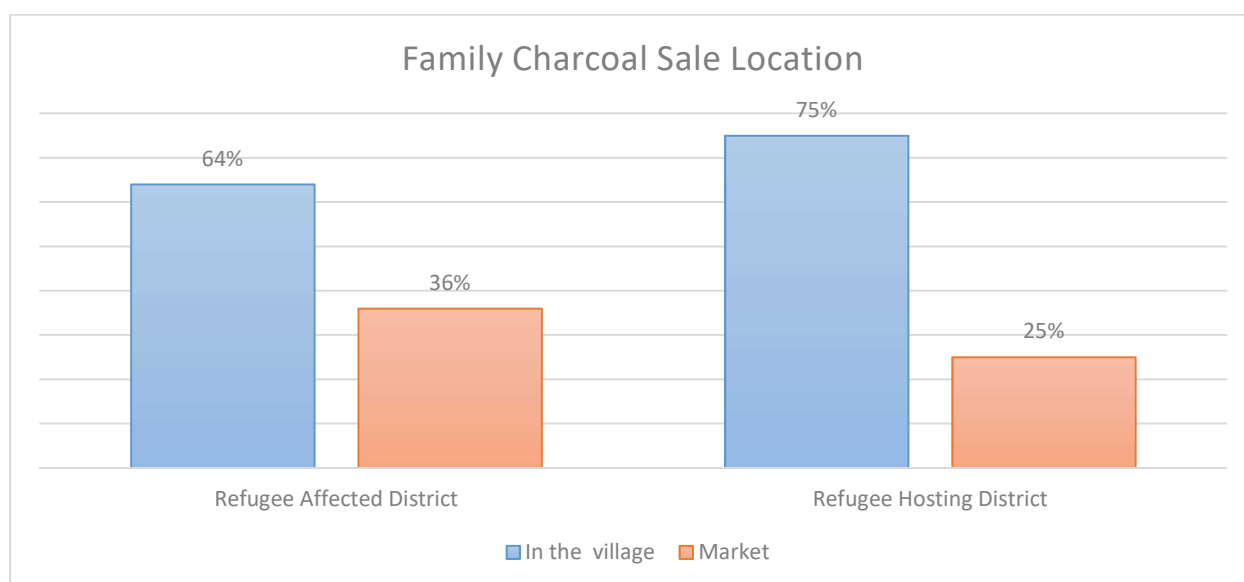
Figure 3-73: Family Charcoal Sale Location

The survey data shows that a number (12%) of HHs in RAD have charcoal sell location at (5-6) km, whereas HHs (17%) in RHD have charcoal sell locations at (2-3) km. The least of HHs, (4%) in RAD and RHD respectively have charcoal sell locations at (2-3) km, (3-4) km and (5-6) km and (7-8) km. However, majority of HHs in RAD and RHD, 72% and 75% respectively are not sure of distances to sell point location as presented in figure 3-74 below
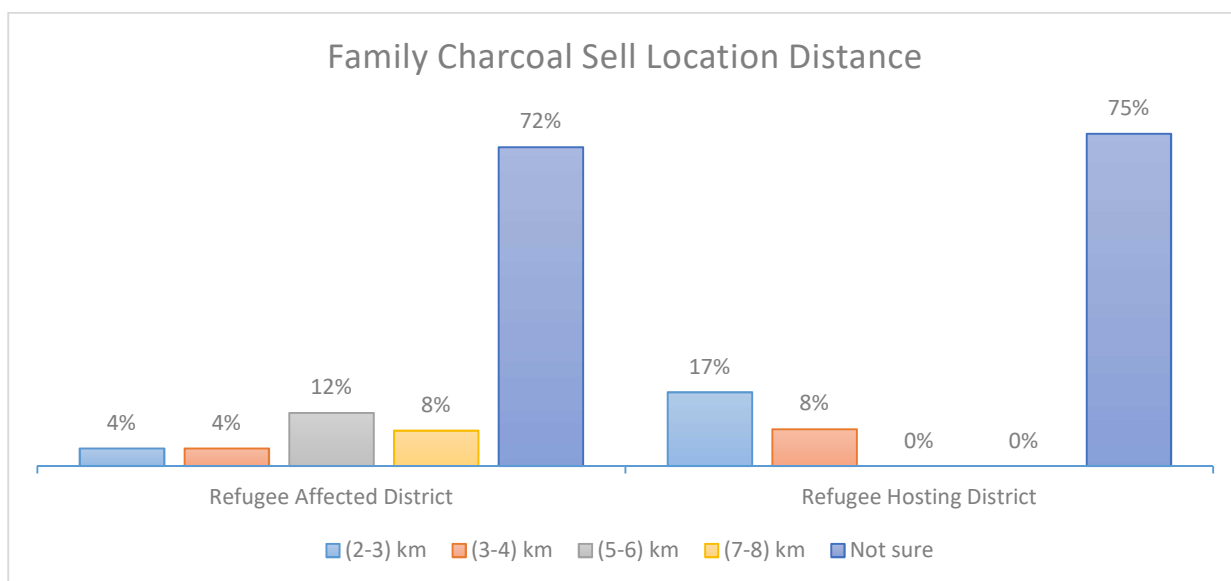
Figure 3-74: Family Charcoal Sell Location Distance

The HH survey conducted shows that majority of the HHs in both RAD and RHD sell charcoal to the consumer constituting 67% and 60% respectively. The least number of HHs (11%) sell charcoal to the reseller in RAD and 20% of HHs in the RHD sell charcoal to the broker and reseller respectively as shown in the figure 3-75 below.
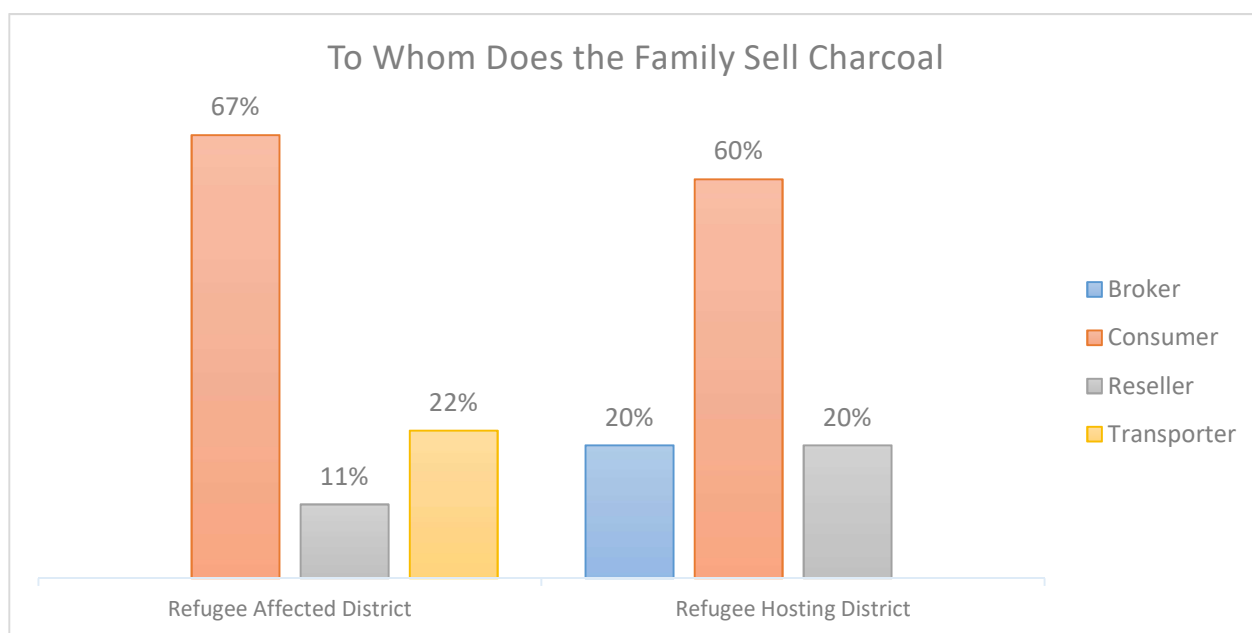
Figure 3-75: To whom does the Family sell charcoal

3.2.3.5   Cooking

Number of Cooking Times Per Day
The study shows that 53% of the HHs in the RAD are able to prepare three meals a day that is breakfast, lunch and dinner, 38% prepare only lunch and dinner while 5% prepare only one meal for the day and 4%

prepare 4 meals. 48% of the HHs interviewed in the RHD are able to prepare two meals a day, 35% prepare three meals a day, 16% prepare one meal and 2% prepare four meals as illustrated in the figure 3-76 below.
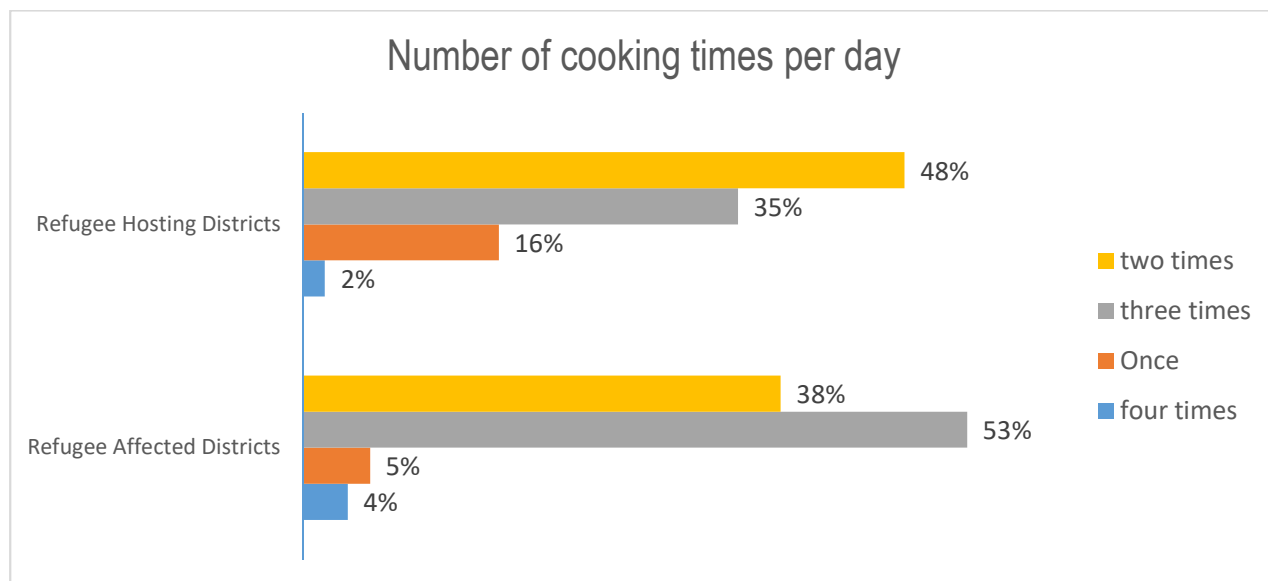
Figure 3-76: Number of cooking times per day
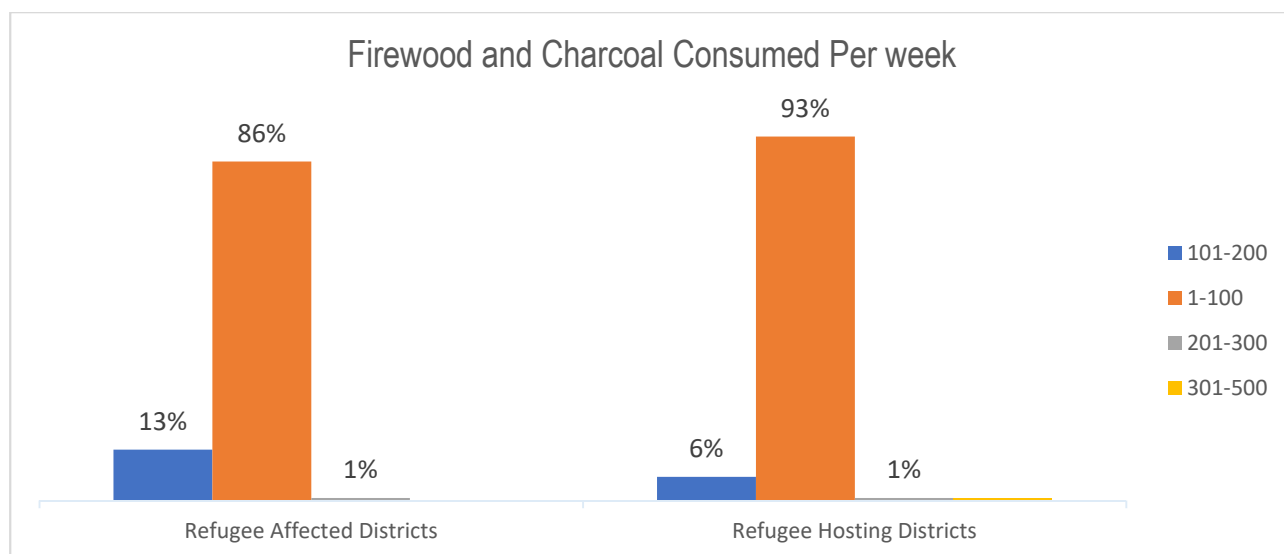
Figure 3-77: Firewood and Charcoal Consumed per week

Weekly consumption of firewood and charcoal was assessed and the survey revealed that within the RAD 86% consumed was between 1 to 100 Kgs per week. 13% of the HHs or families consumed between 101 to 200 Kgs of firewood per week as presented in figure 3-77 above. While 93% of the RHD respondents consumed between 1 to 100 Kgs of firewood per week. 6% consumed between 101 to 200 Kgs per week while 1% consumed between 201 to 300 Kgs per week.

Methods or Stoves Used for Cooking
The study reveals 58% of the RAD HHs use the three stone fire mainly for cooking, 25% use Mudstove (firewood) and 17% use Mud stove (charcoal) for cooking and heating. In the RHD 48% of the HHs use Mudstove firewood, 33% use three stone fire, 13% use Mudstove charcoal, while 3% and 2% use Metalstove charcoal and ceramic charcoal methods of cooking respectively.

The three stone fire was mainly used in the RAD because it is a practice that has been in rural areas for many years and they are made at a no cost and those in RHD are majorly using mudstove (firewood) because of the intervention brought by government and NGOs operating in the refugee settlements as indicated in figure 3-78.
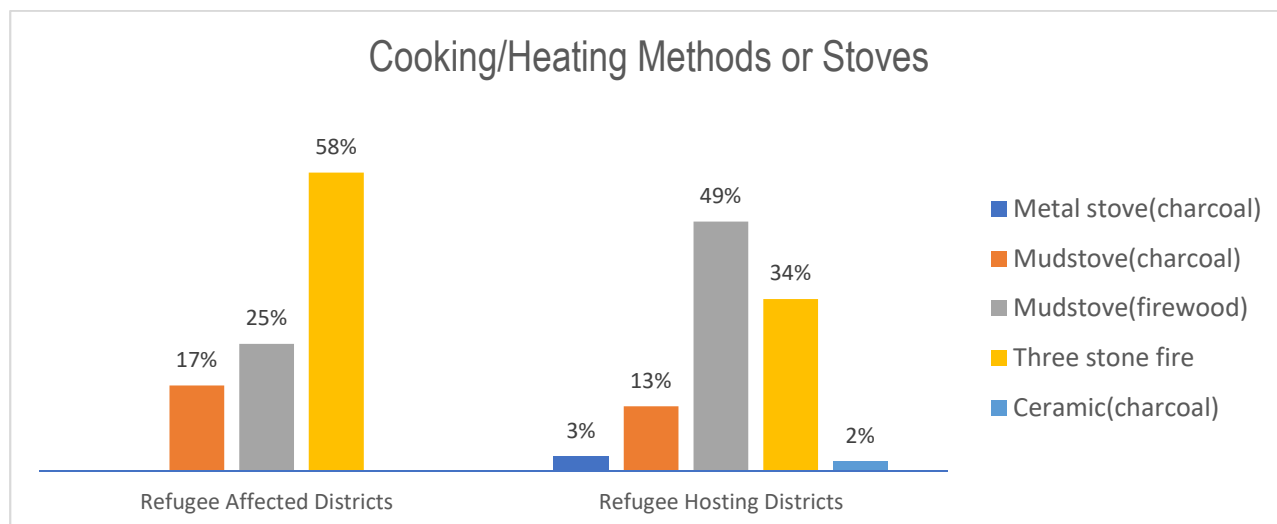
Figure 3-78: Cooking/ Heating Methods or Stoves

Generally, the most common method of cooking is use of Mudstove firewood and the three stone fire in both the RAD and RHD.

Location of the Cooking Stoves
The study indicates that majority of the HHs in both the RAD and RHD have a dedicated kitchen for cooking with the percentages of 93% and 52% as illustrated in the figure 3-79 below. It was also noted that 37% of the HHs in the RHD cook from outdoors.
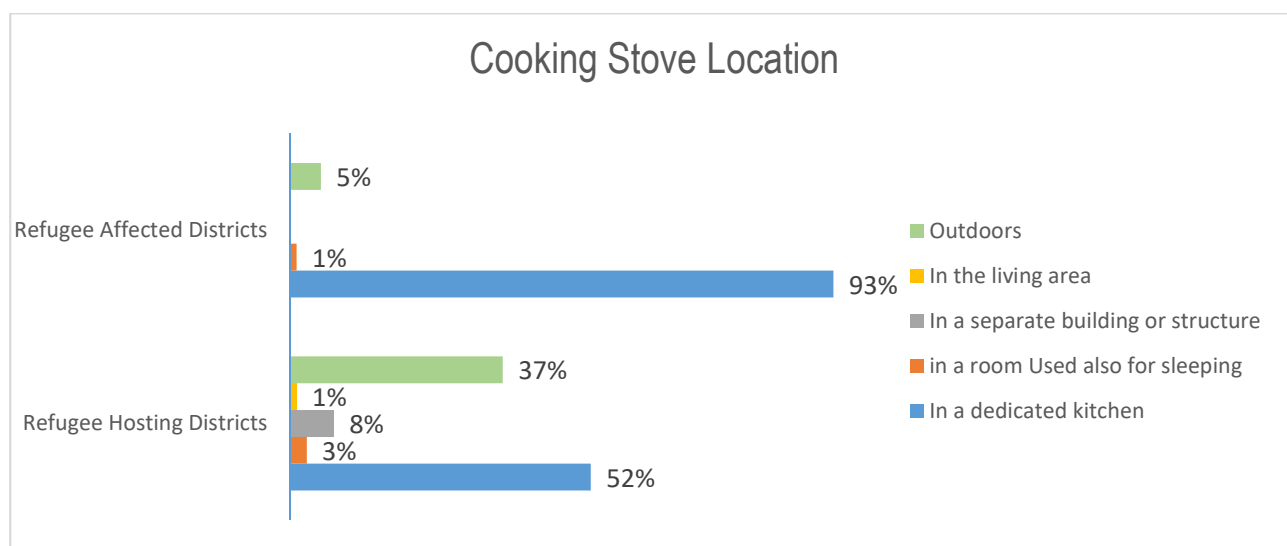
Figure 3-79: Location of Cooking Stoves

Disadvantages of the Cooking Stove
The major disadvantage of using the cooking stoves in both the RAD and RHD is affordability of their fuel as majority of the HHs who had the cooking stoves say they are expensive to use because of the fuel costs. 63%

of the RAD respondents say the fuel costs for the cooking stoves is high compared to the 53% in the RHD as illustrated in the figure 3-80 below. The other disadvantages are;

- Bad weather eg. wind, rain;
- No light in the dedicated kitchen;
- A lot of temperature and heat from the stoves;
- The cooking stoves are not stable while they are cooking;
- The cooking stoves are not durable etc.
- The cooking stoves are not mobile
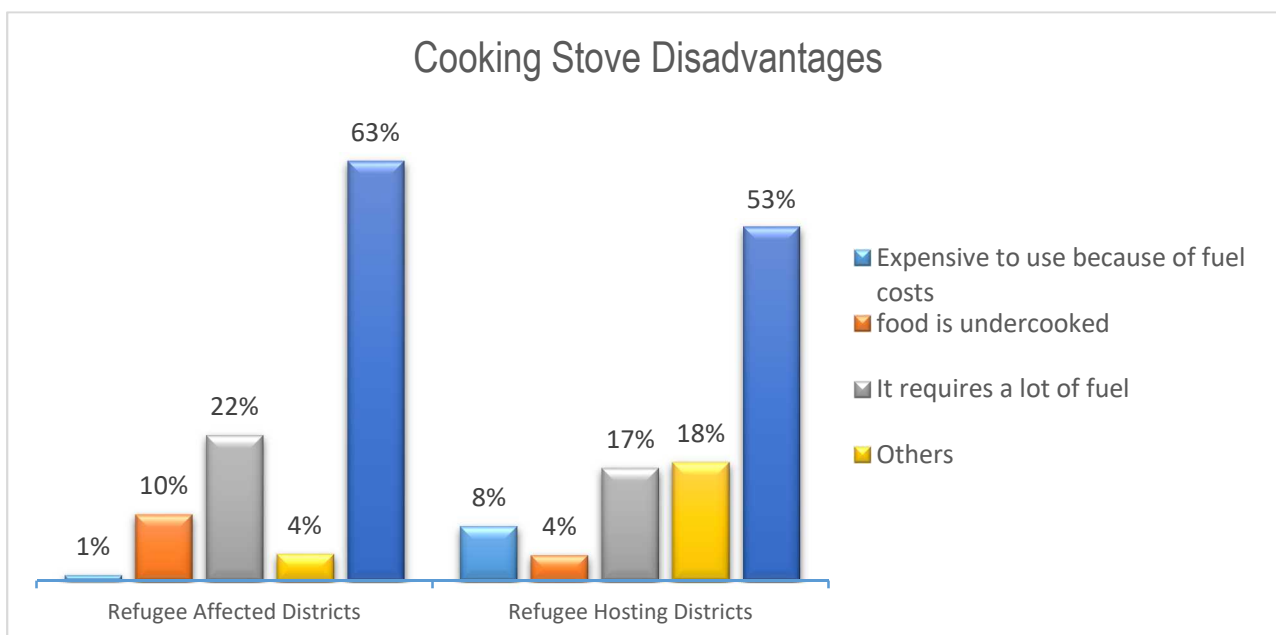
Figure 3-80: Cooking Stove Disadvantages

Source of the Stoves

The study revealed that in the RADs and RHDs 84% and 53% respectively of the homesteads self-produced their stoves. However, the other few sources were being given by their neighbors and relatives as illustrated in the Figure 3-81. Below. The study also indicates a higher percentage of the NGO support in providing the cooking stoves to the RHD community compared to the RAD at 22% and 4% respectively.
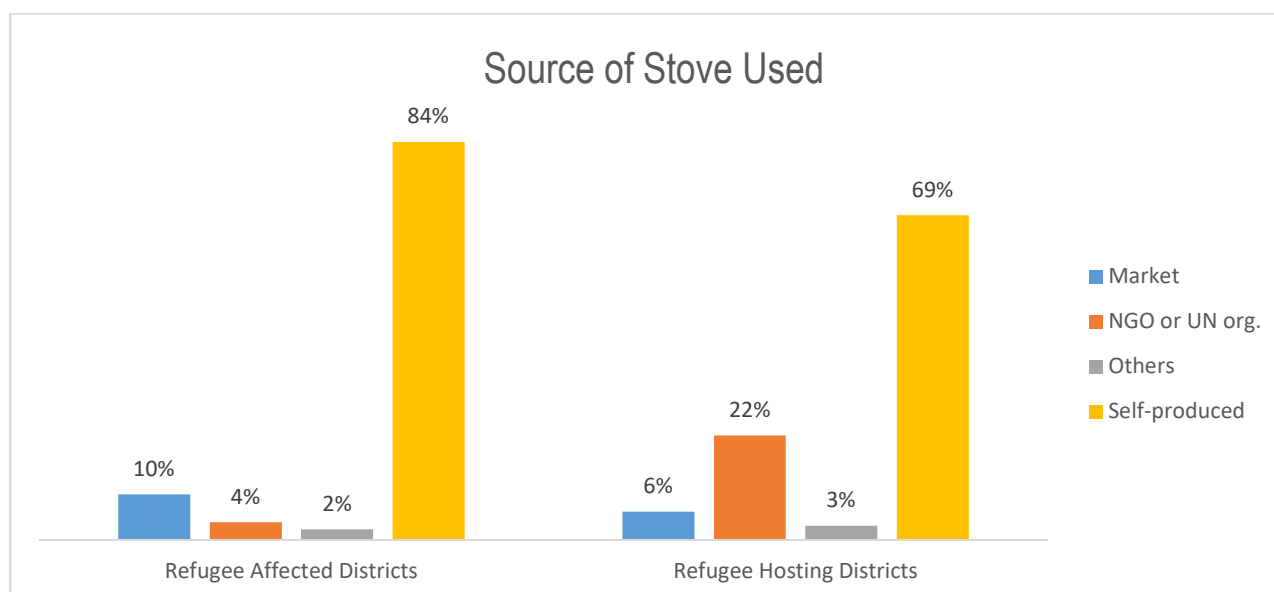
Figure 3-81: Source of Stove used

Cooking Technology preferred by the HHs
Figure 3-82 shows that the preferred cooking technology for RAD is mudstove (firewood) and this constitute 32%. The other main preferred cooking technologies include mudstove (charcoal), ceramic (firewood) and ceramic (charcoal) and these constitute (26%), (12%) and (9%) respectively.

The results also indicate that the preferred cooking technology for RHD is mudstove (charcoal) and this constitute 33%. The other main preferred cooking technologies include metal stove(charcoal), mudstove (firewood) and metal stove (firewood) and these constitute (24%), (19%) and (8%) respectively.
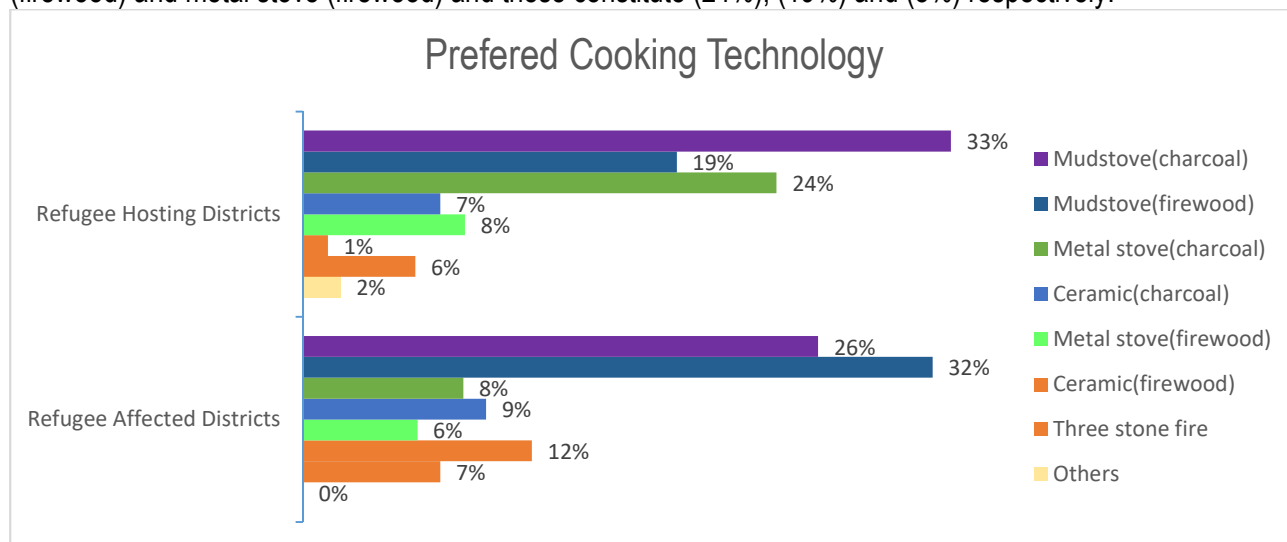
Figure 3-82: Preferred Cooking Technology

Type of Pot Used
The common pot type used both in the RAD and RHD are the no leg pots followed by the source pan and lastly the three leg standing pots as illustrated in the figure 3-83 below.
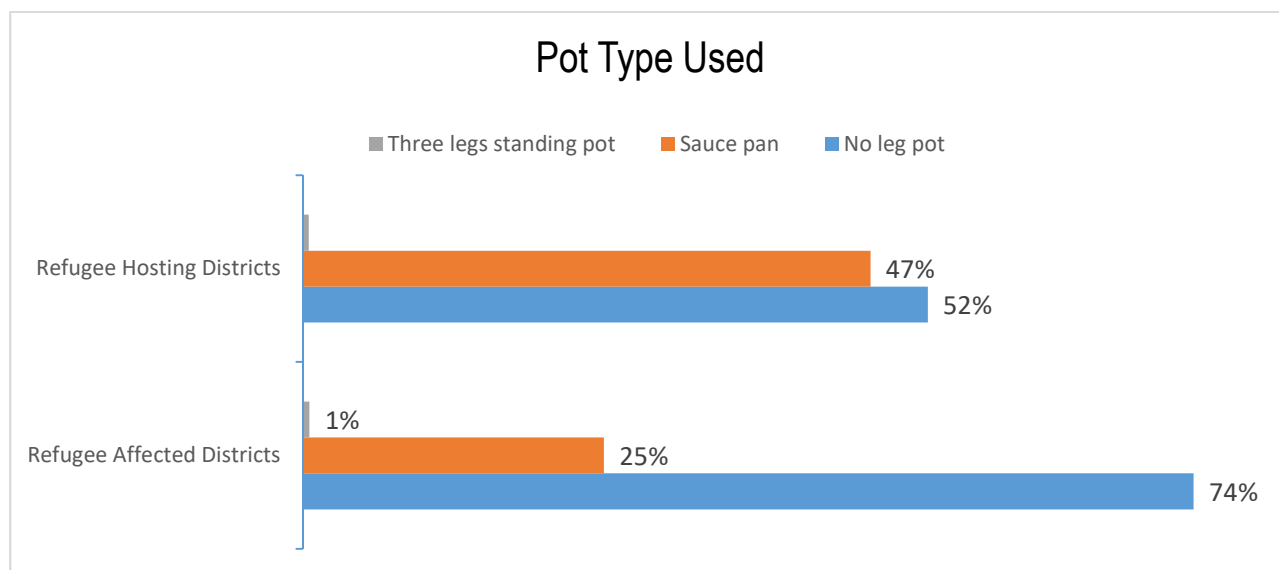
Figure 3-83: Pot type Used

The main color of pots used by the respondents interviewed both in the RAD and RHD are black at 98% and 79%respectively as illustrated in the figure 3-84 below.
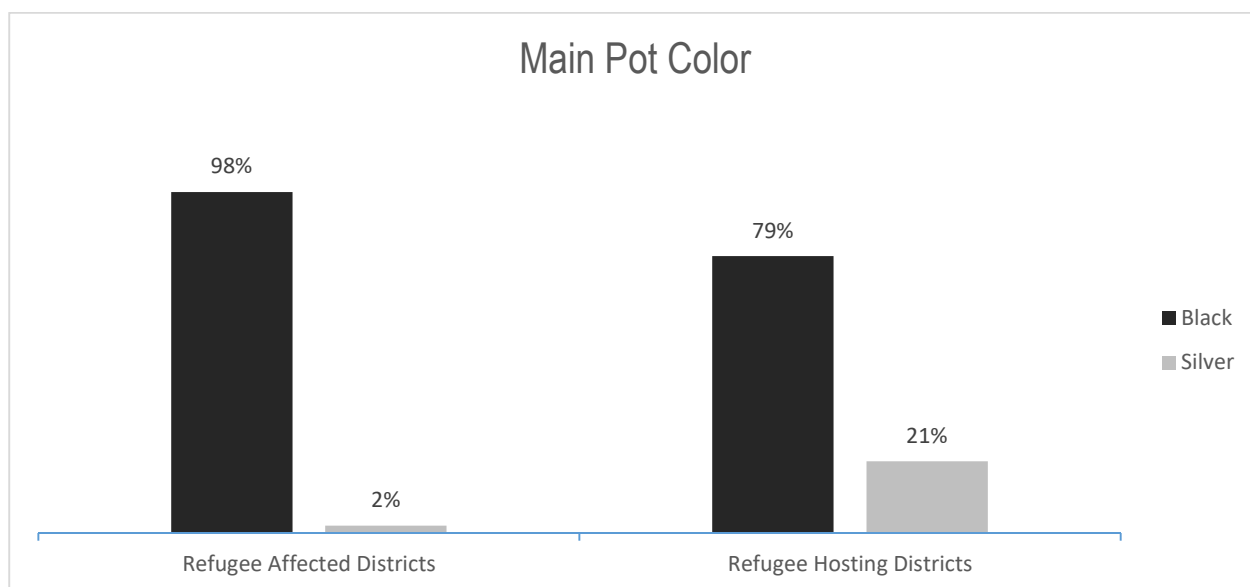
Figure 3-84: Main Pot Color

Use of Pot Lids

Generally, majority of HHs in both the RAD and RHD do not use pot lids with the RAD superseding the RHD. 72% of the HHs in the RAD do not use pot lids while 28% use them compared to the 49% of the HHs in the RHD don't use the pot lids while 51% use them as illustrated in the figure 3-85 below.

The pot lids are frequently used by the respondents during preparation of the meals to cover the food.
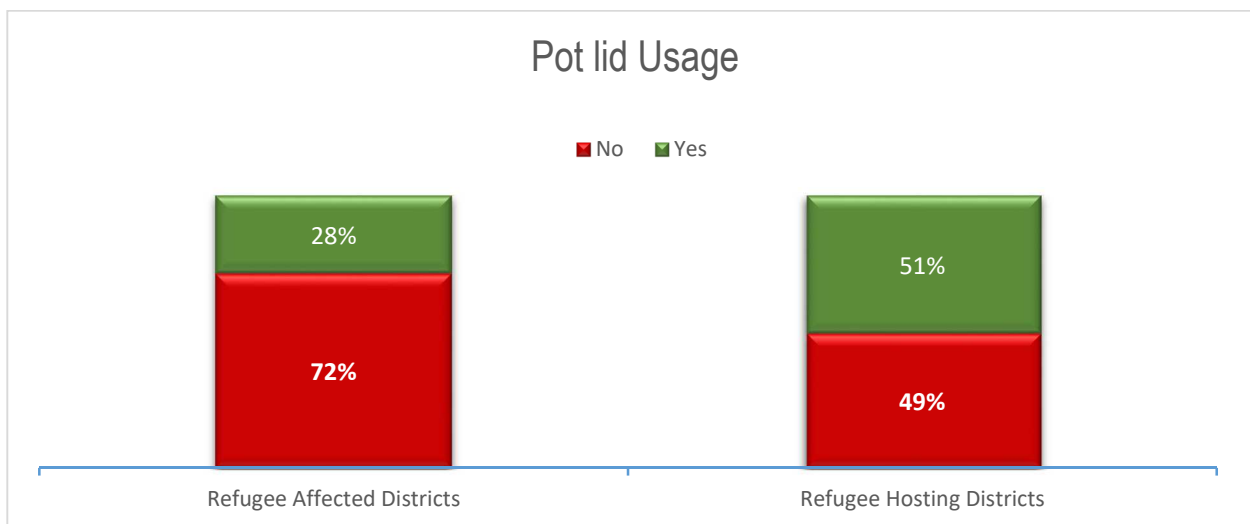
Figure 3-85: Pot lid Usage

Majority of the HHs in both the RAD and RHD open the pot lid more than 5 times when cooking a meal and this constituted 55% and 79% respectively as highest and the least number of respondents said that they open the pot lid one time when cooking a meal and this constituted 9% and 6% respectively as indicated in figure 3-86.
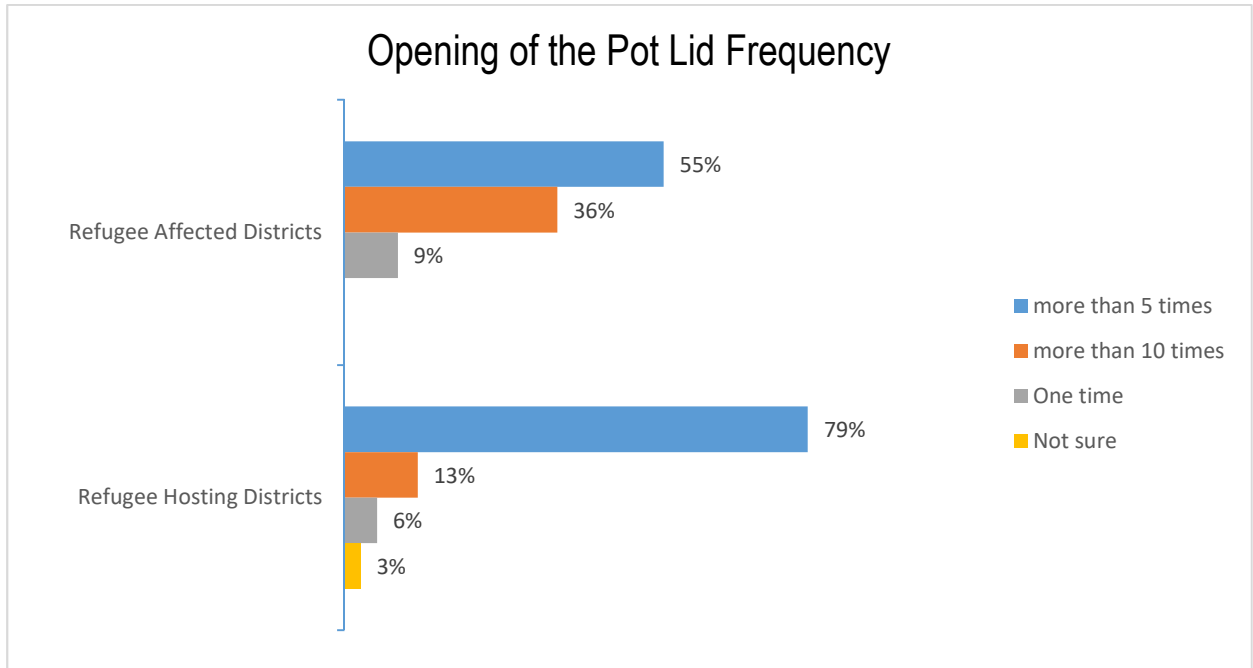
Figure 3-86: Opening of the Pot Lid Frequency

3.2.3.6   Type of Food and Preparation
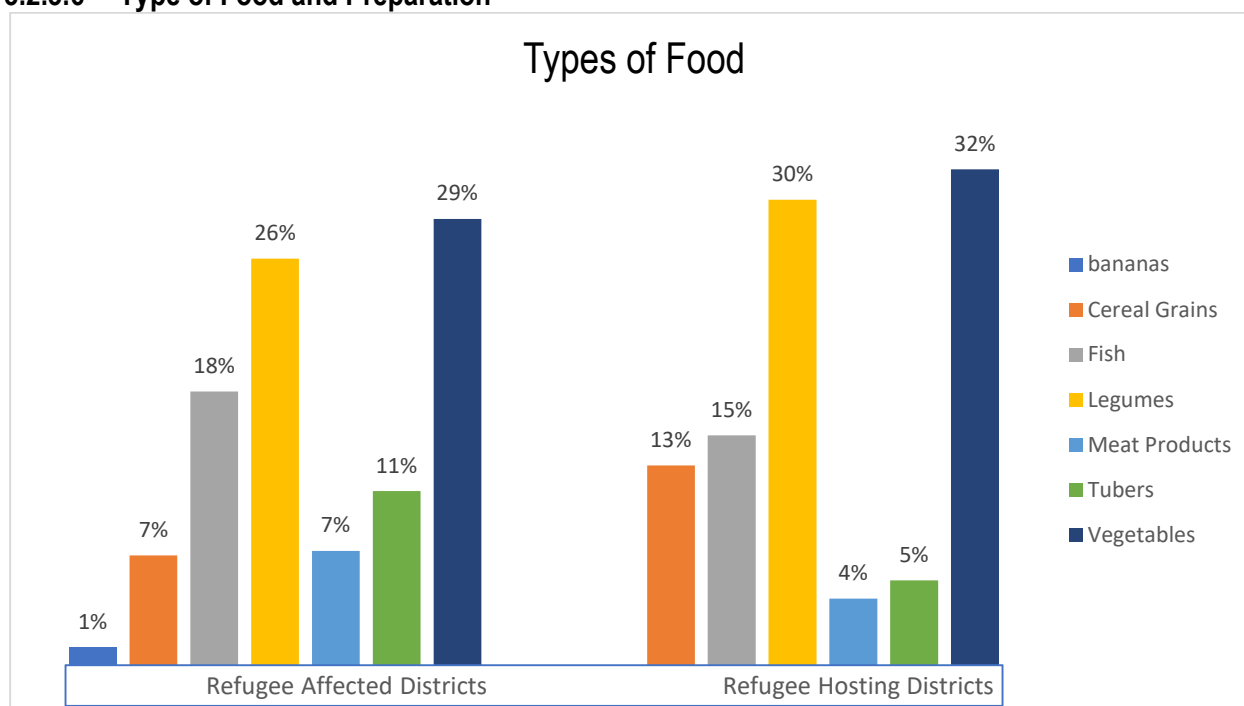
Figure 3-87: Type of Food

Figure 3-87 shows that vegetables were the major type of food consumed by the HHs in both the RAD and RHD. The results reveal that the HHs in RHD had the highest number (32%) compared to the RAD that constituted 29% of the respondents. The vegetables consumed by the HHs were of different categories that included; dodo, okra, amarantus, egg plants, pumpkins, pumpkin leaves and cassava leaves).

The second type of that was consumed by the HHs in both categories was legumes which include; beans, cow peas, pigeon peas, and ground nuts) and the RHD had the highest number of HHs (30%) that consumed legumes compared to their counterparts from the RAD that had (26%) of the HHs. The food type that was least consumed by the HHs was bananas (1%) in the RAD compared to RHD who had no HH consuming bananas. The vegetables were most consumed because they grow over a short period and are easy to access compared to other crops that always take a over 3 months to grow.
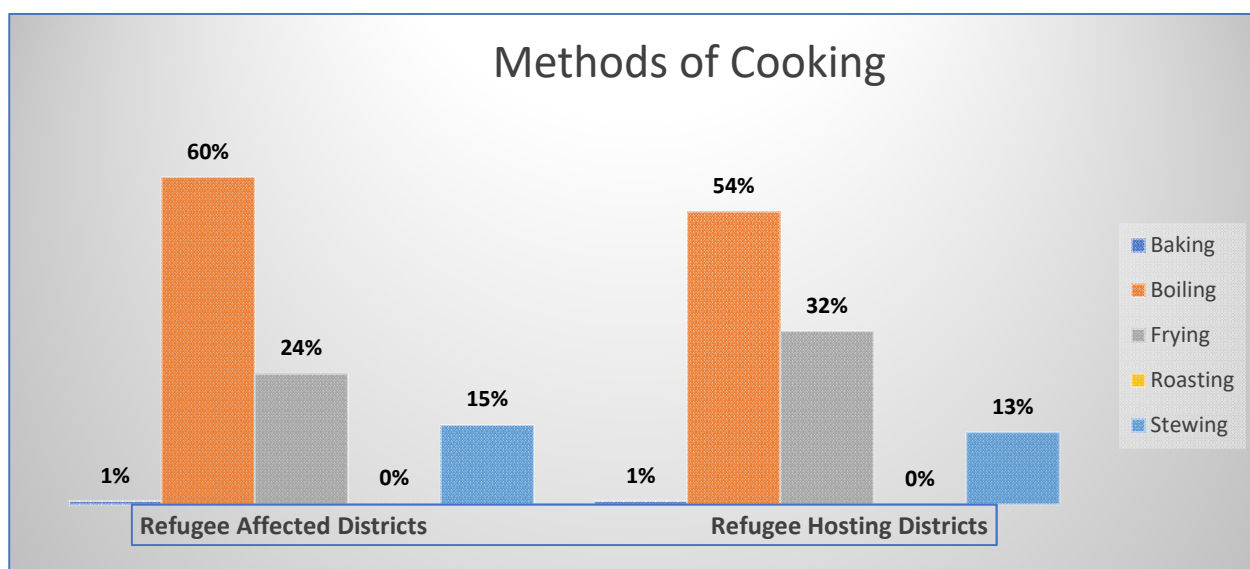
Figure 3-88: Methods of Cooking

Figure 3-88 shows the different methods used by the HHs to prepare the different types of food. The results reveal that majority of the HHs from both categories used boiling method to prepare the food types consumed. The HHs from the RAD constituted the highest number of respondents (60%) whereas the RHD followed with 54%. The major foods prepared using these methods were legumes (beans, cow peas, soya beans, and pigeon peas) and vegetables (okra, onedi, cassava leaves, yams and pumpkin leaves).

The second method used was frying for both the RAD and RHD at 32% and 24% respectively. The major food prepared using this method was majorly fish and meat products such as beef and chicken. The least method used was roasting for both RAD and RHD.
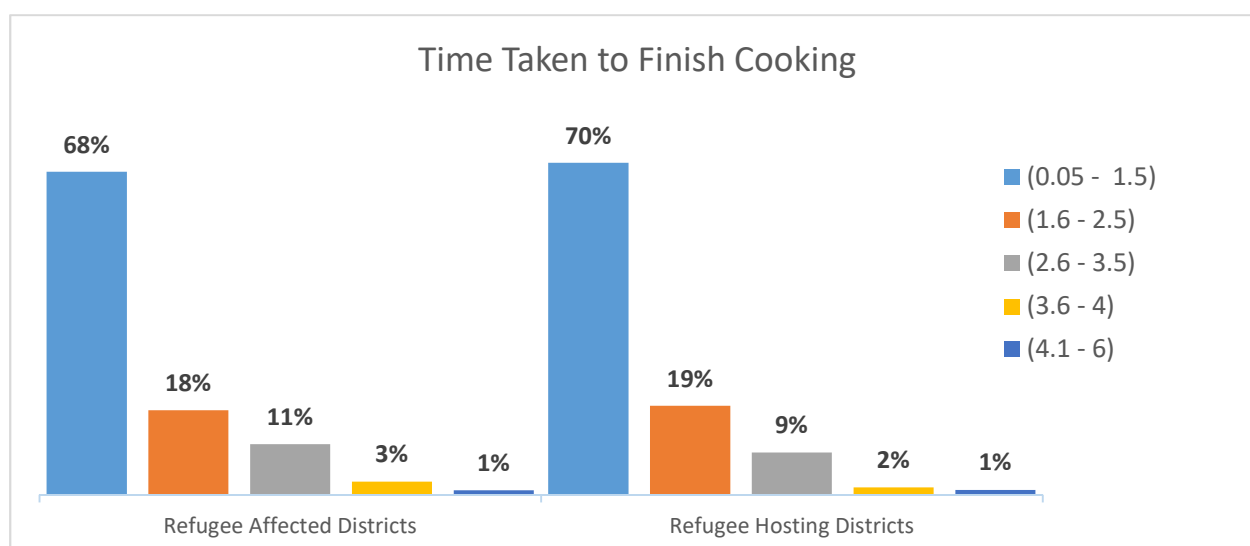
Figure 3-89: Time Taken to finish cooking

Figure 3-89 results reveal that 68% of HHs from RAD and in RHD 70% spend up to 1.5 hours to finish cooking when preparing meals like vegetables e.g dodo, amarantus, awaluwala, pumpkins and pumpkin leaves, esosudo, nedi and tubers like cassava and potatoes. Only 1% of HHs in the both RAD and RHD spent between 4 to 6 hours to finish cooking. Usually hard food like dry beans take longer time to cook.
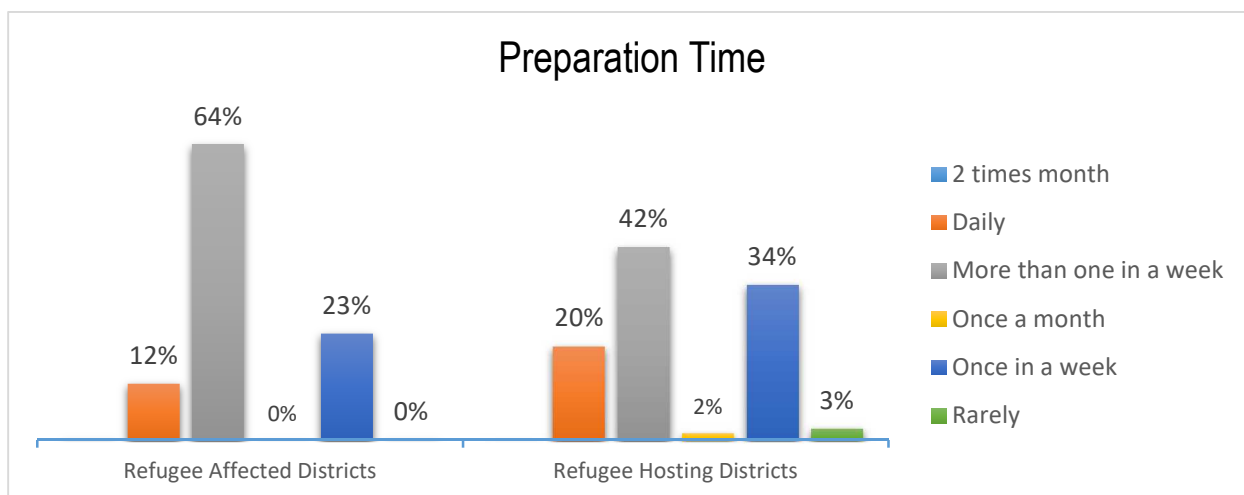
Figure 3-90: Preparation Time

Figure 3-90 shows the number of times in which the different types of food was prepared and the results reveal that most of the HHs considered preparing some types of food more than once weekly and this foods include majorly the vegetables such as dodo, egg plants, okra, legumes such as beans, cow peas and pigeon peas and tubers such as cassava and the highest number of HHs who prepared this food type more than once in a week were those from the RHD constituting 64% of the HHs compared to their counterparts from the RAD with 42%.

The food stuffs that were prepared once in a week followed for both categories with RHD leading with 34% and RAD constituting only 23% of the HHs and the foods types were similar but this was due the difference in the HH livelihoods. The food types that were prepared once in a month constituted the least number of HHs, and HHs from the RHD had the highest number (2%) whereas RAD never had HHs who would take a month to prepare those types of food. This can be explained by the difference in the livelihoods sources of the individual HHs.

3.2.3.7   Consumption of Fuel

Type of Fuel

The main type of fuel used by the RAD is crop residues at 59% and grass/straw at 41%. None of these HHs use animal dung. In the RHD the common type of fuel used is grass straw at 59% followed by the Crop residues at 35% and only 6% used animal dung as illustrated in the Figure 3-91 below.
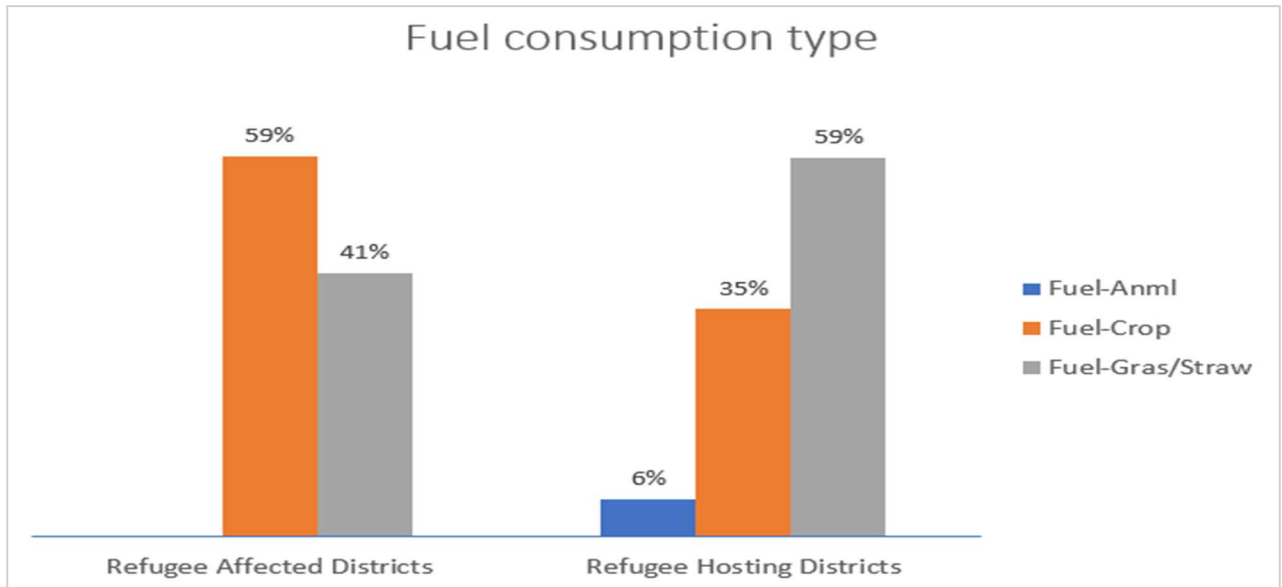
Figure 3-91: Fuel Consumption Type

Fuel Consumption Quantities

The study shows that majority of the respondents from both RAD and RHD were not sure of the quantities of fuel that they consumed since they didn't consume them regularly and had no records of whatever consumed.

Main uses of the Fuel

The study indicates that the main consumption of fuel both in the RAD and RHD is mainly cooking as illustrated in the figure 3-92 below.
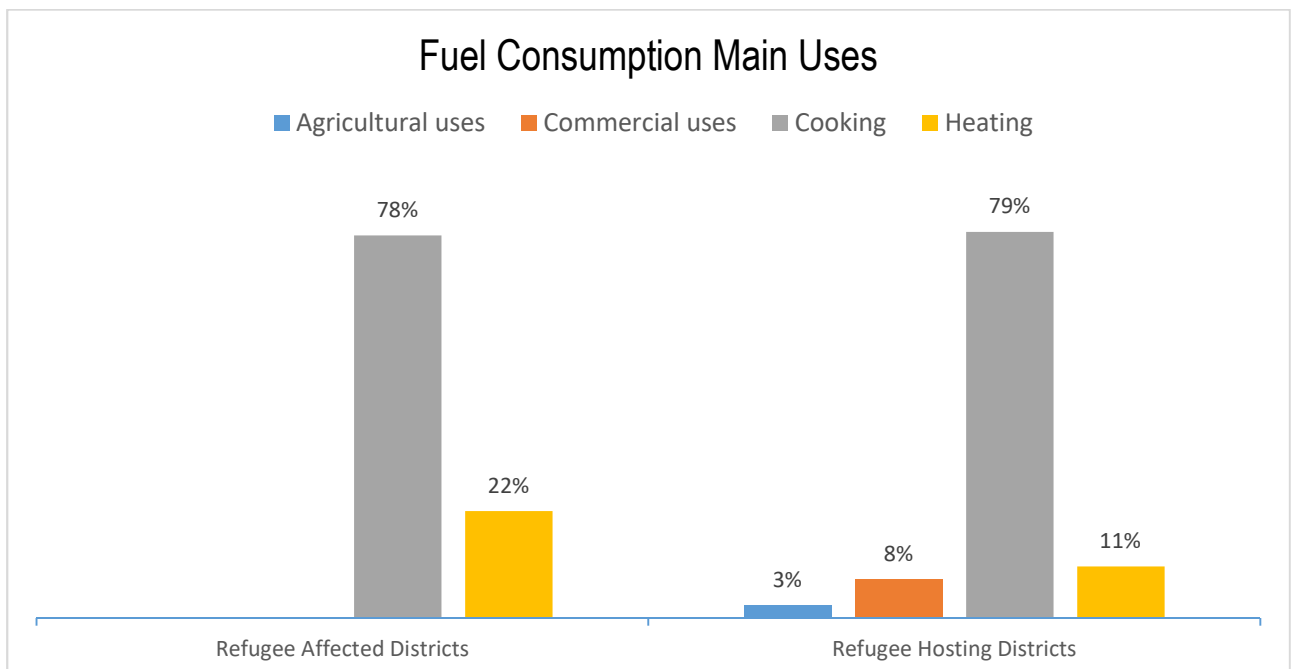
Figure 3-92: Fuel Consumption Main Uses

3.2.3.8 Tree planting

Uganda has a rapidly growing population, which is putting a great deal of stress on the country's forests by increasing demand for firewood, pushing agricultural expansion, and expanding land settlement. As a result, Uganda now has one of the highest rates of deforestation in the world. In Northern Uganda, much of the forest has been cleared for charcoal production, degrading wildlife habitat and presenting hardship for local farmers.

The analysis in figure 3-93 below shows that majority of the HHs in both the RAD and RHD have ever planted trees constituting 66% and 61% respectively, an indication of positive attitude to tree planting. The least number of respondents from the RAD and RHD said that they have never planted trees at 34% and 39% respectively.
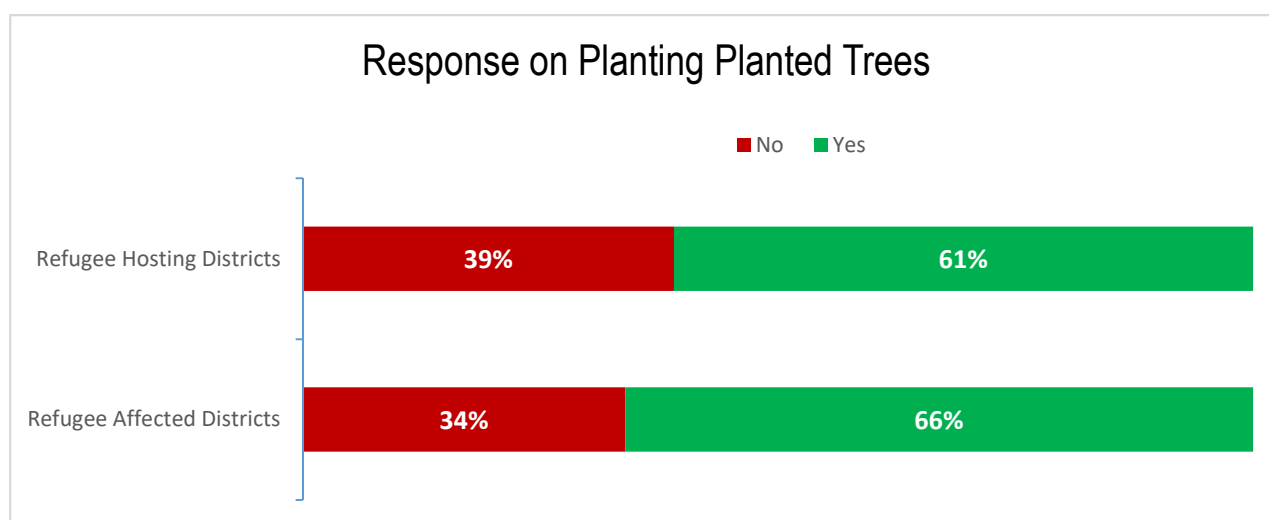
Figure 3-93: Have Planted Trees
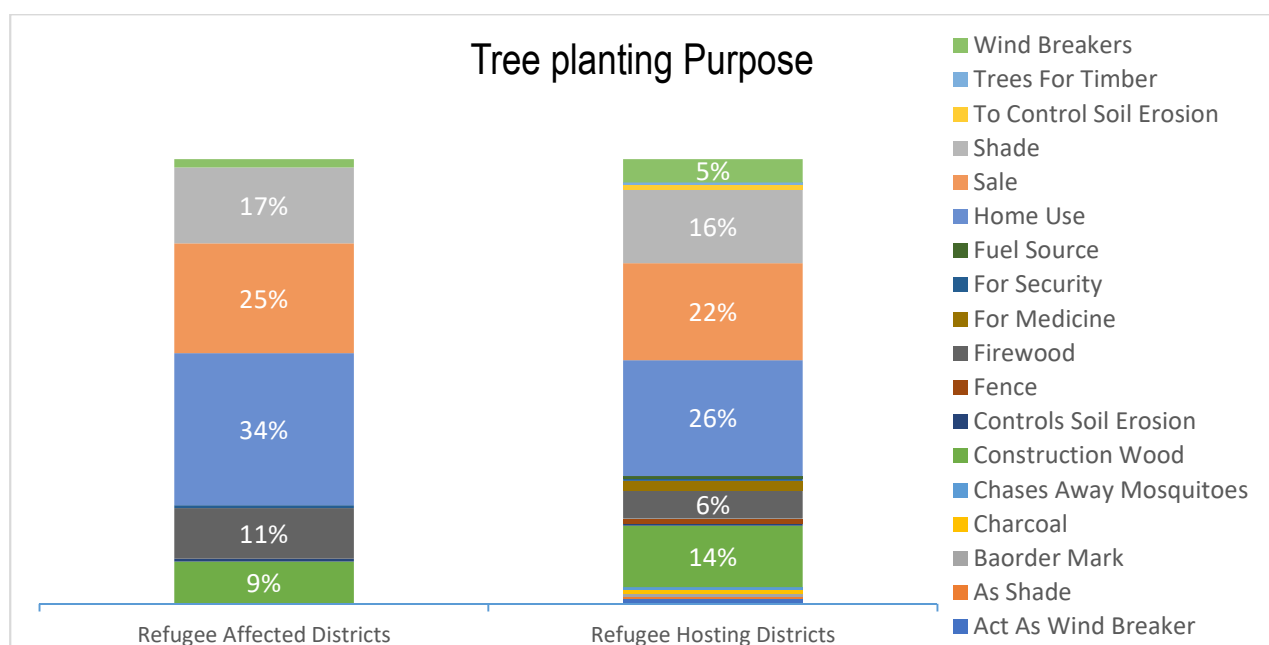
Figure 3-94: Tree Planting Purpose

It is evident that both RHD and RAD had similar purposes for planting trees with both indicating home use as their major purpose at 26% and 34% respectively. Planting trees for sale to get income came in second at

22% and 25% for RHD and RAD respectively. The need for shade from the harsh humid heat coming in third place for both RHD and RAD as illustrated in figure 3-94 above.

The study shows that most of the trees were planted between 2 to 5 years ago especially for the RHD at 67%, which could coincide to the global awareness to climate change that has led to several initiatives to encourage locals plant trees to combat the climate changes. HHs in RAD seem to hold steady in their tree planting pattern over the last two decades hence tree planting seems to be a seasonally or yearly activity in the RAD as illustrated in the figure 3-95 below.
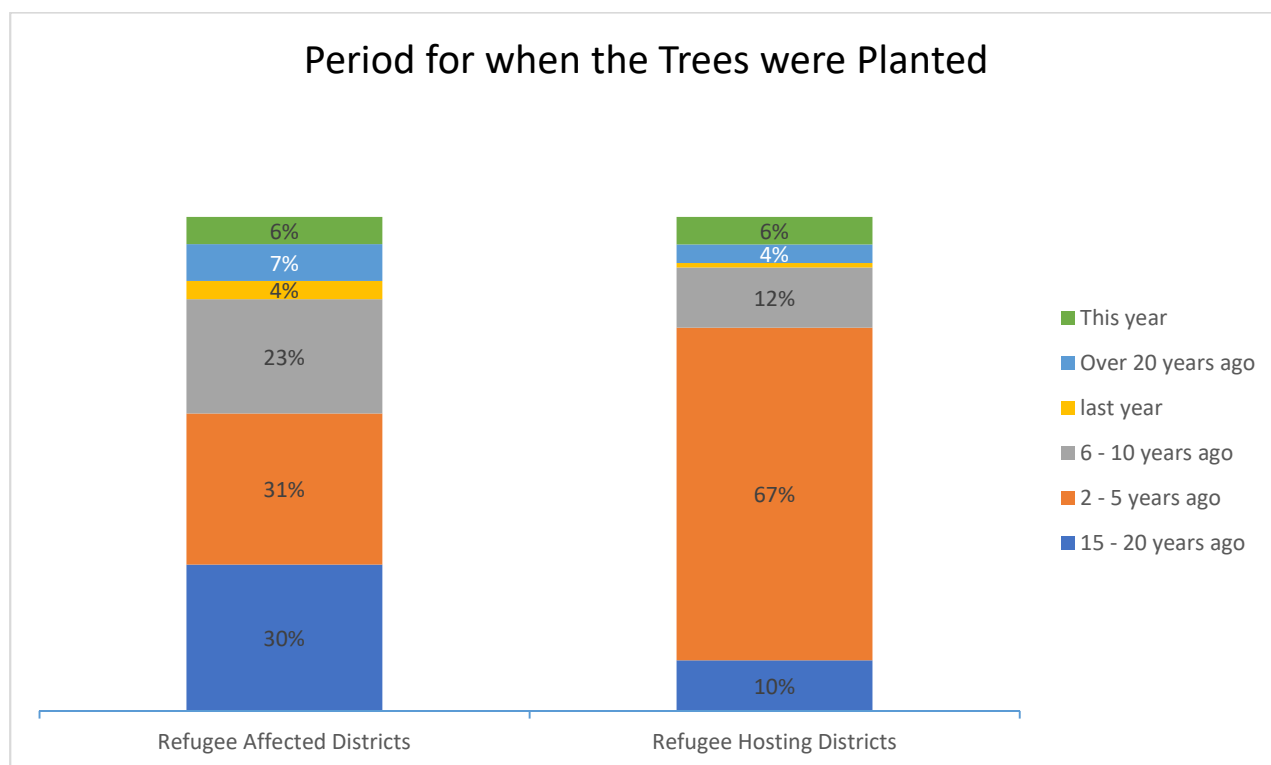
Figure 3-95: When were the trees planted

Furthermore, the study indicates that the HHs plant their trees around their homes or in the compound due to the limited land owned by most them, this therefore limits them to only a few locations for them to plant trees with it being the most dominant location at 73% and 46% for RAD and RHD respectively as illustrated in figure 3-96 below.

It is was observed that the next best or available option for planting is in the farm garden and this is usually done by planting trees that bare fruits, for example, Mangoes and Neem can also provide some food and medicine for the HHs. 9% of the homesteads in RHD prefer to use tree planting as a form of boundary demarcation as shown in the graph with the preference to plant around their plots of land.

Location for the Trees Planted
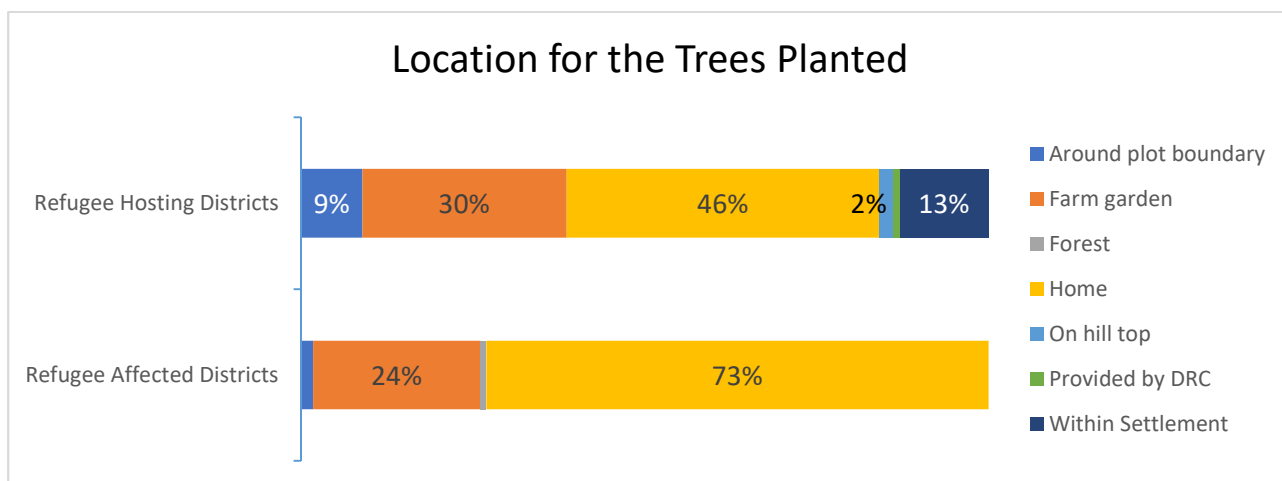
Figure 3-96: Where are the trees planted

The survey highlights that in most HHs in RHD do tree planting individually at 55% as opposed to 61% in RAD who prefer to engage the whole family in the tree planting process be it with a spouse or children and this has significantly positive effects on the house holds from the trees being a source of food to source of firewood. Communal engagement in tree planting among both RHD and RAD is still low at 1% as a result of minimum community land ownership as illustrated in figure 3-97 below.

Tree Planting Partners
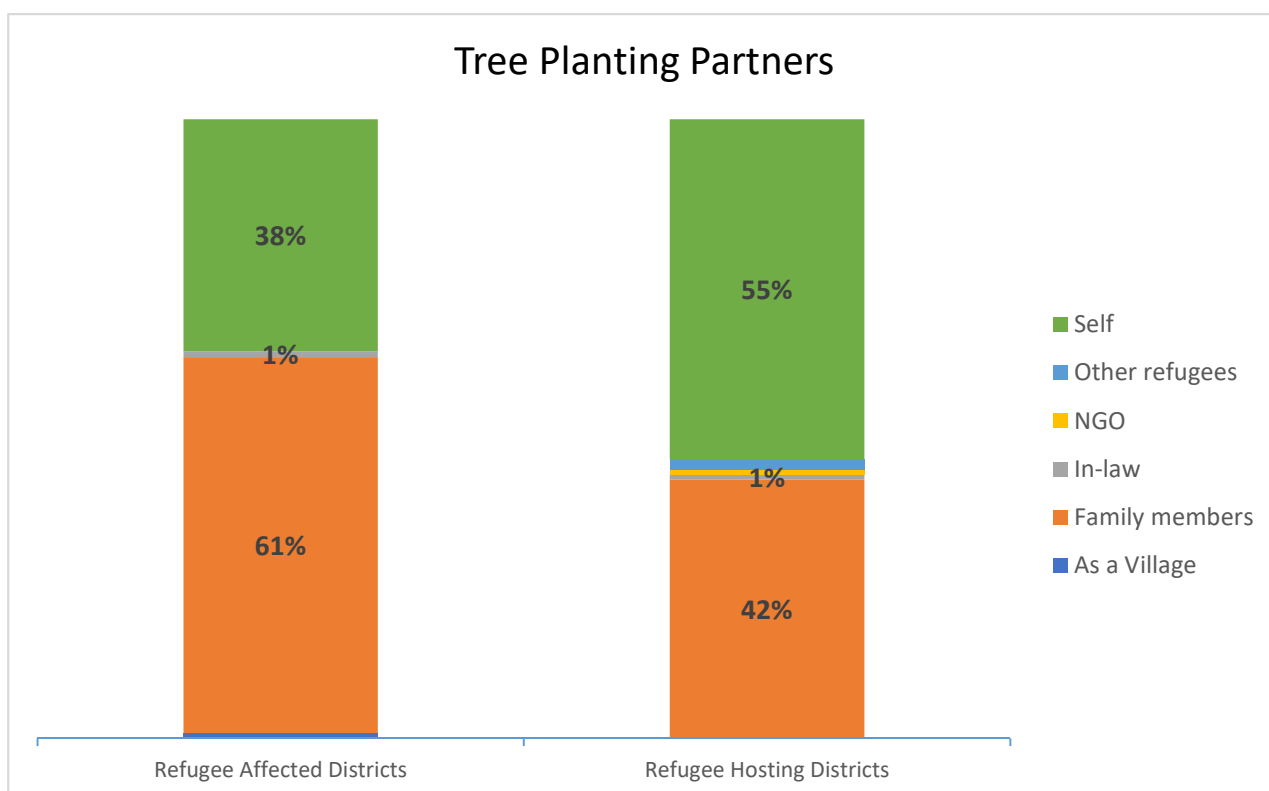
Figure 3-97: With Whom Trees Planted with

It is evident from figure 3-98 below that most HHs in RHD acquired their seedlings from NGOs such as LWF, GIZ, DRC, Meletse, B.A.T who provided them with seeds or affordable seedlings and nursery beds as shown by the 54% presence in the tree seedlings supply to HHs, this was contrary to what happened in RAD where the majority at 48% purchase their tree seedlings from various sources like markets, neighbors and nursery beds.

Since the HHs in the RAD have more purchasing power compared to RHD this means that they can extract seeds from fruits indicated by the 8% as compared to the 4% in the RHD when it comes to extracting seeds from fruits for tree planting.

Government also lends a hand in the provision of seedling through its various initiatives and sectors like Operation Wealth Creation (OWC) NUSAF and the Local councils.
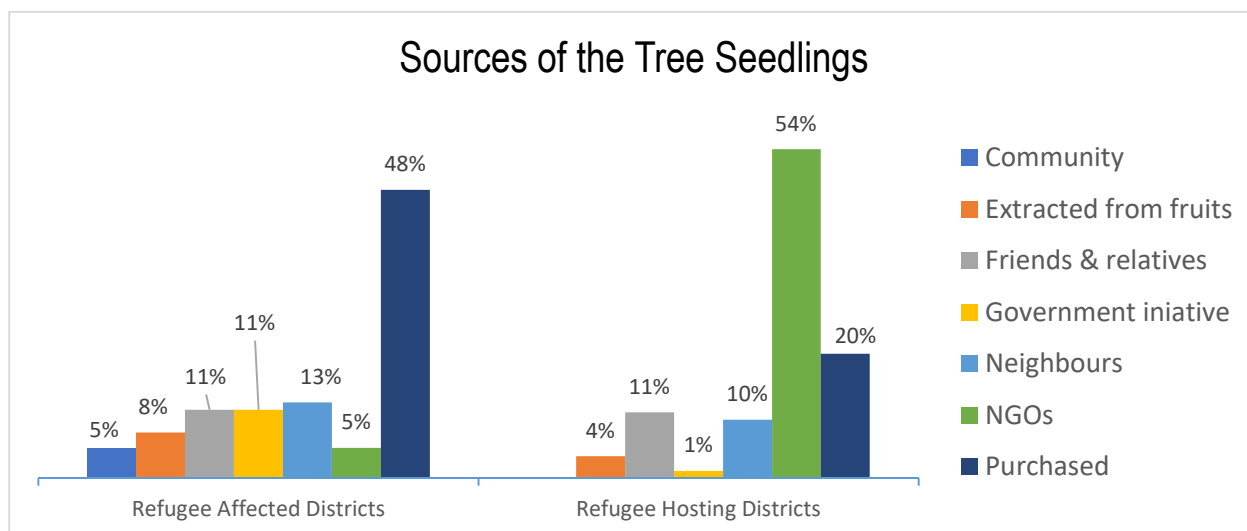
Figure 3-98: Sources of the tree seedlings

The majority of the HHs have not been taught by any organization or people on how to plant the trees as indicated by the findings in both the RAD and RHD districts though some NGOs have tried to reach out and provide the seedlings for free or even at a cheaper price. 72% of the HHs that participated in the research in the RAD took it upon themselves to plant trees without being taught as it was the case for the 84% in the RHD as illustrated in the figure 3-99 below.
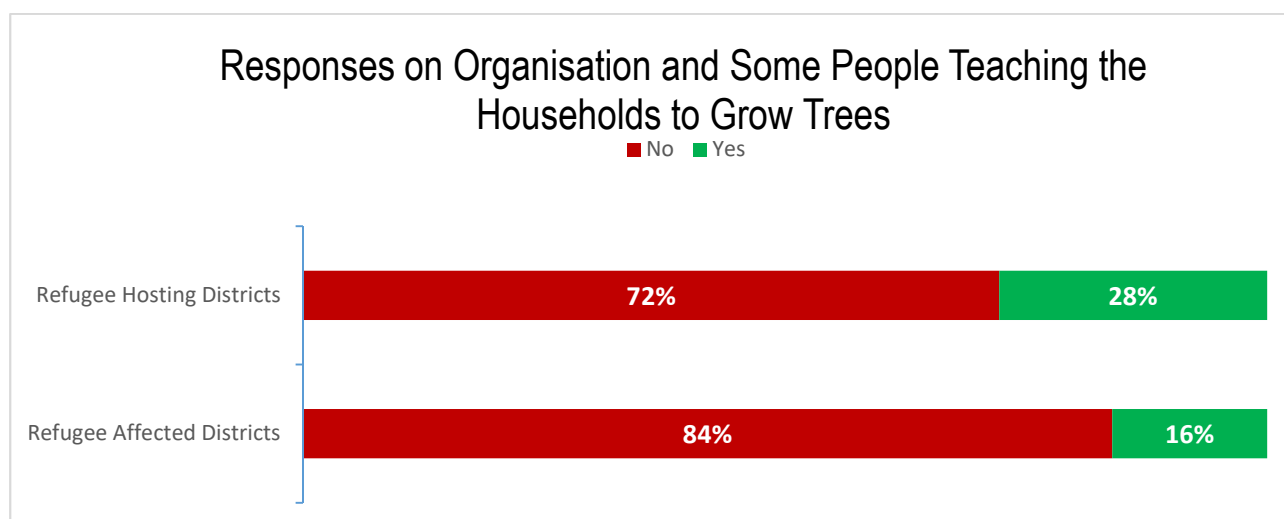
Figure 3-99: Organisation or someone teach you how to plant
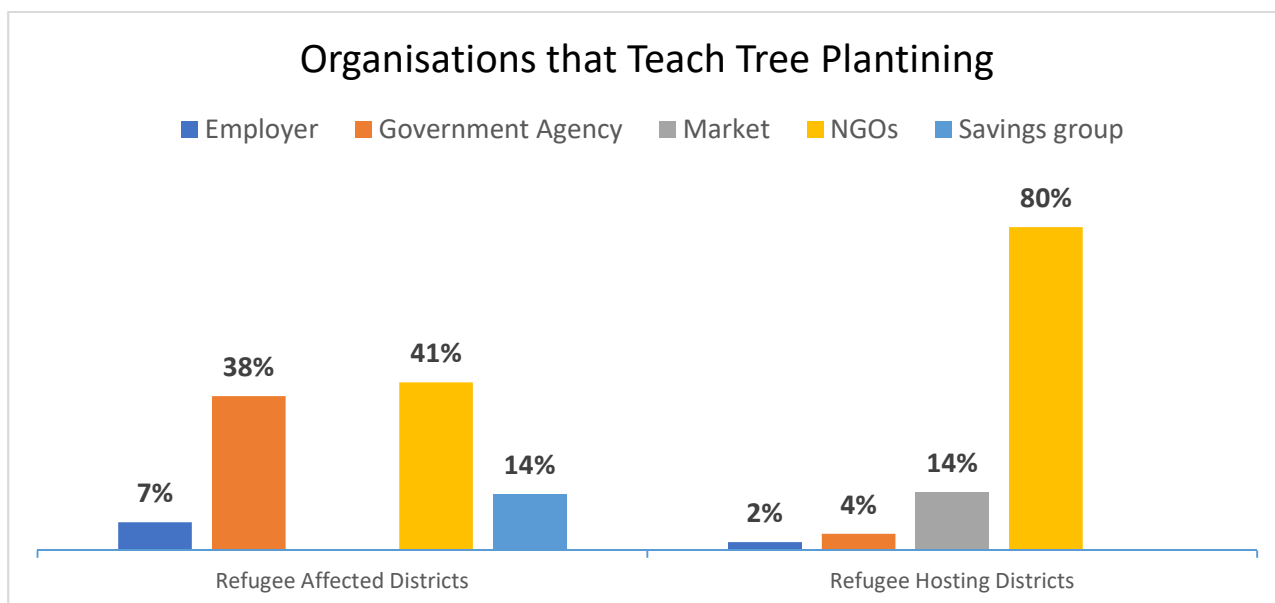
Figure 3-100: Organisation that teach tree planting

Figure 3-100 shows that not only is tree planting well for conservation of the environment, but plays a vital role in improving livelihoods too and therefore there has been collective effort to educate HHs about tree planting from NGOs. Both RHD and RAD with 80% and 41% respectively through there various outreach programs to educated HH members about the use of seedlings. It's noted that there's increased government presence in RAD at 38% compared to 4% in RHDs through its various initiatives like OPM, NUSAF and OWC. The results further show that a portion of the RAD and RHD HH members get their tree planting skills from their employers and saving groups as indicated by the 7% and 2% respectively.
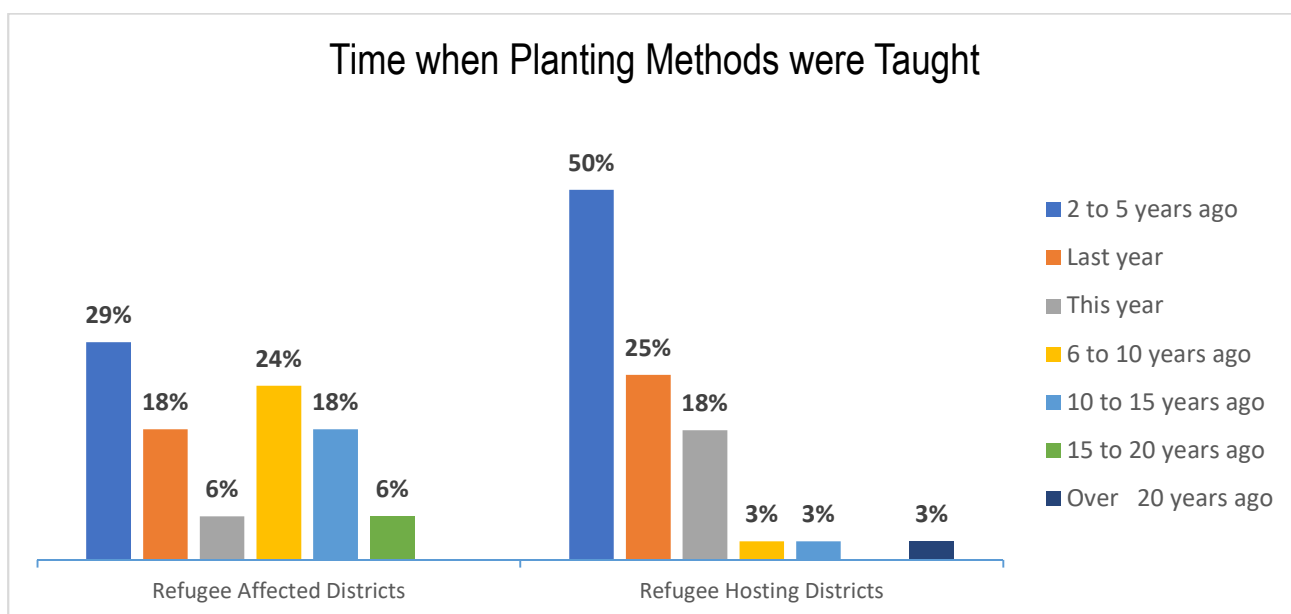
Figure 3-101: Time when Planting Methods where Taught

Figure 3-101 shows that the initiatives have been going on for some time now though they have been strengthened for the past 2-5years. The majority, 50% and 29% of the respondents in the RHD and RAD respectively were taught the tree planting methods 2-5 years ago followed by last year at 25% for the RHD and 18% for the RAD as illustrated in the figure 3-101 above.
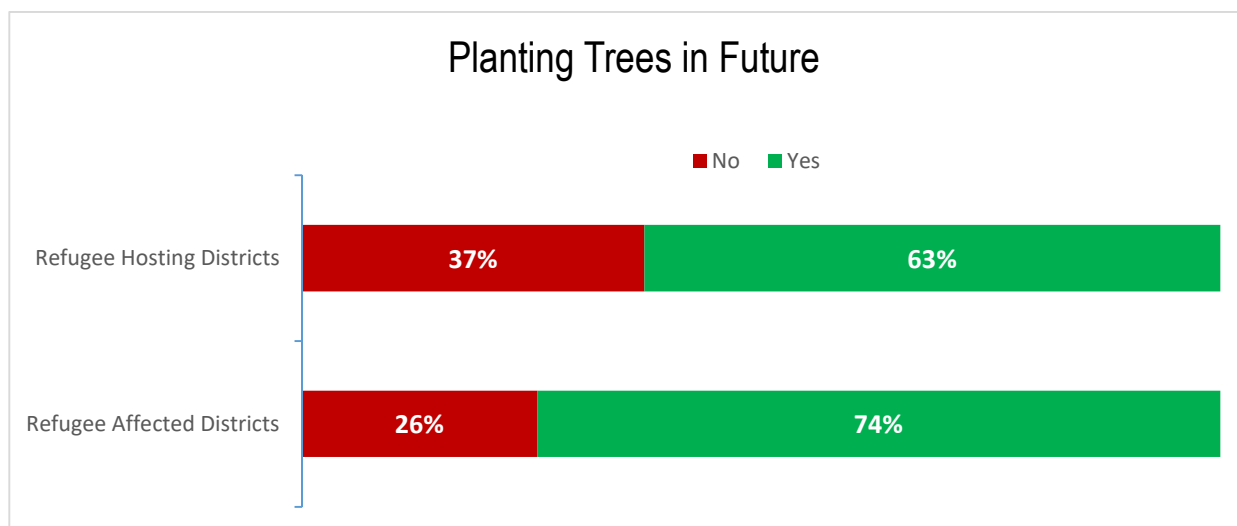
Figure 3-102: Planting Trees in Future

The results from the survey indicate that the HHs are willing to plant trees in future once they get the necessary resources like land, seedlings among others as indicated in figure 3-102 above. 74% of the respondents in RAD are willing to plant trees while 26% are not willing. On the other hand, 63% of the respondents in RHD are willing to plant trees in the future as 37% are not.
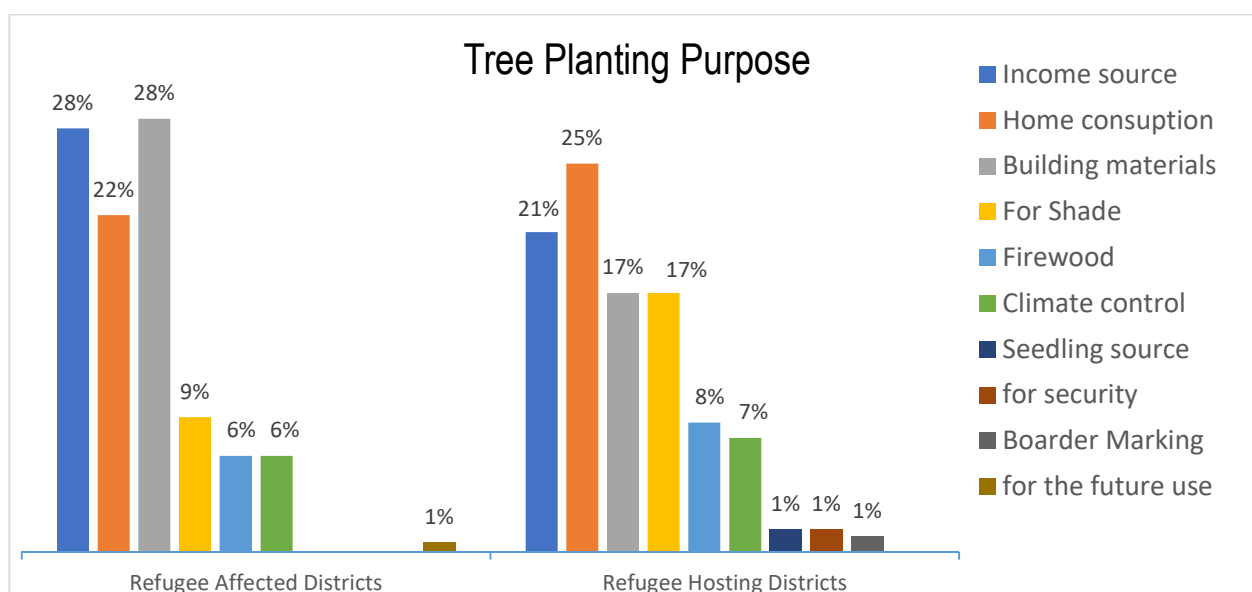
Figure 3-103: Tree Planting Purpose

It is evident that both RHD and RAD have similar purposes for planting trees in as indicted in figure 3-103 above The main three reasons were for home use which included planting trees that bear fruits like oranges, mangoes among others, then income source due to the initiatives from the donor agencies, NGOs and the government and lastly for building materials since most of their houses are temporary.

Source of Seedlings for Future Tree Planting
Due to the increased involvement of the government and the NGOs to educate the population about the the advantages of tree planting, most HHs in RAD (28%) planted trees for income source through sale of tree products like firewood, fruits, charcoal and also for building materials for example poles and timber, while RHD

HHs mainly want to plant trees for home consumption at 25% by mainly planting fruit trees as indicated in figure 3 -104.

Tree Seedling Source for Future Planting
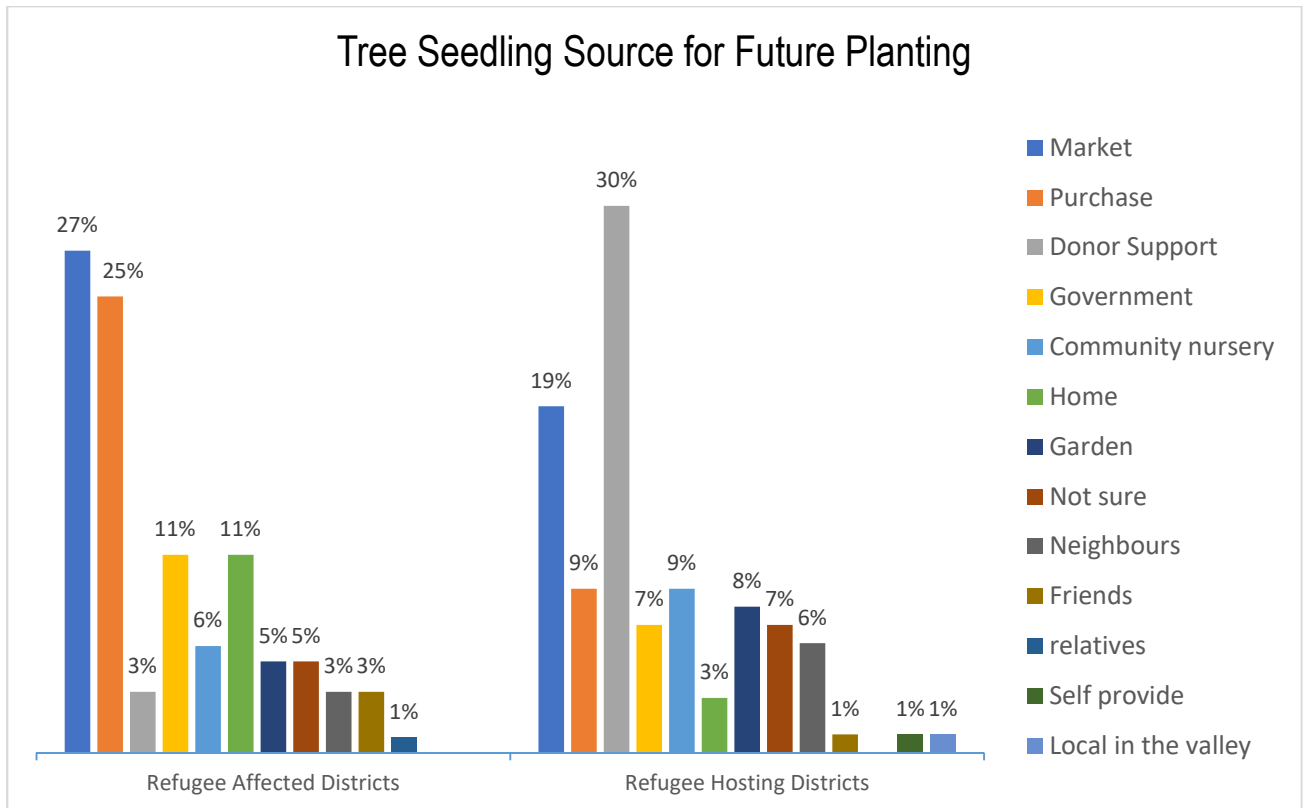
Figure 3-104: Tree Seedling for future Planting

When the trees will be Planted.

The willingness to engage in the tree planting is evident due to the numerous benefits from engaging in the activity. The highest percentage of the respondents both in the RAD and RHD plan to plant trees this year.

However, the rest of the respondents are uncertain as their responses are dependent on resource availability like the seedlings, land, money and assistance from the government and donor agencies as illustrated in figure 3-105 below.

Time to Plant Trees
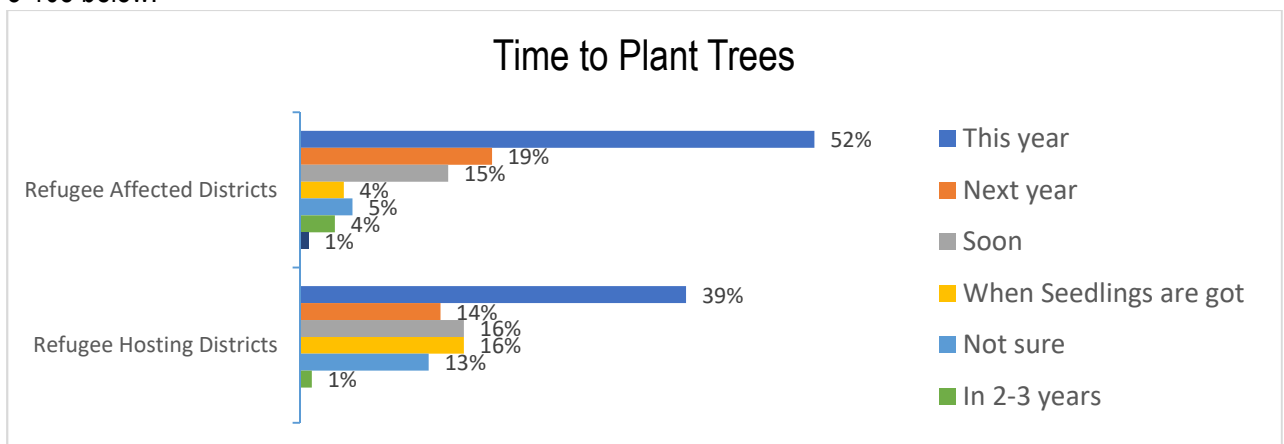
Figure 3-105: When are trees to be planted

The survey shows that most HHs (47%) in RHD considered planting trees individually, followed by with family (44%) as opposed to 64% and 31% in the RAD who considered planting with their families and individually respectively as illustrated in figure 3-106 below. Due to the limited sources of income, more sensitization and educating of the community to engage in group tree planting to enable them earn a living as that is very low at 1% in the RAD only.
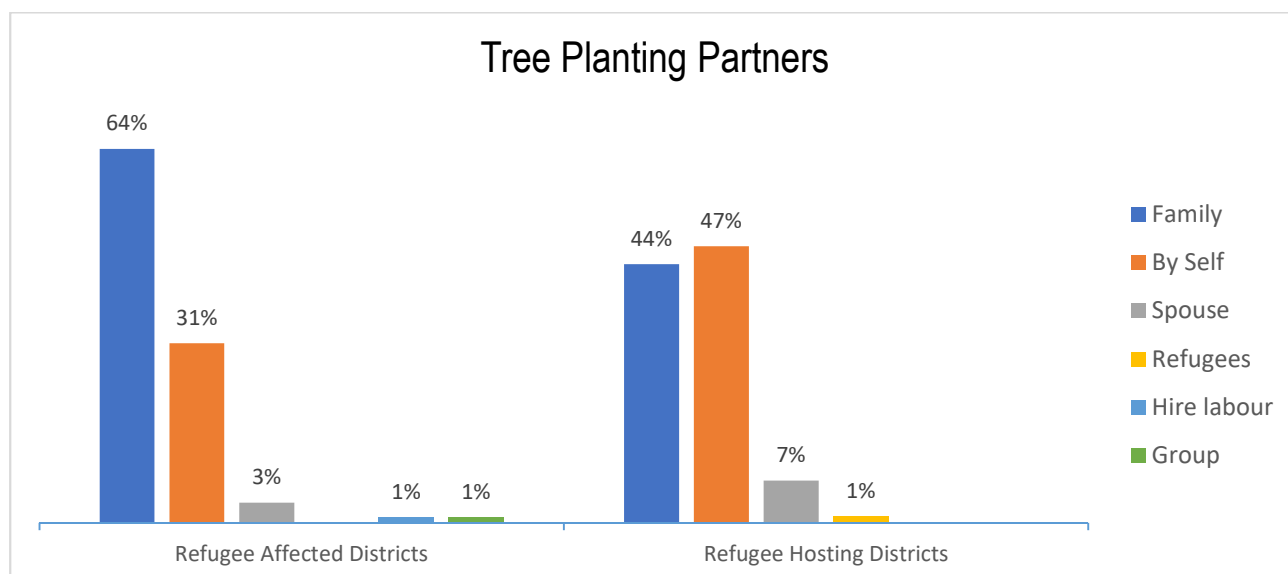
Figure 3-106: With whom are you going to plan trees

Availability of Places to Purchase the Seedlings

The study indicates that there is scarcity of nurseries or places to buy seedlings in both the RAD and RHD and thus limiting the tree planting exercise and involvement of the community in improving the environment and their income through tree planting. 76% of the respondents in the RHD say there is no place to get or buy the seedlings for the trees while only 24% are aware of the places compared to the 64% informed the researchers of the absence of paces to buy or get the seedlings and 36% know of such places for the RAD as illustrated in figure 3-107 below.
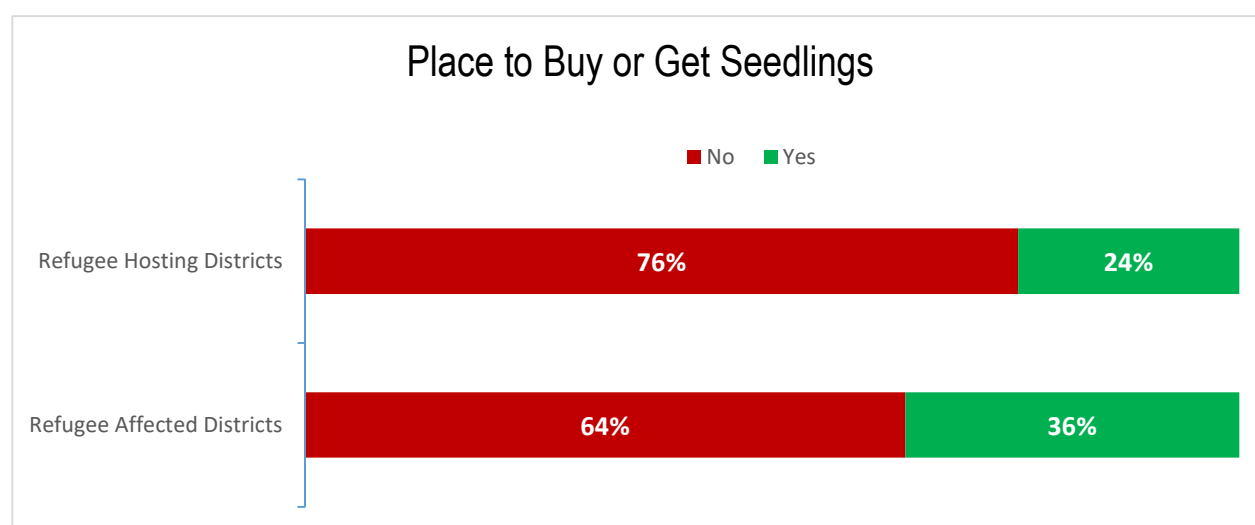
Figure 3-107: Availability of Places to purchase the seedlings

Location of the Nurseries

72% of the respondents in the RHD say that the nurseries are inside the parish or settlements while 28% say that the nurseries are outside the parish settlements. 60% of the respondents in the RAD say that the nurseries are inside the parish and settlements while 40% say that they are outside their parishes and settlements as reflected in figure 3-108.
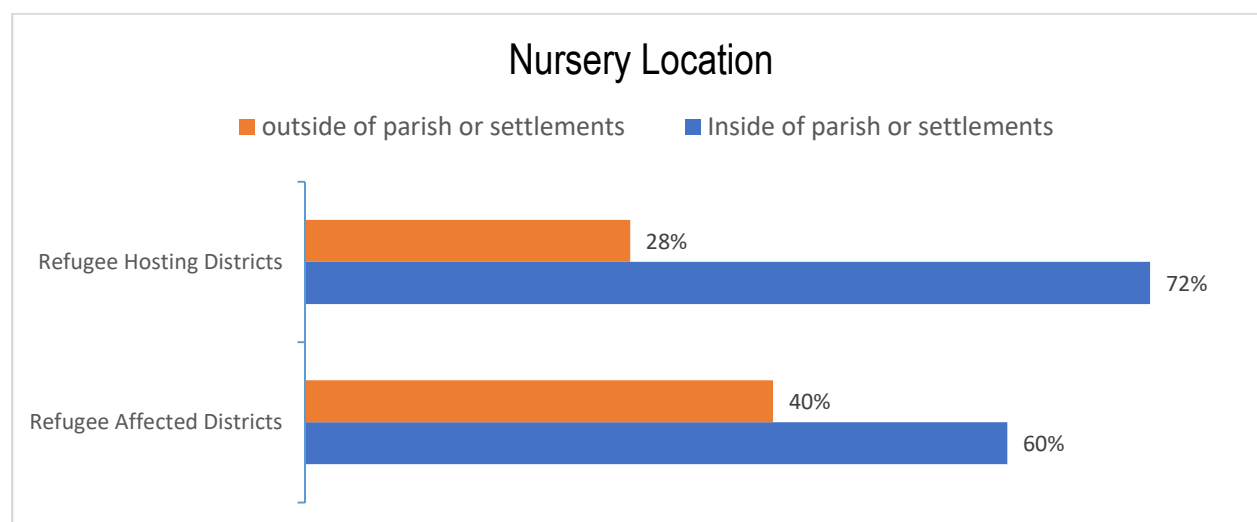
Figure 3-108: Nursery Location

Nursery Organizer

In the RAD, 61% of the respondents don't know about the seedling organizer which was the highest percentage due to lack of enough information about the seedling nurseries. On the other hand, the highest number of respondents at 55% in the RHD informed us that LWF, a donor agency was the major seedling nursery organizer as illustrated in the figure 3-109 below.
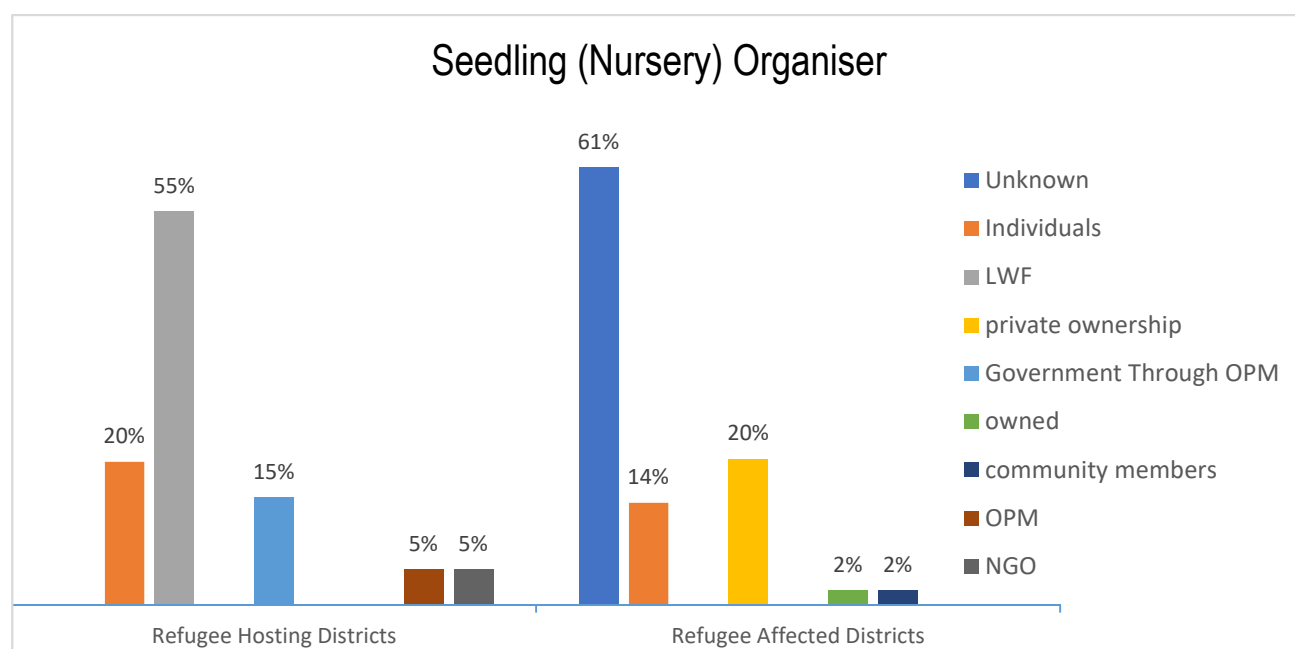
Figure 3-109: Seedling (Nursery) Organiser

Availability of Free Seedlings

The study indicates that if the community in RAD and RHD need to get seedlings, they have to buy them as they are not for free. 75% of the respondents in RAD informed the researchers that if they needed seedlings for planting, they had to purchase them, while 25% of them can manage to get them for free. In RHD the results show that 62% have to purchase the seedlings while the 38% don't have to purchase the seedlings as illustrated in figure 3-110 below.
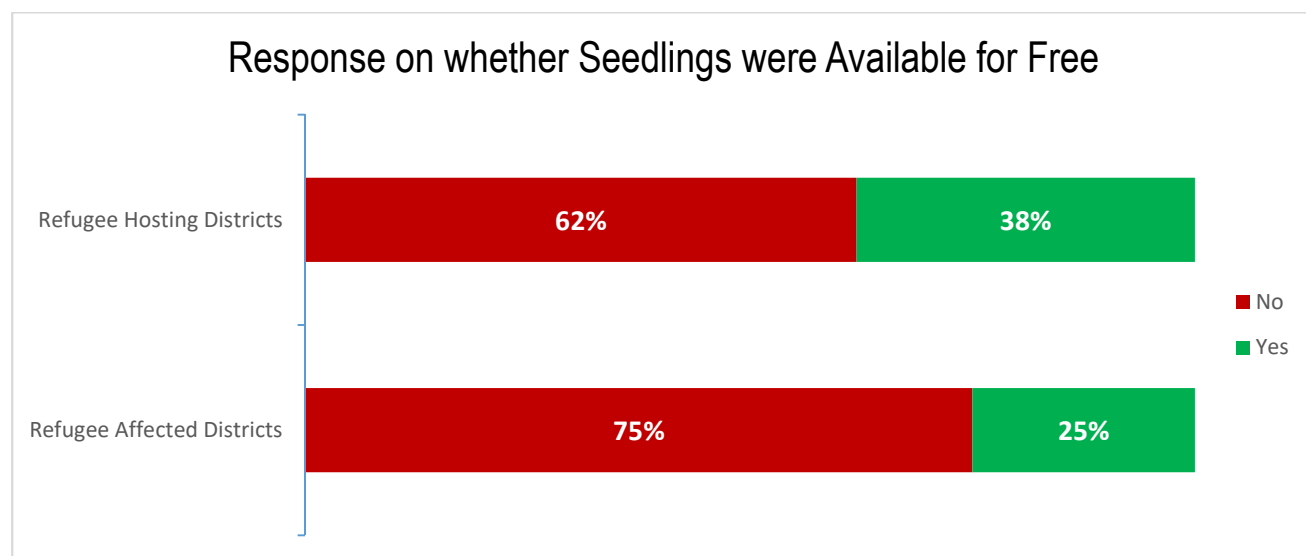
Figure 3-110: Availability of Free seedlings

Prices of Seedlings

Due to the involvement of donor agencies in the RAD and RHD, the prices of the seedlings have reduced as they provide them at cheaper prices. The majority of the respondents in the RAD and RHD acquire the seedlings between UGX 100-1,000 at 59% and 77% respectively as illustrated in the figure 3-111 below.
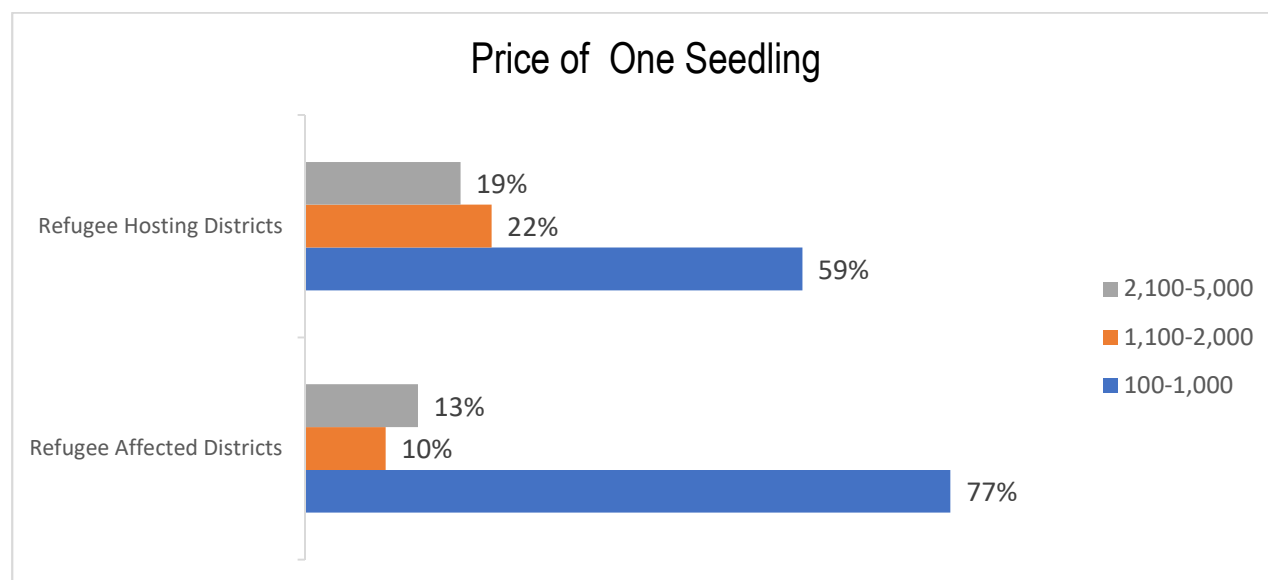
Figure 3-111: Price of One Seedlings

3.2.4   Production and Livelihood
3.2.4.1   Agricultural Products
Harvest

The study clearly indicated that the main source of livelihood in the RAD was agriculture at 89% while 11% did not carry out agriculture because most of the people in these community's own private land. In the RHD, 75% of the respondents carried out agriculture while 25% did not carry out agriculture because most of the people didn't have enough land to do agriculture as illustrated in figure 3-112 below.
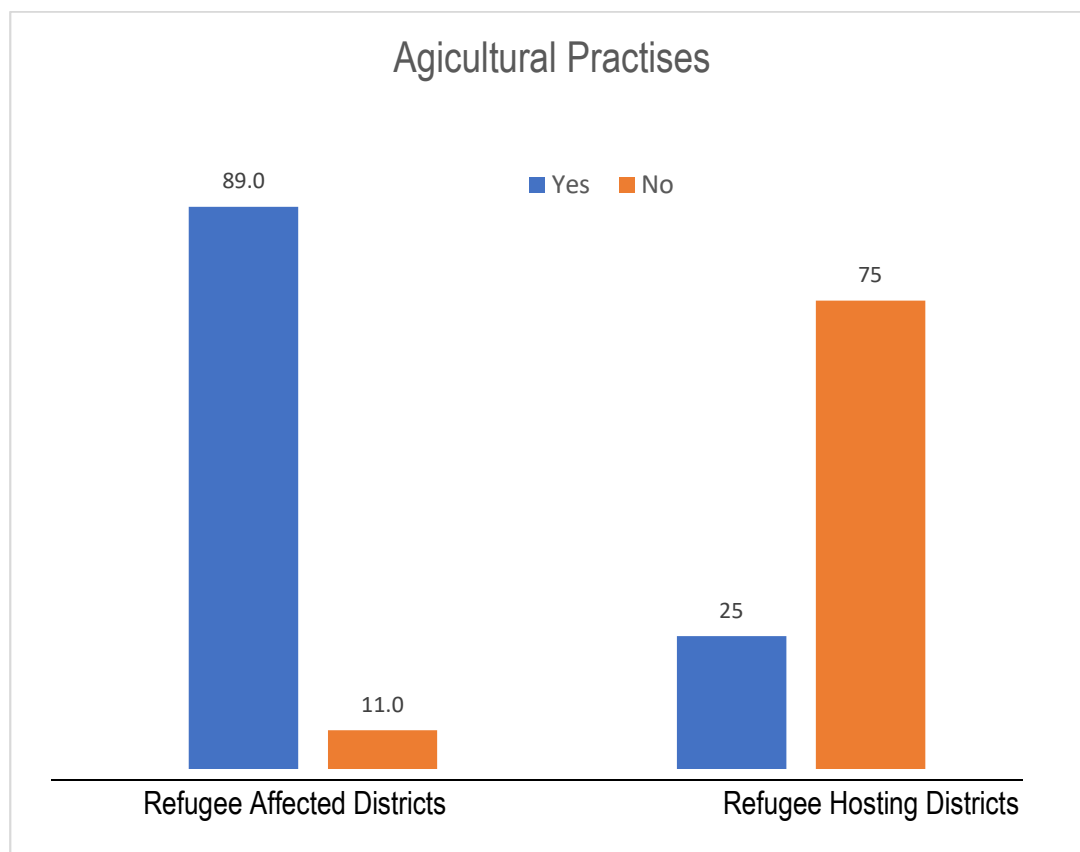
Figure 3-112: Agricultural Practises

Table 3-15: Agricultural products in the RAD and RHD

Type of District	Crops Cultivated
Refugee Affected Districts	Cassava, Maize, Beans, Plantain, Potatoes, Sorghum, Rice, Yams, Bananas, Melon, Gnuts, Simsim, Eggplant, Okra, Cabbage, Pine apples, Pumpkin and Oranges
Refugee Hosting Districts	Cassava, Maize, Beans, Plantain, Potatoes, Sorghum, Rice, Yams, Bananas, Simsim, Sugarcane, Oil palm, Pineapples, Chilli paper, Coffee and Honey

Figure 3-113 below is a graph showing the agricultural products in order of their preference in both the RAD and RHD communities.
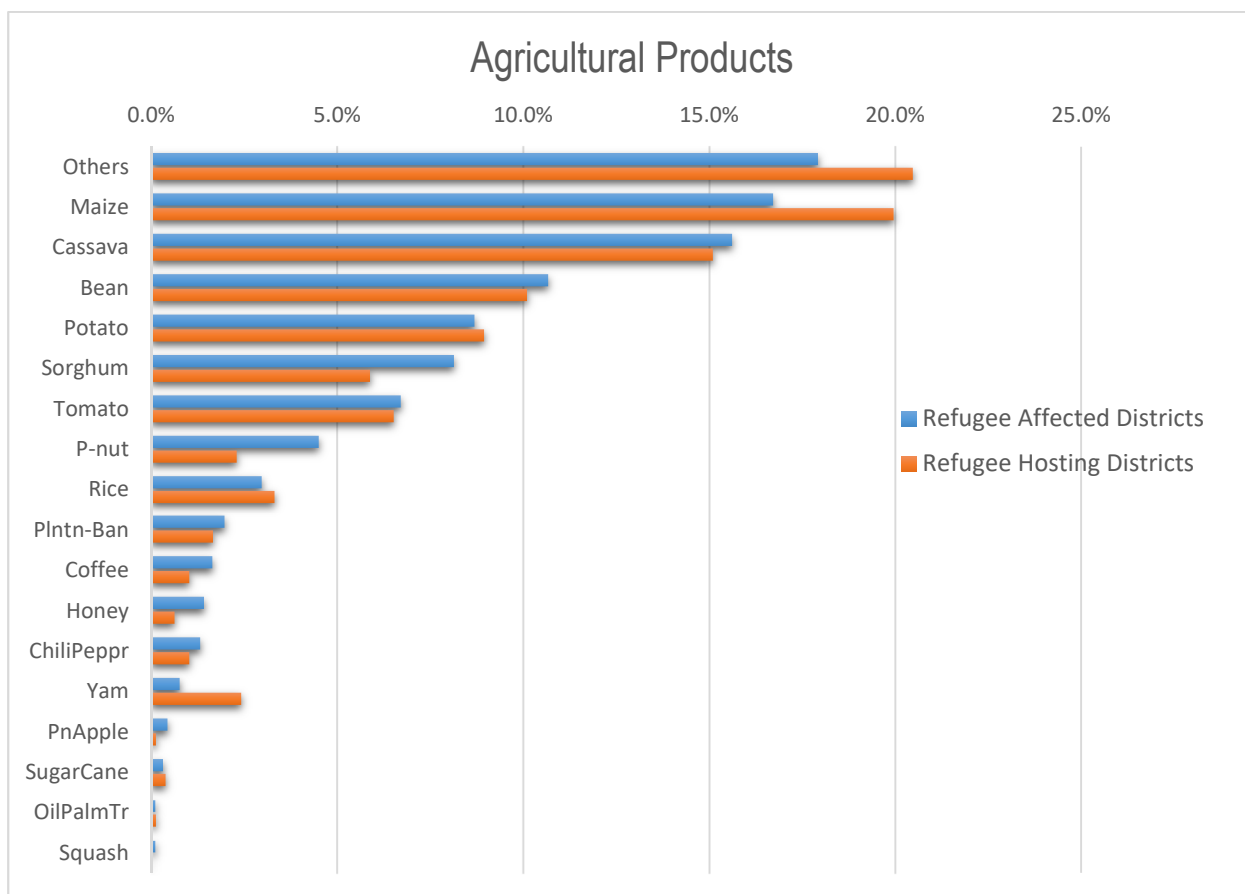
Figure 3-113: Agricultural Products

Agriculture was mainly rain-fed and was affected by weather hence periodic cultivation was highly regarded. The study shows that 88% of the HHs in the RAD did seasonal farming while 12% did permanent farming which was not different from the RHD as 90% did seasonal farming and 10% did permanent farming as illustrated in the figure 3-114 below.
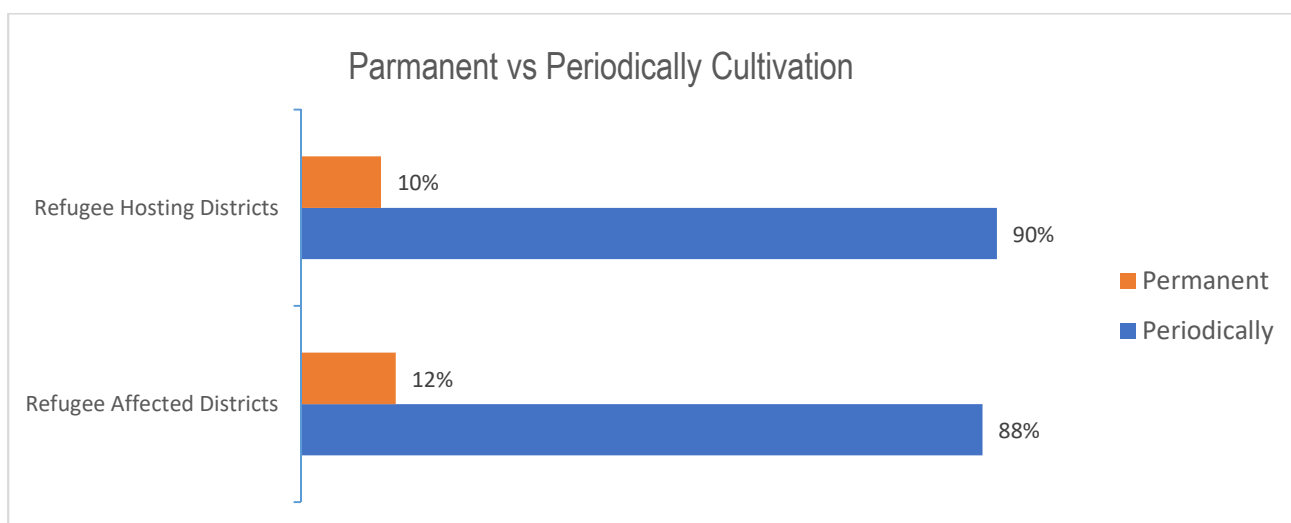
Figure 3-114: Permanent vs Periodically Cultivation

The communities rely majorly on ploughing as a way of cultivation as illustrated in the figure 3-115 below. 99% of the farmers in the RHD do ploughing while 1% carry out bush burning. In the RAD, 94% do ploughing while the 6% carry out bush burning as a method of cultivation as indicated Figure 3-114.

Burn vs Plowing

Refugee Hosting Districts
- Plowing: 99%
- Burn: 1%

Refugee Affected Districts
- Plowing: 94%
- Burn: 6%

Legend: Plowing, Burn
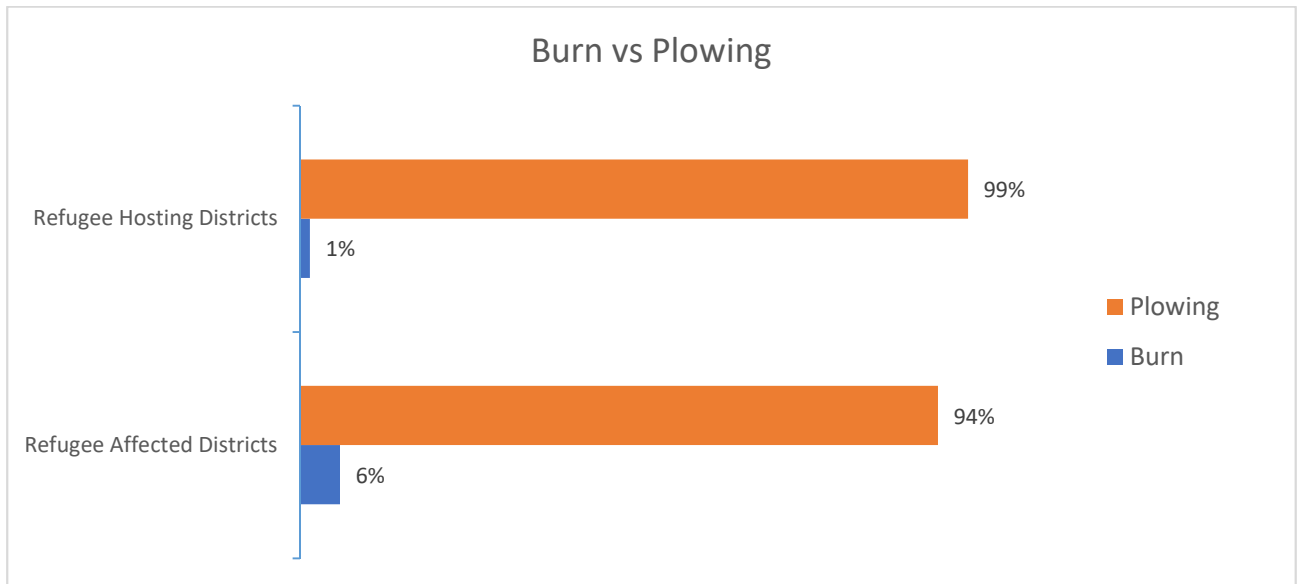
Figure 3-115: Burn vs Ploughing

The West Nile region is mainly covered by savanna wood land, therefore, cultivation was mainly done in the savanna as indicated by the survey. In the RAD, 94% of the community did cultivation in the savannah compared to 6% that cultivated in the forest this isn't different from that in the RHD as 98% and 2% cultivated in the savannah and the forest respectively as shown in figure 3-116 below.

Forest vs Savanna Cultivation Type

Refugee Hosting Districts
- Savanna: 98%
- Forest: 2%

Refugee Affected Districts
- Savanna: 94%
- Forest: 6%

Legend: Savanna, Forest
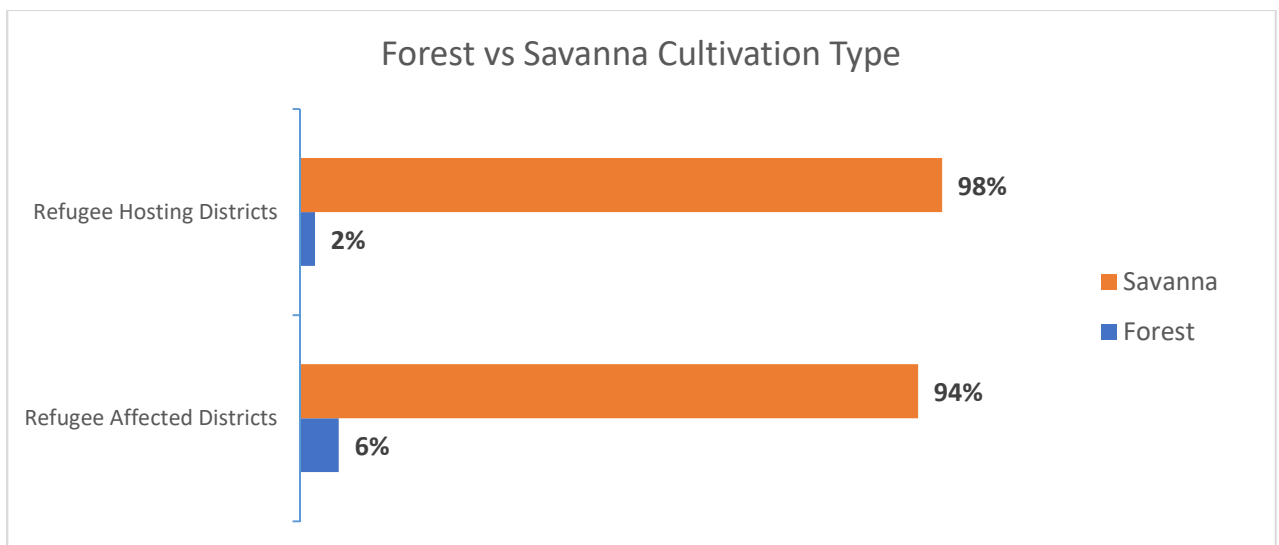
Figure 3-116: Forest Vs Savanna Cultivation Type

The farmers in the communities mainly prioritized self-consumption of agricultural products as illustrated by the study. 87% and 82% of the respondents in the RAD and RHD respectively did agriculture mainly for home consumption as a major priority compared to the 13% and 12% for the RAD and RHD respectively as illustrated in figure 3-117 below.
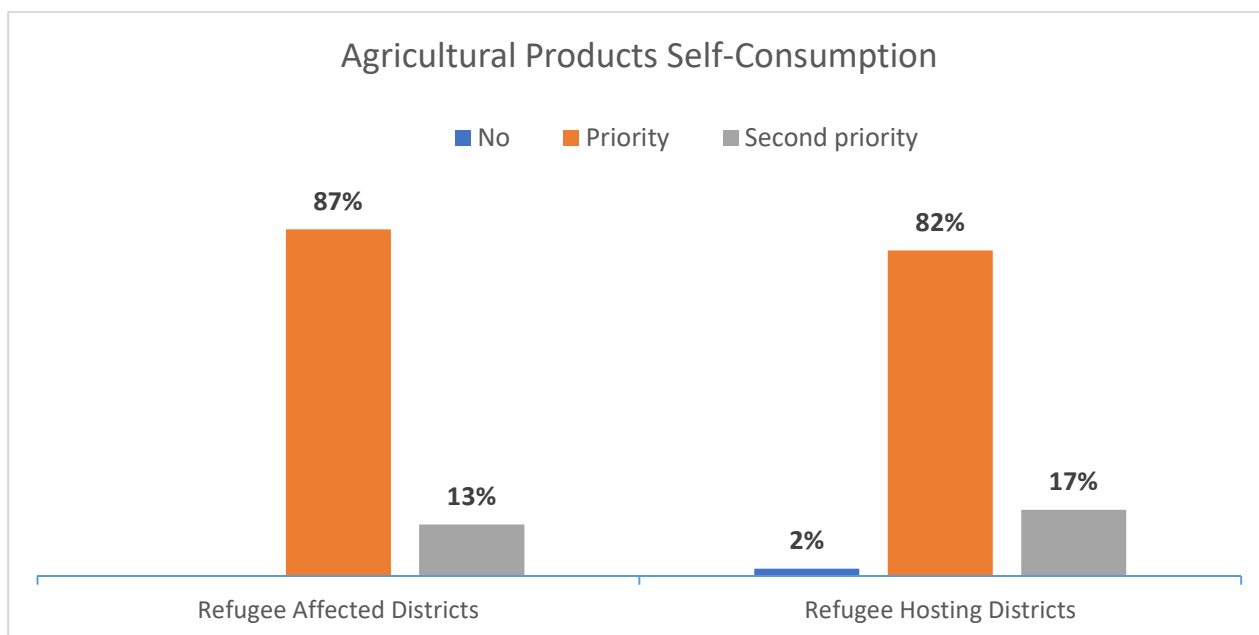
Figure 3-117: Agricultural Products Self - Consumption

This is further explained in the figure 3-118 below for the farmers that sold their agricultural products. Many of the farmers in in the RAD at 42% and RHD at 48% do not prioritize selling of the agricultural products compared to the 46% and the 30% respectively who respondefd that it was a priority to sell their agricultural products. In the RHD most of the refugee HHs had small pieces of land for settlement and could only cultivate crops for home consumption given their increasing numbers.
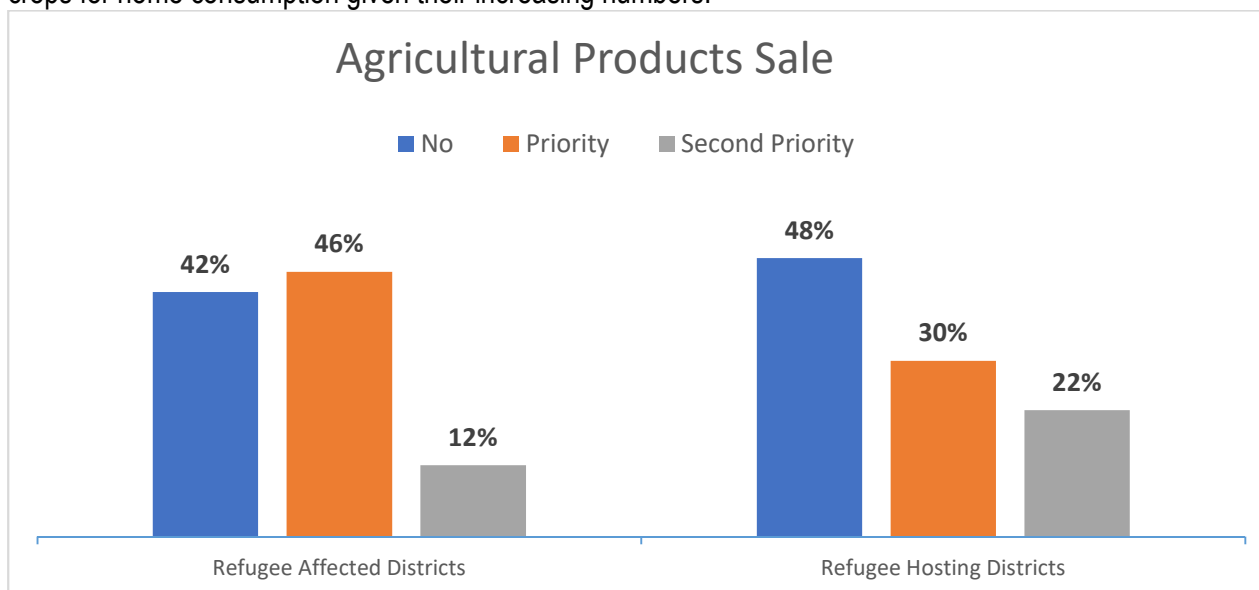
Figure 3-118: Agricultural Products Sale

Agricultural Land
Land tenure systems in the area include customary, freehold and leasehold. RHDhave bragging rights over land as most of the respondent were natives of the district while refugee settlements were offered small plots.
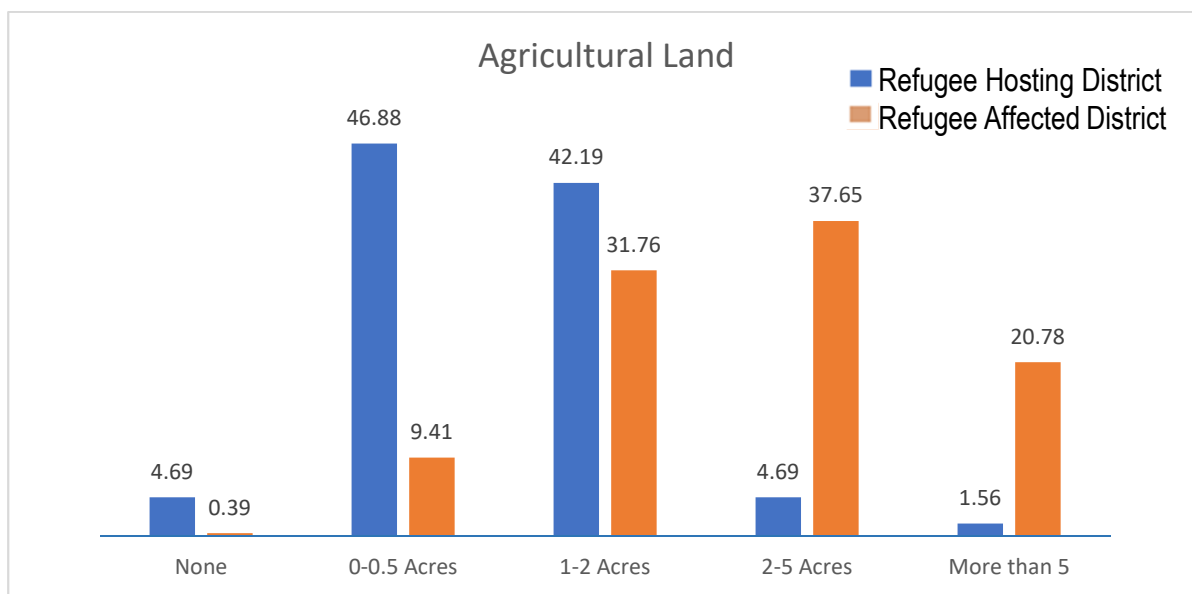
Figure 3-119: Agricultural Land

According to the survey results, majority of respondents from RHD had land less than 0.5 acres (46%) while majority in RAD had between 2-5 acres (37%) as shown in figure 3-119 above.
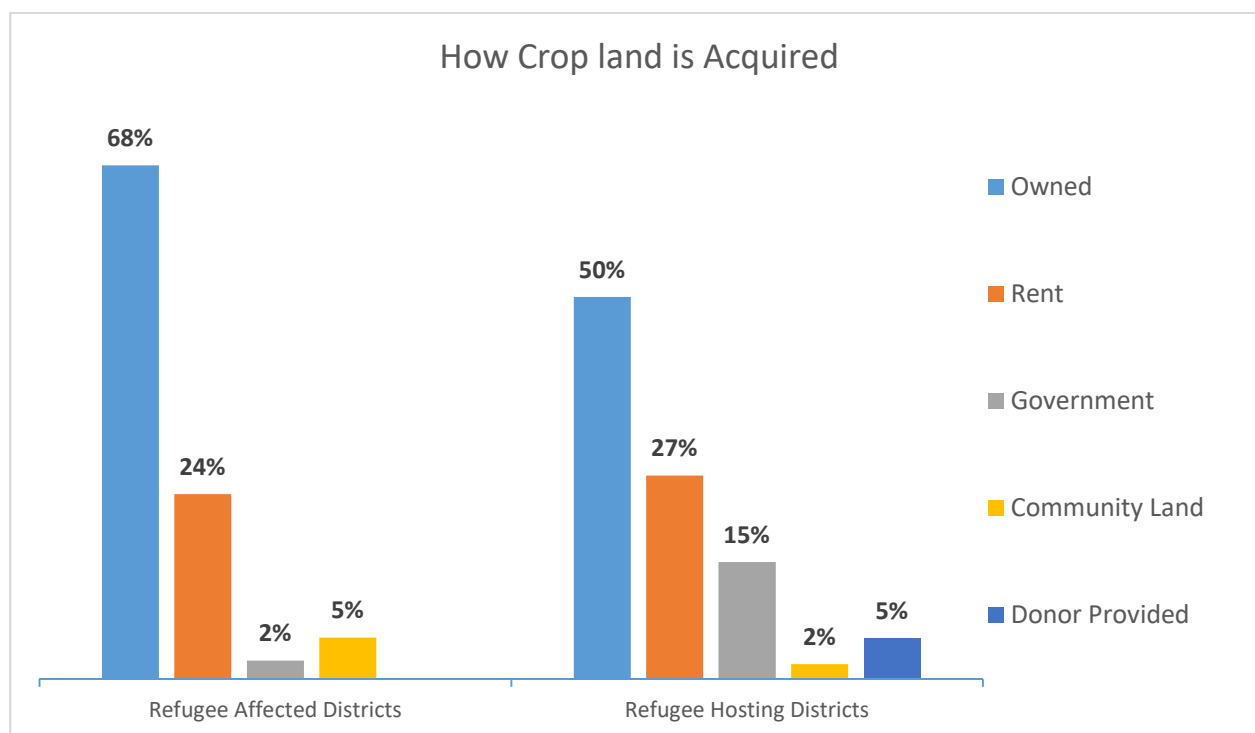
Figure 3-120: How the Crop Land Acquired

The highest percentage of land used for crop planting was owned by 68% and 50% of the respondents both in RAD and RHD respectively as illustrated in figure 3-120 above. This land was passed on to them from their parents and grandparents. It was noted that 24% of the respondents in RAD rented the land which also applied to the 27% in RHD. The other sources of land were donations from the donor agencie. Others acquired land from government especially the in the RHD while others utilize the community land.

Opening of Crop Land

A comparative analysis indicated that 54% of the respondents in the RAD used primary forests to open their land, 43% used secondary forests, 3% didn't use any while 1% used both. On the other hand, 63% of the respondents in RHD used secondary forests, 26% used primary forests while 8% din't use any and 3% used both as illustrated in figure 3-121 below.

The crop land in RAD was mainly opened using primary forests because most of the community still have the primary forests on their land since they do not have refugees in their area whereas in RHD they used secondary forests because primary forests have been cleared due to the increasing number of refugees in the area and changed to secondary forests.
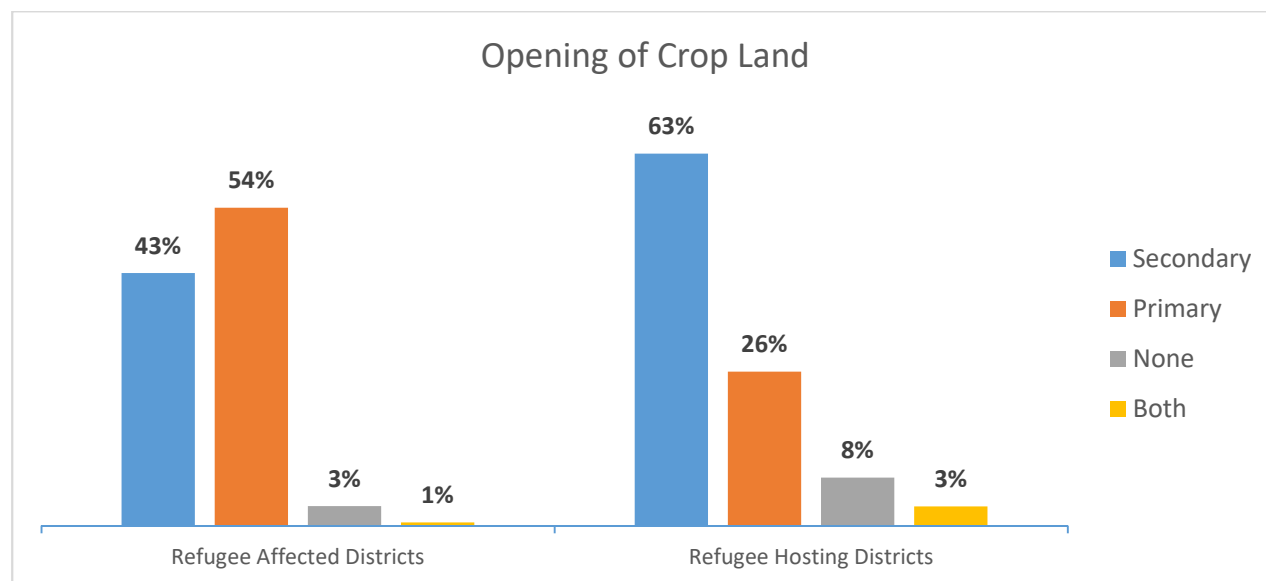
Figure 3-121: Opening of Crop Land

Agricultural Burning

The survey showed that agricultural burning wasn't a common practice in the communities where it was conducted as 90% and 92% of the respondents in RAD and RHD respectively did not use wood before putting the fire during agricultural burning as illustrated in the figure 3-122 below.
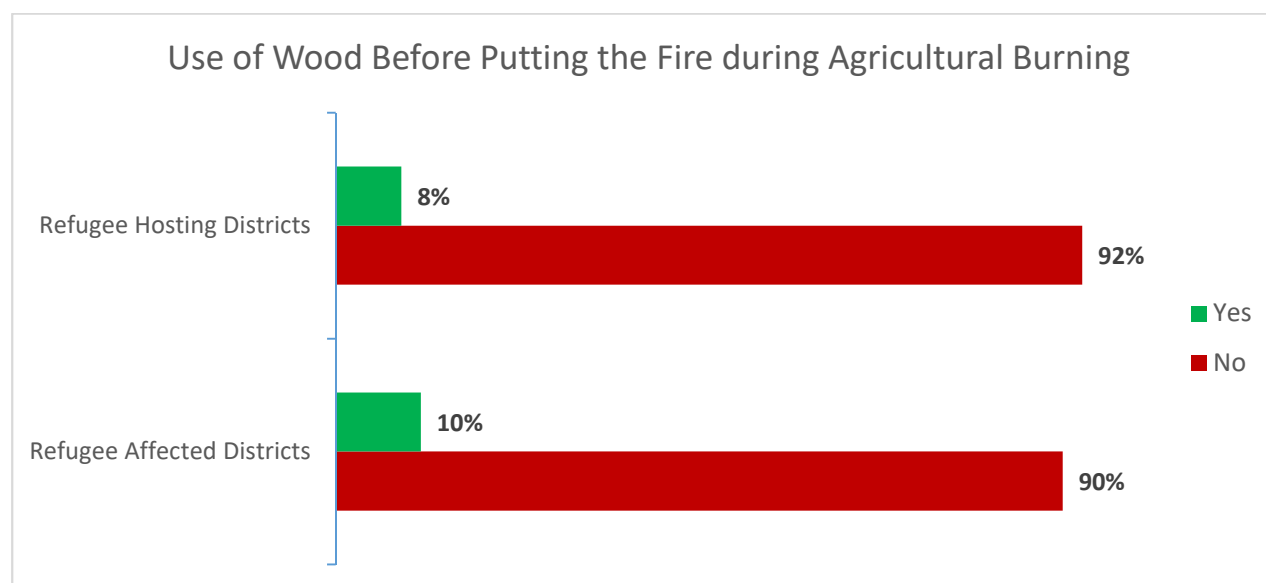
Figure 3-122: Wood Before Putting the Fire during Agricultural Burning

Most of the wood was used for firewood, before putting the fire during agricultural burning as illustrated in the figure 3-123 below. 100% of the respodents in the RHD used wood for firewood while 90% in the RAD used it for firewood and 10% used it for construction.
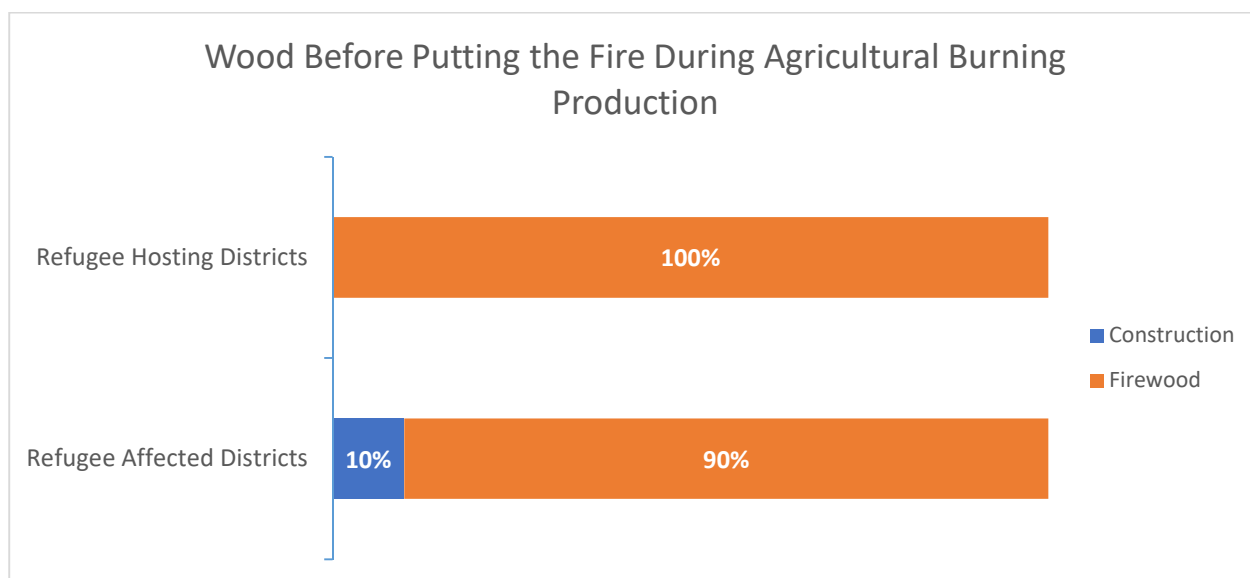
Figure 3-123: Wood Before putting the fire during Agricultural Burning Production

Fallowing of Land
The study showed that a good number of the farmers in the RAD and RHD did not fallow their land at 38% and 28% respectively. Of those who fallowed land in the RAD, 28% fallow the land after 1-2 years and 3-4 years, while 4% and 3% of them fallowed it after 6 years or more. In the RHD majority of the farmers fallow their land at 48% after 1-2 years, 16% every year, 12% after 3-4 years and 2% after 6 years and more as illustrated in figure 3-124 below.

Some of the reasons as to why many farmers in these communities do not fallow land include;
- Lack of enough land to fallow;
- Some felt they couldn't afford to fallow;
- Fallow was determined by the owner of the land.

Number of Years to Fallow
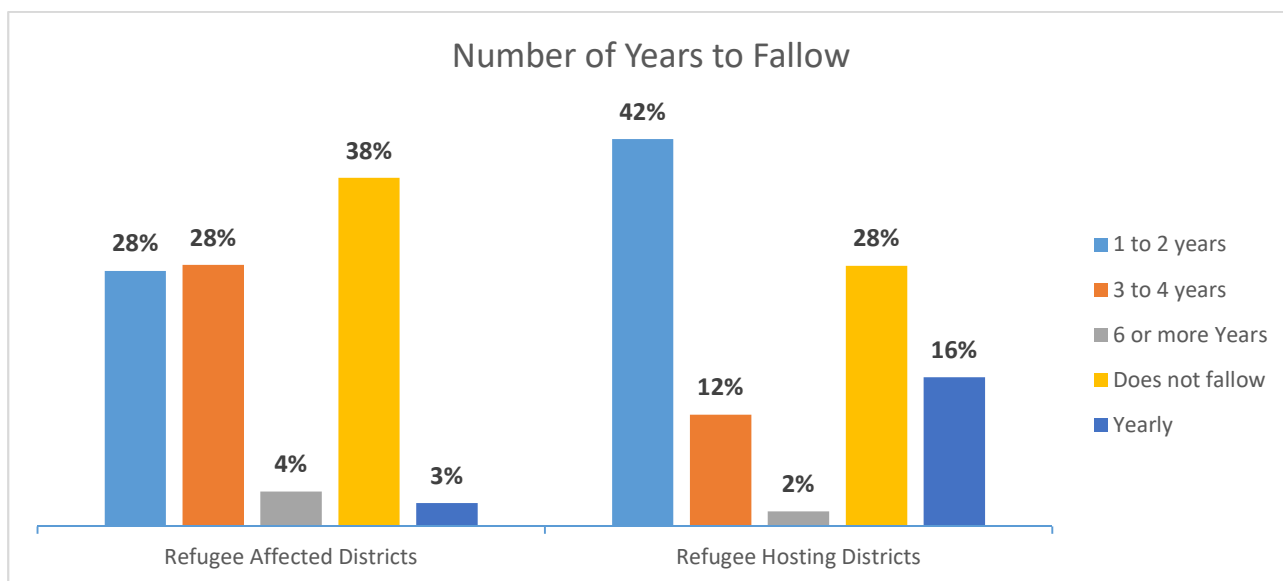
Figure 3-124: Number of Years to Fallow

The portion of the farmers in those communities that did fallow their land, 81% and 64% of the RAD and RHS respectively did it for 1-3 years, followed by 16% and 27% at less than 1year, 1% and 7% not sure and, 2% and 1% fallowing their land between 4-5years respectively.

Period to Land Fallow
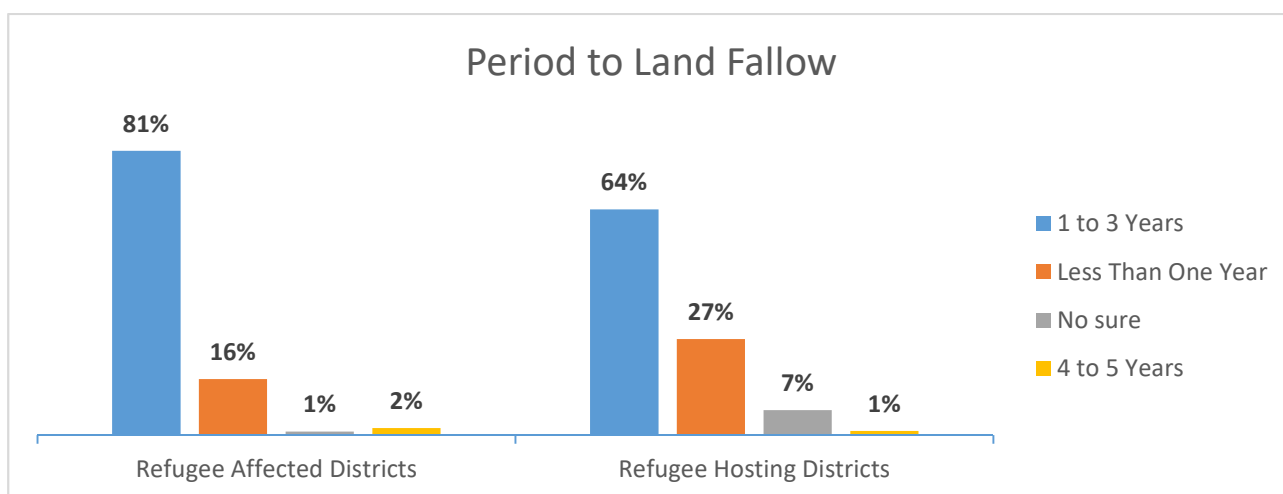
Figure 3-125: Period of Land Fallow

3.2.4.2   Breeding

Types of Farming
Livestock
It was important for the survey to understand the occupation patterns of the target population in regards to animal rearing. This was also a major source of livelihood to the hosting and Refugee communities. The most common animals reared by the HHs in both the RAD and RHD were Goats, Hens, Cows, Pigs, Sheep and Ducks as illustrated in the figure 3-126 below.
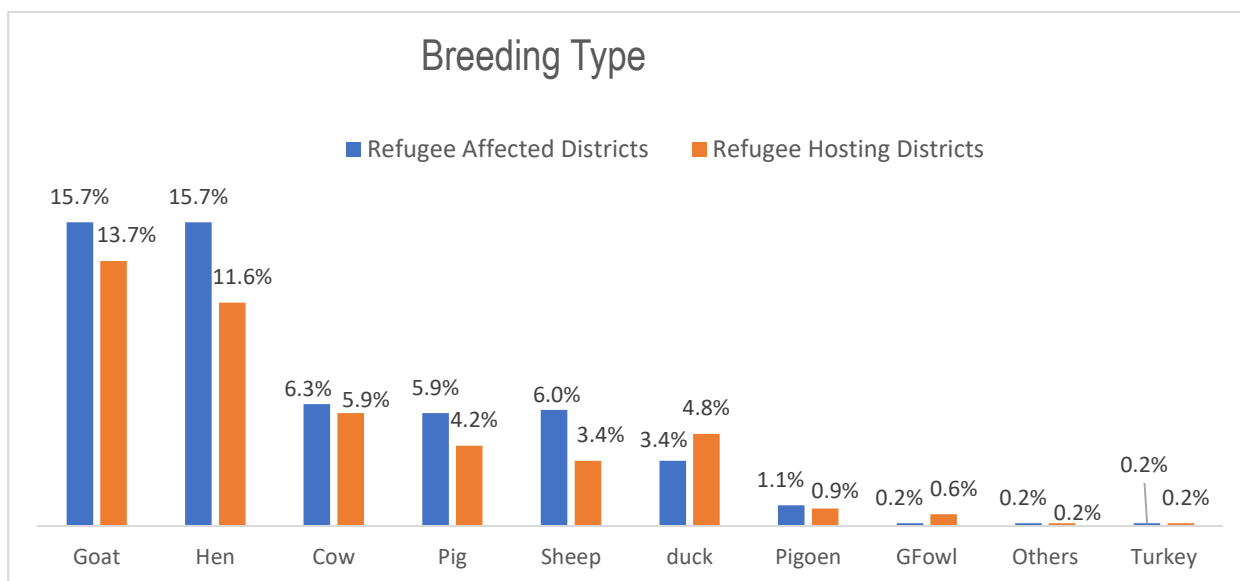
Figure 3-126: Breeding Type

The most common breeding type of the communities in the RAD and RHD was grazing at 68% and 78% respectively compared the enclosure at 32% and 22% as illustrated in the figure 3-127 below.
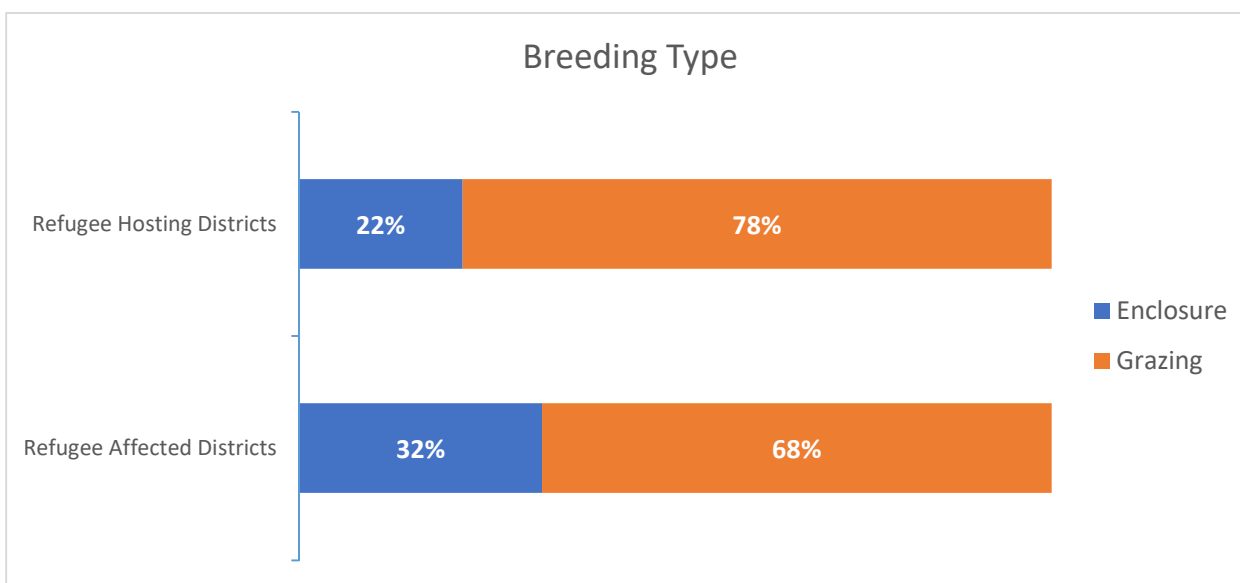
Figure 3-127: Breeding Type

The HHs that had livestock for home consumption, majority took it as priority at 79% while 21% took it as second priority in the RAD. However, in the RHD 62% took it as priority, 35% for secondary priority while 4% did not take it as priority at all as illustrated in Figure 3 - 128.
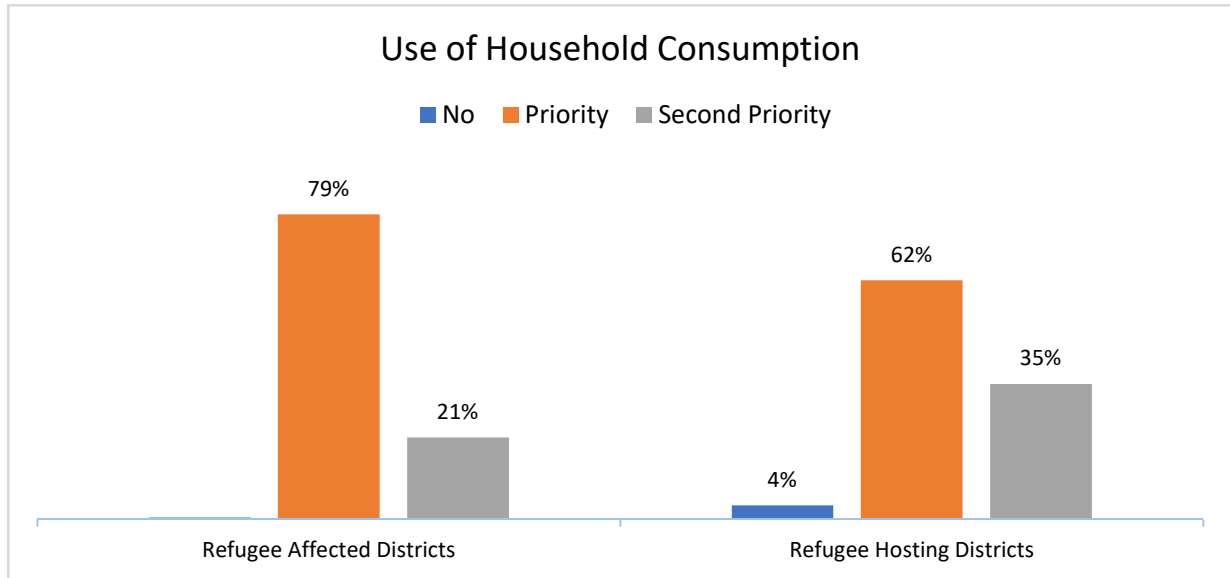
Figure 3-128: Use of HH Consumption

Of the HHs that had livestock for sale, majority of respondents in the RAD took it as priority as illustrated by 54% of the respondents while 26% took it as a second priority and 20% didn't. However, in the RHD, 74% took it as priority, 14% as a second priority while 12% didn't take it as priority as shown in figure 3-129 below.
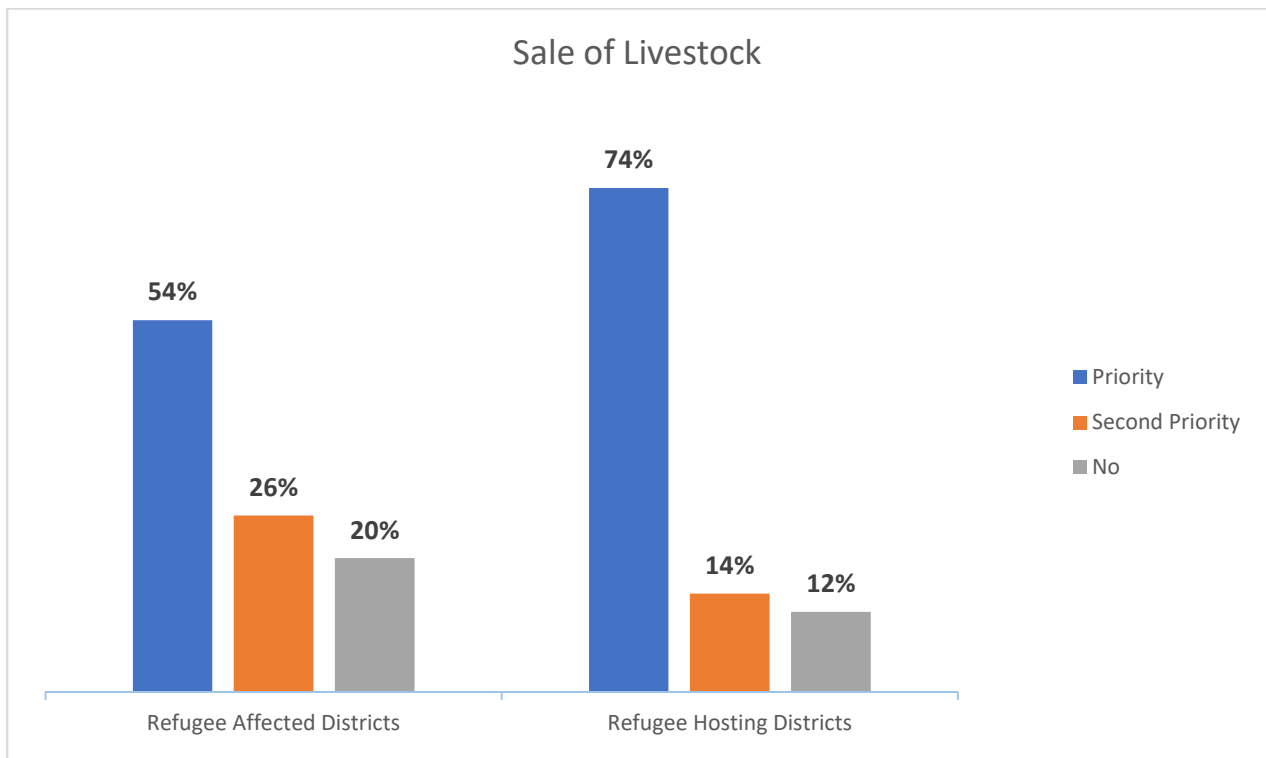
Figure 3-129: Sale of Livestock

3.2.4.3   Grassing

Burning the Ground to Renew Pastures

The practice of burning ground as a way of renewing pasture is common in West Nile region. According to the survey, 32% of the respondents in the RADs agreed that they burn the ground as a means of renewing pastures for their livestock and in the RHDs, 29% said they also burn grass as shown in figure 3-130 below.

Meanwhile, 71% in the RHDs did not burn ground to renew pastures and in the RADs 68% did not burn. In the RHDs part of the land that was used for grazing cattle was offered to the settlements and this explains why a higher number in the RHDs did not burn grass because it may have been depleted or it had many uses like grazing livestock and used as roofing material for shelter in settlements.
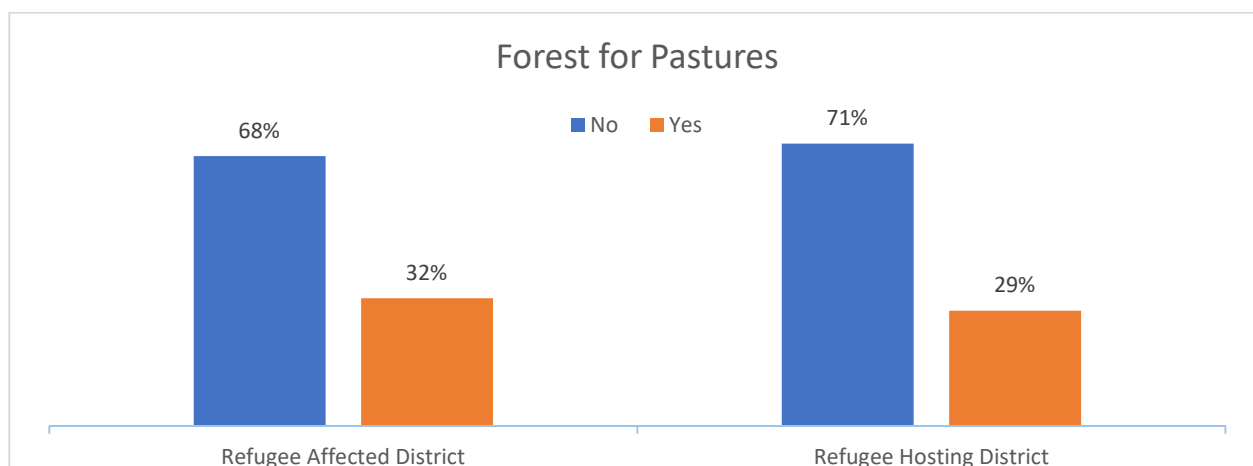
Figure 3-130: Forest for Pastures

The frequency of burning ground for renewing pastures varied in the RHDs and RADs. 100% of the community in the RHDs were not sure of the frequency of burning ground. This meant that either there was nothing to burn or the existing grass had many benefits therefore burning was avoided. In contrast the community in the RADs 50% were not sure of the frequency of burning ground, 30% said burning was done yearly, 13% said it was done twice a year and 4% said burning ground was done after 3 years as shown in figure 3-131 below.
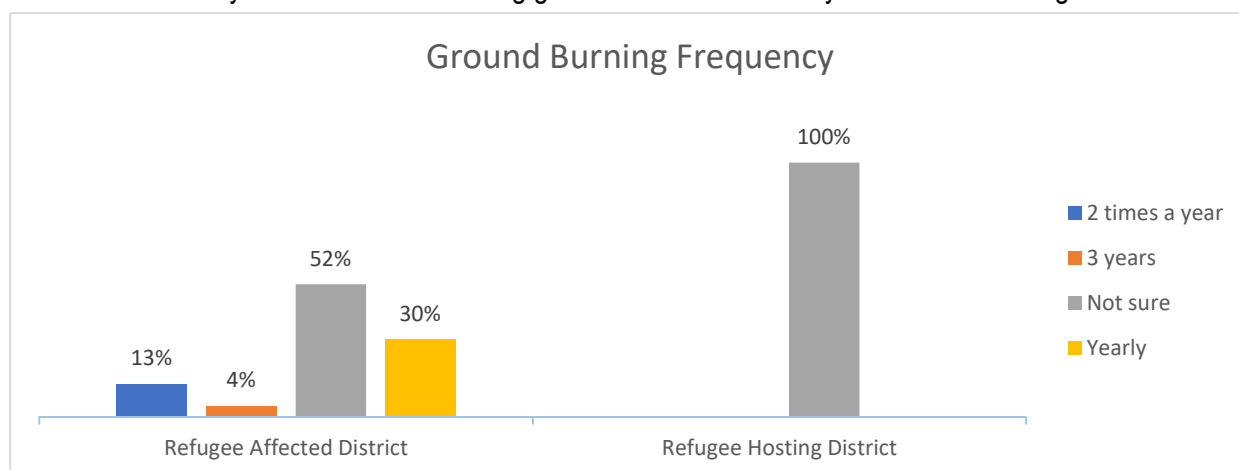
Figure 3-131: Ground Burning Frequency

Use of Forest to Get Pastures

The local community depended on resources in the forests to support their livelihoods. According to the survey 71% of the community in RHDs didn't use the forest to get pastures and only 29% agreed they used the forest to get pastures as indicated in figure 3-132 below. The percentage for not using forest to get pastures was higher in the RHDs perhaps because of restrictions or rules enforced by the host communities and prohibiting

refugees from accessing resources in the dwindling or remaining forests. In the RADs, only 32% used the forest to get pastures and 68% didn't use the forest.
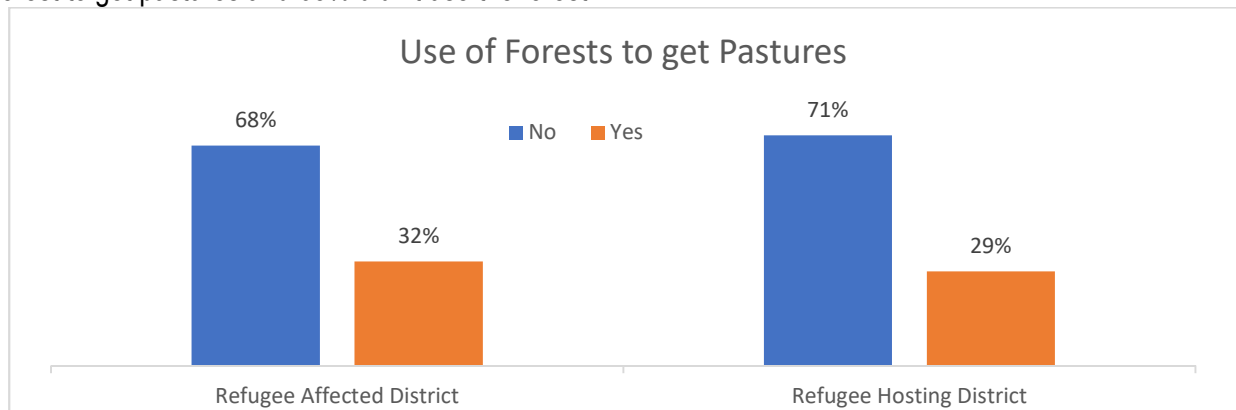
Figure 3-132: Use of Forests to Get Pastures

The highest percentage of 68% for the community in RADs were not sure of the frequency of using the forest to get pastures followed by 19% who said they used the forest pastures daily for grazing and 4% who used it twice a week as shown in figure 3-133 below. In the RHD, 47% were not sure of the while 47% said they used the forest pastures daily. This trend indicates that the communities in the RHD used forest pasture more frequently than the communities in the RAD.
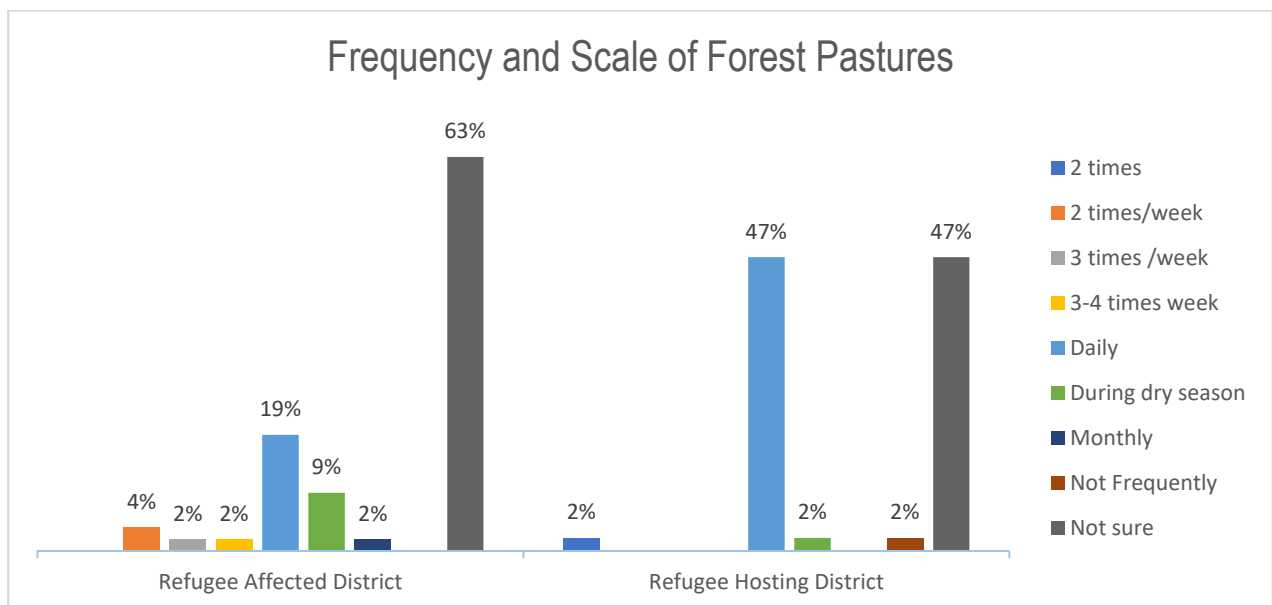
Figure 3-133: Frequency and Scale of Forest Pastures

3.2.4.4   Hunting/Trapping

According to survey as presented in figure 3-134 below, 93% of the community in the RAD did not hunt and only 7% agreed they hunted. In the RHD 98% did not hunt and the remaining 2% hunted. The trend indicates that hunting was not a priority for livelihoods support for the community in both the RAD and RHD.
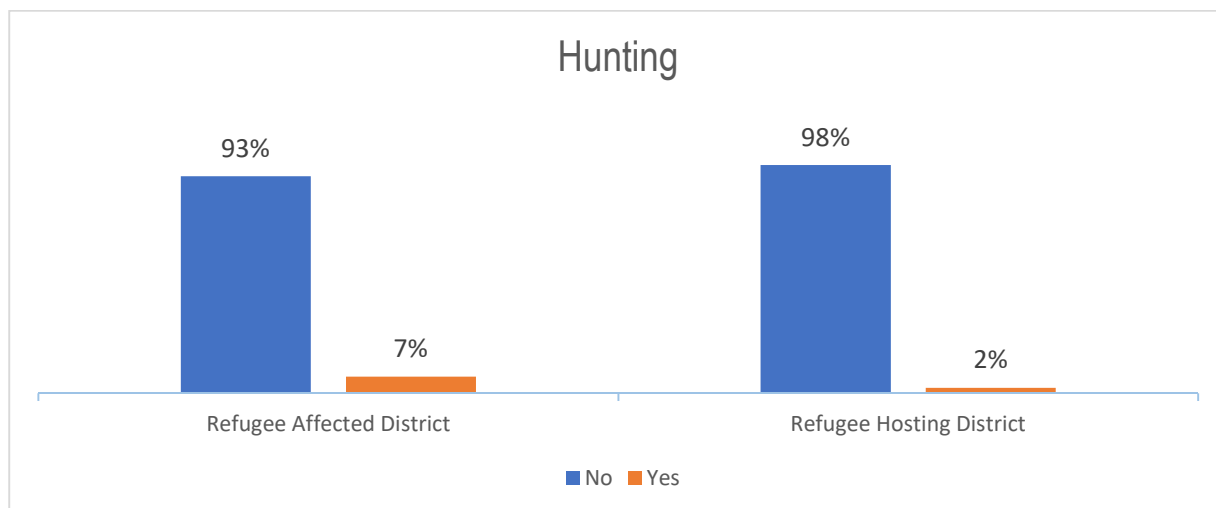
Figure 3-134: Hunting

The survey results above indicated the percentage of those who hunted, 7% in the RAD practiced hunting and 58% said the hunting location was the forest, 17% in the bush and 25% hunt in the savanna. In the RHD, only 2% agreed they hunted with 50% stating the hunting location was in the forest, 25% hunted in savannah and both in the forest and hills as illustrated in figure 3-135 below.
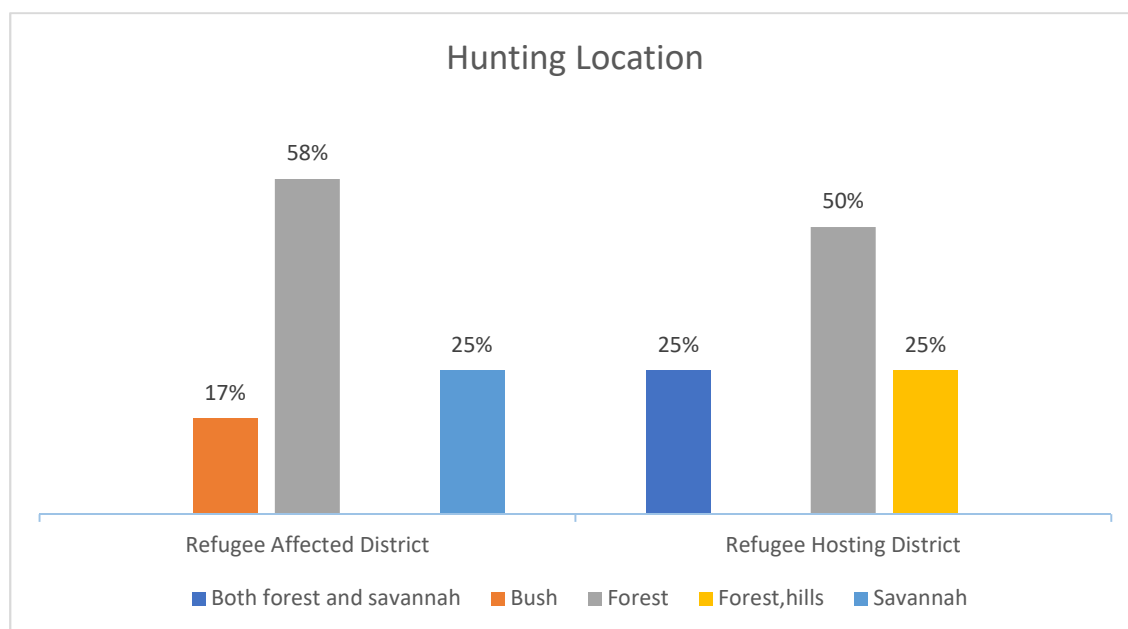
Figure 3-135: Hunting Location

The section of the HHs that hunted normally did it during the dry season mainly as it was the best time for them to hunt. However other hunters were specific to say in the months of January and March though those are also rather the dry months of the west nile region in uganda.

The methods used for hunting are;

- Use of traps
- Use of arrows
- Use of dogs
- Use of nets
- Use of spears

According to the survey data in RAD, 67% said the most common animal they hunted was the wild rabbit as indicated in figure 3-136 below. In contrast at RHD where the most common animal hunted was the monkey at 50% followed by the bush rat and antelope each at 25%.
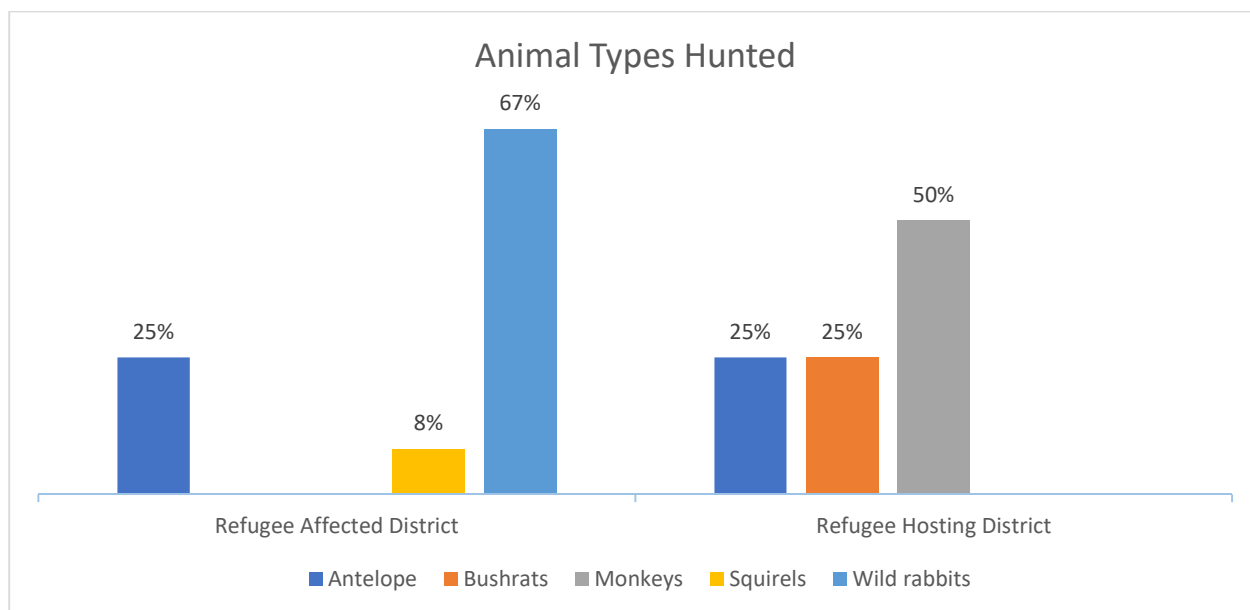
Figure 3-136: Animal Types Hunted

Hunting was done mainly to get meat for home consumption by the percentage of HHs that did hunting though a very small percentage of them sold the wild meat to the community.

3.2.4.5 Fishing

The community in both the RAD and RHD were asked about fishing and where they always go for fishing. In the RAD, 67% said they fish in the savannah, 5% fished in the forest and 29% went to fish in other locations as shown in figure 3-137 below. In the RHD, 50% said they went to fish in the savannah, 17% said they went to the forest to fish and 33% said they fish in other locations. The River Nile passes through some districts in West Nile and this explained the higher percentage in the savannah areas of RAD where a longer part of the river traverses than in some RHD where it did not pass.
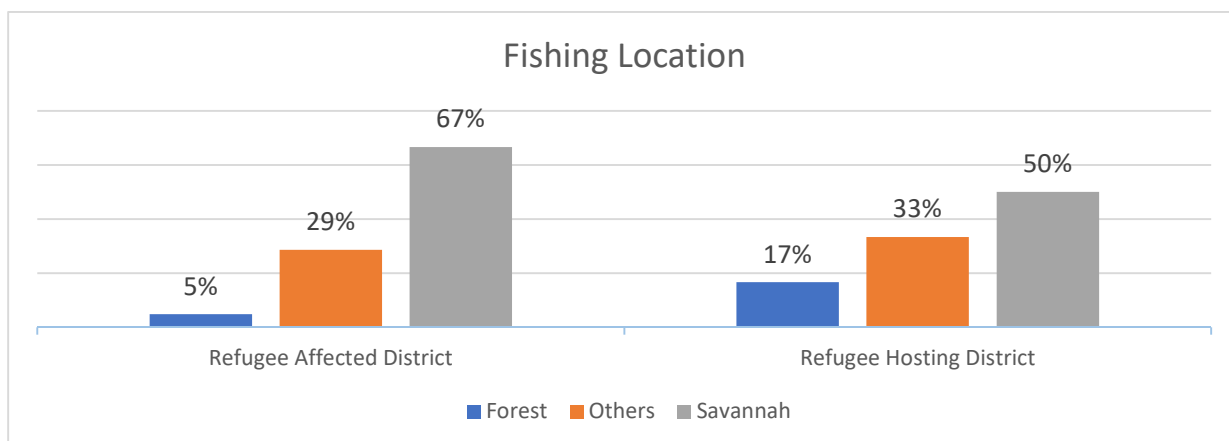
Figure 3-137: Fishing Location

According to the survey, the seasons for fishing varied within the community. In the RHD 83% said they went to fish all times a year and 17% fished only in the dry season. In the RAD 43% went to fish in the rainy season and 24% fished all times a year as shown in figure 3-138 below. According to the trend from the survey reports in the RHD fishing was done all times of the year as a livelihood and source of food for the large population in the settlements and community.
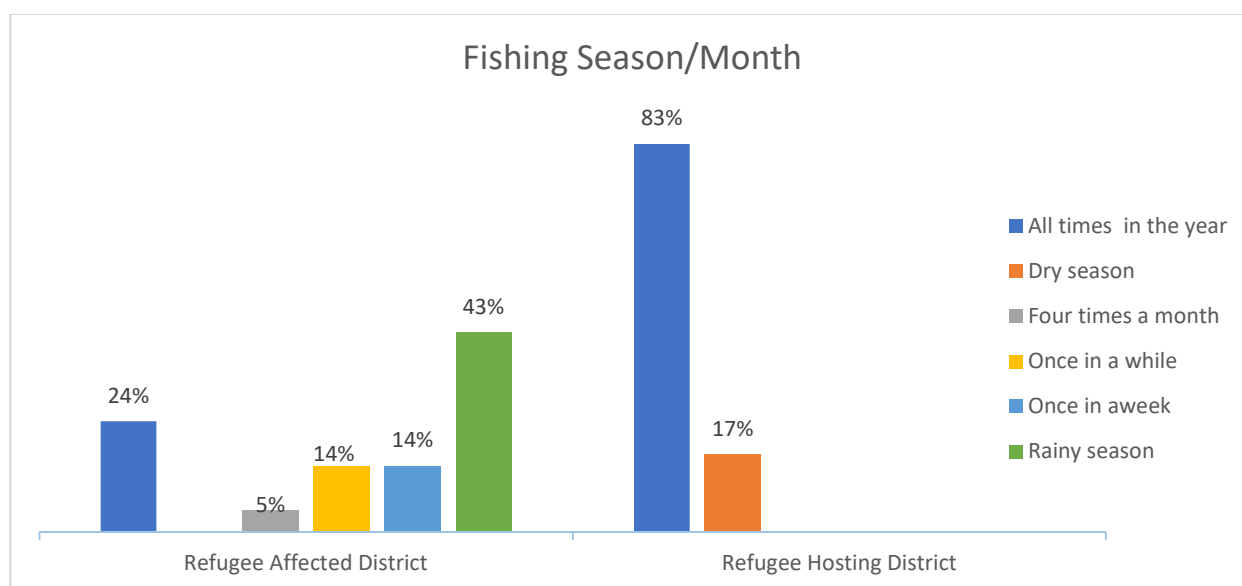
Figure 3-138: Fishing Season/ Month

The fishing methods used in the RAD were 71% using fishing nets, 24% using fishing hooks and 5% using spears as shown in figure 3-139 below. In the RHD, 50% used fishing hooks, 33% used boats and 17% used fishing nets. The results show that the fishing nets were the most used fishing method followed by the fishing hooks.
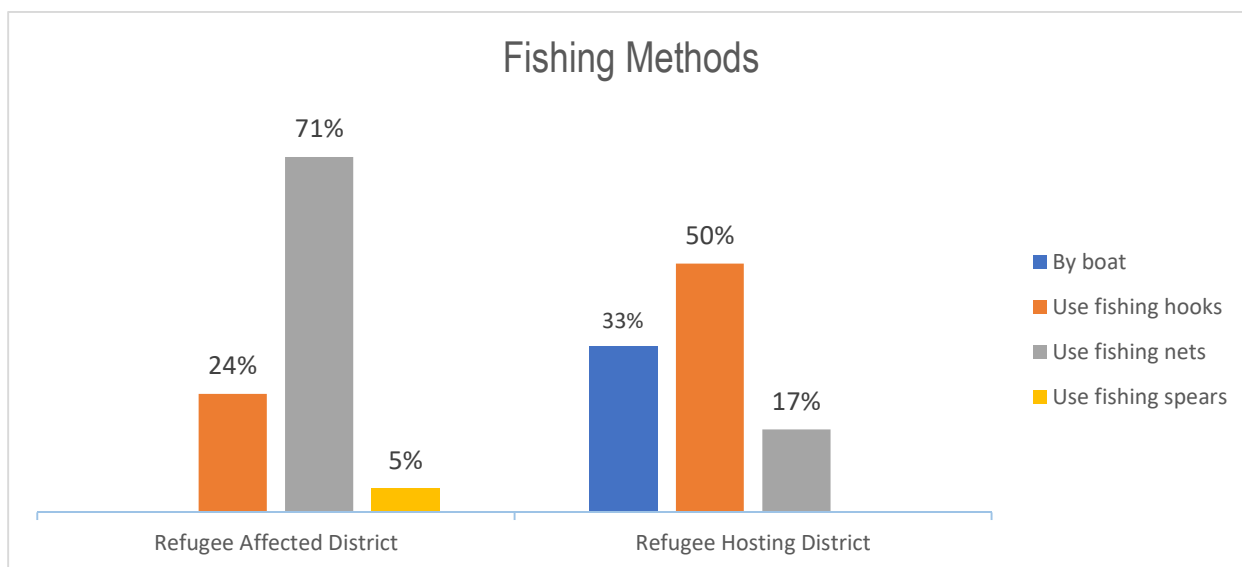
Figure 3-139: Fishing Methods

In the RAD, 76% of the community said tilapia was the most common type of fish, 19% caught mud fish and only 5% caught the Nile perch fish as shown in figure 3-140 below. Meanwhile in the RHD, 83% mud fish was the most common fish type and 17% said they catch tilapia fish.
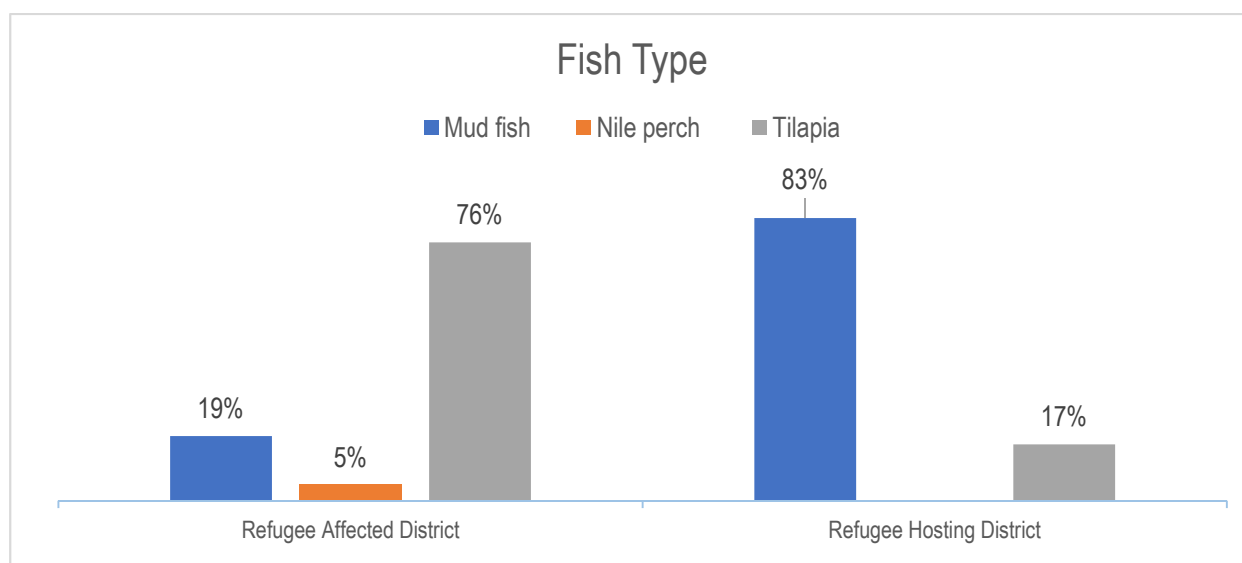
Figure 3-140: Fish Type

Sale of Fish

In the RAD 86% sold the fish and 14% said they don't sell as shown in figure 3-141 below. Meanwhile in the RHD 50% said they sell the fish and 50% don't sell. The trend in the RHD would mean that fishing is done mainly as a source of food but also some are sold for income.
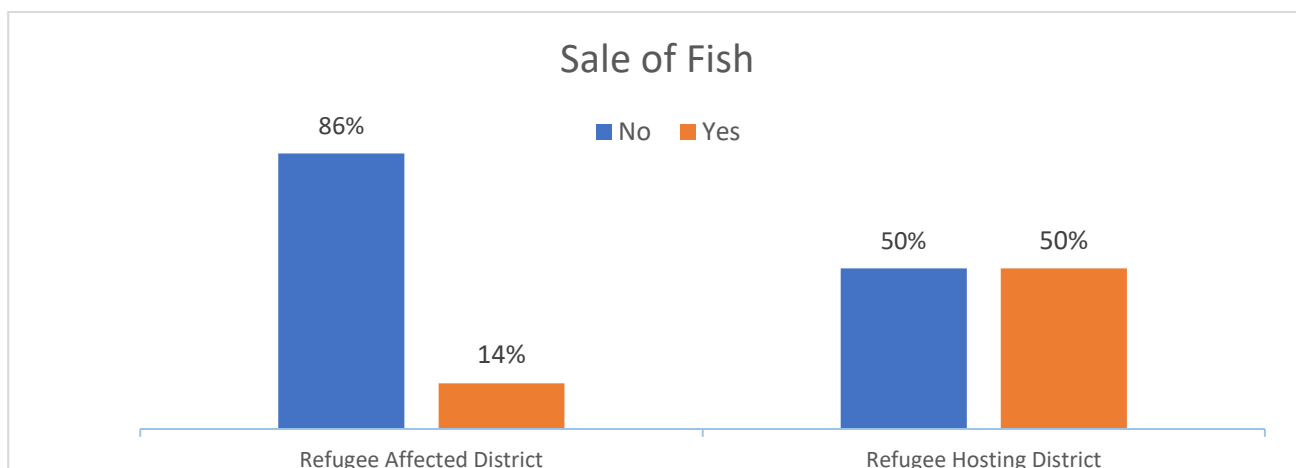
Figure 3-141: Sale of Fish

3.2.5   Energy Source

In Uganda, over 90% of HH energy is derived from biomass (firewood and charcoal). Most of it is used for cooking, at times in combination with other types of energy such as electricity. Charcoal is the predominant source of energy used in urban settings, while firewood is more common in rural areas.

3.2.5.1   Energy Source

Energy is an essential part of improving livelihood. Data concerning energy use in RHD and RAD districts was analyzed. In RHD, majority of respondents utilize firewood as their main source of energy (44%) followed by charcoal (26%) and (16%) use solar batteries. The RAD also utilize firewood as their primary source of energy for cooking (44%), charcoal is also used at (26%) and solar power batteries (17%) as their other source of energy as illustrated in figure 3-142 below. The major type of battery used are the dry cell batteries though some of the respondents had car batteries in use.
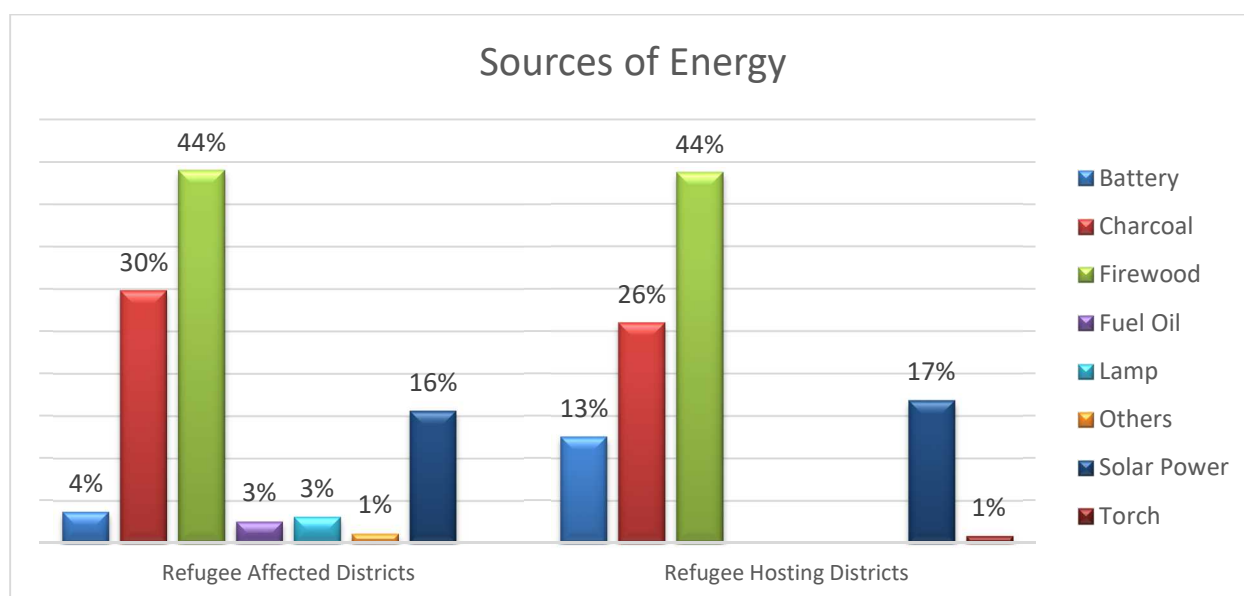
Figure 3-142: Sources of Energy

3.2.5.2   Purpose of the Energy

The results from the survey reveals that majority of the HHs use this energy for lighting and cooking. Energy for lighting for the RAD and RHD constituted 49% and 52% respectively whereas cooking constituted 44%

and 45% respectively. The other uses include burning bricks, charging telephones, hunting among others as illustrated in figure 3-143 below. Energy for lighting constituted the highest percentage because some of families use light from the three stone fire while cooking majorly in the kitchen areas but also outdoor born fires are used for light, and other sources like solar power, torch, battery, lamp, and others. From an interview with the key respondents, one said that *"when we are going to hunt the wild rabbits at night, we use light from firewood to locate them"*.
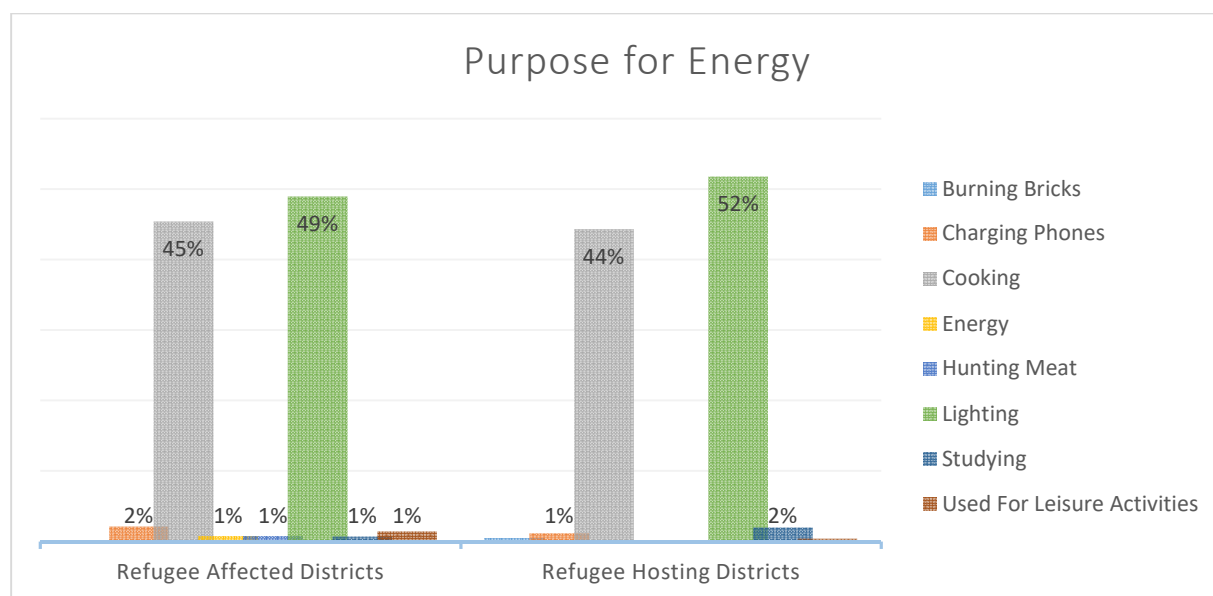
Figure 3-143: Purpose for Energy

3.2.5.3 Number of Lights used in the House

Within the RAD (40%) the respondents own atleast 1bulb and (41%) own 2 bulbs in the RAD. On the other hand in the RHD, the biggest number has at least one bulb (53%) while other have 2 bulbs (24%) as illustrated in the figure 3-144 below. The respondents acknowledged the need for more lighting as a way to improve their security.
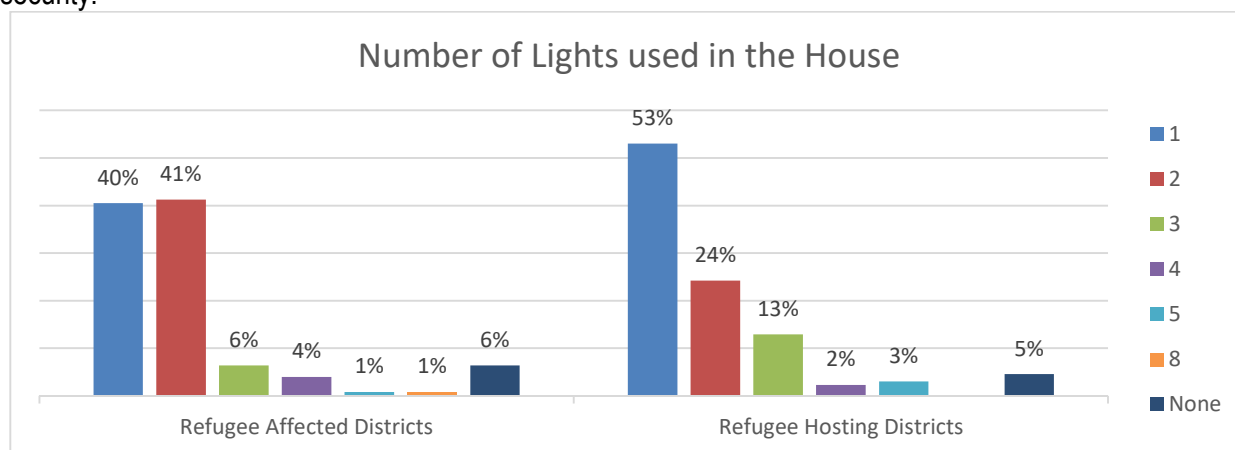
Figure 3-144: Number of Lights Used in the House

3.2.5.4 Light Capacity of the bulbs in Watts

The common bulbs used have a light capacity of 1-10 watts for both the RAD and RHD at 64% and 45% respectively as it is the preference for the respondents that participated in the study. However, it is important to note that a good number of the respondents are not sure about the watts capacity for the bulbs they are using as illustrated in the figure 3-145 below.
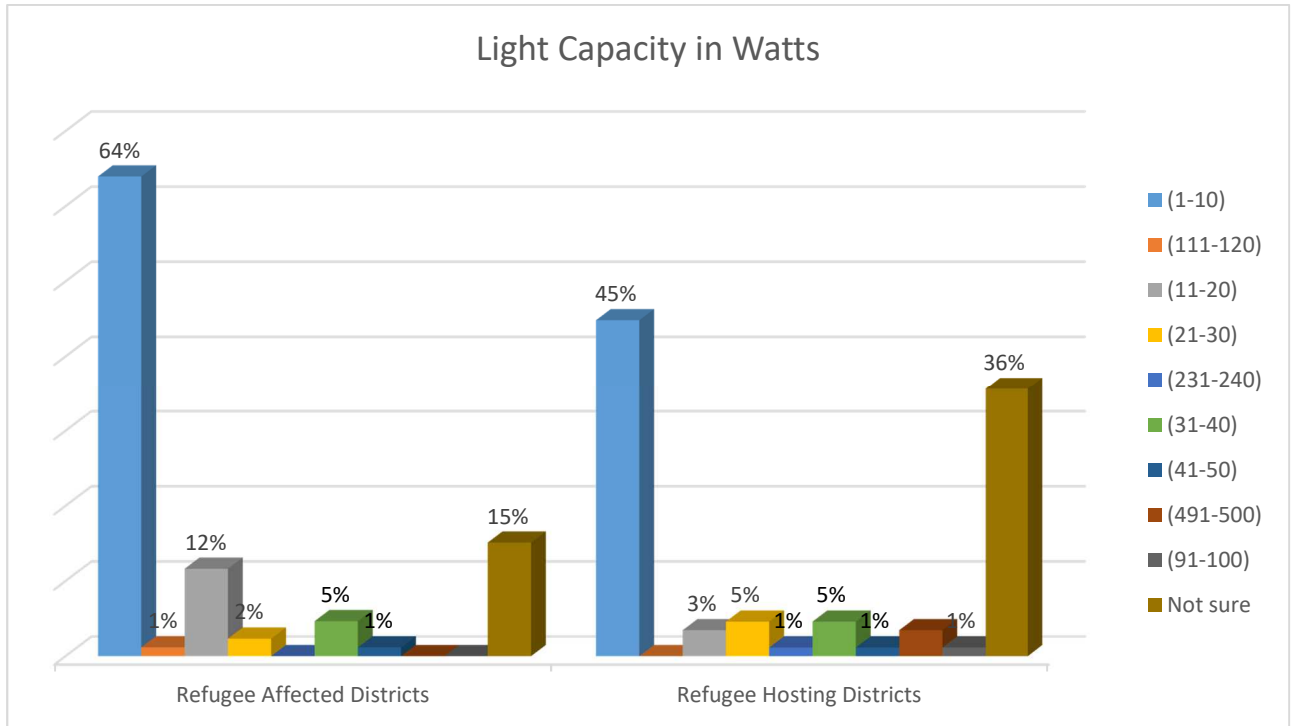
Figure 3-145: Light Capacity in Watts

3.2.5.5 Need for More Light

The study shows that majority of the HHs will need more light as confirmed by the 92% and 93% in the RAD and RHD respectively as illustrated in the figure 3-146 below.
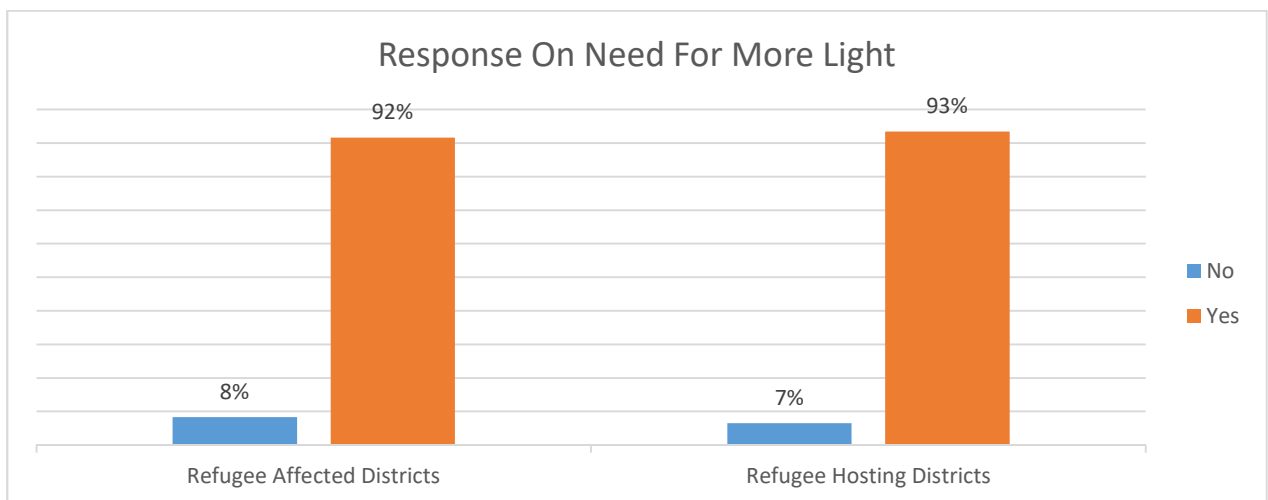
Figure 3-146: Response on need of more light

Number of more Lights needed

In the RAD majority of the HHs need three more lights (36%), followed by those who need four lights (19%) those who need two lights were at 16%, 15% for those in need of five lights. On the other hand, in the RHD majority of the HHs are in need of 4 lights (39%), three lights (25%) and two lights (14%) as illustrated in the figure 3-147 below.
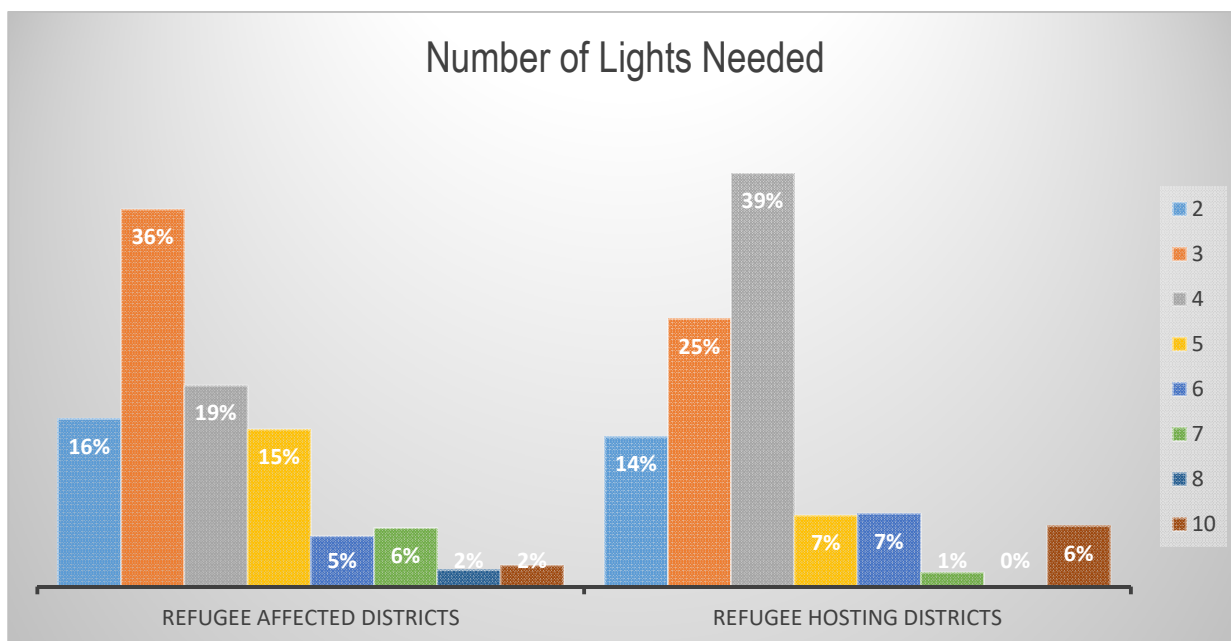
Figure 3-147: Number of lights needed

Purpose for more Light

The main purpose of the light as indicated by the study is to assist them in cooking at 84% and 68% in the RAD and the RHD respectively. The other uses include charging, business purposes to provide light as they are selling their goods, for lighting, for studying as some of the HHs have school going children and security purpose as illustrated in the figure 3-148 below.
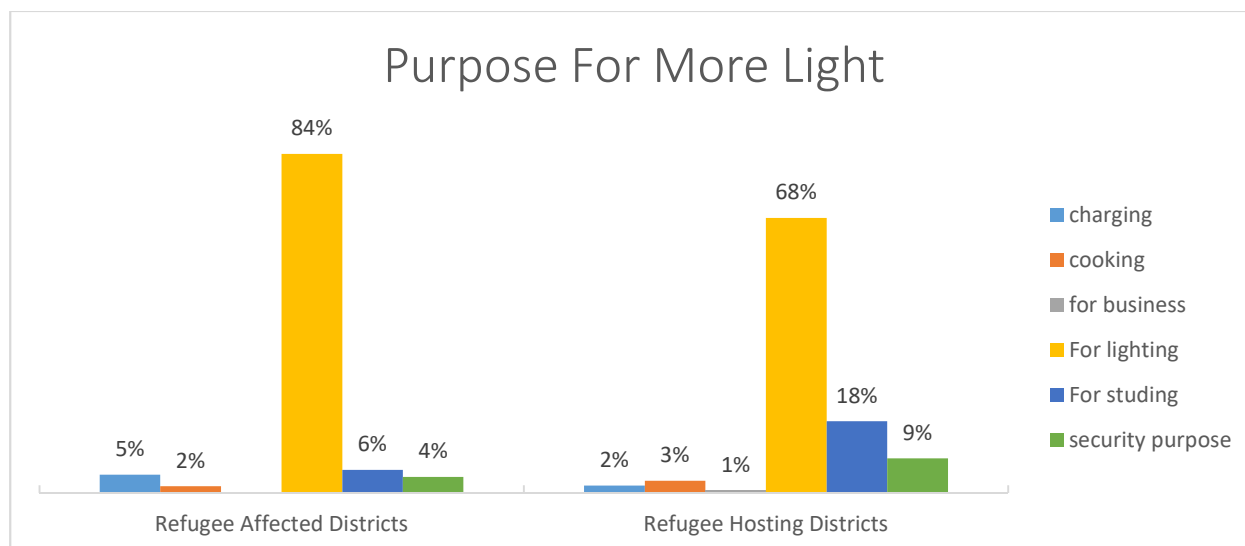
Figure 3-148: Purpose for more light

Source of Light

The survey indicates that the main source of light in the RAD is solar (31%), followed by lamp (23%), battery (20%), firewood (12%), Charcoal (8%) and cellphone (4%). In the RHD HHs, the sources of light are battery (26%), solar power (22%), Lamp (18%), Torch (14%), Firewood (9%), Charcoal and Cellphone (6%) as illustrated in the figure 3-149 below. The sources of light are common for both the HHs in RAD and RHD however the most commonly used sources are solar, lamps and battery.
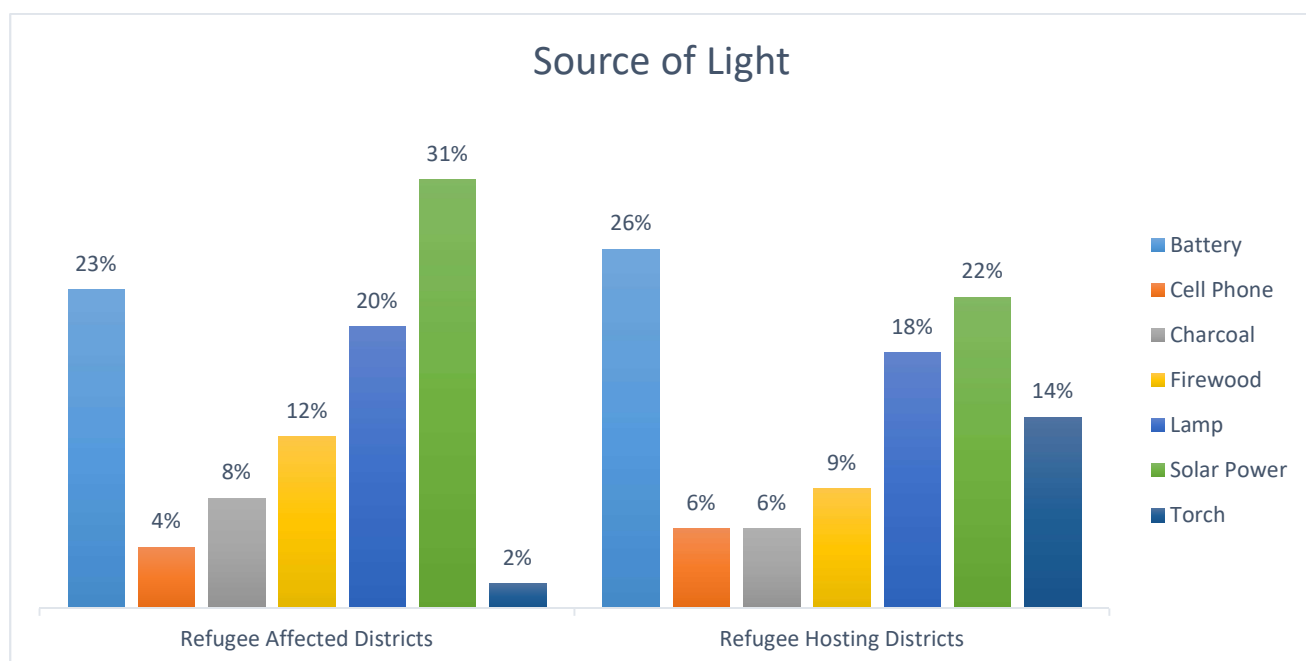
Figure 3-149: Sources of Light

Sources of Light during COVID-19

In general, according to the survey the COVID-19 pandemic didn't have much impact on the community in the rural areas in terms of the activities carried out and the way of life. In relation to the source of light there was a minimal observation in the change sources of lights mentioned in figure 3-149 above mainly for the ones that use lamps to provide them with light in terms of movement to the shops to get paraffin though the effect was insignificant as the retail shops are within the community.

3.2.5.6   Electricity

There is no electricity in the RAD and RHD. They majorly rely on solar, batteries and lamps as a source of energy for lighting.

3.2.6   Water

The right to water is directly stipulated in the constitution of the Republic of Uganda under the National Objectives and Directive Principles of State Policy. Objective XIV articulates social and economic rights, including the right to water, health and an adequate standard of living. The National Standard Indicator (NSI) for water is the Percent of HHs with access to clean water. The source of water is an important determinant of the health status of HH members. Safe and clean water is a prerequisite for reducing many common diseases of both adults and children such as diarrhea, dysentery and cholera.

3.2.6.1   Sources of Water

The community mentioned a number of sources. According to the survey results in the RHD, 51% said they get water from a public tap, 25% get water from a hand pump, 7% get water from surface streams and 2% get water from valley tanks as shown in figure 3-150 below. In the RAD, 34% said they get water from a hand pump, 24% get water from a protected spring, 15% get water from surface stream water and 14% get water from public taps.

The survey information shows that the percentage of people who use public tap water is highest in the RHD compared to the the RAD who mostly use the hand pump to get water for domestic use.
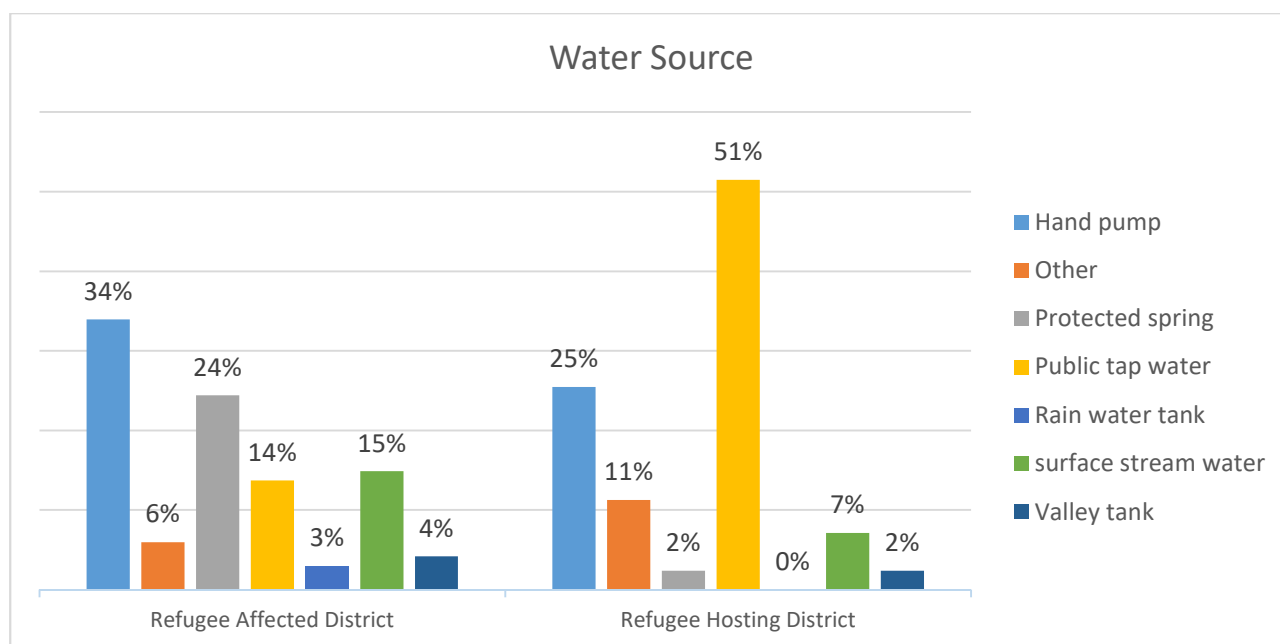
Figure 3-150: Water Sources

The other sources of water include boreholes, harvested rain water and water from the streams as illustrated in figure 3-151 below.
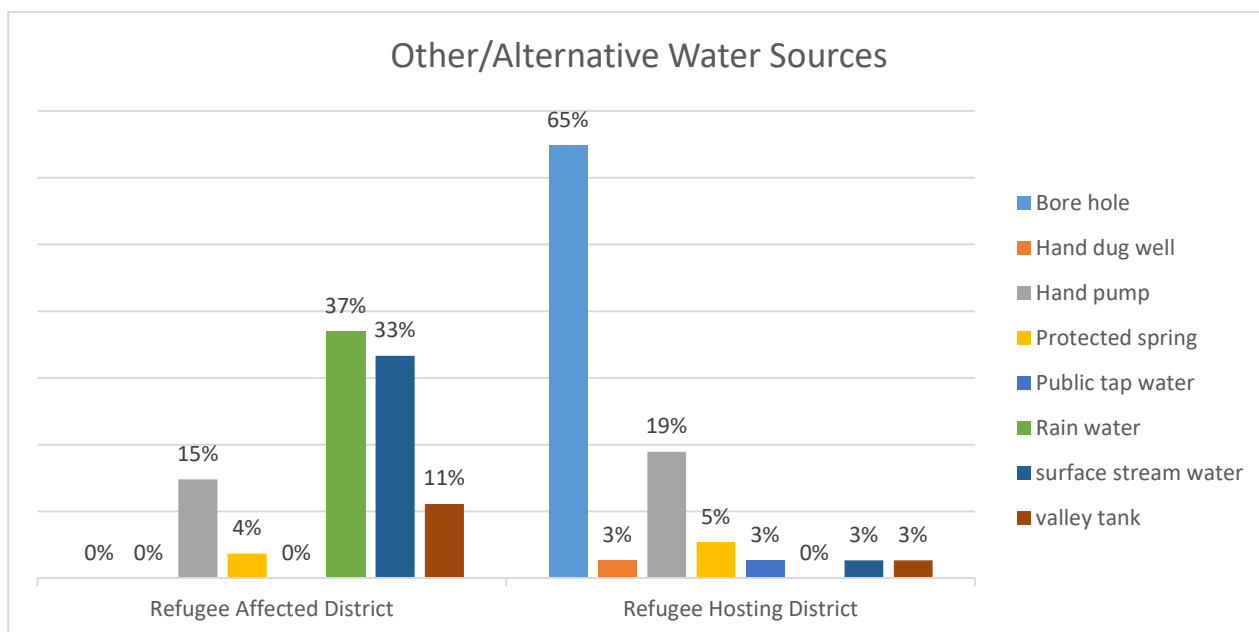
Figure 3-151: Other/ Alternative water sources

According to the survey results, in the RAD 35% said they spend below 1 hour getting water, 34% said they spend between 1-2 hours getting water and 32% spend beyond 2 hours as shown in the figure 3-152 below. On the other hand, in the RHD, 62% said they spend below 1 hour getting water, 25% said they spend between 1 to 2 hours and only 13% said they spend beyond 2 hours to get water.
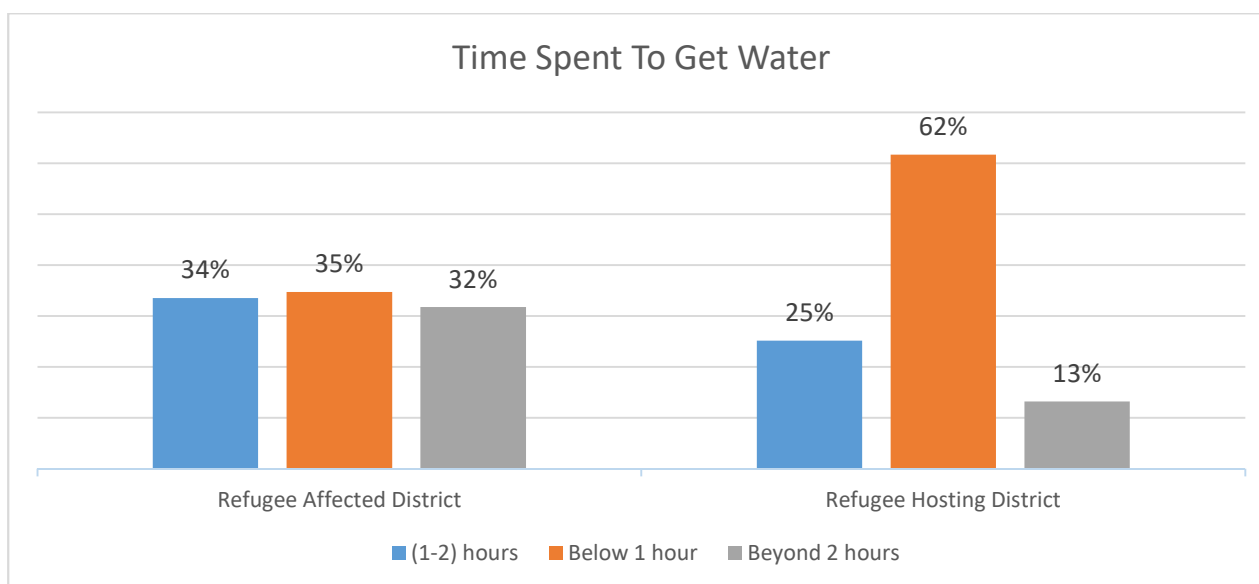
Figure 3-152: Time Spent to get water

3.2.6.2 Water Community Management Organization/Society

In the RAD and RHD, 76% and 93% respectively said there was an organization managing the water source and while 24% and 7% respectively were not aware of any organisationa managing the water source as shown in figure 3-153 below.
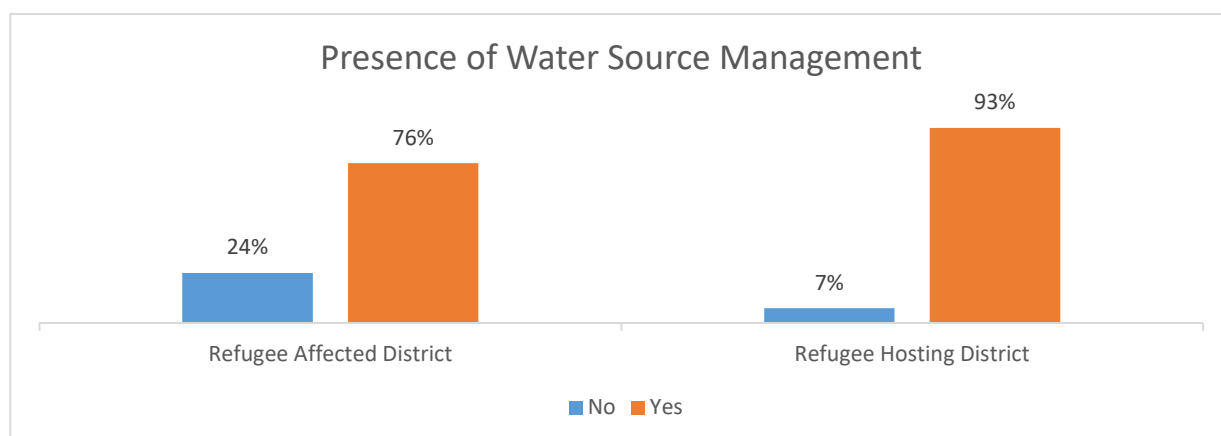
Figure 3-153: Presence of Water Source Management

There are a number of organizations that were set up to manage the water sources. In the RAD, 73% said a water user committee was responsible for managing the water source and 27% said the community manages the water source as shown in figure 3-154 below.

Meanwhile in the RHD, 45% said a water user committee manages the water source, 49% said the community was managing the water source, 5% said the Water Mission was managing the sources and 1% said ADRA (NGO) was managing the water source. This information indicates that the Water User Committee was at 73% in the RAD compared to 45% in the RHD.
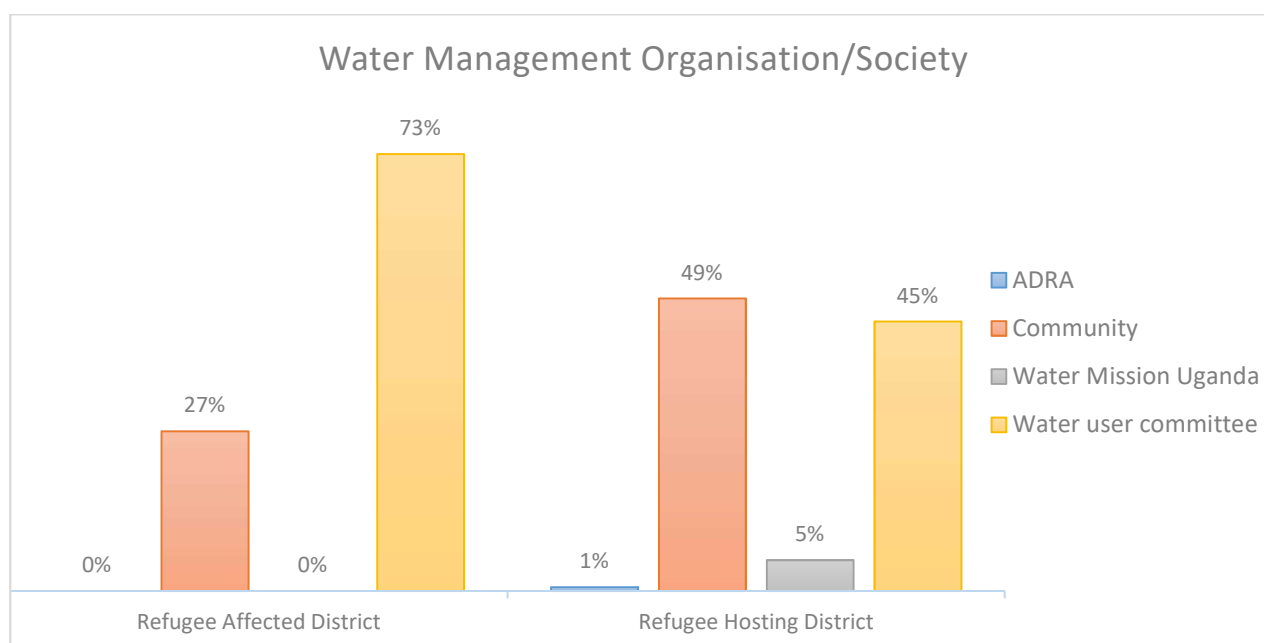
Figure 3-154: Water Management Organisation/Society

3.2.6.3   Monthly Water Charge

Often the community members pay some monthly fees for water from the water sources while others are not required to pay for water.

In the RAD, 93% said they pay below UGX 5,000 to get water and 5% said they pay between UGX 5,000 and UGX 10,000 as shown in figure 3-155 below. In the RHD, 91% said they pay below UGX 5,000 to use the

water source and 5% said they pay between UGX 45,000 to UGX 50,000 to use the water source. This trend shows that in both the RADs and RHDs, the majority pay below UGX 5,000 to use water sources.
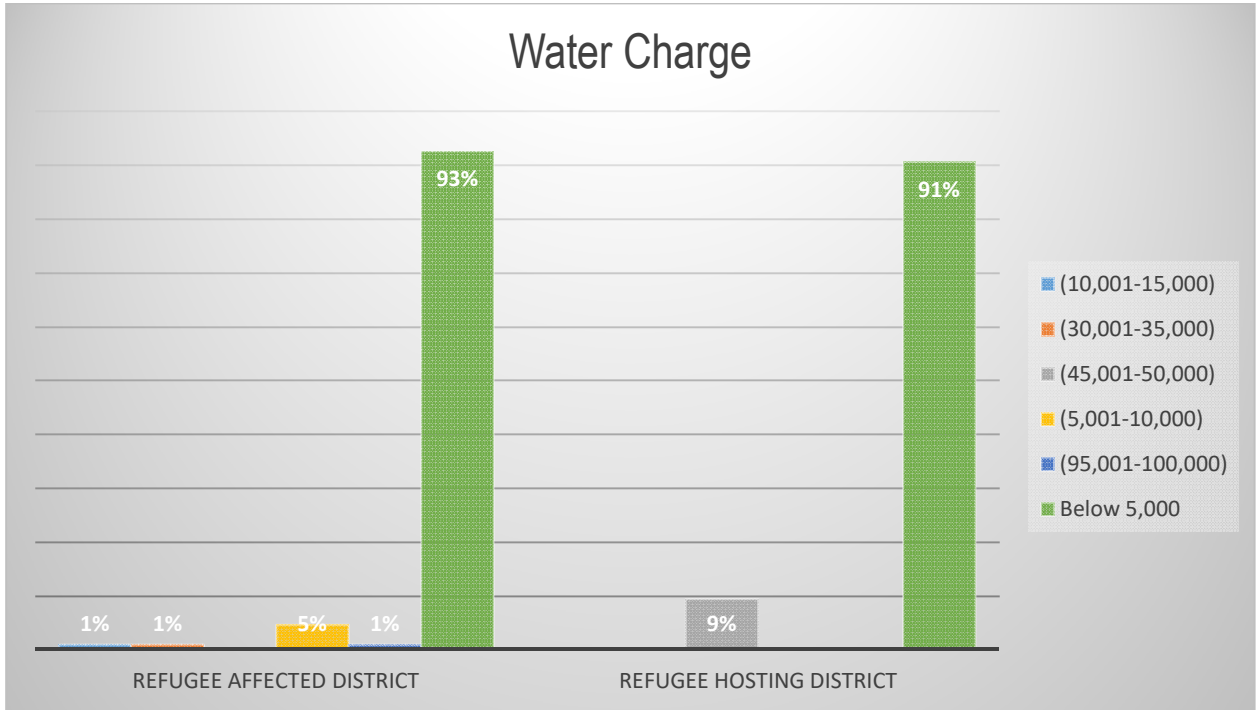
Figure 3-155: Water Charge

3.3   Social Economic Survey (FDG 1) Findings– Annex 3

Among the 12 districts in West Nile Sub-Region covered in the social survey, the following six are recognized as RHD that is Adjumani, Koboko, Madi Okollo, Obongi, Yumbe and Terego. Six other districts including Arua, Moyo, Maracha, Zombo, Nebbi and Pakwach are recognized as RAD.

This section has been prepared based on FDGs conducted with the LC1, Parish chiefs, clan leaders, village elders, leaders from the village SACCOs and Refugee Welfare Council as the key respondents to understand the drivers of deforestation and electrification in the hosting district and the affected Districts. There are refugee settlements across the six RHDand the demand for natural resources like land and wood products for energy is evidently high. The RAD are within 150 km to 200 km range from settlements and some parishes do border the settlements creating a spillover effect in terms of demand for natural resources and forest products.

3.3.1   Profile of the Settlements or Host Community

Across the 12 Districts of West Nile covered during the survey and more especially the RHD, information on the exact population was not easy to get from the individuals interviewed. However, the districts and settlements populations data obtained from secondary information was as follows.

Table 3-16: Districts and Settlement Population Data from Secondary Information

District	District Population based on 2014 census Report		Estimated population of refugees in the Districts or settlements
Refugee Hosting Districts (RHDs)			
Adjumani	225,251		215,524
Obongi	139,012		122,000
Koboko	206,490		5,557
Madi okollo			60,000
Terego	199,300		126,000
Yumbe	485,582		230,000
			Refugee Affected Districts (RADs)
Arua	776,600		None
Pakwach	197,600		None
Zombo	219,800		None
Nebbi	385,200		None
Maracha	186,160		None
Moyo	240,360		None

Source: UBOS 2014 census report and UNHCR/OPM data

3.3.2   Information on the Survey Sites

3.3.2.1   Land Information of the Survey Sites

According to survey findings at RHD, 83% indicated that a person had a right to occupy private land and 17% don't have right to ownership as indicated in figure 3-156 below. The latter would be the land occupied by refugees. In contrast in the RAD, 100% indicated that a person has ownership of land. All respondents stated that occupation of the land remains for the immediate family or relatives when the first owner passes on.
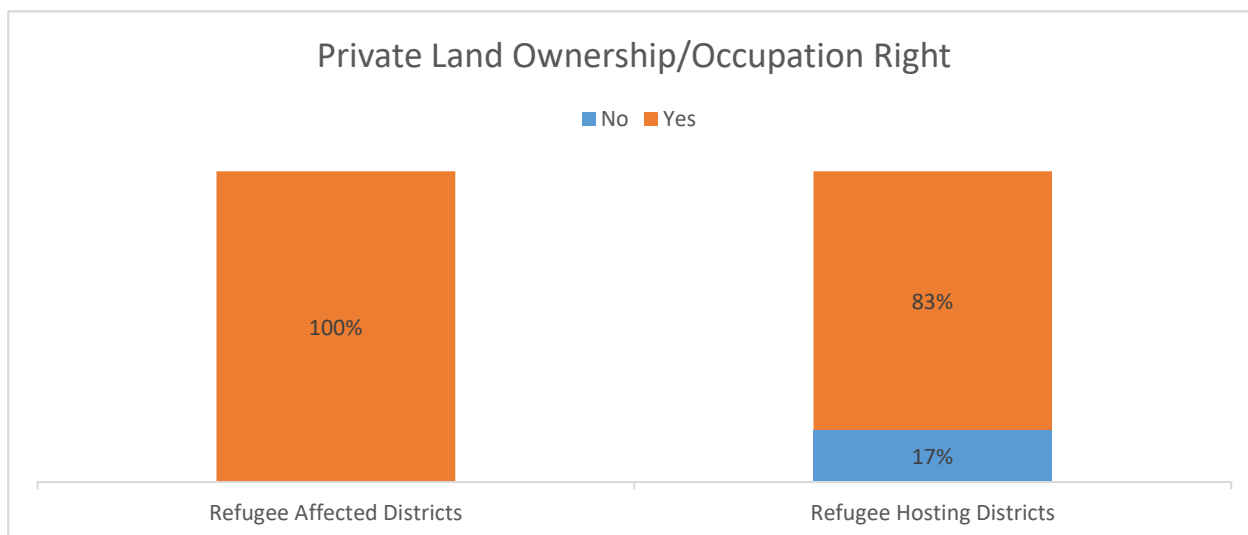
Figure 3-156: Private Land Ownership/ Occupation Right

The survey shows that 83% agree there are community lands in RHDs and this perhaps explains the reason why settlement camps are located in lands formally belonging to the host communities for grazing or crop lands. However, in Zombo, Arua, Maracha, Moyo, Nebbi and Pakwach that are RADonly 25% stated that there exist community lands meaning all land is privately owned as shown in the figure 3-157 below.
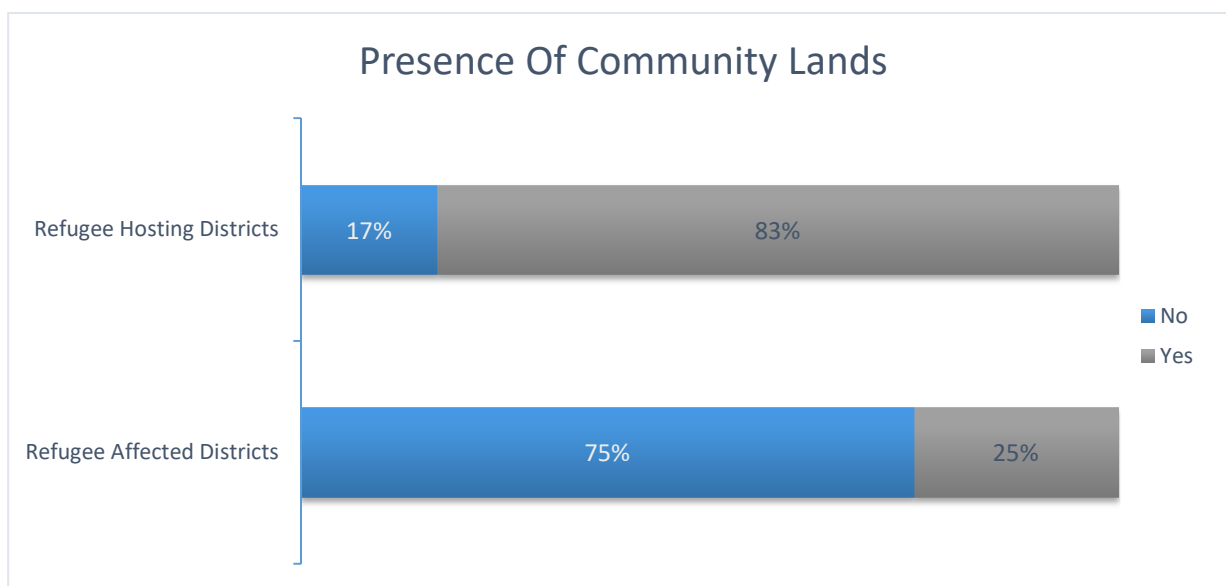
Figure 3-157: Presence of Community Lands

According to the survey, public land in RHD exists in Yumbe (Kei), Madi okollo Adjumani, Obongi and Terego. It is used used for Health facilities, schools and markets. In Moyo District public land is used for a central forest reserve. In Pakwach, Zombo, Arua, Maracha and Nebbi public land exists and it is used for public facilities like markets, administrative units, schools and health facilities. For example, the figure 3-158 below shows a primary school built on public land at Ayilo 1 settlement in Adjumani District.

Figure 3-158: Most educational facilities like schools are built on public Land for example like at Adjumani in the pictures above.

Regarding community land, the common rules or limits for use was that consent must be obtained from community land owners before use. The types of rules and systems that are established related to use of forests varied within the Districts. The RADof Moyo, Arua, Maracha, Pakwach, Nebbi and Zombo have enacted rules prohibiting cutting the shea butter nut tree whose fruits are of economic value. Cutting of other trees species is locally regulated especially on community and public land. 33% in the RAD stated that the rules and enforced compared to 66% where there are no explicit rules as shown in figure 3-159 below. For example, in Maracha District owners of privately-owned woodlots are free to cut tree products. The RHDs of Adjumani, Yumbe, Obongi, Terego, Koboko and Madi okollo the rules require permission or consent from host community before using forest products as stated by 58% of the respondents compared to 42% where there are no limits. There is also a tree cutting bans for selected tree species like the shea butter nut tree.
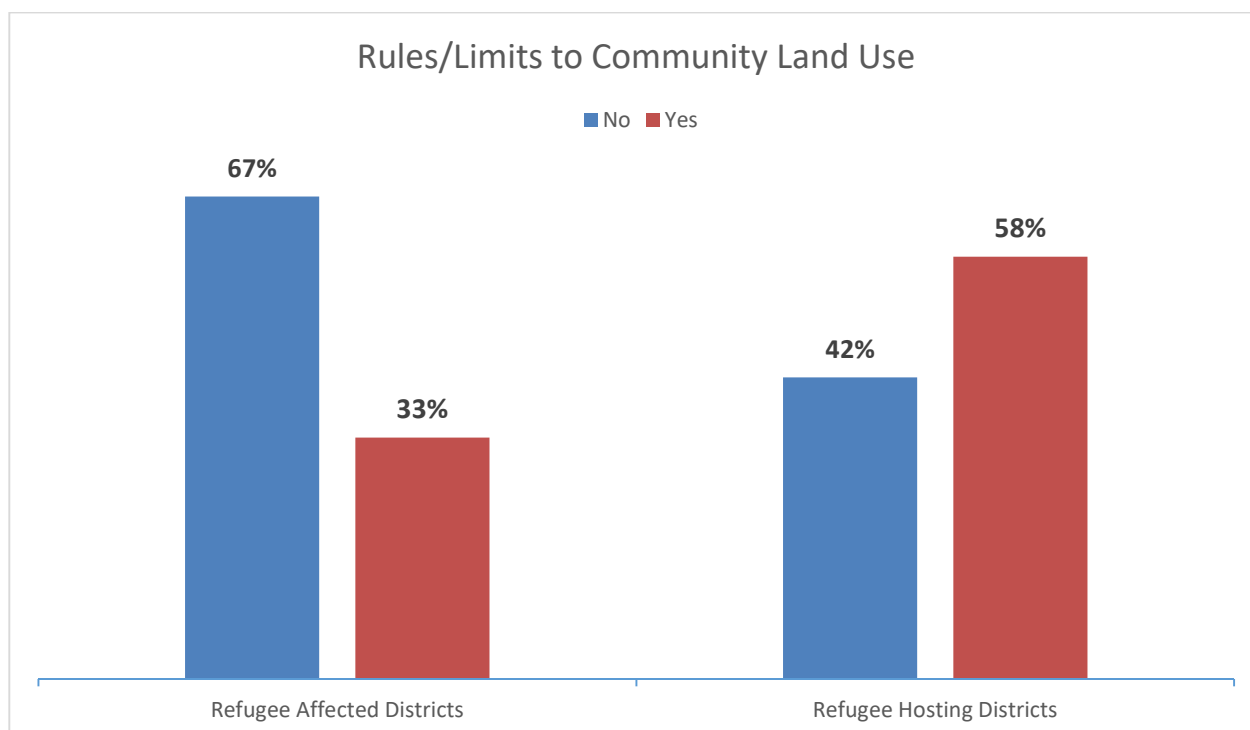
Figure 3-159: Rules/ Limits to Community Land Use

3.3.2.2   Information on Current and Previous Projects

According to the survey, the refugee hosting and RAD receive support through Government programs and through NGOs. Support for Local governments from major NGOs and international organizations is concentrated in the RHD as shown in the table 3-17 below.

Table 3-17: Support for Local Governments from Major NGOs and International Organizations

Name of project	UNHCR	DR DIP	LWF	FCA	DCA	Plan	Malteser	GIZ	Mercy Corps
	Major International organizations								
Period of project	2016 - 2020	2020	2016 - 2020	2019 - 2020	2019 - 2020	2019	2018 - 2020	2019 - 2020	2018
Status of activities	ongoing	ongoing	ongoing	ongoing	ongoing	finished	ongoing	ongoing	finished
RHD									
Adjumani	●	●	●			●			
Obongi	●	●	●						●
Yumbe	●	●		●					
Koboko	●	●			●				
Terego	●							●	
Madi Okollo	●	●					●		
RAD									
Pakwach						●			
Zombo									
Maracha									
Nebbi								●	
Arua					●				
Moyo		●						●	

Source: from the FGDs.

According to the survey, it was reported that activities for Plan and Mercy Corps are finished because they ended the programed activities within that period and they moved to other areas or Districts.

In Koboko District for example, the program interventions at Lobule settlements were more visible in the refugee community compared to host community at Kuluba where only one government program was mentioned in the focus group indicating that they are receiving less support from donors and NGOs Because the Sub- County is less affected by refugee influx to attract extra support.

3.3.3   Use and dependence on Forests
3.3.3.1   Demand for firewood outside and charcoal outside the HH and sale
The survey reveals that there was demand for firewood and charcoal for use inside and outside the HH. The main type of demand was for firewood consumed for cooking at HHs and institutions in both hosting and affected districts. At Moyo District it was reported that schools consumed up to two truckloads of firewood in a month. Meanwhile HHs in RADconsumed an average of 8 headloads in a month of firewood for cooking. Charcoal was a second priority source of energy for most HHs and was purchased in small quantities especially in the refugee settlements. Most HHs stated that they consume 2 sacks in a month.

In the refugee settlements, the amount of firewood consumed in a month was monetized because they often buy the product from the host community. On average HHs consume UGX 45,000 worth of firewood per month for firewood. From the survey it was revealed that because of the COVID 19 pandemic the demand for firewood and charcoal did not change.

3.3.3.2 Quantities of Consumption or Sale of the Main Forest Products

According to the survey the main forest products consumed by HHs are firewood, construction wood, charcoal and fruits. Medicinal products are used in very small quantities.

The common tree species names were used for firewood, charcoal, construction wood and medicines listed in table 3-18 below. In the current situation the influx of refugees in the RHD puts a great strain on the available tree resources and other natural resources. One way to protect the existing natural resources from over exploitations promotion of energy saving stoves with the aim of minimizing the use of firewood in contrast with the traditional three stones stoves.

Table 3-18: Common tree species used for firewood, Charcoal, construction and medicines

RAD	Firewood	Charcoal	Construction wood	Medicinal
Pakwach	Acacia hokii (Oriang) Combretum molle (Oduk) Croton macrostachyus (Okweng)	Acacia hokii (Oriang) Combretum molle (oduk)	Combretum molle (Uduku) Grewia mollis (Opobo)	Tamarindus indica (chwaa)
Zombo	Ficus spp (Bongo) Combretum molle (Uduk) Dalbergia melanoxylon (Oopo), Vernonia amygdalina (Labori)	Combretum molle (Uduku) Acacia hokii (Oriang) Grewia mollis (Opobo) Eucalyptus spp (kalafuru)	Combretum molle (Uduku) Grewia mollis (Opobo) Eucalyptus spp (kalafuru)	
Maracha	Eucalyptus spp (Kalatusi)	Eucalyptus spp (Kalatusi)	Eucalyptus spp (Kalatusi)	Eucalyptus spp (Kalatusi)
Nebbi	Combretum molle (Uduku) Acacia hokii (Oriang) Grewia molle (Opobo)	Tectona grandis (Teak) Mangifera indica (Mango) Butyrospermum paradoxum (yao)	Tectona grandis (Teak); Grewia molle (Opobo)	
Arua	Acacia seyal (Ayi) Piliosstigma thoninngii (Ogali) Acacia hokii (Oli) Erythrina abyssinica (Oluo) Eucalyptus spp (Kalatusi)	Piiostigma thonningi (ogali) Pinus patula (pine) Eucalyptus spp) (kalitusi)	Piiostigma thonningi (ogali) Pinus patula (pine) Eucalyptus spp) (kalitusi)	Eucalyptus spp) (kalitusi
Moyo	Ficus spp (Ituba) Acacia hokii (Oli) Combretum molle (mai) Grewia mollis (enju)	Afzelia africana (Meli) Acacia hokii (oli) Kaya anthotheca (eri); Butyrospermum paradoxum (awa)	Borusus aethiopum; Combretum molle (mai) Grewia mollis (enju); Arundinaria alpina (bamboo)	
RHD	*Firewood*	*Charcoal*	*Construction wood*	*Medicinal*
Adjumani	Acacia hokii (Gok); Grewia mollis (Inju)	Combretum spp (Mai) Acacia hokii (Oli) Pilistigma thoninngii (maza); Grewia mollis (Inju)	Grewia mollis (Inju)	
Obongi	Piliostigma thonningii (maza) Afzelia africana (meli) Acacia hokii (oli) Combretum molle (adugo)	Acacia hokii (bukuli) Combretum molle (pepe)	Borusus aethiopum; Combretum molle (mai) Grewia molli (enju);	
Yumbe	Ficus capensis (bilitiri) Combretum spp (gbagbe) Acacia spp (ryanti)	Combretum molle (mai)	Ficus capensis (bilitiri) Combretum spp (gbagbe)	

RAD	Firewood	Charcoal	Construction wood	Medicinal
Koboko	Albizia coriaria (uperi) Tamarindus indica (Pitei)	Ficus capensis (ituba)	Eucalyptus spp; Tectona grandis (teak)	Tamarindus indica (Pitei)
Terego	Syzygium guineense (Aligo) Grewia mollis (Onju) Khaya senegalensis (Malago)	Combretum molle (dunku) Acaci hokii (alok)	Eucalyptus spp; Tectona grandis (teak)	
Madi Okollo	Acacia seyal (oli) Grewia mollis (eneku) Acacia sieberiana (asaro)	Acacia seyal (oli); Acacia sieberiana (asaro)	Grewia mollis (eneku)	

According to the survey, in the RHD, sale of firewood or charcoal is prohibited and may only be allowed by the respective sub counties authorities who issue permits or licenses to producers of charcoal. In Maracha the restrictions are not common because most woodlots are owned by individuals. In Arua, Nebbi and Zombo a license is required from the sub county authorities for sale of firewood and charcoal burning.

Figure 3-160: A focus group discussion for men & women at the refugee settlements in Ayilo 1 settlements

Figure 3-161: A focus group discussion for men & women from the host community at Ayilo 1 village

3.3.3.3 Marketing and Transportation of Wood and Forest Products

In the RAD, forest products especially firewood and building material have a local market. Individuals especially with host community are allowed to sell firewood however there are local rules and restrictions on harvesting the products. In the RHD there are opportunities for host community to sell forest products like building materials. The products are consumed at HH level for cooking and building shelter. The means of transporting the products is done by carrying on the head or by use of bicycles or motorcycles. The main routes are the community access roads and village paths. According to the survey, marketing of forest products has actors who function as sellers and re-sellers who aggregate sell to the final consumers.

Figure 3-162: A full sack of charcoal for sale

Figure 3-163: Charcoal packed in small quantities for resale

Figure 3-164: Firewood aggregated at a HH at Nyambiri

Figure 3-165: A bundles of construction sticks seen aggregated in the market for sale in a market at Palorinya

3.3.3.4   Forest Decline or Increase

According to the survey, respondents at both RAD and RHD said the forests have decreased. In the RADs, 92% said the forests have decreased a lot and 8% said it has decreased a little as shown in figure 3-166 below. In the RHD, 92% said forests have decreased a lot and 8% said it decreased a little.
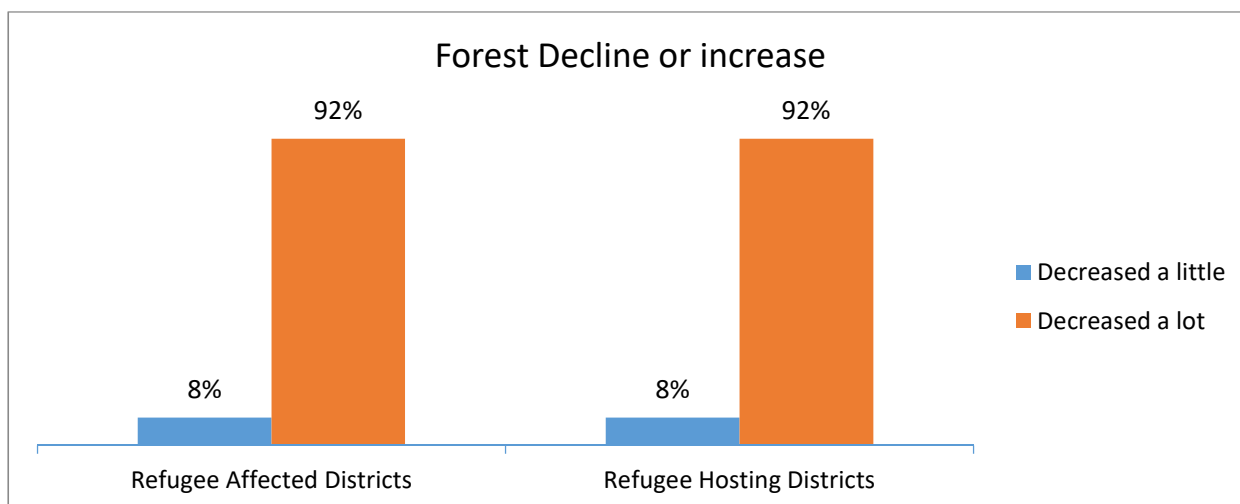
Figure 3-166: Forest Decline or Increase

The main reasons given for the decline of forest was that forests were taken up by cultivation land and for cutting trees for firewood and charcoal burning. In the RAD, 75% said the reason for forest decline was because of opening of agriculture land and 25% said decline was because of cutting trees for charcoal. Meanwhile in the RHD, the 83% said forest decline was because of opening up agriculture land and 8% said it was because of illegal cutting of trees for firewood as shown in figure 3-167 below. Additionally, from our interviews with the Local Governments of the RHD we were informed that building materials for shelter also consume a lot of forest products. The shelter structures are of poor quality and often need repair work especially during rainy season and thus require a lot of wood sticks and grass.
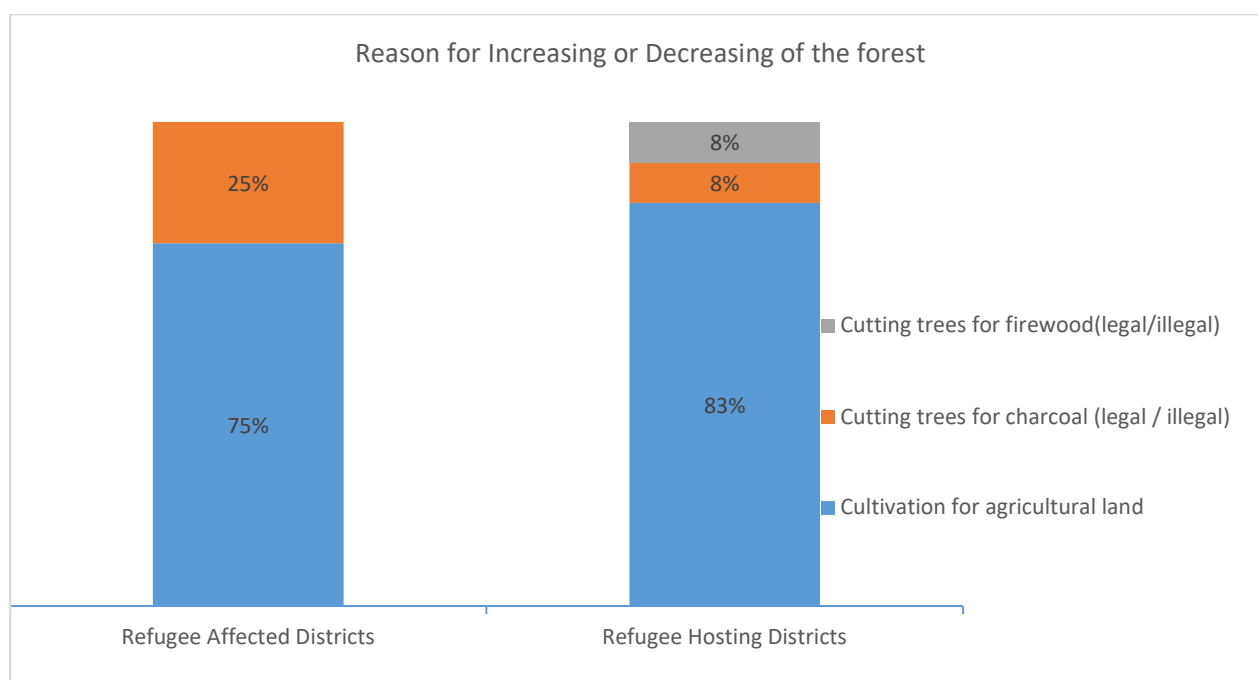
Figure 3-167: Reasons for Increasing or Decreasing of the Forest

The pictures below illustrate some of the focus groups we held with the host and settlement communities during the social survey.

Figure 3-168: A section of women attending a focus group at Eria parish Moyo

Figure 3-169: A focus group discussion at Zombo – Anyola Parish

Availability of Forest Products

The refugees and host communities are facing difficulties regarding access to firewood, charcoal, building materials and other non-timber forest products as represented in the table 3-19 below. In addition, the pandemic of COVID 19 did not have any effect because decrease of natural resources was evident even before the onset of the pandemic

Table 3-19: Availability of forest products

Type of District	District	Refugee settlements	Host community
Refugee Affected Districts (RAD)	Arua	Getting difficult	Getting difficult
	Maracha	extremely getting difficult	extremely getting difficult
	Moyo	Getting difficult	Getting difficult
	Nebbi	Getting difficult	Getting difficult
	Pakwach	Getting difficult	extremely getting difficult
	Zombo	Getting difficult	Getting difficult
Refugee Hosting District (RAD)	Adjumani	Getting difficult	Getting difficult
	Koboko	extremely getting difficult	Getting difficult
	Madi Okollo	extremely getting difficult	extremely getting difficult
	Obongi	Getting difficult	Getting difficult
	Terego	Getting difficult	Getting difficult
	Yumbe	extremely getting difficult	Getting difficult

Preservation of Trees Species

There is high demand for forest products for firewood, charcoal and building materials, therefore selected tree species are that suitable for that purpose are usually over harvested. This has an impact on the forests and environment generally. Consequently, the community reported that there are some tree species that are preserved. In the RAD and RHD, 92% mentioned that some tree species are preserved and only 8% said none are preserved as shown in figure 3-170 below. The trend from the survey results shows that generally there are trees species that are preserved in the communities because of their environmental and economic benefits for the whole community.
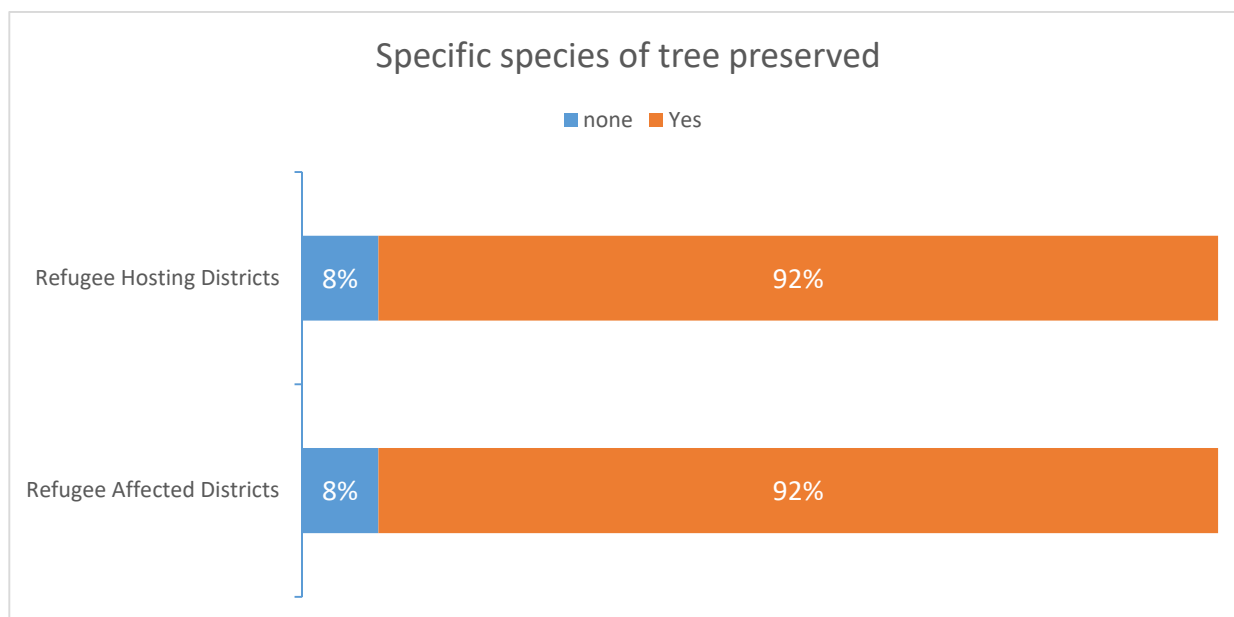
Figure 3-170: Specific species of trees preserved

It was reported in the focus groups that tree species listed in table 3-20 below are preserved in the community this means there are local rules that prohibit cutting for HH use or sale.

Table 3-20: Preserved tree species

Type of District	District	Refugee settlements	Host community
Refugee Affected Districts (RAD)	Arua	• Mangifera indica (mango) • Butyrospermum paradoxum (Kumuri)	• Mangifera indica (mango) • Persea americana (Avocado) • Butyrospermum paradoxum (Kumuri
	Maracha	• Ficus sycomorus (Oryo) • Albizia coriria (Adio)	• Ficus sycomorus (Oryo) • Albizia coriria (Adio)
	Moyo	• Butyrospermum paradoxum (Awa) • Kaya anthotheca (eri) • Afzelia africana (meli) • Borussus aethiopum (itugu)	
	Nebbi	• Butyrospermum paradoxum (yao) • Albizia coriria (Uber) • Tamaridus indica (chwa) • Balanites aegypticum (too)	• Butyrospermum paradoxum (Yao) • Citrus • Mangifera indica
	Pakwach	• Tamrindus indica (Chwa) • Lannea schweinfurthii (kwogo) • Nuga • Kigelia africana (yago)	• Tamrindus indica (Chwa) • Lannea schweinfurthii (kwogo) • Nuga • Kigelia africana (yago)
	Zombo	• Butyrospermum paradoxum (shea butter nut)	• Butyrospermum paradoxum (Yao) • Albizia coriria (Uber) • Tamarindus indica (swa) • Persea americana (avuga)

Type of District	District	Refugee settlements	Host community
Refugee Hosting Districts (RHD)	Adjumani	• Viteleria paradoxa (shea butter nut tree) • (awa); • Mangifera indica (mango); • Azadirachta indica (neem); • Tectona grandis (Teak)	• Viteleria paradoxa (shea butter nut tree) (awa)
	Koboko	• Vitelleria paradoxa (shea butter nut) (kumuri) • Ficus spp (ituba)	• Vitelleria paradoxa (shea butter nut) (kumuri)
	Madi Okollo	Tamarindus indica (Chwaa)	
	Obongi	• Balanites aegyptiaca (laluk) • Tamarindus indica (pitee)	•
	Terego	Kaya senegalensis (Mahogany)	• Kaya senegalensis (Mahogany)
	Yumbe	• Butyrospermum paradoxum (Kumuri)	• Butyrospermum paradoxum (komoro) • Parinari curatellifolia (angili) • Borusus aethiopum (itugu)

The community depend highly on the tree resources for their livelihood and from the list of trees species above there are certain tree types that are preferred. As indicated in figure 3-171 below, 92% of the respondents said there are preferred tree species and only 8% said there are none in the RAD. Meanwhile in the the RHD, 67% said there are preferred trees species and 33% said there were none as shown in the Figure 3-171 below.

Specific species of tree preferred

■ No ■ Yes

Refugee Hosting Districts: No 92%, Yes 8%

Refugee Affected Districts: No 67%, Yes 33%
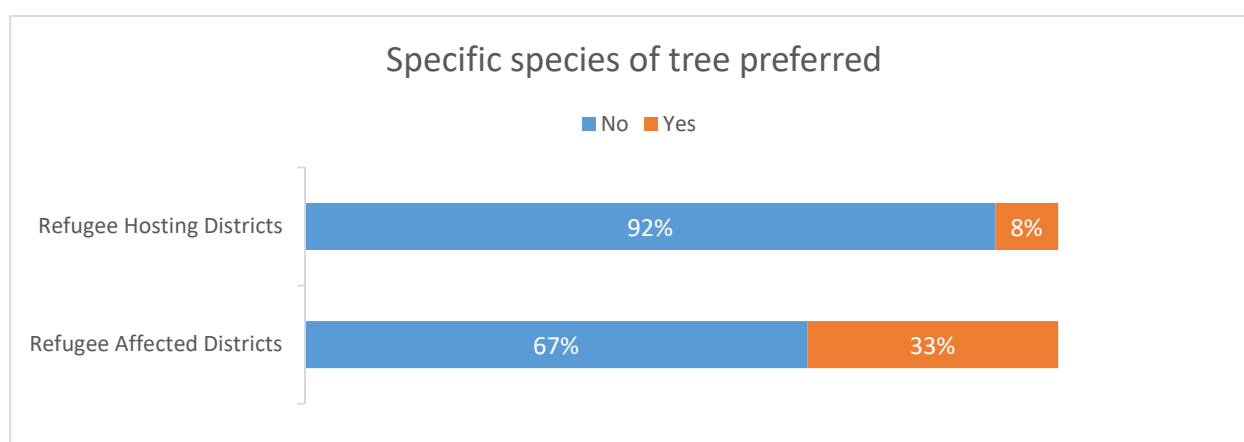
Figure 3-171: Specific species of tree preferrred

Access to Agricultural Land

According to the survey, majority of HHs are engaged in agriculture. However, in the RHD, especially within the refugee settlements the population continuous to grow and yet the size of land allocated per HH is only 30m by 30m or even smaller (information from OPM Offices - Adjumani & Arua).

The figure 3-172 below shows that in the RHDs 58% said the agriculture production was decreasing, 17% said it was increasing and 25% said it was neither decreasing or decreasing. In the RAD, 67% said agricultural production was decreasing and 33% said it was increasing. A higher percentage of the respondents in both category of districts agree that agriculture production was decreasing and this means that to ensure food security attention should be directed to factors that are causing decline in agriculture production
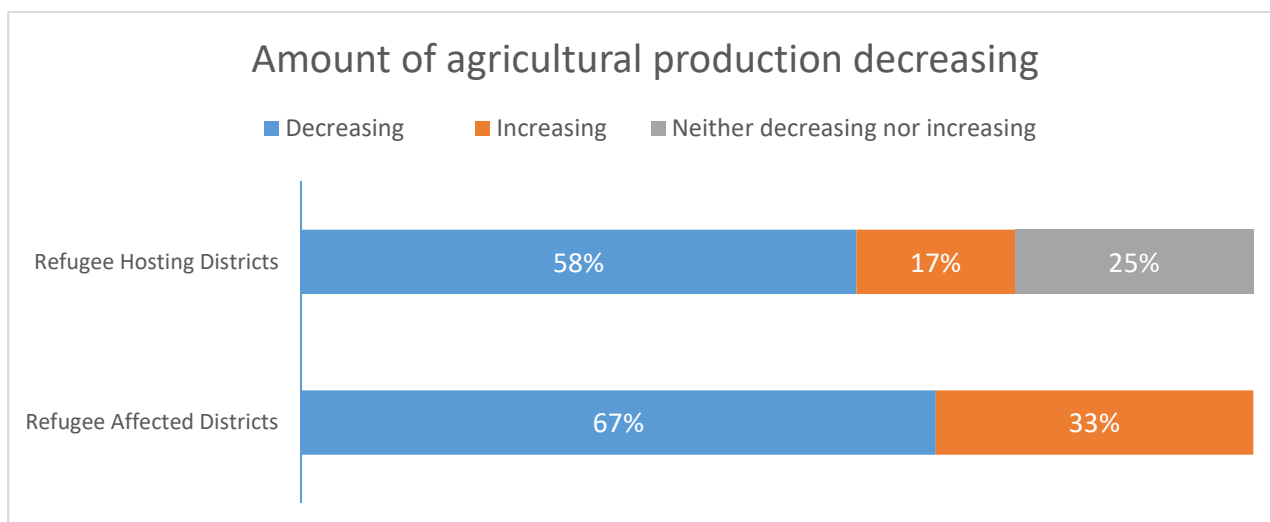
Figure 3-172: Amount of Agricultural production decreasing

During the FGDs, 50% of the respondents in the RHD, reported that agriculture land was not enough and 40% said it was extremely not enough. In the RAD, 50% said agriculture crop land was enough and 33% said it was not enough, 17 % said it was extremely enough as shown in figure 3-173 below. This trend indicates that in the RHD agricultural land is generally inadequate because of a competition for crop lands by the host communities and the influx of refugees who also need land for agriculture.
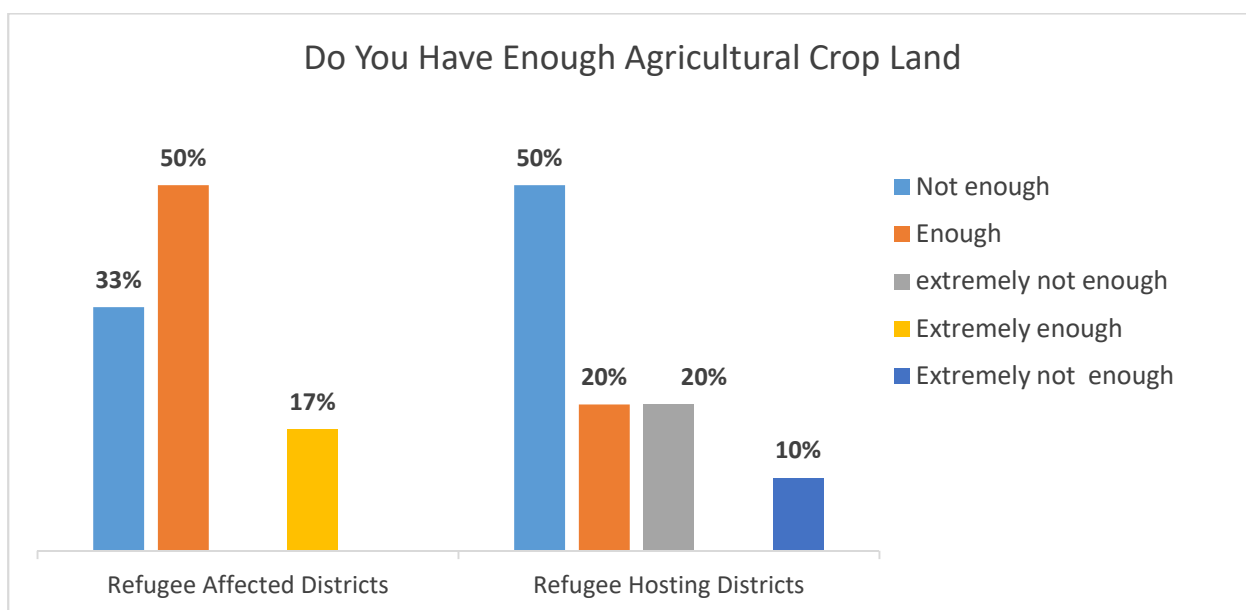
Figure 3-173: Sufficiency of Agricultural Crop Land

The use of fertilizers in agricultural land was not widely practice in both the RAD and RHD.

Conflicts Regarding Natural Resources
Information from the survey indicated that there are conflicts regarding natural resources and land tenure or boundaries conflicts in the communities. Within the RHD, 92% said conflicts exist and in the RAD, 100% said there are conflicts as shown in figure 3-174 below.
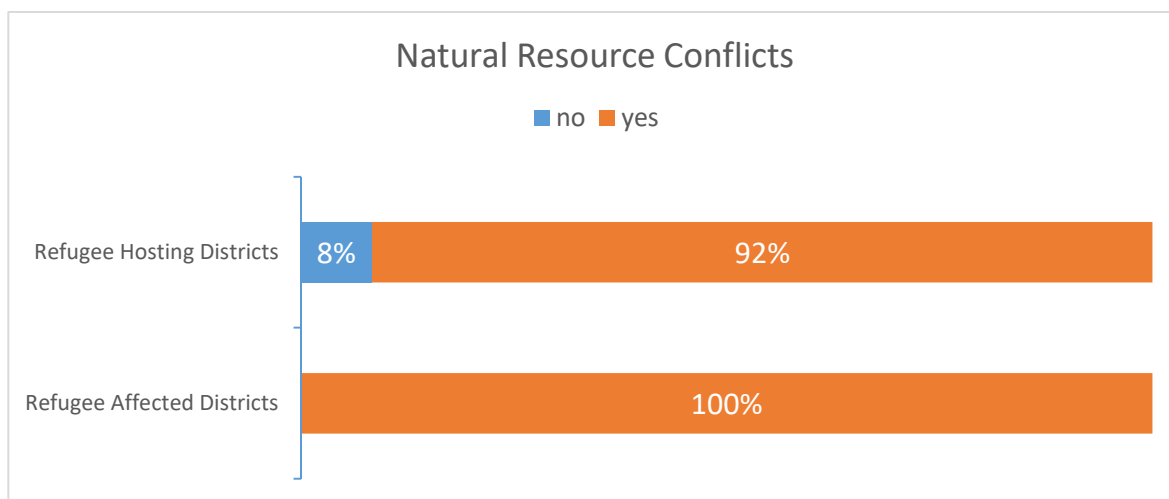
Figure 3-174: Natural Resource Conflicts

According to reports from the FGDs, land tenure and ownership has been the main type of conflicts in the RAD.

As indicated in the figure 3-175 below, in the RAD, 46% said the main conflicts are related to boundaries of land and 38% said there are land conflicts. In the RHD, 36% said the conflicts are boundary related and 27% said there are trespass related conflicts.
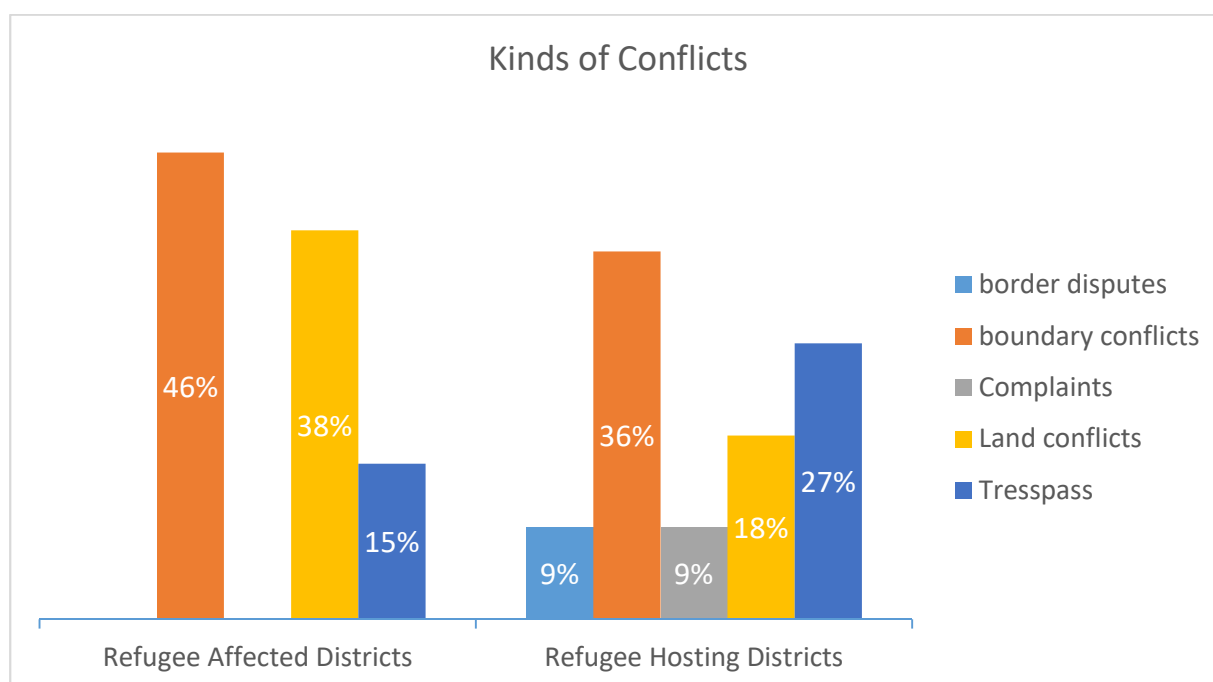
Figure 3-175: Kinds of Conflicts

Causes of Conflicts Regarding Natural Resources
The following causes have been mentioned regarding conflicts on natural resources and land during the FGDs.
   (a) Forceful occupation of land and denying other relatives to benefit from family or clan land. This type of land conflict is frequent and occurs between relatives who fail to share the resource;
   (b) Illegal sale of customary land without consent of the clan members;
   (c) Boundary sharing conflicts especially when they are not clearly demarcated;

The conflicts are quite frequent and some have occurred as recent as 2020 (last year). As a result of such conflicts the local community systems of elders or clan leaders of the host communities are responsible for settling or resolving the conflicts. It was also reported that conventional leadership structures of the LCs, Police and sub county are involved and the Land courts in case the local systems fail.

In the RHDs especially within the settlements the main causes of conflicts were related to
(a) encroachment plots of land allocated amongst the refugees;
(b) stray animals from the host communities that destroy refugees' gardens and eat crops hence casing a lot of conflict between the refugees and host community;
(c) Violence is meted on women when they are searching for firewood in the host community land. Often times the cutting implements (axe, pangas) are also confiscated by the host community and they are also assaulted.

Resolutions for Conflicts Regarding Natural Resources
In response to these conflicts, clan elders and leaders called for village meetings to resolve the disputes between the parties that involved in the conflict. In addition, it was reported that OPM and NGOs operating in the settlement camps and host community facilitate opportunities for dialogues and negotiation. They also promote interventions that aim at building relationships between refugees and host communities. In addition, the Refugee Welfare councils are involved to resolve the conflicts before they escalate.

According to the community in the RHD, 67% said the COVID -19 pandemic did not have an effect on the conflicts occurring because of land and natural resources and 33% said it had an effect as shown in figure 3-176 below. Meanwhile in the RAD, 58% said COVID-19 had an effect and 42% said it did not have any effect on the conflicts.
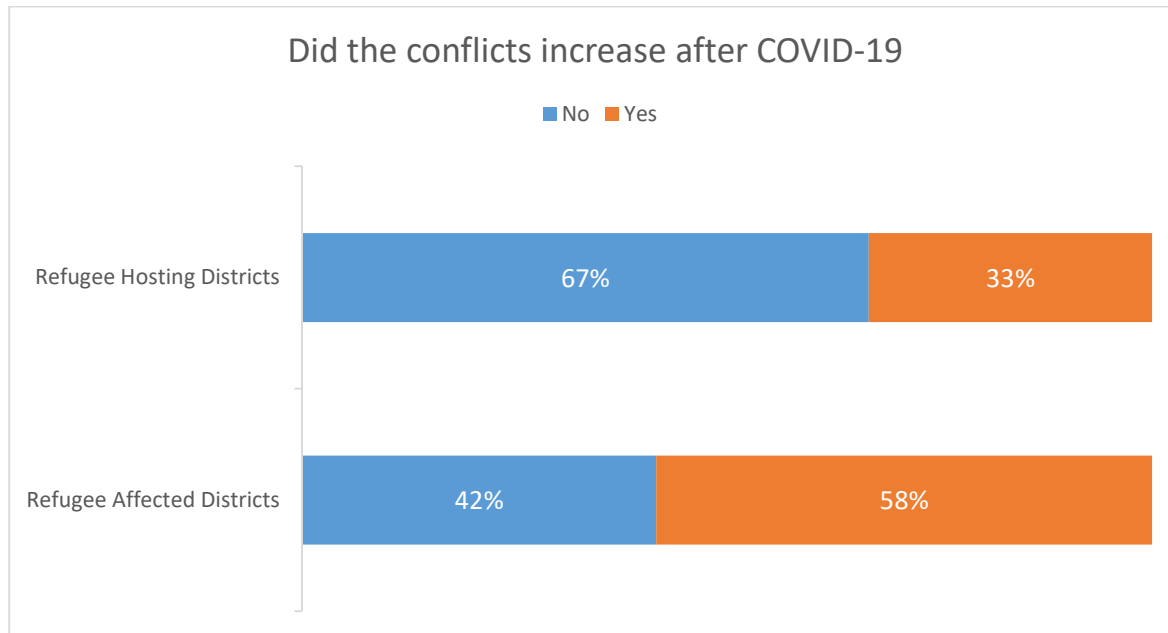
Figure 3-176: Effects of COVID -19 on Conflicts

The pictures of focus groups discussion we held with the communities in the settlements and host communities at the survey sites as shown below.

In the RHD, 92% said they have occasions for holding discussion about rules and 8% said there was none. In the RAD 50% said there are occasions for discussing rules related to natural resources and 50% said there are none as hown in the figure 3-179 below.
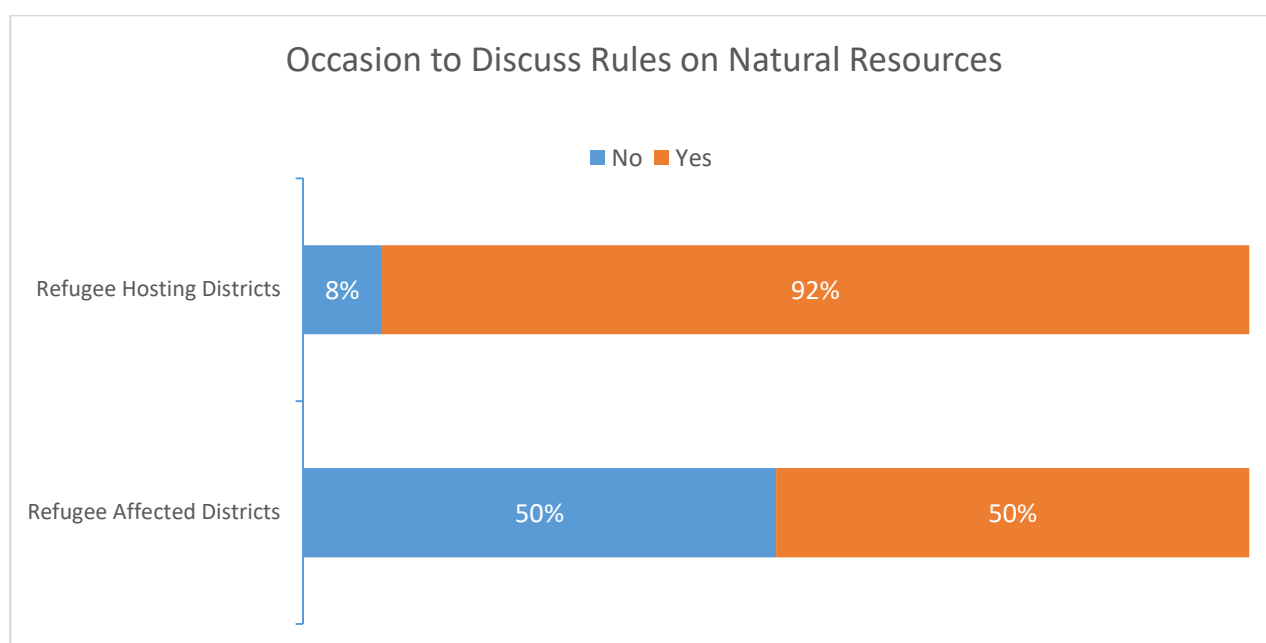
Figure 3-179: Ocassion to discuss Rules on Natural Resources

Settlement Demands and the District Development Plans

According to the survey the focus groups reported that in order to reflect their infrastructure development and social services needs in the district's development or Sub County Plans to participate in village and parish meetings.

In the RAD, 92% reported that sub county and parish authorities organize village consultative meetings where development concerns are shared for inclusion in the sub county plans and then district plans and 8% said there was none as shown in figure 3-180 below.

Meanwhile in the RHD, 75% reported that there are platforms for reflecting their demands in the district development plans and 25% said there were none. For example, it was reported that in the refugee settlements in Adjumani that the leadership structure within settlements comprising of the RWC I to RWC III are responsible for compiling refugees needs for inclusion in the parish and sub county development plans.
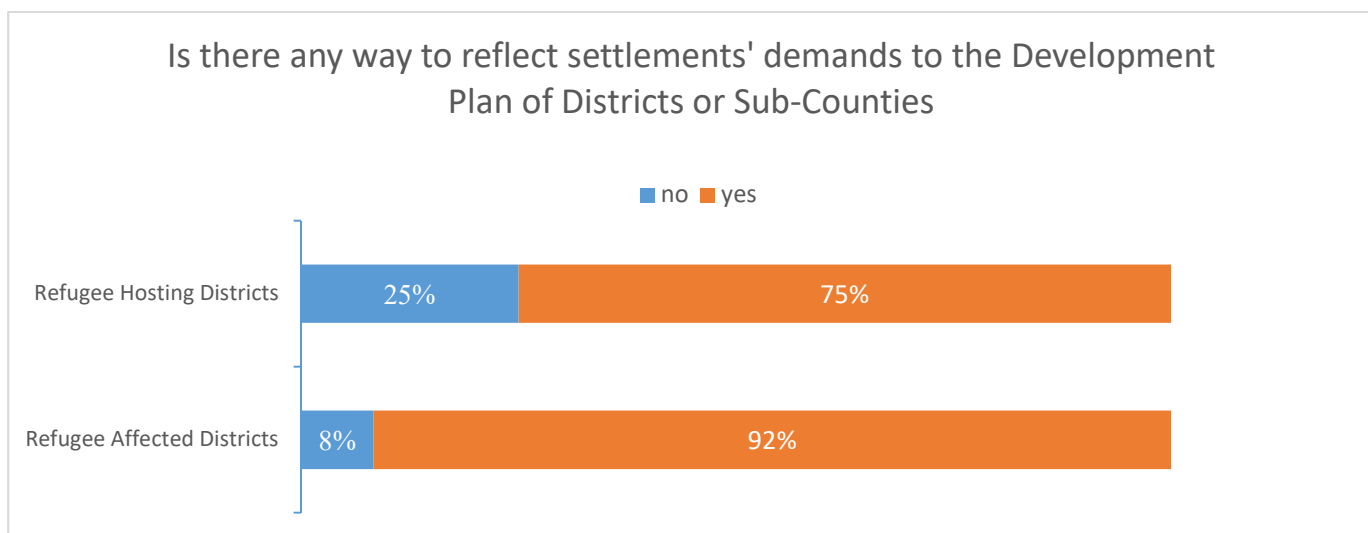
Figure 3-180: Reflection of Demands to the Development plan of districts or Sub - counties

Other Issues Raised During the FGD Meetings
During the focus groups Discussion in the settlements several issues were raised and they are stated here below.

District	Issues
Adjumani at Ayilo 1 village: Host community	Respondents were concerned that survey findings are never shared.
	Refugee communities were interested in knowing the progress of infrastructure development regarding bridges and roads.
	Requested donors to support the community of Ayilo to repair roads and bridges leading to the camp for easy access.
Moyo: Refugee community of Itula Zone 3	Requested for alternative energy saving cookstoves to enable them cut down on the use of firewood.
	Mothers need training to increase their life skills because usually only youth are selected for such skills training.
	It was noted that, refugee farmers are harassed by the host community.
	Refugees complain that the food ration has been reduced from 12 kgs before to 6 kgs now without any explanation.
	Women need support from OPM and NGOs especially female headed homes because they face a lot of livelihoods challenges. Their husbands have since gone back to South Sudan.
	Also, many refugees stated that sometimes the rented agricultural land is offered by host community who turn around and reclaim it after they have plowed it and prepared it for planting.

District	Issues
	On the side of child education most parents are complaining of lack of school uniforms for children because they cannot afford to buy them. Others are forced to sell the little food ration to buy school uniforms.
Obongi: Refugee settlements	Evaluation of the possibility for refugees to own agricultural land instead of renting every year from land lords. Refugees need support for renting agriculture land or can Government support them with crop land rental fees. Food related issues were majorly about the little quantity of food ration. They proposed that OPM provide land for HHs for agriculture to supplement the food ration. Regarding education services the nearby Primary schools are congested with over 500 learners in one classroom and they requested that more classrooms are built. In Arua, the host community requested that locals should be allowed to use forest products and that they need tree seedlings for planting.
At Zombo host community	Expressed concerns about environmental degradation and attributed it to pressure for agricultural or crop land yet due to the hilly nature of the terrain. They stated that the focus group came in timely at a time when there is a lot of environmental degradation. The focus group discussions should be held often across the parish. Both host and refugee communities at Terego were requesting for livelihoods support to be extended to both host and refugee communities to benefit from.
Madi okollo host community	Refugees were encouraged to co-exist and build relationships with the host community to live in Harmony and that livelihoods support should be extended to both host and refugees. Regarding energy demands at HHs, charcoal use was restricted by the local by-laws enforced by Local Government creating a high demand for the product. In addition, crop land for refugees was a challenged and they requested for OPM and NGOs (DRC) to help solve the issue of crop land. The host community asked for tree seedlings for planting and wondered what next after the survey for host community. The host community within the selected parishes in Pakwach requested that they should be allowed to use forest products.

District	Issues
	Being refugees affected communities they implored Government to manage or stop refugees from coming from different places to the forest land especially Congolese. Regarding livelihoods support they asked for more community sensitization on life skills and requested for other methods of cultivation like the use of tractors.
Nebbi District: Host community	Assist local community to obtain land certificates for their customary lands. The refugees requested Government to provide food relief because they are prohibited from using forest for crop lands. Also, that Government should supply fast growing and pest resistant seed variety to farmers for planting and food security.

3.4   Socio Economical Survey (FDG2) Findings - Annex 4

This section has been prepared based on focus group discussions conducted to understand Gender Based Violence within the RHD and RAD communities as presented below.

3.4.1   Age of the Respondents

The figure 3-181 below indicates that the majority of the women that attended the FDG were adults both in the RAD and RHD. In the RHD, 71% of the women were adults while 29% were young compared to the 68% adults and 32% young women in the RAD.
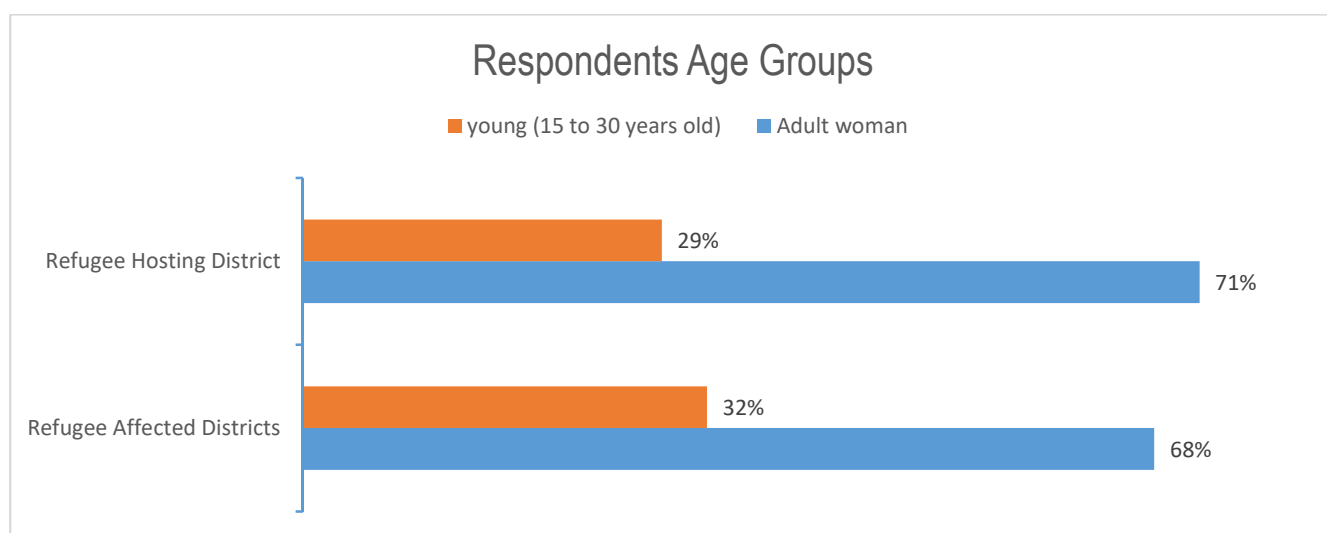
Figure 3-181: Respondents Age Groups

3.4.2   Respondents Country of Origin

All the respondents in the RAD were Ugandans compared to the RHD were 59% were Ugandans and 40% were from South Sudan as illustrated in the figure 3-182 below.
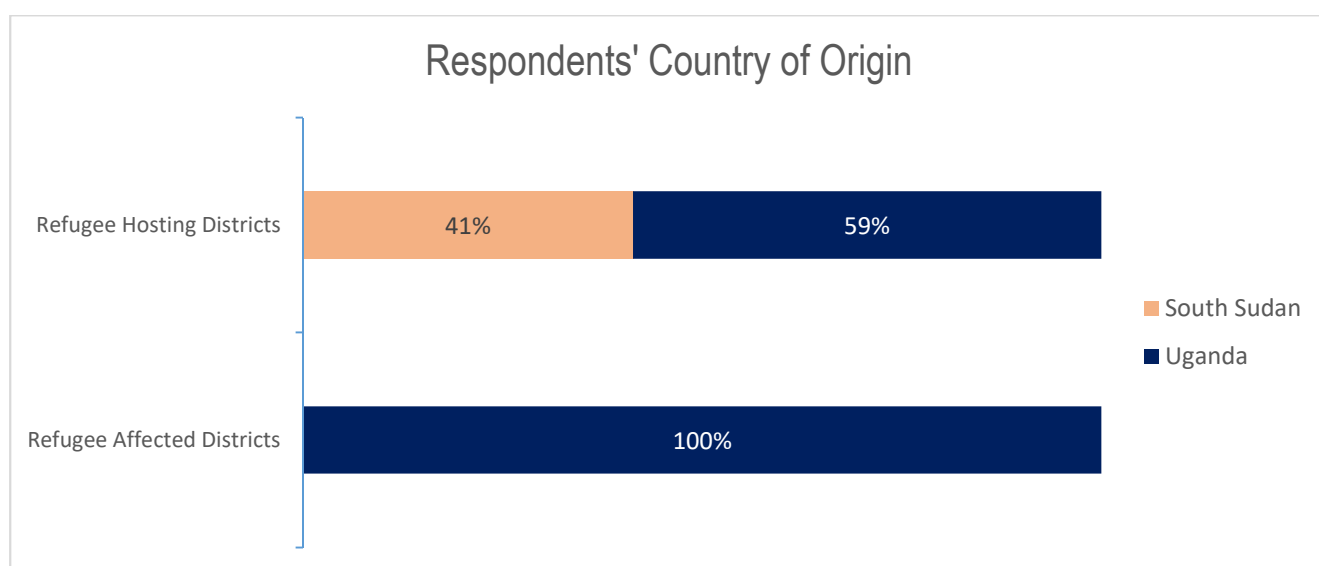
Figure 3-182: Respondents Country of Origin

3.4.3   Sexual and Gender Based Violence

67% of the respondents in the RAD acknowledged the presence of GBV while 33% said there were no gender-based violence acts in the community compared to the 75% and 25% respectively as illustrated in the figure 3-183 below. This indicates that the gender-based violence acts were more in the RAD than in the RHD.
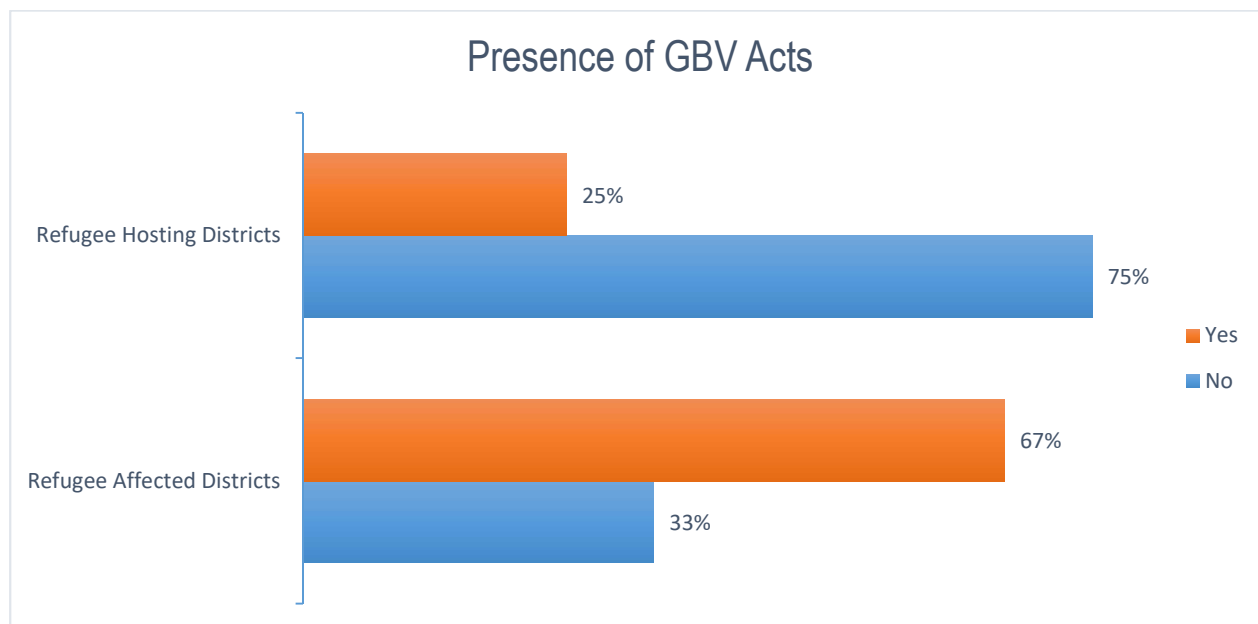
Figure 3-183: Presence of GBV Acts

3.4.4   Kind of Gender Based Violence

24% of the respondents in the RAD focus group discussions indicated that theft was the most common form of GBV, 18% suggested rape, 12% suggested harassment, attempted rape, assault and arrest while 6% suggested infighting and murder as illustrated in the figure 3-184 below.

In the RHD there were mainly two kinds of gender-based violence which included assault and attempted rape all at 50%.
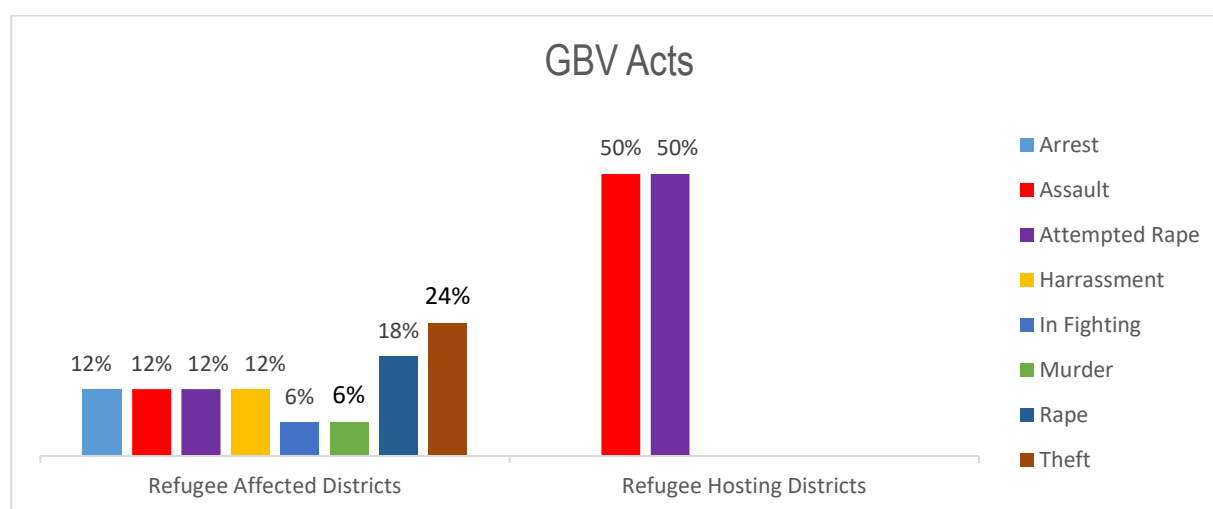
Figure 3-184: GBV Acts

3.4.5   Period of Occurrence

In the RAD, 67% of the respondents indicated that GBV occured frequently, mainly when the women were carrying on their daily work like collecting firewood, burning charcoal, cultivating and house chores yet others noted that it was seasonal at 33% as they were going to the market or a day before the market day and during the festive season where theft was very common like stealing of goats and cows. 100% of all the respondents in the RAD confirmed that the GBV happened throughout as illustrated in the figure 3-185 below.
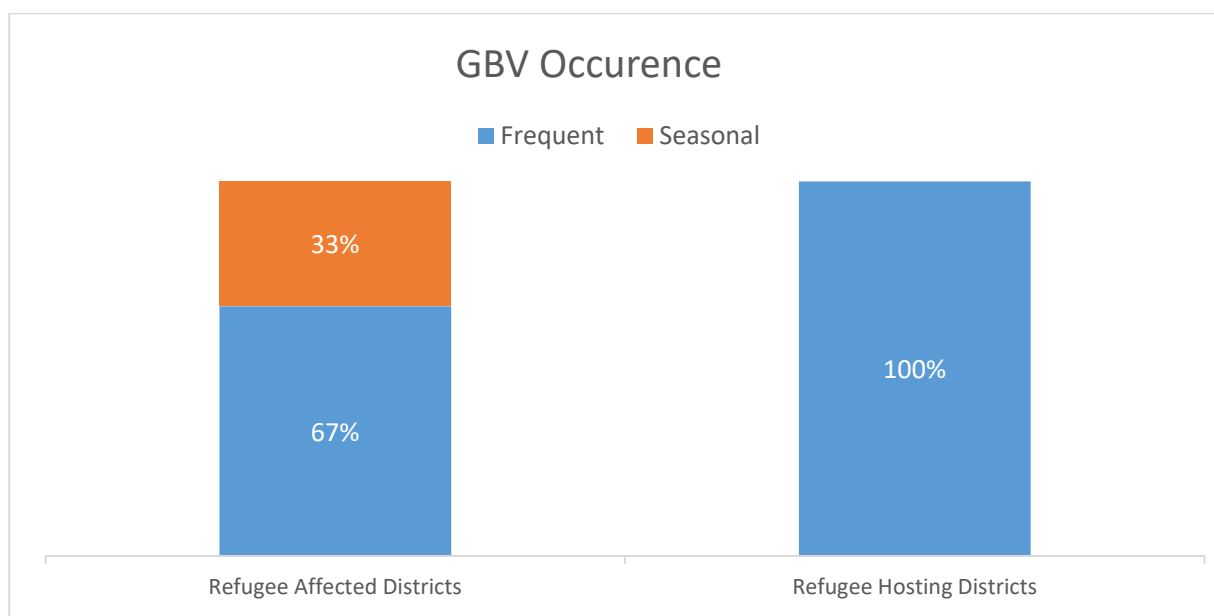
Figure 3-185: GBV Occurence

3.4.6   Places where the Gender Based Violence Occurs

The various places where GBV acts took place were homes, forests, district boarders and the community. 67% of the gender-based acts took place in the forests and 33% in the community for the RHD compared to 60% for community for the RAD, 10% for both district borders and forests while homes constituted to 20% as illustrated in the figure 3-186 below.
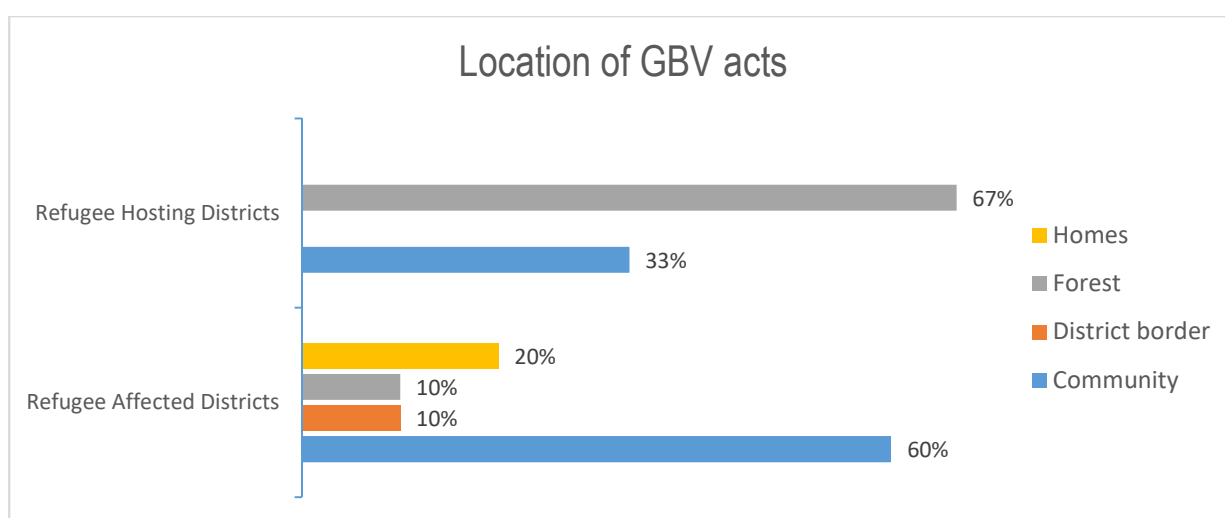
Figure 3-186: Location of GBV acts

During the FDG in Arua District it was noted that in Anyawu parish found in Logori sub county, rape was very common about three years ago as informed by the respondents.

3.4.7   Rate of the GBV During the COVID-19 Period

The study indicated that the GBV acts were common in both of the RAD and RHD communities despite the presence of the COVID-19 pandemic as advised by 92% and 100% of the respondents in the RAD and RHD respectively while 8% in the RAD thought that there was an increase in GBV acts due to the pandemic as illustrated in the figure 3-187 below.
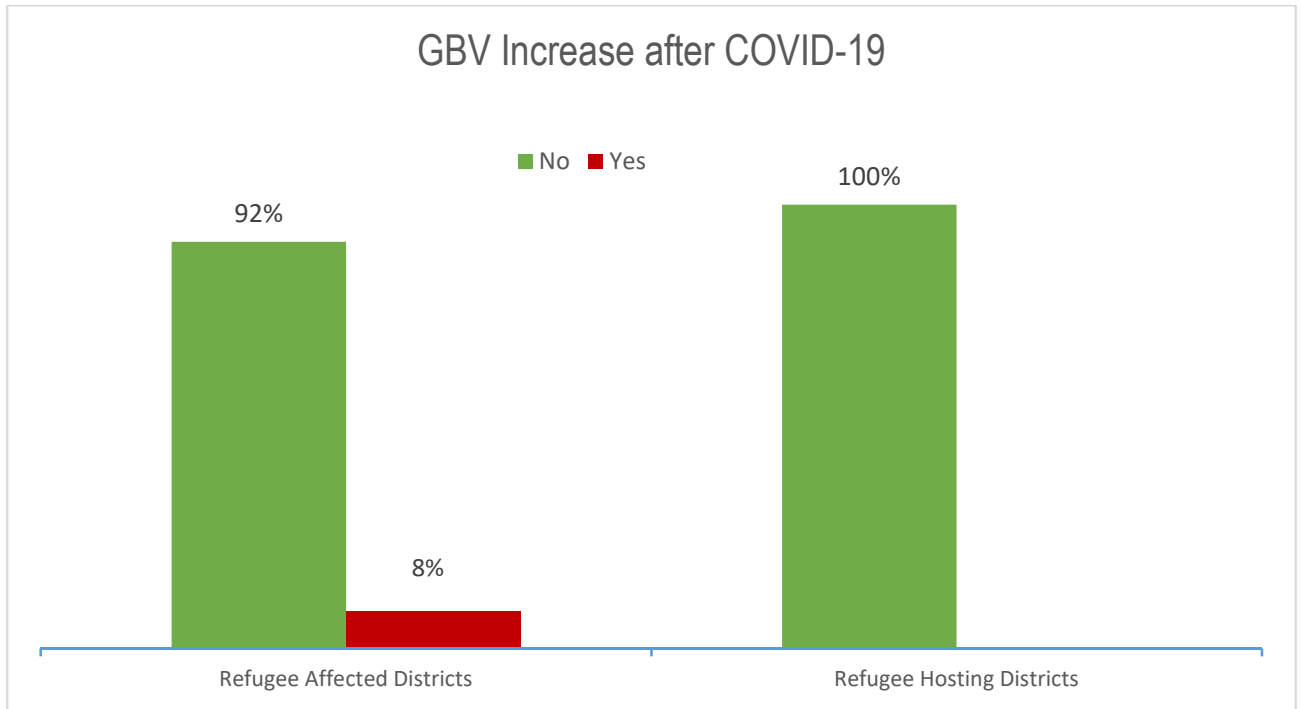
Figure 3-187: GBV After Covid - 19

4   CHALLENGES ENCOUNTERED DURING DATA COLLECTION

The data collection exercise and field work during the social survey ran smoothly with the exception of a few incidences shown in the table below:

Challenges	Measures Taken
Majority of the Districts Local government the Chief Administrative Officers (CAO) were out of station so.	The Consultant engaged the Deputy CAO or Assistant CAO
The poor state of some sections of the district roads we faced challenges reaching a few survey sites because it was a rainy season. In addition, at one of the Districts, the ferry crossing was not operating because of the high levels of water.	The Consultant opted to use alternative roads though they caused some delays in the surveys
A number of the data collectors identified from within the settlements faced challenges interacting the refugee communities during HH survey due to language limitations.	This was identified early enough and handled through translators from the refugee communities who were able to speak the local language.
Due to the COVID -19 pandemic and the restrictions of the lockdown, physical contact was not always possible and at Koboko and Yumbe telephone interviews were conducted for two key informants. Further disruption in reporting due to a total lockdown as staff could not freely move and complete the reporting in time.	The Consultant requested from the Client Extension of Time on the contract to complete the services.

5   CONCLUSIONS AND RECOMMENDATIONS

5.1   Conclusions

No.	Infrastructure / service	Findings
1	Hospitals.	The RAD had 1,836 health facilities compared to the RHD with 872 health facilities.
2	Schools	The RHD had 597 primary schools, 85 secondary schools and 17 tertiary institutions compared to the 533 primary schools, 75 secondary schools and 10 tertiary institutions in the RAD. Obongi district had no tertiary institution.
3	Toilets	The minimum toilet coverage in the RAD and RHD was at 60% in Madi-Okollo and Pakwach district, while the highest toilet coverage was 89% in Maracha district. Terego district didn't have any toilet coverage data.
4	Electricity	All the Districts used hydro power electricity. Adjumani and Moyo were connected to UECDL National grid. WENRECO was the distributer with the highest coverage in the districts especially in the RAD and also RHD. Madi-Okollo, Terego and Obongi use Solar and generator power as a source of electricity.
5	Mobile Network	The commonly used telecom networks in the RAD an RHD districts were MTN and Airtel Uganda.
6	Big industrial, commercial, and public facilities	Generally, there were noticeable big industries, commercial and public facilities in both the RAD and RHD however majority of the facilities were for food processing. Adjumani had noticeable infrastructure like an industrial park, drinking water treatment facility and fecal sludge treatment plant compared to the rest of the districts except Arua, Maracha and Koboko districts
7	Dissemination rate of improved ovens	The RAD coverage of the dissemination of cooking stoves was between 50% - 70% showing that at least half of the population had the improved stoves. The dissemination of the cooking stoves was generally low in the RHD compared to the RAD.
8	Donor support.	Donor support in the region showed that a number of international agencies have programmes in the region. The presence of support organizations was more visible in RHD compared to RAD. In the RAD mainly national NGOs were found to be operating.
9	Data from OPM / DLGs	Data collected only from OPM district offices in Adjumani and Arua was about size of agricultural land allocated to each HH and others in settlements showed that I the settlements the land allocated was 30mx30m at Adjumani and 30mx20m at Arua settlements.

Main Uses of the Forest Products

No	HH Information	Findings
1	Materials for houses	Most of the houses in RAD and RHD have walls made out of adobe bricks and thatch/leaves/straw roofs. Implying that most of the buildings are temporary in nature.
2	Information on family composition	Majority of the HHs in RAD and RHD were born in the area that is 92% and 53% respectively. Majority of the HHs who were not born there are found to be from South Sudan (80%).

No	HH Information	Findings
3	HH elements	Most popular house element owned by majority of the HHs was found to be cell phones in both RAD and RHD and the constituted 34% and 39% respectively.
4	Land	Majority of the HHs from both RAD and RHD owned land and the tenure system was based on inheritance. The respondents also considered the productivity of the land to be constant.
5	Charcoal	Most HHs did not engage in charcoal production in both RAD and RHD.
6	Firewood	Majority of HHs do not sell firewood which shows that most firewood was for home consumption.
7	Energy	Firewood was the major source of energy for the HHs from RAD and RHD followed by charcoal majorly used for lighting and cooking respectively.
8	Water	Majority of the water sources from RAD were found to be managed by water user committees created by the local community and in RHD most of the water sources were managed by the community themselves. A few water systems were also managed NGOs (water mission Uganda). Majority of the respondents from both RAD and RHD spent less than an hour to get water implying that generally water sources are closer to the HHs.
9	Breeding	Both communities share breeding patterns as both rare the same animals in enclosers at almost equal frequencies like goats and hens majorly for Sale as a source of income to the HHs.
10	Grassing	While most seem not to know when they require it, its common Practice to burn pasture to ensure growth of fresh pastures which is more nutritious to animals bred while also being inexpensive to other methods like the use of chemicals
11	Hunting/Trapping	Hunting is mainly shunned upon but the very few that manage to in both RAD and RHD do it in the forest lands using various trapping methods like traps, arrows and dogs. Some of the delicacies they hunt are wild rabbits considered a very good delicacy.
12	Fishing	Since the Nile passes through Most of the RAD, this means that a number of HHs engage in Fishing and mainly for Sale and this is carried out throughout the year as fish supply is never seasonal. The Nile perch and mud fish are the most common types of fish catch for both RAD and RHD and fishermen mainly use fishnets as there most preferred method of catching fish.
13	Energy source	Firewood was found to be the major source of energy for the respondents from RAD and RHD and constituted 44% of the respondents each, followed by charcoal that constituted 30% of the respondents from RAD and 26% of the respondents from RHD.
14	Water	Most of the water sources charged less than UGX 5,000 from both RAD and RHD. This implies that majority of the water sources were cheap and the HHs can easily access them.

FGDs focusing on Factors of Deforestation and Electrification
The section presents information on factors of deforestation and electrification in the hosting district and the affected Districts.

No.	Survey issue	Findings
1	Right to occupy land	83% in RHD have ownership to occupy land and 17% don't and in contrast 100% in RAD said they have ownership or right to occupy land.
2	Forest decline or increase	Both RAD and RHD said the forests have decreased. In the RAD, 92% said the forests have decreased a lot and 8% said it has decreased a little.
3	Reasons for decline or increase	• In RADs, 75% said for forest decline was because of opening of agriculture land and 25% said decline was because of cutting trees for charcoal. • RHDs, the 83% said forest decline was because of opening up agriculture land and 8% said it was because of cutting trees for firewood
4	Getting wood for firewood, charcoal and building materials	It was found that it was getting difficult to get forest products. In addition, the pandemic of COVID-19 did not have any effect because decrease of natural resources was evident even before the onset of the pandemic
5	Conflicts regarding natural resources and land	• Survey revealed there are conflicts. In RHDs, 92% said conflicts exist and in RADs, 100% said there are conflicts • In RADs, 46% said the main conflicts are related to boundaries of land and 38% said there are land conflicts. In the RHDs, 36% said the conflicts are boundary related and 18% said there are land related conflicts.

5.2 Recommendations

Based on the conclusion that majority of the HHs use forests to get firewood and charcoal for lighting purposes, government, private NGOs and other donor sources may promote other sources of lighting such as solar, and also connect hydroelectric power since less costly compared to the cost of natural resources like forest, land, water bodies among others.

This study also concludes firewood and charcoal were the majorly got from the forest to facilitate the cooking process and the survey recommends that different stakeholders like government, private partners and NGOs may come on board and innovate the energy systems to be used in cooking so as to reduce on the depletion of the forest cover.

The study concluded that the ownership of land was through inheritance and so government other agencies may conduct advocacy through NGOs to promote growing of trees in order to reduce on depletion of the forest cover.

6   REFERENCES

Useful Trees and Shrubs in Uganda. A B Katende, Ann Birnie and Bo Tegnas 2000.
UNHCR. Uganda Refugees Response Monitoring. Settlement Fact Sheet: Ayilo. June 2018
UNHCR. Uganda Refugees Response Monitoring. Settlement Fact Sheet: Lobule. June 2018
UNHCR. Uganda Refugees Response Monitoring. Settlement Fact Sheet: Palorinya. May 2018
UNHCR. Uganda Refugees Response Monitoring. Settlement Fact Sheet: Bidi Bidi. December 2017
Department of Refugees. OPM: Development Response for Displacement Project. ESMF (Updated) June 2018.

7 **APPENDICIES**

7.1 APPENDIX I: MEETING & ATTENDANCE LISTS

MEETING REPORT

TEAM TRAINING for Data Collection Team Leaders

PROJECT NAME: "Social Survey" for Information Collection and Verification Survey on Sustainable Forest/Natural Resource Management in West Nile Region in the Republic of Uganda

DATE OF MEETING: Wednesday, April 28, 2021

TRAINING VENUE: KKATT Offices Boardroom

TIME: 9.00 to 12.30 pm.

PARTICIPANTS
- Amina Kyabangi (Team Leader / Lead Sociologist)
- Barbara Nganda (Assistants sociologists)
- Cheruto Susan (Assistants sociologists)
- Amucu Mark Pius (Assistant E&S expert)

MEETING MATERIALS
Materials: Sets of questionnaires (annex 1,2,3&4), list of Districts (RHDs and RADs) survey sites, work plan and travel plans/ dates, map of West Nile.

Project Background
Both the refugee settlements and host communities earn a living that is heavily dependent on the forest and natural resources. Domestic fuel and housing materials are used at a level that exceeds the forests' natural regenerative capacity leading to the reduction and degradation of the forest and other natural resources, heightening tension between the settlements and host communities. Against this background, development assistance agencies such as JICA, in coordination with humanitarian assistance agencies, have been making efforts to reduce the load on host communities in the West Nile Region and to improve social services that are beneficial to both the settlements and host communities.

Therefore, JICA has commissioned a social survey study for Information Collection and Verification Survey on Sustainable Forest/Natural Resource Management in West Nile Region in the Republic of Uganda. KKATT consult Ltd was contracted to implement the data collection within the survey and produce a suitable report on the findings. The exercise shall cover a period of 3 months starting from April to June 2021.

Project Purpose
One of the objectives of this study is to understand the present situation and issues related to forest and natural resource use and management, and energy supply in the refugees-accepted West Nile Region. Thus, the purpose of this work is to conduct a social survey in the settlements and host communities in the West Nile region to understand the situation mentioned above.

Project Scale and scope of the survey
The target of this survey is HHs in settlements and host communities in West Nile region. Target number of Districts are 12. They are categorized as follows.
- **Refugee Hosting District (RHD)**
  Adjumani, Koboko, Yumbe, Obongi, Madi Okollo, Terego, Total 6 Districts
- **Refugee Affected District (RAD)**
  Moyo, Arua, Maracha, Zombo, Nebbi, Pakwach, Total 6 Districts.

Objectives

This meeting was organized for the core team to discuss the data collection process, the resources required for the assignment, timeframe, logistical arrangements and actual field work & implementation. The specific objectives were.

- establishing the quality control measures during the assignment
- understanding the intended referential and connotative meaning of each question;
- agreeing a set of criteria to judge the appropriateness of survey questions;
- selecting the methods for judging appropriateness and undertaking data collection,
- reviewing questions for inclusion, revising (the question or intended meaning).

Meeting Agenda

Training agenda was prepared and the expectations explained. Participants were told what to expect in terms of meeting content, how long it will take and what is expected of them during the workshop.

1. **Topics**

Topics	Outcomes	Remarks

Introduction.
✓ Objectives of the training
✓ Background of KKATT
✓ Background of social survey. Explain the terms
   - Information collection
   - Verification
   - Sustainable forest and NR management
✓ Scope of social survey
✓ Geographical scope
	Established team and set expectations	- Learn and practice to work as a team
		- Teams should work together and communicate well.

Data collection process ✓ Travel plan and maps – input days & dates ✓ Activity Work plan – inputs and expected outputs ✓ Tools – Questionnaires (annex 1,2,3&4), cameras, weighing scales ✓ Selecting Enumerators – required qualification & skills ✓ Training enumerators ✓ Facilitation – transport & upkeep / welfare ✓ Appearance – dress codes ✓ Implementation – data collecting & field work ✓ Communication skills / interview skills ✓ Reporting regularly to the Team Leader ✓ Feedback – regular updates / communication	✓ Understand the scope of the assignment and possible risks or occupational hazards. ✓ Explain the key milestones and timeframes for the assignment ✓ Importance of planning prior to implementation ✓ Get an overview of what the survey entails ✓ Understand how we shall work during the survey ✓ Obtain list or maps of HHs/ survey sites ✓ Know how to select the survey sites and HHs ✓ Understand the importance of interview tracking ✓ Understand how to reach and approach selected HHs – use the Assistants ✓ Understand and demonstrate good interview skills	- Observe and identify any risks pertaining; hostile people, environment, strife, hash weather, insecurity, dangers from animal bites, poison, COVID 19 - Practice how to inform participants or respondents and obtain consent, Scenarios like objecting, unwell, reluctant or over-busy respondents. Professional conduct and politeness

Topics	Outcomes	Remarks
	✓ Use scenarios to demonstrate how responses can be swayed by different interview techniques	
Collecting data from District HQ & OPM. Question guide	Know how to use the question guide	OPM -Arua & Adjumani
Collecting data from HHs – Refugee community & host community. Question guide	✓ Understand the data collecting tool – question by question guide. ✓ ✓ Understand how the information from the interview will be used in data analysis ✓ Competently follow procedures for reaching and approaching HHs	Talk through examples on how to fill the questionnaire and scenarios simple or difficult
Step 1. Identify female head HHS	Know how to approach female headed HHs	
Step 2. Reading GPS coordinates instrument	How to use the devices	Explain the device and prepare to demonstrate how to use them
Step 3. Weighing of firewood used by HH per day	Use the weighing scales	Taking and recording the measurements. How to use a Weighing scale
Step 4. Taking pictures of cooking stoves and scenery / landscape	Take quality pictures	Houses (no. of rooms), show type of building material (roof, wall), trees, crops livestock. Active pictures with people in it.
Collecting data – FGD 1. Question guide;		Encourage females to participate
Collecting data FGD 2. Question guide;	Understand that participants will be only female and be sensitive to feelings and concerns as indicated in the guide	
Checking paper work for completeness, thoroughness after each activity; securing materials or data collected		
Checklist for equipment and supplies	Know all tools and equipment issued to the team	
Pilot test after training the enumerators	Major aspects of data collection thoroughly tested. Identify weakness and failures in the process	Collect pilot test data and review for completeness the thoroughness.
Reporting on issues, experiences and taking charge of the team	Handling problems and participation issues especially for enumerators; late arrivals, seem	

Topics	Outcomes	Remarks
	not to follow and understand, appears unable to engage	
Meeting attendance list and accountability for expenditure		
Wrap-up and discussion	Review the most important or pressing issues that arose during the training	Discussion and presentation by each team member
Understanding provision of the quality control plan used by KKATT on all its project and assignments.		All members to note the key policies and control plans
Understanding the Health and Safety policy and its measures for ensuring zero accidents, no ill health and no damage to company property / company image.		All members to note the key policies and control plans

KKATT CONSULT

Title:	ATTENDANCE LIST
ID:	KKATT /FA/REC/0008
Issue Date:	31/03/2015

ATTENDANCE LIST

Date: 28/4/21

No.	Name	Designation	Signature
1.	Amucu Mark Pius	Environmentalist 0772282276	
2.	Cheruto Susan	cherutosusan2019@gmail.com. 0775044008 / 0700592518 .	
3.	Amina Kyabangi	TEAM LEADER	
4.	Nganda Barbara	Sociologist - 0774160807 barbaranganda@gmail.com	

7.2   APPENDIX II: DATA COLLECTION TOOLS

Annex 1. Socio Economical Survey - (OPM district offices or local government offices)

Begin the session by explaining the format and objectives of the interview.

Objectives of the social survey
- To understand the present situation and issues related to forests and natural resource use, energy supply in the settlements (RHD &RAD)
- To provide JICA with first hand baseline information on forest and natural resources use in the RHD & RAD
- To assess the household socio-economic conditions, use and dependence on forests in the selected settlements
- To collect general information on production and livelihoods and of refugees and host communities
- To establish prevalence rate of SGBV and what is causing the violence within the settlements

Date of investigation   Day_____,   Month_____,   Year_____
Place where the investigation is taking place District: Sub-county: Parish: Building:
Investigator:
Group: □ Adult man,   □ adult woman,   □ young (15 to 30 years old) (Check) Person interviewed with their age, sex, origin and function (Check) 1)Age: Gender:□M, □F, Name:(   ), Position (   ) 2)Age: Gender:□M, □F, Name:(   ), Position (   ) 3)Age: Gender:□M, □F, Name:(   ), Position (   ) 4)Age: Gender:□M, □F, Name:(   ), Position (   ) 5)Age: Gender:□M, □F, Name:(   ), Position (   )

Start time:	End time:	Time: h min

Survey items below to be collected from OPM district offices in Adjumani and Arua or local government office in each Refugee Affected Districts.

● Presence of infrastructure and social services (hospitals, schools, toilets, electricity, mobile network, radio tower, other big industrial, commercial, and public facilities, dissemination rate of improved ovens and donor support)

Survey items below to be collected only from OPM district offices in Adjumani and Arua.

● Size of agricultural land allocated to each household and others in settlements.

Survey items below to be collected from OPM district offices in Adjumani and Arua or local government office in each Refugee Affected Districts.

Annex 2 - Socio Economical Survey (Household)

Begin the session by explaining the format and objectives of the interview.

Objectives of the social survey
- To understand the present situation and issues related to forests and natural resource use, energy supply in the settlements (RHD &RAD)
- To provide JICA with first hand baseline information on forest and natural resources use in the RHD & RAD
- To assess the household socio-economic conditions, use and dependence on forests in the selected settlements
- To collect general information on production and livelihoods and of refugees and host communities
- To establish prevalence rate of SGBV and what is causing the violence within the settlements
- Ensure the interviewee can choose in advance not to participate if they are uncomfortable in any way. Specify that confidentiality will be maintained at all times. Thus, no record will be kept of participants' names.

-

Date of investigation   Day_____,   Month_____,   Year_____
Coordinates taken with GPS: Lat   °   ´   ″   Long: °   ´   ″
Settlement and Zone Number: □Refugee settlement (zone no.)   □Host community
Parish where the investigation is taking place District: Sub-county: Parish:
Investigator:
age, sex, origin, and relationship with the household (head, spouse, son, daughter, other): 1)Age: Gender: □M,   □F, Origin:(   ), Relationship :(   ) Education: (□Secondary school or below, □Diploma, □Bachelor, □Master or above, □None) 2)Age: Gender: □M,   □F, Origin:(   ), Relationship :(   ) Education: (□Secondary school or below, □Diploma, □Bachelor, □Master or above, □None) 3)Age: Gender: □M,   □F, Origin:(   ), Relationship :(   ) Education: (□Secondary school or below, □Diploma, □Bachelor, □Master or above, □None)

Head of household gender □M, □F	Total number of household members	Number of income / wage earners in the household
Number of adults > 18 years		**Number of children (2-18 years)**		**Number of infants <2 years**	
Male	Female	Male	Female	Male	Female

House   □   (How many rooms?   ) ,   Kitchen hut   □,   Latrine   □ Animal Shed   □,   Other   □,   Fencing   □

Start time:	End time:	Time: h min

SECTION 1: GENERAL HOUSEHOLD INFORMATION

1.1 Material of houses

The interviewer should observe the following characteristics, such as the main materials of the walls and roof, houses. Please select the number for the material of walling and roofing from below and fill in to the table below.

Type of structure on the plot	Walling Material	Roofing material
House (How many rooms?)		
Kitchen hut ☐		
Latrine ☐		
Animal shed ☐		
Other ☐ ( )		
Other ☐ ( )		
Other ☐ ( )		
Fencing ☐		

a. Walls
1. Bamboo
2. Wood (planks)
3. Stick
4. Zinc
5. Thatch / leaves
6. Bricks / cement
7. Baked Bricks
8. Adobe bricks
9. Tree Bark
10. Creepers
11. Earth House
12.   Others
(Specify):_____
_____

b. Roof
1. Thatch / Leaves / Straws
2. Wood (planks, rafters)
3. Tiles / Sheets (zinc or aluminum)
4. Fibers / Lianas
5. Thatch / leaves
6. Bricks / cement
7. Baked Bricks
8. Adobe bricks
9. Tree Bark
10. Creepers
11. Earth House
12.   Others
(Specify):_____
___

1.2 Information on the composition of the family

Question	Answer
a. Were you born here?	☐Yes / ☐No If not, where were you born?
b. When did you move to this region?	
c. From where did you move to present place?	
d. Why did you move to this region?	
e. What language do you speak?	
f. What is your ethnicity?	

Question	Answer
g. What is current status of household	IDP (Internal Displaced Person) / Refugee / Returnee / Host
h. What is your job?	**Before settle:** Your Job: Main working place: Inside of settlement / Inside of Host community / Both **After settle:** Main working place: Inside of settlement / Inside of Host community / Both
i. What are the current sources of household income?	No income / Cash transfers / Exchange of sale of food / Selling firewood / Remittances
j. In other, please specify income source and earner	
k. What is the monthly average income of your household?	
l. Did the household income sources change after the pandemic of COVID-19?	□Yes / □ NO If yes, what was the previous income sources? No income / Cash transfers / Exchange of sale of food / Selling firewood / Remittances
m. Has the amount of income changed after the pandemic of COVID-19?	Increased / Decreased
n. What kind of income generation activity would you like to undertake?	

1.3 Household elements

Can you indicate us if your household has the following?

No.	Elements	1. Yes / 2. No	How many
1	running water in the plot		
2	electricity (purchase from the utility company, generator, solar panel)		
3	smart phone		
4	cell phone		
5	computer		
6	electric cooking stove		
7	refrigerator		
8	microwave oven		
9	electric fan		
10	air conditioner		
11	washing machine		
12	light		
13	flashlight		
14	camera		
15	sawing machine		
16	vacuum cleaner		

No.	Elements	1. Yes / 2. No	How many
17	iron		
18	speaker		
19	radio		
20	television		
21	watch or clock		
22	bicycle		
23	motorcycle		
24	car / truck / tractor		
25	canoe / rowboat / canoe		
26	motorboat / motorized dugout		
27	chain saw		

1.4 Land tenure

No.		Elements	Answer
1	Renting	Do you rent the land from someone?	□Yes □ NO If yes, how large is it? (ha /acres)
2		How much did you pay to rent this land?	
3		From whom did you rent the land?	
4		When did you rent the land?	
5		What can you do with the land?	Cultivation / make house / sell to someone
6		When will you return the land to the owner?	
7	Purchase	Did you buy the land from someone?	□Yes □ NO If yes, how large is it ? (ha/acres)
8		How much did you pay to buy this land?	
9		From whom did you buy the land?	
10		When did you buy the land?	
11		What can you do with the land?	Cultivation / make house / sell to someone
12	Inheritance	Do you inherit the land from someone?	□Yes □ NO If yes, how large is it? (ha/acres)
13		From whom did you inherit the land?	
14		When did you inherit the land?	
15		What can you do with the land?	Cultivation / make house / sell to someone
16	Other	How is the productivity of your agricultural crop land change from the time you settled until now?	Extremely increased / Increased / No change / Decreased / Extremely decreased
17		Is there forest inside of your land?	□Yes □ NO If there is, have you ever sold the wood in your forest to other people or company? If yes, what quantity / how many logs and when did you sell?

1.5 Household livelihood

Please check several practices that may constitute livelihoods for the household, and specify the respective use (very used, used, less used or not used) of each practice with the tick.

No.	Elements	Very Used	Used	Less Used	Not used	Observation
1	Cultivation					
2	Breeding					
3	Use of wood forest product					
4	Use of non-timber forest product					
5	Fishing (fish, shrimp, crab)					
6	Employment					
7	Hunting / trap					
8	Bee keeping					
9	Fish farming					
10	Mining (e.g. diamond)					
11	Distribution from UN or government					
12	Other (specify)_____ _____					

SECTION 2: USE AND DEPENDENCE OF THE FOREST

2.1 The seven main forest products

Please check top seven forest products used by the household. (Ask the person to identify them. Use the tick sign for each main use of the forest).

No	Product	1st	2nd	3rd	4th	5th	Do you use it for your consumption at home or for sale? 1 Priority, 2: Second priority, 3: No		Main uses
							Home	Sale	
1	Firewood								
2	Charcoal								
3	Construction wood								
4	Wild meat								
5	Medicinal plants								
6	Caterpillars								
7	Fruit Vegetables (forest)								
8	Resin								
9	Fish								
10	Mushroom								
11	Honey								
12	Other (Specify)_____								

2.2 Amount of uses and source of collection of the five main forest products except firewood and charcoal

No	Product (except firewood and charcoal)	Amount of uses	Source of collection
1		kg/week	
2		kg/week	
3		kg/week	
4		kg/week	
5		kg/week	

2.3 Firewood

Question	Answer
a. How do you get firewood?	cut trunk / cut branches /harvest fallen wood / during burning If you cut trunk or branches, what tool do you use? ax / saw / chain saw
b. Where do you get the firewood?	*Please show the map of the settlement and please ask interviewee to point the place out.* *(A consultant firm should calculate how far the firewood collection place locates according to the interview and report to JICA expert team.)*
c. Who is primarily responsible for collecting firewood within your household?	Male adult / Female adult / Female child / Male child / Other(specify:)
d. How many hours does the total firewood collection trip take in average? (include going and back, cutting, collection time)	_____hour (by walking or by car or by boat or by bike)
e. Around what time does your household collect firewood?	Morning / Afternoon / Night (multiple answers are OK)
f. Did it take longer time to collect firewood after the COVID-19 pandemic?	□Yes □ NO If yes, how many hours? _____hour (by walk or by car or by boat or by bike)
g. How much firewood do you collect per day?	kg/day

Question	Answer
(Measure it by using a mobile scale)	
h. Has the amount of the collection of firewood changed after the COVID-19 pandemic?	□Yes / □ NO If yes, how much amount increased or decreased? kg/day(Measure it by using a mobile scale)
i. What challenge are you facing during collection of firewood?	
j. Is there any restriction to go out because of the COVID-19 pandemic?	□Yes □ NO If yes, what kind of restriction?
k. If yes, how do you collect firewood?	
l. How much firewood does your family consume per day? (Measure it by using a mobile scale)	kg/day
m. Does your family sell firewood?	□Yes □ NO If yes, how much quantity is sold?
n. Has the amount of selling firewood changed after the pandemic of COVID-19?	□Yes □ NO If yes, how much quantity is increased or decreased?
o. Where does your family sell firewood?	in the village / market / road side / other (specify_____)
p. To whom does your family sell firewood?	Consumer / broker / transporter / reseller other (specify_____)
q. What is the selling price of firewood?	_____Ush/fagot (specify in kg)
r. Has the selling price of the price changed after the pandemic of COVID-19?	□Yes / □ NO If yes, what is the price? _____Ush/fagot (specify in kg)

Question	Answer
s. Which tree species are suitable for firewood? (If the scientific name is unknown an interviewee searches the scientific name after the interview.	

2.4 Charcoal

Question	Answer
a. Does your family produce charcoal?	□Yes □ NO
b. If yes, how much quantity does your family produce?	sacks/year (1 sack / kg)
c. How do you get the wood for charcoal?	cut trunk / cut branches /harvest fallen wood / during burning /other
d. What sizes of wood used for charcoal production?	
e. What are the tree species used for charcoal?	
f. Does your family sell charcoal?	□Yes □ NO If yes, how much does your family sell? sack / month What is the selling price of charcoal? _____Ush/sack (specify in kg)
g. Has the selling price of charcoal changed after the pandemic of COVID-19?	□Yes □ NO If yes, what is the price? _____Ush/sack (specify in kg)
h. Where does your family sell charcoal?	in the village / market(the name of the market:_____, How far from your house:_____km) / road side / other (specify_____)

Question	Answer
i. To whom does your family sell charcoal?	Consumer / broker / transporter / reseller other (specify_____)

2.5 Cooking

Question	Answer
a. How many times do you cook every day?	
b. How much firewood and charcoal do you consume to cook per week? (Measure it by using a mobile scale)	kg/week
c. What method / stoves are currently used for cooking and heating?	Three stone fire / Mudstove (firewood) / Mudstove (charcoal) / Ceramic(firewood) / Ceramic(charcoal) / Metal stove(firewood) / Metal stove(charcoal) Others( )
d. Where is the stove(s) located?	In a dedicated kitchen / In a room used also for sleeping / In the living area / In a separate building or structure / Outdoors
e. Does the stove have any disadvantages? (Note for the enumerator: response choices should not be read, tick all that apply)	Food is undercoocked / Too much smoke / It requires a lot of fuel / Expensive to use because of fuel costs / Other (Specify these disadvantages:)
f. If you currently have a stove, where did you get it from?	Market / NGO or UN org. / Self-produced / Relatives Other ( )
g. What kind of main cooking technology you would prefer to use if you had a choice?	Three stone fire / Mudstove(firewood) / Mudstove(charcoal) / Ceramic(firewood) / Ceramic(charcoal) / Metal stove(firewood) / Metal stove(charcoal) Others ( )
h. What pot do you use to cook?	Three legs standing pot (Color: Black, Silver, other ( ) / No leg pot (Color: Black, Silver, other ( ) other (specify_____ (Color: Black, Silver, other ( )
i. Do you use the pot lid?	□Yes □ NO If yes, from when do you use the pot lid? If yes, how many times do you open the pot lid when you cook a meal? One time / more than 5 times / more than 10 times / more than 20 times / more than 30 times

2.6 Type of food and preparation

What are the main types of food usually cooked?

Please indicate the typical method of cooking for each food, how long it takes to finish cooking and how many times per week it is prepared

Type of food	Method of cooking (e.g. Boiling, Stewing, Roasting, Frying, Baking, Dried food)	Time (hour and minutes) to finish cooking	Times of preparation in a week

2.7 Consumption of the fuel

What is the usual quantity of fuel you consume per day in your household except firewood and charcoal?

Fuel Type	Measured quantity (kg/day)	**Main uses:**C=cooking; H=heating; AG=agricultural uses (e.g. curing tobacco, drying food, etc.); CM= commercial uses (e.g. baking bread, brewing alcohol, making food for selling)
Grass / Straw		
Crop residues		
Animal dung		
Other (specify:)		

2.8 Tree planting

Question	Answer
a. Have you ever planted trees by your self?	□Yes □ NO If yes, What was the purpose for your tree planting? When did you plant trees? What did you plant trees? Where did you plant trees? With whom did you plant trees? Where and how did you get seedlings?
b. Did some organizations or someone teach you how to plant?	□Yes □ NO If yes, who taught you a planting method? When were you taught a planting method?
c. Are you going to planting trees in the future?	□Yes □ NO If yes, What is the porpose for a tree planting? Where are you going to get seedlings? When are you going to planting trees?

Question	Answer
	With whom are you going to planting trees?
d. Are there any place to buy or get seedlings (nursary) for tree planting?	□Yes □ NO If yes, Where is the nursery located? Inside of parish or settlements / outside of parish or settlements Who organize the nursery? Are seedlings free? □Yes □ NO If No, How much is one seedling? /USh (type of seedling:)

SECTION 3: GENERAL INFORMATION ON PRODUCTION AND LIVELIHOOD

3.1 Agricultural products

Harvest	1. Yes 2. No	Type of Cultivation			Use for household consumption or sale 1 Priority, 2: Second priority, 3: No		Observation
		1. Permanent 2. Periodically	1. Burn 2. Plowing	1. Forest 2. Savanna	Self-consumption	Sale	
Cassava							
Maze							
Peanut							
Bean							
Rice							
Squash							
Melon							
Yam							
Banana							
Plantain banana							
Sugar cane (stalk)							
Oil palm tree (liter)							
Sorghum							

Harvest	1. Yes 2. No	Type of Cultivation			Use for household consumption or sale 1 Priority, 2: Second priority, 3: No		Observation
		1. Permanent 2. Periodically	1. Burn 2. Plowing	1. Forest 2. Savanna	Self-consumption	Sale	
Pineapple							
Coffee							
Chili pepper							
Honey							
Potato							
Tomato							
Other ( )							

3.1.1 Agricultural land

Question	Answer
a. How much hectares of crop land are necessary per year to earn for living for your family?	ha (1ha=100m x 100m) acre (100m x 40 m)
b. Currently how many hectares of crop land of do you occupy?	ha (1ha=100m x 100m)
c. How do you usually get crop land?	
d. Do you use primary, secondary or fallow forests to open crop land?	
e. Do you use wood before putting the fire when you do the agricultural burning?	□Yes □ NO If yes, what are you using for firewood / charcoal / firewood construction / other ( ) If yes, what do you produce for sales / self-consumption / other ( )
f. After how many years of cultivation, do you make the land as a fallow?	
g. How long do you keep the land as the fallow?	

3.2 Breeding

3.2.1 Type of farming

Livestock	1.Yes 2. No	Type of breeding		Use for household consumption or sale 1 Priority, 2: Second priority, 3: No		Observation
		Enclosure	Grazing	Self-consumption	Sale	
Cow						
Pig						
Goat						
Hen						
Sheep						
Duck						
Pigeon						
Guinea fowl						
Turkey						
Quail						
Other ( )						

3.2.2 Grassing

Question	Answer
a. Do you burn the ground to renew pastures for livestock?	□ Yes □ No With what frequency and scale?
b. Do you use the forest to get pastures?	□ Yes □ No With what frequency and scale?

3.3 Hunting / trapping

Question	Answer
a. Where do you hunt? (Forest, savannah, elsewhere)	
b. In which season or month do you hunt?	
c. How do you hunt (Trap, gun, net, others)	
d. Do you use fire for hunting?	
e. What types of animals do you hunt?	

f. Do you sell animals or wild meat?	

3.4 Fishing

Question	Answer
a. Where do you fish (forest, savannah, others)?	
b. In which season or month do you fish?	
c. How do you fish?	
d. What types of fish do you catch?	
e. Do you sell fish?	

SECTION 4: Energy Source

4.1 Energy source

Question	Answer
a. What are the energy source? Please mention by order of use in your household.	Charcoal / Firewood / Fuel oil / Grid / Solar power Battery (What kind of Battery: ( ) / dry cell battery Others ( )
b. For what purpose do you use the energy?	
c. How many lights do you use in your house?	
d. What is the capacity of each light?	W
e. Do you need more lights?	□ Yes □ No If yes, how many lights do you need? If yes for what purpose do you need?
f. What do you use for light?	firewood / charcoal / battery / Lamp (LED, fluorescent) /solar power (Lantern, others ( ) If childrens study at home because of COVID-19, what do they use for light? firewood / charcoal / battery / Lamp (LED, fluorescent) /solar power (Lantern, others ( )
g. If there is no electricity	
h. Do you buy electricity from grid or any other source?	If yes, from where do you buy? If yes, how much capacity do you buy?

	If yes, how many times do you buy? If yes, how much do you pay for one time? And how do you pay the bill? _____Ush Payment method: If no, why you don't buy the electricity? (Multiple answers allowed) The household is not connected with a grid / electricity bill is too expensive / No need to use electricity / Instability of electricity / others ( )
i. Do you use the mobile payment by using the smart phone or computer?	
j. How much can you pay for the electricity charge, if the electricity is provided to your place?	*This question is for the household, which can't get the electricity*

SECTION 5: Water

5.1 Water

Question	Answer
a. Where do you get water?	Individual tap water / Public tap water / Hand pomp / Protected spring / Rain water tank / Valley tank / Hand dug well / surface stream water / water selling merchant / other ( )
b. How long does it take to get water?	_____h_____minutes
c. Is there any community organization (management society) to manage a source of water?	
d. How much do you pay for the water charge per month?.	_____Ush / month

Do you have any comments to add to this survey, or do you have any questions?

_____

_____

_____

_____

_____

Annex 3 -Socio Economical Survey (FGD 1)

- Begin the session by explaining the format and objectives of the interview.

Objectives of the social survey
- To understand the present situation and issues related to forests and natural resource use, energy supply in the settlements (RHD &RAD)
- To provide JICA with first hand baseline information on forest and natural resources use in the RHD & RAD
- To assess the household socio-economic conditions, use and dependence on forests in the selected settlements
- To collect general information on production and livelihoods and of refugees and host communities
- To establish prevalence rate of SGBV and what is causing the violence within the settlements
- Ensure the interviewee can choose in advance not to participate if they are uncomfortable in any way. Specify that confidentiality will be maintained at all times. Thus, no record will be kept of participants' names.

Date of investigation   Day_____,   Month_____, Year_____
Coordinates taken with GPS: Lat   °   ′   ″ Long: °   ′   ″
Zone Number:
Place where the investigation is taking place District: Sub-county: Parish:
Investigator:
Group: □ Adult man, □ adult woman, □ young (15 to 30 years old) (Check) Person interviewed with their age, sex, origin and function (Check) 1)Age: Gender:□M, □F, Origin:(   ), 2)Age: Gender:□M, □F, Origin:(   ), 3)Age: Gender:□M, □F, Origin:(   ), 4)Age: Gender:□M, □F, Origin:(   ), 5)Age: Gender:□M, □F, Origin:(   ), 6)Age: Gender:□M, □F, Origin:(   ), 7)Age: Gender:□M, □F, Origin:(   ), 8)Age: Gender:□M, □F, Origin:(   ), 9)Age: Gender:□M, □F, Origin:(   ), 10)Age: Gender:□M, □F, Origin:(   ),

Start time:	End time:	Time: h min

Profile of the Settlement or Host Community					
Founding Year:			Total Area:		
Current Demography	Population Male: Female: The number of youth (18~35 years-old) The number of elderly (greater than 60 years-old) The number of disabled persons (both physically and mentally) Total:		Number of Household: Number of Clan:		
	Are the number of refugees coming into your settlement or host community increased after the COVID-19? If yes, how many? _____ persons / month				
School	Primary School □exist □not exist Until what year (class):		Secondary School □exist □not exist Until what year (class):		
Hospital	Health center □exist □not exist Hospital □exist □not exist		Doctor □permanently □Temporarily □don't exist	Nurse □permanently □Temporarily □don't exist	
Primary Language					
Primary Religion					

SECTION 1: GENERAL INFORMATION ON THE SURVEY SITE

1.1 Land Information of the survey site

Occupation of the land		
Private Land	a. Can a person have ownership or right to occupy the land?	□Yes □No
	b. What happens when a landowner pass away?	
Community Land	c. Are there community lands?	□Yes □No
	d. If yes, what type of land belongs to the community?	□Forest □Savannah □Cultivation area □Other ( )
	e. How is community land used?	

Occupation of the land		
	f. Are there any cases the community land or the right of the land has been sold to persons outside the settlement or parish?	□Yes □No
	g. If yes, to whom and for what reason was the land sold?	
	h. Are there any rules or limits when people in your community uses community land?	□Yes □No
	i. If yes, what are they?	
	j. Are there any rules or limits when people outside of the settlement or parish use community land?	□Yes □No
	k. If yes, what are they?	
Public Land (District)	l. Are there any public land?	□Yes □No
	m. If yes, what type of land is public land?	□Forest □Savannah □Cultivation area □Other ( )
	n. How is public land used?	
	o. Were there any case which public land was sold to people outside of the settlement or parish?	□Yes □No
	p. If yes, to whom and for what reason was the land sold?	
	q. Are there any rules or limits when people in your community use public land?	□Yes □No
	r. If yes, what are they?	
	s. Are there any rules or limits when people from outside of the settlement or community use public land?	□Yes □No
	t. If yes, what are they?	

Occupation of the land		
Rules and other aspects related to terrain and forests	u. What type of rules, systems or laws are established in relation to the use of forests.	
	v. Are there some implicit agreements in the community regarding the use or occupation of land and forest?	□Yes □No
	w. If yes, are they applied? In which cases?	

1.2 Information on current and previous projects

	No	Project Name	1. Ongoing 2. Finished 3. Not arrived at this term	Period	Activity	Number of beneficiary population		
						Person	Household	Employee
1								
2								
3								
4								

In case of selecting "2. Finished", please note the reason why it's finished.

SECTION 2: USE AND DEPENDENCE OF THE FOREST

This section of the survey will focus on the use of the forest by your settlement or parish, and on its dependence on the forest.

2.1 Demand for firewood and charcoal outside of household use and sale

Question	Answer
a. Are there any demand for the firewood and charcoal for the use inside or outside of household and sale? For example, baked brick (adobe), restaurant, bakery, preparation of alcohol, etc	□Yes □No
b. If yes, what type of demand? (Sort by priority.)	

Question	Answer
c. How much wood do they consume for these usages per month?	
d. Did the demand for the firewood and charcoal for the use in outside of household and sale increased after COVID-19?	□Yes □ NO

2.2 Quantities of consumption or sale of the main forest products

Please give us answers on the quantities of consumption, manner of use and rules for the use of firewood, charcoal, firewood, construction, wild meat, fruits / vegetables and medicinal plants.

(1) Self Consumption

NB: Measure the weight of fagot and the sack of coal to estimate their consumption per day

No	Product	Product name and usage	Harvest method	Is there any rule for the harvest and use?
1	Firewood	Name of common species	*cut trunk / cut branches /harvest fallen wood / during burning*	
2	Charcoal	Name of common species	*cut trunk / cut branches /harvest fallen wood / during burning*	
3	Wood of construction (3 products main)	Species name	*cut trunk / harvest fallen wood / during burning*	
		Species name	*cut trunk / harvest fallen wood / during burning*	
		Species name	*cut trunk / harvest fallen wood / during burning*	

(2) For Sale

No	Product	Name of products	Is there any rule for the sale?
1	Firewood	Name of common species	
2	Charcoal	Name of common species	
3	Wood of construction (3 products main)	Species name	
		Species name	
		Species name	

2.4 Marketing and transport of wood and forest products

No	Product	Actors of marketing and transport (broker, transporter, local market, etc.)	Sale price at producer (in specifying the location sales)	Route and means of transport	Marketing issues (e.g. lack or reduction of resources, transport in the rainy season, cost of production, very low prices, others)	Other important aspects to consider
1	Firewood					
2	Charcoal					
3	Construction wood (the main product)					
4	Wild Meat (the main product)					
5	Fruits / Vegetables (the main product)					
6	Medicinal Plants (the main product)					

2.5 Forest decline or increase

Question	Answer
Do you think the forest is increasing or decreasing?	□ Increased a lot □ Increased a little □ No change □ Decreased a little □ Decreased a lot
What is the reason for increasing or decreasing the forest?	□ Cultivation for agricultural crop land □ Cutting trees for firewood (legal / illegal) □Cutting trees for charcoal (legal / illegal) □forest fire □other( )
Is it getting difficult to get the wood for firewood, charcoal, building material, non-timber forest products such as medicinal plants and wild animals?	□ Extremely getting difficult □ Getting difficult □ Neither difficult nor easy □ Getting easy □ Extremely getting easy
Is it getting difficult to get the wood mentioned above after the pandemic of COVID-19?	□Yes □ NO If yes, what is the reason?
Is there any specific species of tree for preserve?	□Yes □ NO If yes, what kind of species are they?
Is there any specific species of tree, which is preferred to be cut by many people and has high possibility to be disappeared in the future?	□Yes □ NO If yes, what kind of species are they?

Question	Answer
Is the amount of agricultural production decreasing?	□Extremely decreasing □Decreasing □Neither decreasing nor increasing □Increasing □Extremely increasing
Do you put compost or fertilizer to your agricultural crop land?	If yes, how many kg do you put in a year? kg (Measure it by using a mobile scale, if it's possible)
Do you have enough agricultural crop land?	□ Extremely enough □ Enough □ Neither enough nor not enough □ Not enough □ Extremely not enough
Have there been any conflicts regarding natural resources (ex. woods and wild animals) and land (ex. land tenure and land boundary problem)?	□Yes □No If yes, What kind of conflict does it happen? Why did it happen? What is the reason? Among whom did it happen? Where did it happen? When did it happen? How often did it happen? How was it solved? If it's not solved yet, do you have any idea to solve the conflict? Are there any community-based organizations which in charge of managing natural resources and lands? If yes, what kind of members are in the community-based organizations? What kind activity does community-based organization do? Did the conflict increase after the pandemic of COVID-19? If yes, what kind of conflict increased?
What is the common procedure to solve conflicts regarding natural resources (ex. Woods and wild animals) and land except you mentioned already?	If there are any other procedure to solve the conflict except you mentioned already, What is the procedure to solve the conflict? In which kind of conflict? Who is in charge of conflict resolution?
Is there any occasion to discuss rules or to help each other to get natural resources (ex. woods and wild animals) between settlements and host communities?	□Yes □No If yes, what kind of occasion is it? When does it happen?

Question	Answer
	Who is managing the occasion?
Is there any way to reflect settlements' demands to the Development Plan of Districts or Sub-Counties?	☐Yes ☐No If yes, how does settlements' demands can be reflected?

Do you have any comments to add to this survey, or do you have any questions?

Annex – 4. Socio Economical Survey - (Focus Group Discussion with women)

- Begin the session by explaining the format and objectives of the interview.

Objectives of the social survey
- To understand the present situation and issues related to forests and natural resource use, energy supply in the settlements (RHD &RAD)
- To provide JICA with first hand baseline information on forest and natural resources use in the RHD & RAD
- To assess the household socio-economic conditions, use and dependence on forests in the selected settlements
- To collect general information on production and livelihoods and of refugees and host communities
- To establish prevalence rate of SGBV and what is causing the violence within the settlements
- Ensure the interviewee can choose in advance not to participate if they are uncomfortable in any way.

Specify that confidentiality will be maintained at all times. Thus, no record will be kept of participants' names.

Date of investigation   Day_____,   Month_____,   Year_____
Coordinates taken with GPS: Lat   °   ´   ″ Long: °   ´   ″
Zone Number:
Village where the investigation is taking place District:
Sub-county:
Parish:
Investigator:
Group: □ Adult man   □ adult woman   □ young (15 to 30 years old) (Check) Person interviewed with their age, sex, origin and function (Check) 1)Age: Gender: □M   □F   Origin:(   ) 2)Age: Gender: □M   □F   Origin:(   ) 3)Age: Gender: □M   □F   Origin:(   ) 4)Age: Gender: □M   □F   Origin:(   ) 5)Age: Gender: □M   □F   Origin:(   ) 6)Age: Gender: □M   □F   Origin:(   ) 7)Age: Gender: □M   □F   Origin:(   ) 8)Age: Gender: □M   □F   Origin:(   ) 9)Age: Gender: □M   □F   Origin:(   ) 10)Age: Gender: □M   □F   Origin:(   )

Start time:	End time:	Time: h min

1. Sexual and gender-based violence

Question	Answer
Have there been any sexual and gender-based violence such as rape, theft, kidnapping or any other harassment against women during firewood collection within two to three years?	□Yes □No If yes, What kind of violence are they? When did they happen? Where did they happen?
	Did the violence during the firewood collection increased or decreased after the COVID-19 pandemic? If yes, what is the reason?

7.3   APPENDIX III : ACTIVITY IMPLEMENTATION SCHEDULE

	Implementation schedule for the Social Survey					Months 2021													
	Activity Description					**April**				**May**				**June**				**July**	
No.		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
1	Plan for Survey Implementation				▓														
2	Submitting Implementation plan				▓	▓													
3	Training of Team Leaders / Field Workers					▓	▓												
4	Plan and procure logistics for survey implementation						▓												
5	Pre-Testing and Piloting Questionnaire						▓												
6	Plan household and focus group discussions						▓												
7	Hold the survey and focus groups discussions							▓	▓	▓									
8	Compile data collected from the field and prepare excel format data entry tool											▓	▓	▓					
9	Analyze data and prepare a draft report on findings												▓	▓					
10	Submitting Final Report															▓	▓	▓	

7.4   APPENDIX IV: SOCIAL SURVEY SCHEDULE

Social Survey Schedule

	District	Type of Districts	Sub-county	Parish	Settlement / Host community	District Interview	FGD1	FGD2	Number of households	Road links	MAY																	
											S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T
											9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
	Team 3 Travel to Pakwach									**Kampala to Pakwach**	█																
	Team 2 travel to Koboko									**Kampala to Koboko**	█																
	Team 1 travel to Adjumani									**Kampala to Adjumani**	█																
Team 2	Adjumani	RHD	Pakele	Lewa	Ayilo 1	1	1	1	14	Adjumani to Dzaipi to Adjumani		█	█														
	Adjumani	RHD	Pakele	Lewa	Host community		1	1	14	Adjumani to Dzaipi to Adjumani		█	█														
	Moyo	RAD	Moyo	Eria	Host community	1	1	1	14	Adjumani to Moyo to Eria				█	█												
	Moyo	RAD	Lefori	Gwere	Host community		1	1	14	Moyo to lefori to Moyo				█	█												
	Obongi	RHD	Itula	Palorinya	Palorinya Zone 3	1	1	1	14	Moyo to Obongi (palorinya) to Moyo						█	█										
	Obongi	RHD	Palorinya	Palorinya	Host community		1	1	14	Moyo to Obongi (palorinya) to Moyo						█	█										
	Yumbe	RHD	Kochi	Yayari	Bidibidi Zone 2	1	1	1	7	Moyo to Kochi to Yumbe								█	█								
	Yumbe	RHD	Kochi	Yayari	Host community				7	Kochi to Yumbe to Kochi								█	█								
	Yumbe	RHD	Kochi	Lombe	Host community		1	1	14	Kochi to Yumbe to Koboko								█	█								
	Koboko	RHD	Lobule	Ajipala, Aliribu, Ponyura, Tukaliri	Lobule Zone A or B	1	1	1	7	Koboko to Lobule to Kobko											█	█	█				
	Koboko	RHD	Lobule	Ajipala, Aliribu, Ponyura, Tukaliri	Host community				7	Koboko to Lobule to Koboko											█	█	█				
	Koboko	RHD	Kuluba	Nyambiri	Host community		1	1	14	Koboko to Kuluba to Kob0ko											█	█	█				
	Maracha	RAD	Kijomoro	Alivu	Host community	1	1	1	14	Koboko to Maracha / kijimoro														█	█	█	
	Maracha	RAD	Olufee	Otrabu	Host community		1	1	14	Maracha to Otrabu(Oluffe) to Maracha														█	█	█	
Team 1	Terego	RHD	Odupi	Imvepi	Siripi Zone 1	1	1	1	14	Maracha to Arua to Terego to Odupi to Arua														█	█	█	
	Terego	RHD	Odupi	Imvepi	Host community		1	1	14	Arua to Terego to Odupi to Arua														█	█	█	
	Madi Okollo	RHD	Rigbo	Odobu	Odobu Zone 1	1	1	1	14	Arua to Rhino camp to Odubu to Arua											█	█					
	Madi Okollo	RHD	Rigbo	Odobu	Host community		1	1	14	Arua to Rhino camp to Odubu to Arua											█	█					
	Arua	RAD	Logiri	Lazebu	Host community	1	1	1	14	Arua to Logiri / lazebu to Arua									█	█							
	Arua	RAD	Logiri	Anyavu	Host community		1	1	14	Arua to Anyavu to Arua									█	█							
	Zombo	RAD	Atyak	Anyola	Host community	1	1	1	14	Nebbi to Warr to Nebbi								█	█								
	Zombo	RAD	Atyak	Angol	Host community		1	1	14	Nebbi to Warr to Nebbi								█	█								
	Nebbi	RAD	Nebbi	Kalowang	Host community	1	1	1	14	Nebbi to kalowang to Arua					█	█											
	Nebbi	RAD	Kucwiny	Mvura	Host community		1	1	14	Pakwach to Nebbi					█	█											
	Pakwach	RAD	Wadelai	Ragem Upper	Host community	1	1	1	14	Pakawach to Wadelai to Pakwach		█	█														
	Pakwach	RAD	Pakwach	Mukale	Host community		1	1	14	Pakwach to Mukale to Pakwach		█	█														
	Team 3 Travel to Kampala																										█
	Team 2 travel to Kampala																										█
	Team 1 travel to Kamapala																										█

7.5   APPENDIX V: LIST OF DISTRICT OFFICIALS

LIST OF DISTRICT LOCAL GOVERNMENT OFFICIALS INTERVIEWED

District	Name	Designation
Adjumani	Richard Egema	Deputy Chief Administrative Officer
	Giyaya Charles	District Natural Resources Officer
	Amaruma Vincent	Assistant Settlement Commandant – OPM
Arua	Dramadri David	Inspector of schools
	Joachim Ajandru	Senior Environment Officer
Koboko	Ejuku Emanual	Deputy Chief Administrative Officer
	Mariam Akandu	District Natural Resources Officer
	Kenyi Desmond	District Environment Officer
Maracha	Wambya Richard	Deputy Chief Administrative Officer
	Colins Injiko	Senior Lands Officer
Moyo	George William Amaruma	Assistant Chief Administrative Officer
	Drama Patrick	District Natural resources Officer
Yumbe	Jessica Pimundu	Deputy Chief Administrative Officer
	Omari Khemis Ambaga	District Forest Officer
	Zabibu Toliga	District Natural Resources Officer
Zombo	Okumu Lamek	District Commercial officer
	Shepherd Jaye	District Bio-statistician
	Onim Aziz	District Education Inspector
Nebbi	Gilbert Onenchan	Deputy Chief Administrative officer
	Dramadri David	Inspector of schools
	Okiria Joseph Peter	District Community Development Officer.
	Richard Ojuku Oketwengu	Senior Environment Officer
Obongi	Tabu job	Assistant Chief Administrative Officer
	Angala Patrict	District Education Officer
	Lydia Nakimera	District Forest Officer
	Ozima Henry	District Natural Resources officer
Pakwach	Omuswa Charles	Deputy Chief Administrative officer
	Oweka Jennifer	District Natural Resource Officer
	Onyeyowun Hassan	District Inspector of schools
	Dr. Ajal Paul	District Health Officer
Madi Okollo	Dalil Moses	Deputy Chief Administrative officer
	Ozitiru Grace	District Production officer
	Ovua Shem	District Education Officer
	Justine Leku	District Health Officer
Terego	Lokope Stephen	Chief Administrative Officer

7.6   APPENDIX VI: CONFIRMED CONSENT OF KEY INFORMANTS

Annex-3

List of Data and Documents Collected

Category	No	Name of document	Issued by	Issued Year	File type
Donors Supported Program & Plan	1	Net Zero by 2050 A Roadmap for the Global Energy Sector	IDA	2021	PDF
Donors Supported Program & Plan	2	Addressing Barriers to Adoption of Improved Charcoal Production Technologies and Sustainable Land Management Practices through an Integrated Approach	UNDP, GEF	2014	PDF
Donors Supported Program & Plan	3	Draft SERF Inception Report / Sustainable Energy Response Plan (SERP) for Refugees and Host Communities in Uganda 2021-2024	MEMD, OPM, UNHCR	2020	Word
Donors Supported Program & Plan	4	Action Document for Promoting Inclusive Green Economy in Uganda / ANNEX of the Commission Decision on the financing of the annual action programme 2018 in favour of Uganda	EU	2018	PDF
Donors Supported Program & Plan	5	THE UGANDA GREEN GROWTH DEVELOPMENT STRATEGY 2017/18 – 2030/31	Government of Uganda	2017	PDF
Donors Supported Program & Plan	6	REVISED UGANDA COUNTRY REFUGEE RESPONSE PLAN	UNHCR	2020	PDF
Donors Supported Program & Plan	7	DEVELOPMENT RESPONSE TO DISPLACEMENT IMPACT PROJECT (DRDIP) Presentation	World Bank	2020	PDF
Donors Supported Program & Plan	8	Project Information Document (PID) Uganda Investing in Forests and Protected Areas for Climate-Smart Development Project	World Bank	2020	PDF
Donors Supported Program & Plan	9	Uganda Development Response to Displacement Project (DRDIP) Additional Financing Updated Environmental and Social Management Framework-ESMF	Department of Refugees, Office of the Prime Minister	2018	PDF
Donors Supported Program & Plan	10	INTERNATIONAL DEVELOPMENT ASSOCIATION PROJECT APPRAISAL DOCUMENT	World Bank	2020	PDF
Law & Regulations	11	Forests Act 1947	Government of Uganda	1947	PDF
Law & Regulations	12	National Environment Act 1995	Government of Uganda	1995	PDF
Law & Regulations	13	THE NATIONAL FORESTRY AND TREE PLANTING ACT, 2003.	Government of Uganda	2003	PDF
Law & Regulations	14	Prohibition of the Burning of Grass Act	Government of Uganda	1974	PDF
Law & Regulations	15	Timber (Export) Act 1950	Government of Uganda	1950	PDF
Law & Regulations	16	Wildlife Act 1996	Government of Uganda	1996	PDF
National Plan & Policy	17	ADJUMANI DISTRICT LOCAL GOVERNMENT FIVE-YEAR DEVELOPMENT PLAN III	Adjumani District Local Government	2020	Word
National Plan & Policy	18	ARUA DISTRICT RENEWABLE ENERGY ACCESS STRATEGY	Arua District Local Council	2019	PDF
National Plan & Policy	19	Local Government Development Plan FY 2020/2021 – 2024/2025	Koboko District Local Government		Word
National Plan & Policy	20	DISTRICT DEVELOPMENT PLAN III 2020/21 - 2024/25	Maracha District Local Government	2020	Word
National Plan & Policy	21	THIRD DISTRICT DEVELOPMENT PLAN (2020/2021 – 2024/2025)	Moyo District Local Government		Word
National Plan & Policy	22	DISTRICT ENVIRONMENT ACTION PLAN (2017/18-2019/20)	Nebbi District Local Government	2016	Word
National Plan & Policy	23	Local Government Development Plan FY 2020/2021 – 2024/2025	Obongi District Local Government		Word
National Plan & Policy	24	Draft National Energy Policy	Ministry of Energy and Mineral Development	2019	PDF
National Plan & Policy	25	Energy and Mineral Development Sector Sector Development Plan 2015/16 – 2019/20	Ministry of Energy and Mineral Development	2015	PDF

Category	No	Name of document	Issued by	Issued Year	File type
National Plan & Policy	26	FOREST INVESTMENT PLAN	World Bank Group / Ministry of Water and Environment Uganda	2017	PDF
National Plan & Policy	27	STRATEGIC PLAN, TREE IMPROVEMENT AND GERMPLASM RESEARCH PROGRAMME	National Forestry Resources Research Institute	2015	PDF
National Plan & Policy	28	THIRD NATIONAL DEVELOPMENT PLAN (NDPⅢ) 2020/21-2024/25	National Planning Authority / Uganda	2020	PDF
National Plan & Policy	29	SECOND NATIONAL DEVELOPMENT PLAN (NDPII) 2015/16 – 2019/20	National Planning Authority / Uganda	2015	PDF
National Plan & Policy	30	National Forestry Authority BUSINESS PLAN 2016/2017-2020/2021	National Forestry Authority	2016	PDF
National Plan & Policy	31	Water and Environment Sector Development Plan 2015/16-2019/20	Ministry of Water and Environment	2015	PDF
National Plan & Policy	32	SUSTAINABLE ENERGY REFUGEE RESPONSE PLAN (SERRP) BRIEF	Ministry of Energy and Mineral Development	2019	Word
National Plan & Policy	33	CLIMATE CHANGE UGANDA NATIONAL ADAPTATION PROGRAMMES OF ACTION	Minister of State for Environment	2007	PDF
National Plan & Policy	34	THE UGANDA FORESTRY POLICY	Ministry of Water, Lands and Environment	2001	PDF
National Plan & Policy	35	Action Plan for Implementing the Convention on Biological Diversity's Programme of Work on Protected Areas	Secretariat of the Convention on Biological Diversity	2012	Word
National Plan & Policy	36	Uganda Vision 2040	PRESIDENT OF THE REPUBLIC OF UGANDA	2013	PDF
National Plan & Policy	37	WATER AND ENVIRONMENT SECTOR RESPONSE PLAN FOR REFUGEES AND HOST COMMUNITIES IN UGANDA	Ministry of Water and Environment	2019	PDF
Reports	38	Assessment of Forest Resource Degradation and Intervention Options in Refugee-Hosting Areas of Western and Southwestern Uganda	World Bank, FAO	2020	PDF
Reports	39	National Biomass Study Technical Report	Ministry of Water Lands and Environment	2002	PDF
Reports	40	National Biomass Study Technical Report	National Forestry Authority	2009	PDF
Reports	41	The National Biomass Study TECHNICAL REPORT National Biomass Study, Phase I	Forest Department, Uganda	1992	PDF
Reports	42	Sustainable Energy Response Plan for Refugees and Host Communities in Uganda 2021-2024	Ministry of Energy and Mineral Development, GIZ	2020	Word
Reports	43	Uganda's First Biennial Update Report to the UNFCCC	Climate Change Department, Ministry of Water and Environment	2019	PDF
Reports	44	SNV Netherlands Development Organisation Grassroots solutions for scaling up improved cookstove access in Uganda	SNV Uganda	2014	PDF
Reports	45	Mapping the Ugandan off grid energy market Prepared by the Uganda Off grid Energy Market Accelerator (UOMA)	UOMA	2018	PDF

Category	No	Name of document	Issued by	Issued Year	File type
Reports	46	NATIONAL CHARCOAL SURVEY FOR UGANDA 2015 FINAL REPORT	Ministry of Energy and Mineral Development	2016	PDF
Reports	47	Rapid Assessment of Natural Resources Degradation in Areas Impacted by the South Sudan Refugee Influx in Northern Uganda TECHNICAL REPORT	IBRD, World Bank, FAO	2018	PDF
Reports	48	Rapid woodfuel assessment 2017 baseline for the Bidibidi settlement, Uganda Woodfuel supply/demand and scenarios for improving access to energy and reducing environmental degradation	FAO, UNHCR	2017	PDF
Reports	49	Uganda's Technical Annex with REDD+ results from Reducing Emissions from Deforestation	REDD+ Secretariat - Ministry of Water and Environment, National Forestry Authority	2020	PDF
Reports	50	Scaling Off-Grid Energy Access in Uganda A Mid-Level Landscape Analysis of Issues and Stakeholders	USAID	2017	PDF
Reports	51	STATE OF UGANDA'S FORESTRY 2016	Ministry of Water and Environment	2016	PDF
Reports	52	Uganda: Draft Market Assessment Executive Summary	Clean Cooking Alliance	2012	PDF
Reports	53	UGANDA NATIONAL REDD+ STRATEGY	Ministry of Water and Environment	2017	PDF
Reports	54	Proposed Forest Reference Level for Uganda	Ministry of Water and Environment	2017	PDF
Reports	55	"Clean" Cooking Energy in Uganda – technologies, impacts, and key barriers and enablers to market acceleration	K4D Research Helpdesk	2017	PDF
Statistics	56	Population Projections of Uganda, 2015-2030	Uganda Bureau of Statistics (UBOS)	2021	Excel
Statistics	57	THE UGANDA NATIONAL HOUSEHOLD SURVEY	Uganda Bureau of Statistics (UBOS)	2021	PDF
Statistics	58	Population-projections-by-district-2015-2021 (original downloaded file)	Uganda Bureau of Statistics (UBOS)	2021	Excel

Annex-4

Webinars

List of attendees / the First Webinar（21-April-2021）

No.	Name	Affiliation
1	Max Oluput	Partnerships Planning and Learning Specialist and Field Schools Support Hub Coordinator, AFAAS
2	Okethwengu Ojuku Richard	District Environment Officer, Nebbi District Office
3	Gilbert Ojia	District Forest Officer, Koboko District Office
4	Ofezu Godfrey	District Forest Officer, Maracha District Office
5	Drama Patric	District Forest Officer, Moyo District Office
6	Jakisa Emmy Saviour	District Forest Officer, Nebbi District Office
7	Onzimai Henry	District Forest Officer, Obongi District Office
8	Ambaga Khemis	District Forest Officer, Yumbe District Office
9	Hitimana, Leonidas	FAO UG Project Coordinator, Sawlog Production Grant Scheme (SPGS) III Project
10	Patience Rwamigisa	Asst. Commissioner, Agricultural Extensions, Ministry of Agriculture, Animal Industry and Fisheries
11	Abdon Atwine	Comissioner Electric Power Department, Ministry of Energy and Mineral Development
12	Adata Margaret	Commissioner, Forestry Sector Support Department/DEA, Ministry of Water and Environment
13	Igulot Patrik Hans	Regional Forestry Officer for Northern Uganda, Ministry of Water and Environment
14	Jane Aryemo	FSSD / Ministry of Water and Environment
15	Kaabeho Ndatsi	FSSD / Ministry of Water and Environment
16	Kambedha Irene	FSSD / Ministry of Water and Environment
17	Ndyabandiho Saul	FSSD / Ministry of Water and Environment
18	Torner Timotheus	GIZ Uganda Office
19	Bithum Desis,	CEO Jenon Wastes Recycling Studio
20	Masaru Kurimoto	JICA HQ
21	Takahiro Ikenoue	JICA HQ
22	Reo Watanabe	JICA Survey Team
23	Shigeharu Tejima	JICA Survey Team
24	Shiji Ogawa	JICA Survey Team
25	Shipei Kato	JICA Survey Team
26	Yasuo Izumi	JICA Survey Team
27	Yota Kikuchi	JICA Survey Team
28	Atsumi Kani	JICA Uganda Office
29	Kaweesa Mariam	JICA Uganda Office
30	Yuki Inoue	JICA Uganda Office
31	Yutaka Fukase	JICA Uganda Office
32	Takeki Shimawaki	OPM Advisor
33	Solomon Osakan	OPM Refugee District Officer, Arua
34	Simon Buss la Cour	Pestitho CEO/ Co-founder
35	Daishiro Murakawa	UNHCR
36	Yuki Arai	UNHCR Moyo Office, Associate Development Officer
37	Lesya Verheijen	Operation Officer, World Bank
38	Matthew Owen	World Bank
39	Benjamin Christopher Reese	World Bank in Uganda

List of attendees / the Second Webinar (11-October-2021)

No	Name	Affiliation
1	Hitimana, Leonidas	FAO UG Project Coordinator, Sawlog Production Grant Scheme (SPGS) III Project
2	Arturo Gianvenuti	FAO Forestry Consultant - lead on WB-financed West Nile rapid assessment Italy
3	Miriam Natabo	GIZ UG Social / Energy
4	Drama Patric	DFO Moyo
5	Tako Geffrey	Senior Labour Officer (SLD) , Obongi District
6	Onzimai Henry Pasidre	Senior Environment Officer, Obongi District
7	Jackson Ezabuku	District Forest Assistant Officer, Maracha
8	GILBERT ACIDRI	DFO Madi-Okollo
9	Margaret Adata	Commissioner FSSD, MWE
10	Igulot Hans Patrick	Forest Officer, FSSD (Regional coordinator Northern Uganda) MWE
11	Bob Kazungu	Coordinator, National Forest Monitoring System (NFMS), Forestry Officer, MWE
12	Afai Sylvano	Regional Coordinator, Wetland Management, MWE
13	Solomon Osakan	Refugee Desk Officer, Arua, Department of Refugees, OPM
14	Kazungu David Apollo	COMMISSIONER REFUGEES, OPM
15	Asiku Dalili	UNHCR, Environment Officer, Moyo Office
16	Dhananjaya Bhattrai	UNHCR
17	Takahiro Ikenoue	JICA HQ
18	Masaru Kurimoto	JICA HQ
19	Aiko Kato	JICA Uganda Office
20	Atsumi Kani	JICA Uganda Office
21	Emmanuel Pacoto	JICA Uganda Office
22	Kaweesa Mariam	JICA Uganda Office
23	Muhame Ivan	JICA Uganda Office
24	Yuki Inoue	JICA Uganda Office
25	Reo Watanabe	JICA Survey Team
26	Shigeharu Tejima	JICA Survey Team
27	Shimpei Kato	JICA Survey Team
28	Shinji Ogawa	JICA Survey Team
29	Yota Kikuchi	JICA Survey Team
30	Yasuo Izumi	JICA Survey Team
31	Lesya Verheijen	World Bank, Operations Officer (Tunisia)
32	Matthew Owen	World Bank
33	Jackie Meble	(unknown)

Information Collection Survey on Sustainable Forest/Natural Resource Management in West Nile Region, the Republic of Uganda

Webinar on the results (findings) and future direction of the survey

INTRODUCTION

APRIL 2021

JAPAN INTERNATIONAL COOPERATION AGENCY

IC-NET LIMITED
ORIENTAL CONSULTANTS GLOBAL CO., LTD.
NTC INTERNATIONAL CO., LTD.

Introduction

The webinar aims at sharing the findings of the JICA Survey to the relevant stakeholders and exchanging views for future cooperation.

Expected results

❑ Participants to **understand** the direction of the JICA Survey and provide their **comments** on **priority criteria** and **future cooperation**

❑ JICA Survey Team exchanges the **opinions** on the survey contents, as well as priority criteria and future cooperation, with **relevant stakeholders**, and **incorporates** them **into the survey outputs**.

2

Introduction

Objectives

This survey aims at;

1) To **understand** the **current status and challenges** of **forest and natural resource use, management and energy supply** in the refugee hosting and affected areas in the West Nile region,

2) **To provide necessary geospatial information** for policymakers, local residents, civil society, development partners and other stakeholders to realize sustainable forest and natural resource management,

3) Consider the **possibility of future cooperation and collaboration with private sector and other donor projects**.

- Priority criteria
- Priority projects

3

Introduction

Target area

12 districts in the West Nile Region:

Arua, Madi Okollo, Terego, Adjumani, M~
Koboko, Maracha, Zombo, Nebbi and Pa

4

Introduction

Schedule
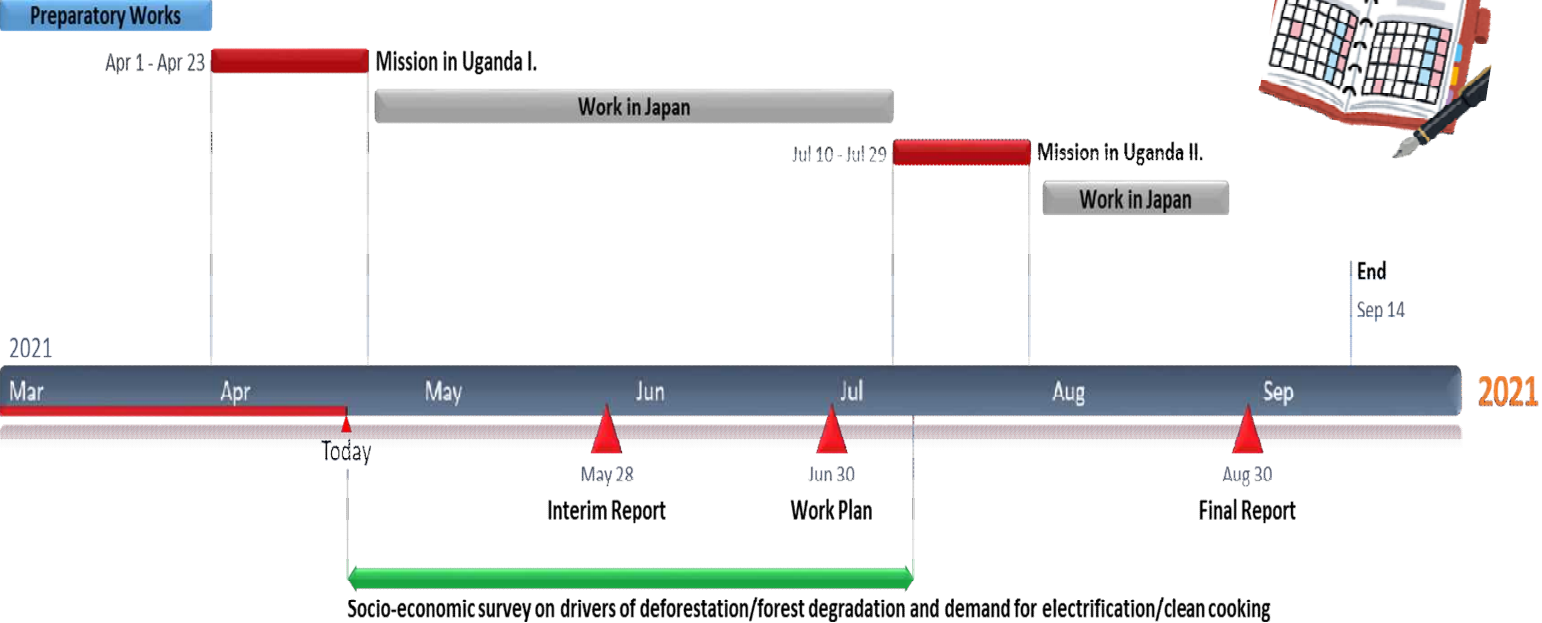
Preparatory Works

Apr 1 - Apr 23 | Mission in Uganda I.

Work in Japan

Jul 10 - Jul 29 | Mission in Uganda II.

Work in Japan

End
Sep 14

2021
Mar | Apr | May | Jun | Jul | Aug | Sep | 2021

Today

May 28
Interim Report

Jun 30
Work Plan

Aug 30
Final Report

Socio-economic survey on drivers of deforestation/forest degradation and demand for electrification/clean cooking

5

Information Collection Survey on Sustainable Forest/Natural Resource Management in West Nile Region, the Republic of Uganda

Webinar on the results (findings) and future direction of the survey

OVERVIES FINDINGS

APRIL 2021

JAPAN INTERNATIONAL COOPERATION AGENCY

IC-NET LIMITED
ORIENTAL CONSULTANTS GLOBAL CO., LTD.
NTC INTERNATIONAL CO., LTD.

A4-3

1. Overviews of the Survey (TL Ogawa)

Deforestation Drivers

- In the 12 districts of the study area, deforestation drivers may differ from district to district.

- The impact of the influx of refugees is certainly, but not exclusively.

- A social survey will be carried out across the 12 districts and the results will be discussed once they are available.

1. 2

1. Overviews of the Survey (TL Ogawa)

1.1 Exploitative use of natural forests

- As one of deforestation drivers, however, commercial charcoal productions (using chainsaws) are frequently carried out in conservation forests and communal areas by some charcoal producers from outside the region.

- In addition, Illegal loggings of protected species in high forest in the vicinity of borders or conservation areas are carried out for export purposes.

- All of these are due to pressure from outside West Nile region and are not the problems that can be solved locally.

- Some districts have prohibited logging for commercial charcoal production, which certainly is an important political measure. However, the number of staff in charge are limited, and the enforcement may not be easy in some areas.

- Forest information is the essential for the local governments to manage their forest sustainably. However, it seems that not enough and accurate forest information has not come down to the district level.

1. 3

1. Overviews of the Survey (TL Ogawa)

1.2 Non-equivalence of charcoal price

- The high price of wood and the low price of charcoal at present seem to be making the transition of plantation wood (eucalyptus) to fuel difficult.

- This might be caused as most of charcoal has produced in exploitive way.

- If deforestation continues at the current rate, the price of charcoal may rise near future.

- If the price of charcoal rises, it will be easier for consumers to shift to alternative fuels such as briquettes.

- In addition, a further fall in the price of wood could lead to the conversion of plantation forests such as eucalyptus into charcoal (Green Charcoal).

- It is important to be prepared for this change in the future.

1. 4

1. Overviews of the Survey (TL Ogawa)

1.3 Forest resource development supporting scheme

Target A: Groups with surplus land and funds for commercial afforestation on medium to large private or company land

Target B: Groups with no surplus land but with funds for benefit share reforestation contract.

Target C: Groups with no surplus land and scarce resources (but need wood, charcoal for cooking or building materials)
(refugees may also included in this target)

1. 5

1. Overviews of the Survey (TL Ogawa)

1.4 Forest resource development supporting scheme

Target C: Groups with no surplus land and scarce resources (but need wood, charcoal or building materials for cooking) **(refugees may also included in this target)**

- At present, the major supports for this group seems the free seedling distribution and planting instructions.

- In settlements, it have observed partial forest rehabilitation or woodlots development paid by cash for work but not in sustainable way.

- Since **majority** of inhabitants/refugees in AOI are **Small Scale Farmers**, forest resource development support for this target groups should be more **highlighted**.

- This support should be by a way of **Agroforestry**.

1. 8

Scarce resource farmers cannot just jump to forest plantations

But,

Papaya, Avocado, Mango, etc

Agroforestry

Fodder **Fruits**

Seedlings

Agriculture crops

Farmland

Wood-fuel, Poles, Timber

Wood Products

Time-lag until wood products commercialisation
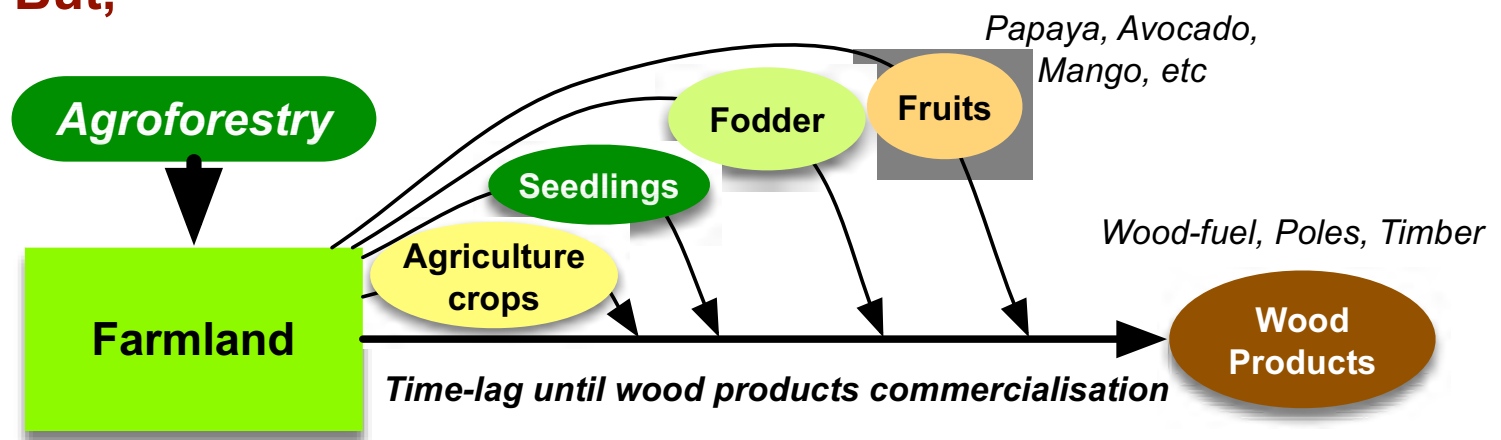
helps adoption of natural resource development activities

1. 9

1. Overviews of the Survey (TL Ogawa)

1.4 Forest resource development supporting scheme

Target C: Groups with no surplus land and scarce resources

- To achieve agroforestry like intercropping or small-scale woodlots, the farmers should have **seedlings** of the **right species**, of their **own preferences**, in the **right quantity**, **close to them** and at the **right time**.

- The current scheme of free seedling distribution is not sufficient for this purpose, and it is essential to introduce **seedling production schemes** in which **farmers and refugees individually or in groups** can produce, use and commerce seedlings by themselves.

- At the same time, for the seedlings to be established, they need to be **weeded, protected, monitored and cared** until the following rainy season (**Not just tree planting but tree growing**) particularly in semi-arid areas.

1. 10

Required tree seedling production by farmers at their locality

1. 11

Individual tree fencing and regular monitoring during dry season

1. 12

1. Overviews of the Survey (TL Ogawa)

1.5 Conversion to agricultural land

- The conversion of forest land by new settlers and cross-border seasonal farmers (probably on degraded forest after harvesting and charcoal production?) and the expansion of some plantation crops (mainly tobacco), are causing not only deforestation but also land degradation, which seems to be a serious problem.

- It is likely that most of these farmers are not familiar with sustainable farming or even farming itself (and may be engaged in exploitive farming due to unclear land tenure).

- Therefore, there are urgent needs to train these farmers with how to manage their farmland in a conservation and sustainable manner, such as through agroforestry.

- Depending on the altitude, the combination of coffee, fruit trees and no-timber forest products with this agroforestry is important as the supplementary elements to improve livelihoods.

1. 13

Food intercropping with *Melia volkensii* after less than one year

1. 14

Grafted Mango trees start fruiting after 1 ½ years

1. 15

Coffee tees planted under the border of forest reserve

1. 16

1. Overviews of the Survey (TL Ogawa)

1.5 alternative energy, energy saving measures and innovative technology

• In addition, the introduction of alternative energy sources such as briquettes, energy saving measures like improved stoves (**not just introduction but adoption**) or innovative technology like solar cooking system would still be effective in the long term.

• In order to achieve this, it seems necessary to propose a model for cooking and what kind of energy management is economical and sustainable in a local household.

• Also, improved way of charcoal production method like charcoal kiln to be promoted for efficient use of wood fuel resources particularly from the forest plantation like eucalyptus.

1. 17

Two-pot firewood mud stove (Nebbi)

stove for briquettes/charcoal with a clay liner (Nebbi)
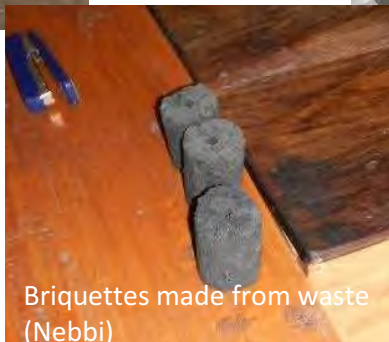
Briquettes made from waste (Nebbi)

1. 18

Improved charcoal kiln (Planting and Harvesting)

1. 19

Information Collection Survey on Sustainable Forest/Natural Resource Management in West Nile Region, the Republic of Uganda

Webinar on the results (findings) and future direction of the survey

Coordination with Donors and Private Sector

APRIL 2021

JAPAN INTERNATIONAL COOPERATION AGENCY

IC-NET LIMITED
ORIENTAL CONSULTANTS GLOBAL CO., LTD.
NTC INTERNATIONAL CO., LTD.

---

2. Cooperation with Donors and Private Sector

Government Administration Structure and International Donors

MoFPED

[LDPG]
Local Development Partners' Group

World Bank
LDPG
Secretariat

OPM

[CRRF]
Comprehensive Refugee Response Framework

UNHCR

International Development Agencies
WB, AfDB, FAO, USAID, GIZ, JICA....

Host Community

Refugee Settlement

Local Council (LC) Structure in Uganda		
LC5 (Local Governments)	District Council City Council	県
LC4	County Council Municipal Council City Division Council	部
LC3 (LC3 and below, Lower Local Governments(LLGs)	Sub-County Council Town Council Municipal Division Council	郡
LC2	Parish/Ward	パリッシュ
LC1	Village/Cell/Zone	村

2

2. Cooperation with Donors and Private Sector

Overall Summary

[Initial Findings & Future Direction (indicative)**]**

- ◦ JICA Survey Team were all **welcomed** by Local District Governments, Host communities, Refugee settlements as well as international donor agencies and private sector firms.
- ◦ Due to ongoing global COVID-19 Pandemic, some **on-sight visits** were not realized but implemented via online meetings.
- ◦ Some are planned in April/May 2021 via **online meetings**.
- ◦ Potential of Agriculture and Agroforestry have been identified and furthermore market driven skills, technology and capacity development in diversified industries seems ahead.
- ◦ Japanese style **vocational and technical training** might be also helpful not only **primary but secondary and tertiary industrial capacity building**, e.g., 5S system, Kaizen or TQC...

3

2. Cooperation with Donors and Private Sector

[Initial Findings]
2-1-1. UNHCR / GIZ RISE
(Response to Increased demand on government Services and creation of Economic opportunities in Uganda, 2017-2022)

1. **District Local Government Support**
   - ◦ Support integrated development planning, community dialogues, inclusive local decision making, knowledge sharing,...
2. **Skills Development / Private Sector Support**
   - ◦ Financial inclusion, Market oriented skills training, Access to private sector jobs, Value chain and market linkage, Pilot innovative agricultural technologies and approaches

[Future Direction] (indicative)
- ◦ District Local Government Support – Local Development planning abilities, **Bottom-up decision-making** trainings..
- ◦ Skills Development – Demand driven **vocational trainings on Agroforestry** activities, **Internship** training opportunities with private sector firms

4

2. Cooperation with Donors and Private Sector

[Initial Findings]
2-2-1. WB DRDIP (Development Response to Displacement Impact Project, 2017-2022)
1. Social and Economic Infrastructure and Services
2. Sustainable Environmental Management
3. Livelihood Support Program...

2-2-2. WB IFPA (Investing Forest and Protected Areas for Climate Smart Dev't, 2020-)
2. Increased **revenues and jobs** from forests and wildlife protected areas
3. Improved **landscape management in refugee-hosting areas**

2-2-3. WB Electricity Access Scale up (planned)
2-2-4. IFC Private Sector Investments

[Future Direction] (indicative)
- DRDIP & IFPA for **Agroforestry** job creation and development Technical Cooperation
- Follow-up new **Electricity Access Scale up** for detail
- Promote jointly with **IFC** private sector investment project

5

---

2. Cooperation with Donors and Private Sector

[Initial Findings]

2-3. Private Sector (Foreign capital and investment)
[See Chap 6 Off-Grid for domestic firms]

2-3-1. Off-Grid Electricity
- **Mwezi** – a Kenya based UK firm expanding its market to Uganda by 2022
- **Wassha** – a Tanzanian firm originally from Japan

2-3-2. Agroforestry
- **KOMAZA** – Int'l venture based in Kenya for forestation with community development
- **Beat Drone** – a Nigerian firm using drones for agriculture farming and monitoring

6

2. Cooperation with Donors and Private Sector

[Initial Findings]

2-3-3. Financial Services
- ◦ **MasterCard** – a global firm promoting smart-phone based financial service
- ◦ **Japan Biofuel** – a Japanese firm oprerating in Tanzania. Originally delivering biofuel now more onto financial service with FAO in several African countries
- ◦ **AGRIinsight** – a UK origin operating in Tanzania on agriculture information thru Smartphone

[Future Direction] (indicative)
- ◦ Develop dialog and seek opportunities for future investment
- ◦ For Japanese companies to promote JICA Private Sector Support and Private Sector Investment Finance applications
- ◦ Collaboration with IFC Uganda for new Investment and Bbusines Development Services

7

2. Cooperation with Donors and Private Sector

2. Meetings conducted

- **International Donors**

Institution	Date (Y2021)	Further & Additional Meetings
World Bank	03/23, 04/20	IFC (PrvSec), WB (Energy)
AfDB	04/12 (Req)	Mtg planned by/during next visit
FAO	04/c11	
UNHCR	03/25, 04/19?	RISE project
Others (UNDP, GEF, GCF…)	- -	Mtg planned by/duringnext visit

- **Bilateral Donors**

USAID	04/22	Power Africa
GIZ	03/25, 04/08, 04/19	RISE project
Others (EU, Norway, Denmark…)	- -	Mtg planned by/duringnext visit

8

2. Financial Cooperation with Donors and Private Sector

2. Meetings conducted

- **Private Sector (Foreign Captial)**

Sector / Company	Mtg Date (Y2021)	Further & Additional Meetings
Off-Grid Electricity		
• MWEZI (UK, Kenya)	03/25	Kenya, to Uganda 2022, Hen Incubator
• WASSHA (Japan, Tanzania)	03/23	Tanzania and Uganda, Mtg in 05/'21
Agroforestry		
• KOMAZA (USA, Japan+, Kenya)	- -	Kenya, may be Uganda
• Beat Drone (Nigeria)	- -	Drone for Agriculture, Mtg in 05/'21
• Company A (Japan, Senegal)	03/29	Green investment, Mtg in 05/'21
Financial Service	03/30	Cereal farming & processing, Mtg in 04/'21
• Mastercard (USA, Uganda)	- -	Mtg in 05/'21
• Japan Biofuel (Japan, Tanzania)	02/xx	From Jatrova distribution to financial services
• AGRIinsight (UK, Tanzania)	- -	Agro info via mobile phones, Mtg in 05/'21

9

Information Collection Survey on Sustainable Forest/Natural Resource Management in West Nile Region, the Republic of Uganda

Webinar on the results (findings) and future direction of the survey

Electricity Planning

APRIL 2021

JAPAN INTERNATIONAL COOPERATION AGENCY

IC-NET LIMITED
ORIENTAL CONSULTANTS GLOBAL CO., LTD.
NTC INTERNATIONAL CO., LTD.

3. Electric Plan (KIKUCHI)

■Objective

The purpose is to study how electricity can be supplied to refugee settlements and host communities in areas where forest deterioration is progressing, and to collect information for forming electricity projects in the West Nile area.

■Field survey (Electricity team: Kani-san, Herbert-san and Kikuchi)

- Understand the power situation in the West Nile region, Moyo, and Adjumani

■Location in field survey （6th Apr to 8th Apr)

Date	Stay at	Visit
6th Apr	Adjumani	・UEDCL (Adjumani) ・UEDCL (MOYO) ・BENEDICT MEDICAL FOUNDATION（MOYO）・KIOSK at ferry station(Adjumani)
7th Apr	Arua	・Tororo Village (MOYO) ・Bidi Bidi (Yumbe) ・KIOSK at ferry station (Adjumani)
8th Apr	Arua	・WENRECO (Arua) ・Electro MAXX (Arua) ・Nyagak I (ZOMBO)

2

---

3. Electric Plan (KIKUCHI)

■Electricity situation of Adjumani and Moyo

１．UEDCL (Adjumani, MOYO) area

- The problem here is that the 33kV distribution system is connected to UMEME, and if the UMEME distribution system is cut off, the UEDCL distribution system will be cut off.

- Currently, UEDCL in Adjumani and MOYO don't supply electricity to people in refugee settlements.

MOYO

UEDCL

Adjumani

②Power outage

Gulu

①Shat down

UMEME
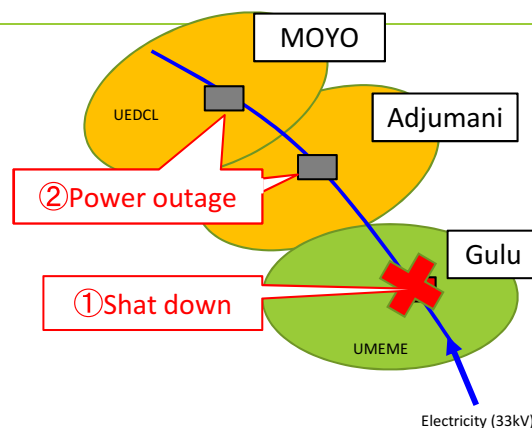
Electricity (33kV)

Distribution Board with socket and light

Prepaid Meter

Capacitor Bank

Customer	Adjumani	MOYO
1 phase	2902	2016
3 phase	43	31
Pending Connections	454	187

3

3. Electric Plan (KIKUCHI)

■ **Electricity situation of Adjumani and Moyo**

１．**UEDCL (Adjumani, MOYO) area**

There was a clinic opposite Moyo's UEDCL, so we interviewed about the power situation.

- Buying electricity from UEDCL. An emergency generator is used during a short power outage.

- However, the electricity from UEDCL is unstable, and only about 40% of the day is sensuously supplied.

- During the usual long power outages, relying on the solar panel and storage batteries to charge medical equipment.

- Since the supply from UEDCL is unstable, asking to solar home system service for a quote, but it was expensive.

- However, plan to install it in the future

4

---

3. Electric Plan (KIKUCHI)

■ **Electricity situation of West Nile**

１．**WENRECO**

- WENRECO's organization is different from UMEME and UEDCL.

- That is, WENRECO has a concession contract from UEDCL and UEGCL and has a power generation department in addition to the power distribution department.
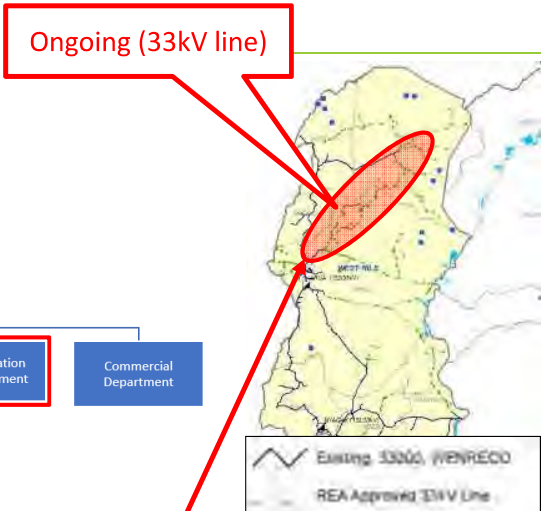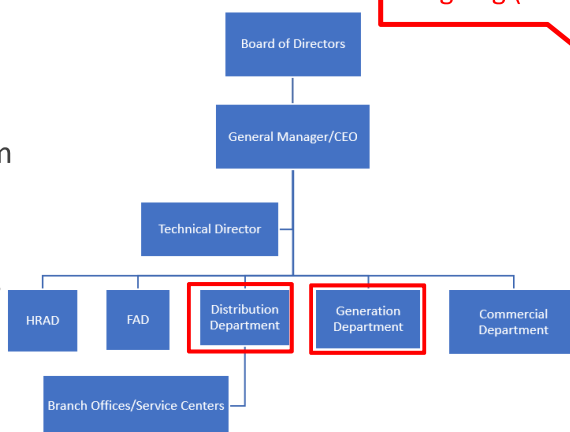
Loss Reduction Project(LRP) since 2017

ORGANOGRAM OF WENRECo

Board of Directors

General Manager/CEO

Technical Director

HRAD | FAD | Distribution Department | Generation Department | Commercial Department

Branch Offices/Service Centers

Ongoing (33kV line)

Concrete Pole (YMBE)

Existing 33kV, WENRECO
REA Approved 33kV Line

YEAR	2016	2021	Target loss
Distribution Loss	24%	18%	7% to 5%

*Seeking for funding to support this PJ (700,000UDS)

Payment	No. of Customer
Prepaid	Approximately 20,000
Postpaid	27

Smart meter Since 2018
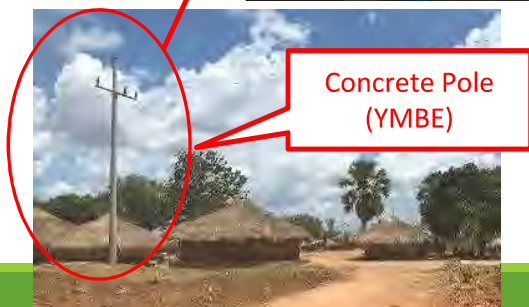
5

3. Electric Plan (KIKUCHI)

■**West Nile power plant**

There are currently two power plants supplying electricity to the West Nile region.

１．**Nyagak I (Small hydropower plant) @ZOMBO**

WENRECO operates and supplies electricity to WENRECO's 33kV distribution line. This is the main power plant in the West Nile region.

It is a dam-type small hydropower plant, and there was a relocation of residents at the time of construction.

Diesel plant (Arua)

Small Hydropower plant (Nyagak I，Zombo)
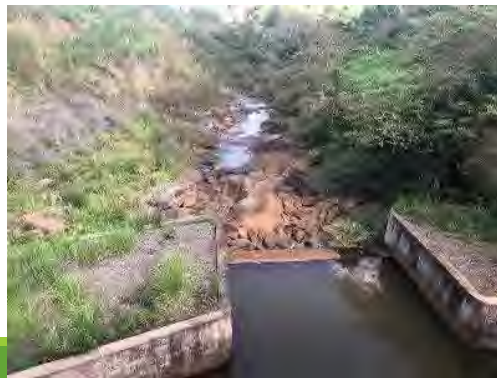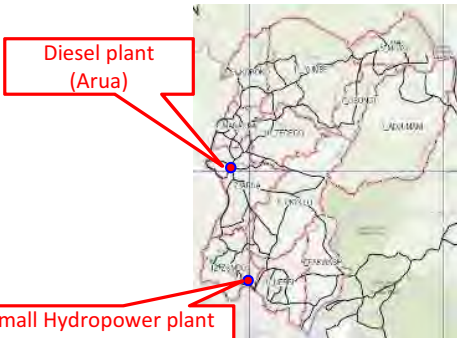
DAM

From DR Congo

Transformer
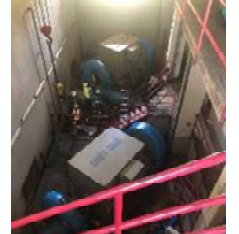
Generator

Send to Arua

Send to NEBBI

6

---

3. Electric Plan (KIKUCHI)

■**West Nile power plant**

There are currently two power plants supplying electricity to the West Nile region.

２．Electro Maxx Arua（Diesel generation plant）@ARUA

A private company generating electricity for the West Nile region.

It is connected to the WENRECO 33kV distribution line.

Send to ARUA

Send to VURRA

Send to NEBBI

33kV Switchgear

12 Diesel Generators, 8.2MW

7

3. Electric Plan (KIKUCHI)

■**Electricity situation of KIOSK at the ferry station**

1.KIOSK (1)

- Introduced home solar system from MTN.

2. KIOSK (2)

   - Procure solar panels, cables and storage batteries by themselves.

Solar Panel

Lighting

Solar Panel

Kerosene refrigerator

Solar Panel

Using Lighting and refrigerator

Battery

8

---

3. Electric Plan (KIKUCHI)

■ **Electricity situation**

1．**Tororo Village(MOYO)**

2．**House Hold (Bidi Bidi)**

Solar Battery light

Battery

Solar Panel

Light

DB, Prepaid Meter

Connecting line

Electrical pole

Lightning arrester
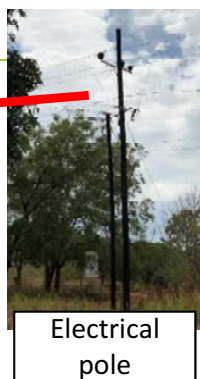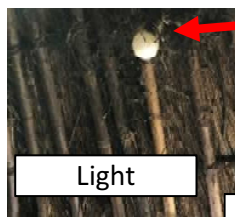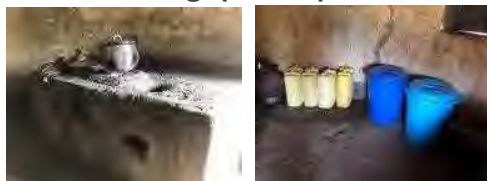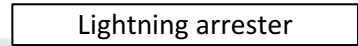
3．**Primary School (Bidi Bidi)**

There are a lot of lightning in West Nile region.

9

3. Electric Plan (KIKUCHI)

■**Current power supply project in West Nile, Adjumani and Moyo**

No	Location	Project	Status	Remark
①	Arua, Nebbi	132kV/33kV 80MVA Substation & Transmission line	Under construction (Start to operate from 2022)	World Bank
②	Oraba	132kV/33kV 40MVA Substation & Transmission line	Concept Study	No founding
③	Adjumani	30 MW solar power plant plan	Ongoing	German firm
④	Okolo	10MW solar power plant plan	Ongoing	ITUKA Uganda Limited
⑤	Zombo	Nyagak III 6MW small hydropower plant	Under construction	Private
⑥	Adjumani, Eleg	132kV/33kV 80MVA Substation & Transmission line	Proposed	No founding
⑦	Arua, aruu	(Interconnection) 220kV Transmission line & Aruu Substation (DR Congo)	F/S	No founding
⑧	Elegu, Juba	(Interconnection) 400kV Transmission line & Elegu Substation (South Sudan)	F/S	China Sino-Hydro

In the near future, the West Nile region will be connected to the National Grid, and it is planned to secure a power capacity that greatly exceeds the current demand of 6 MW.

10

3. Electric Plan (KIKUCHI)

■REA Master plan

A4-22

11

3. Electric Plan (KIKUCHI)

■**Challenge for Electricity planning**

At present, many households procure solar panels and storage batteries by themselves to obtain the necessary and sufficient electricity, which is considered to be one of the reasons why electrification is not progressing.

- **For a hygienic and healthy life**

- **Uses of electricity other than lighting and charging**

As for the Electricity planning, the project will be formed in consideration of the following.

1. There is no relocation of residents.

2. For mini-grids and off-grids in areas far from the grid where connection is difficult, consider solar power generation or small/ mini hydropower generation.

3. Maintenance is sustainable.

4. The target area shall be refugee settlements or host communities in areas where deforestation is progressing.

5. In addition, areas where industry is likely to develop in areas where deforestation is progressing are also targeted.

12

Information Collection Survey on Sustainable Forest/Natural Resource Management in West Nile Region, the Republic of Uganda

Webinar on the results (findings) and future direction of the survey

Peace Building Assessment / Community Development
APRIL 2021

JAPAN INTERNATIONAL COOPERATION AGENCY

IC-NET LIMITED
ORIENTAL CONSULTANTS GLOBAL CO., LTD.
NTC INTERNATIONAL CO., LTD.

4. Peace Keeping & Social Development (KATO)

•Where I visited and who I interviewed and discussed with

Date	Place I visited	Who I met
6th April (Tue)	1. Adjumani District Office, 2. Adjumani RDO Office, 3. UNHCR Adjumani Office, and 4. MAAJI 2 settlement	1. Adjumani CAO & DCDO, 2. Settlement Commandant, 3. Sub-office Head, and 4. RWC
7th April (Wed)	1. Moyo District Office, 2. UNHCR Moyo Office, 3. Palorinya Settlement Commandant Office, and 4. Palorinya Settlement	1. Moyo DCDO, 2. Peace Building Expert, 3. Settlement Commandant, and 4. RWC
8th April (Thu)	1. Koboko District Office, 2. Maracha District Office, 3. Rhino Settlement Commandant Office, and 4. Rhino Settlement	1. District Planner, 2. Maracha DCDO, 3. Assistant Settlement Commandant, and 4. RWC
9th April (Fri)	1. Arua District Office, 2. Terego District Office, 3. Impevi Settlement Commandant Office, and 4. Nurseries	1. Arua DCDO, 2. Terego DFO, 3. Assistant Settlement Commandant, and 4. Staff of nurseries
12th April (Mon)	1. Nebbi District Office	1. Nebbi DCDO

2

4. Peace Keeping & Social Development (KATO)

•The perspective on the refugee influx

Most interviewees see that the refugee influx will continue/increase.

The reasons are;

➢Volatile security situation of the surrounding countries.

➢Low quality basic services of the surrounding countries.

➢Illegal Entry.

3

4. Peace Keeping & Social Development (KATO)

•Major challenges in tackling refugee affairs

Natural resource related (Our Focus);
➤Tree cutting and charcoal burning.
➤Illegal grazing.
➤Destruction of the environment due to the increase in refugees from surrounding countries.
➤Scarcity of agricultural land for refugees.
➤Development of income sources other than tree cutting and charcoal burning.

Others;
➤Increase in water fee as refugees and Host Communities share water sources.
➤Overcrowded Schools and Health Centers (HC), and shortage of medicines.
➤Differences in the number of HC between Refugee-Hosting SCs and the others.
➤Decrease in support from Implementing Partners due to COVID19.
➤Difficulties in distinguishing refugees from Nationals.

4

4. Peace Keeping & Social Development (KATO)

•How to cope with the challenges

Natural resource related (Our Focus);
➤Tree planting.
➤Development of Energy Saving Method (such as Energy Saving Stoves) and Solar Energy.
➤Development of Alternative Energy Sources.
➤Better cooperation with landlord for securing sufficient land for refugees.
➤Support for agricultural activities and productivity as an income source.

Others;
➤Cooperation with UNHCR and Implementing Partners.

5

4. Peace Keeping & Social Development (KATO)

• Area with relatively frequent conflicts

*Increasing cases due to COVID19

Conflict	District/Settlement	Area with frequent conflict
Natural resource-related conflict	Arua District	Ajia SC, Offaka SC (Alibu Village), Vurra SC, Logiri SC
	Koboko Didtrict	Lobule SC and the surrounding SCs, Koboko Town
	Nebbi District*	Kucwiny SC, Nyaravur SC, Atego SC, Nebbi SC
Natural resource-related conflict, SGBV (incl. DV)	Moyo District	Lefori SC, Moyo SC, Dufile SC (Laropi Parish)
	Terego District*	Odupi SC, Omugo SC, Uriama SC
	Palorinya Settlement	Lefori SC, Moyo SC, Dufile SC (Laropi Parish)
	Rhino Settlement*	Ocea Zone, Odobu Zone, Tika Zone, Ofua Zone
Land-related conflict	Palorinya Settlement*	Not specific area
	Rhino Settlement*	Ocea Zone, Odobu Zone

➤ Border Area with Yumbe District has National Forest (Koboko)

➤ National Forest is located in North from the Settlement (Moyo)

➤ Rhino Settlement's border between Terego District and Madi-Okollo District is a source of Land Conflicts

6

4. Peace Keeping & Social Development (KATO)

• "Leave No One Behind": System of hearing voices from the Bottom, including people with special needs

LOCAL GOVERNMENT

- District Council — District Executive Committee
- 4 Sector Committees
- CAO
- Departments | TPC
- Community Development Department (Head: DCDO)
- Youth Council | Women Council
- Elder Council | Disability Council
- Collected voices from Sub-Counties

SETTLEMENT

- OPM (RDO, Settlement Commandants)
- RWC 1, 2, 3
  - Chair
  - Vice Chair
  - Secretary General
  - Opinion Leader(s)
  - Secretaries for
  - Women & Children
  - Disability
  - Youth
  - Water
  - Environment & Production
  - Health & WASH
  - Education
  - Security
- Membership
- Executive Committees
  - Child Protection Committee
  - Women Committee
  - Environment Protection Committee
  - Water Users Committee
  - Peace Building Committee
  - Education Village Committee
- Community Based Organization Block Leaders, etc.

7

4. Peace Keeping & Social Development (KATO)

• At the level of LOCAL GOVERNMENT, we will cooperate with the Community Development Department. And at the SETTLEMENT level, we will involve RWCs and related Settlement Commandants to achieve "Leave No One Behind".

• There are interactions between RWCs and Local Councils, such as Community Dialogue. We shall utilize the existing systems to maximize the achievement.
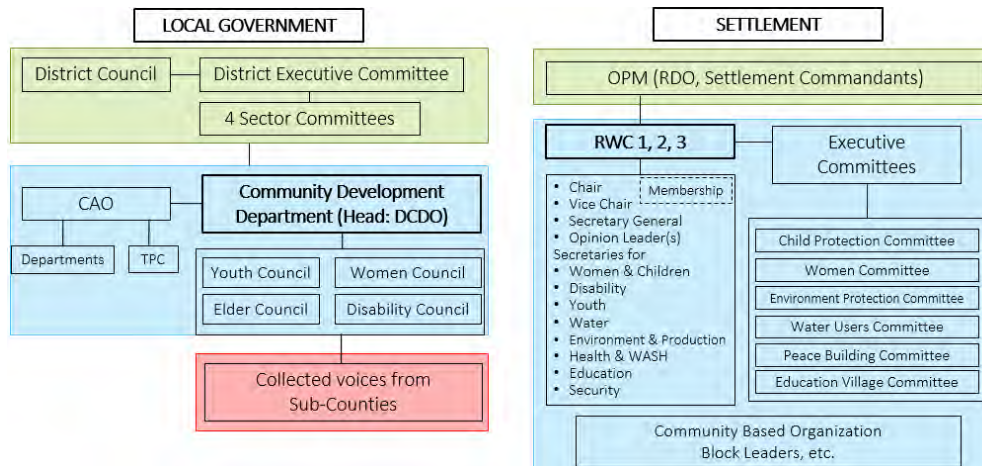
8

Information Collection Survey on Sustainable Forest/Natural Resource Management in West Nile Region, the Republic of Uganda

Webinar on the results (findings) and future direction of the survey

Off-grid / Social Economy

APRIL 2021

JAPAN INTERNATIONAL COOPERATION AGENCY

IC-NET LIMITED
ORIENTAL CONSULTANTS GLOBAL CO., LTD.
NTC INTERNATIONAL CO., LTD.

6. Off-grid and Socio Eco. (WATANABE)

● Survey Outline

Objective	To understand; 1)off-grid business model 2)Obstacles and challenges to diffuse off-grid power and clean cooking tools 3)International organizations and donor support in West Nile Region
Period	4th – 20th April, 2021
Survey area	West Nile Region (Moyo, Obongi, Arua, Maracha, Koboko, Nebbi) and Kampala
Survey subject	Settlements and host communities, off-grid and clean cooking companies, Ministry of Energy and Mineral Development, etc
Survey method	Interview and online survey

2

6. Off-grid and Socio Eco. (WATANABE)

● Main Off-grid business in West Nile Region

➢ Solar Home System (SHS)

(ex. PV panel, battery, light, radio, and TV)

• Particularly important energy solution in Off-grid area

➢ Pay-As-You-Go (PAYGO)

• Customers can pay fees through mobile money or scratch cards

• PAYGO is suitable for small installments such as SHS to persons who can't afford or don't want to pay with cash

https://www.ultratecworld.com/product/d-light-d20-3-light-solar-home-system

3

6. Off-grid and Socio Eco. (WATANABE)

● Challenges of Off-grid business

➢ Default of customers

• Usually customers pay down payment first, and rest of it can be paid as monthly payment.

• Some customers don't pay the fee after the down payment

• According to the interview from the company which sell SHS with PAYGO, more than 50 % of customers don't pay monthly payment

• It is an important issue for off-grid companies to operate their business

4

6. Off-grid and Socio Eco. (WATANABE)

● Main clean cooking tools

Type	Outline	Picture
Briquette	Briquettes made from charcoal and other residues	
Improved cooking stove	High efficient cooking stove to reduce the amount of charcoal or firewood	
Bio-gas	Gas from organic matter mainly composed of methane	
Solar cooker	Solar cooker uses direct sunlight for its heat to cook	

5

6. Off-grid and Socio Eco. (WATANABE)

● Examples of the activities in West Nile Region

Activity in Nebbi

- ➢ Making Briquettes by using residues such as kitchen waste, charcoal dusts
- ➢ Nebbi Municipality brings the kitchen waste to the studio
- ➢ The studio also make briquettes making machine so that local people can make the briquettes by themselves

6

6. Off-grid and Socio Eco. (WATANABE)

● Examples of the activities in West Nile Region

Activity in Yumbe (Bidibidi Camp)

- ➢ One of a company is introducing self-contained, multi-purpose home cooking unit, run by solar energy
- ➢ The machine can be not only used for cooking but also for chargers
- ➢ The local assembly stations and sales point in Yumbe District is already in operation

https://pesitho.com/the-ecoca-new/

https://pesitho.com/pilot-study-at-the-bidibidi-refugee-settlement/

https://pesitho.com/updates-on-pesithos-ecoca-cooperative-in-uganda/

7

6. Off-grid and Socio Eco. (WATANABE)

● Challenges in diffusing clean cooking tools

➢ Stable Charcoal Dust Supply (for producing briquettes)

- The demand of briquettes are increasing and the price of charcoal dusts, which is an material for briquettes is increasing
- It is getting difficult to procure a certain amount of charcoal dusts (according to the interview to briquettes company in near Kampala)

➢ Financial Support (for improved cooking stove)

- Some improved cooking stoves are expensive to local people and financial support is important
- Financial support from a government, donors, international organizations are expected

➢ Share the idea of clean cooking tools with people (for all clean cooking tools)

- It is necessary to get local people to understand how to use and advantage of clean cooking tools
- It takes time to share the idea of new tools with people

8

6. Off-grid and Socio Eco. (WATANABE)

● The Social Survey on Drivers of Deforestation and Demand for Electrification/Clean Cooking

➢ Objective:

- To understand the present situation and issues related to forest and natural resource use and management, and energy supply in the refugees-accepted West Nile Region

➢ Scale and scope:

- The target of this survey is households in settlements and host communities in West Nile region.
- Target number of Districts: 12 (Adjumani, Yumbe, Moyo, Arua, Terego, Koboko, Madi Okollo, Obongi, Maracha, Zombo, Nebbi, Pakwach)
- 28 household per one district (For Refugee Hosting District, 14 household in a settlement and 14 household in host community)

➢ Survey Period (Tentative):

- from middle of May until beginning of July, 2021

➢ Methodology: Structured interview

- Interview at OPM or Local District Office
- House Hold Survey
- Focus Group Discussion 1 (related to land tenure and deforestation)
- Focus Group Discussion 2 (related to SGBV issues)

9

6. Off-grid and Socio Eco. (WATANABE)

● The Social Survey on Drivers of Deforestation and Demand for Electrification/Clean Cooking

➤ Main survey subject:
- General household information (ex. composition of the family, land tenure)
- Use and Dependence of the forest (ex. main forest products used by household, consumption of charcoal and firewood, cooking method)
- Livelihood (ex. agricultural products and type of farming, fishing, grassing, and hunting)
- Energy source (ex. consumption of electricity, payment method, etc.)
- SGBV issues

➤ Sub-contract for this survey
- JICA Study Team already concluded the sub-contract agreement with the consultant in Uganda for this survey on 20th April, 2021
- JICA Study Team will get permission for this survey from related stakeholders such as OPM and Local Governments
- It would be very helpful if the stakeholders can cooperate with this survey

10

Information Collection Survey on Sustainable Forest/Natural Resource Management in West Nile Region, the Republic of Uganda

Webinar on the results (findings) and future direction of the survey

Geospatial Analysis (GIS)

APRIL 2021

JAPAN INTERNATIONAL COOPERATION AGENCY

IC-NET LIMITED
ORIENTAL CONSULTANTS GLOBAL CO., LTD.
NTC INTERNATIONAL CO., LTD.

7. GIS (GONAI)

To provide necessary **geospatial information** for stakeholders to realize sustainable forest and natural resource management

Ground truth field survey

● Period : from 3 April to 6 April 2021

● Visited area: Yumbe, Moyo, Obongi, Koboko, Maracha, Terego, Arua, Okollo, Nebbi, Pakwach

● Confirmation/verification of GIS data on the site (Settlement boundary, forest reserve/protected area, Hansen data/forest loss)

● Sampling: Land-use/Land-cover of wood-land, bush-land, grass-land, wet-land, farm-land, built-up, water, bare-land

● Number of sampling points: 180 (red color points in the map)

● Location/Coordinate obtained by GPS, utilizing Qfield (QGIS/Android Application)

2

7. GIS (Field Survey/Ground Truthing of Settlement Boundary GIS Data)

Bidibidi Settlement Zone 1

Buffer Zone?
Existing Community?
Mix Zone?

Grass/Bush/Wood land
(non building)

[SMT] Settlement_JICA_2017AUG
[SMT] Settlement-Zone_UNHCR
[SMT] Settlement-Boundary_UNHCR

Bidibidi Settlement Zone 2

Buffer Zone?

[SMT] Settlement_JICA_2017AUG
[SMT] Settlement-Zone_UNHCR
[SMT] Settlement-Boundary_UNHCR
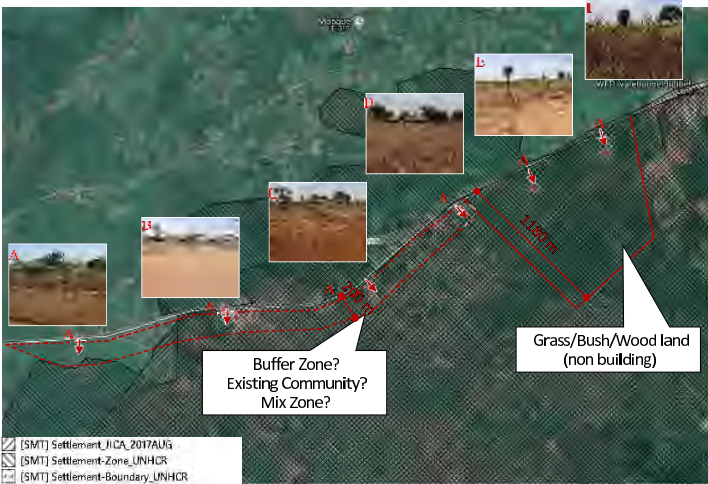
● It seems that the settlement boundary data of JICA/UNHCR is larger hundreds of meters than actual settlement. -- some buffer zone？

● It seems that there is mixed zone of vernacular building/architecture style. It is necessary to confirm that the boundary of local community and the settlement

3

7. GIS (Field Survey/Ground Truthing of Forest/Vegetation GIS Data)

● There are case examples which have a much with Hansen Data, and have a differences between Hansen Data and actual condition

BIDIBIDI Parish

KOCHI, LOMBE Parish

Laura Forest Reserve

Barifa Forest Reserve

Kula Forest Reserve

Ozubu Forest Reserve

4

7. GIS (Status of data collection)

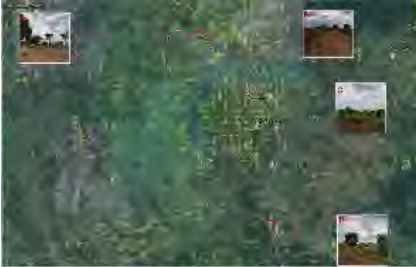| No.	Status	Category	Name of data	Copyright
1	obtained	Energy	Transmission_SubStations_2017_UETCL	UETCL
2	obtained	Energy	Generation_Sites_2018_MEMD	MEMD
3	obtained	Energy	Distribution_SubStations_2017_UMEME	UMEME
4	obtained	Energy	Distribution_Transformers_2017_UMEME	UMEME
5	obtained	Energy	Transmission_Lines_2017_UETCL	UETCL
6	obtained	Energy	Distribution_Lines_2018_UMEME_REA	UMEME_REA
7	obtained	Settlement	Settlement_JICA_2017AUG	JICA
8	obtained	Settlement	Settlement_Zone_Boundaries_UNHCR	UNHCR
9	obtained	Settlement	Settlement_Boundaries_UNHCR	UNHCR
10	obtained	Settlement	Sub-Counties containing Settlements	JICA
11	obtained	Population	Population of registered refugee	OPM
12	obtained	Population	Pop Density 2017	UBOS
13	obtained	Population	Pop Density 2014	UBOS
14	obtained	Population	2014_Sub County	UBOS
15	obtained	Biomass	Deadwood	FAO
16	obtained	Biomass	Biomass_per_District_2002	FAO
17	obtained	Land-use	Landuse (by Updated_field_data_FAO)	FAO
18	obtained	Land-use	T_Map_land_use_FAO	FAO
19	obtained	Infrastructure	Rail	OSM
20	obtained	Infrastructure	Roads_2017_OSM-WFP	OSM
21	obtained	Infrastructure	Road	OSM
22	obtained	Base-map	Industrial_Parks_UIA	UIA
23	obtained	Base-map	Target Area	OPM/JICA
24	obtained	Base-map	Towns (point)	OCHA
25	obtained	Base-map	Villages_2009_OCHA	OCHA
26	obtained	Base-map	River	Natural Earth
27	obtained	Base-map	River (principal)	Natural Earth
28	obtained	Base-map	Water Area	Natural Earth
29	obtained	Base-map	5_Villages	UBOS
30	obtained	Base-map	4_Parishes	UBOS

No.	Status	Category	Name of data	Copyright
31	obtained	Base-map	3_Sub County	UBOS
32	obtained	Base-map	2_County (of target districts)	UBOS
33	obtained	Base-map	1_District_10mar2020	UBOS
34	obtained	Base-map	District (all)	UBOS
35	obtained	Base-map	National Boundary	Natural Earth
36	obtained	Base-map	Protected Area 2017_UNEP-WCMC	UNEP-WCMC
37	obtained	Forest	Forest Loss 2000-2020_Hansen Data	Hansen et al
38	obtained	Land Use / Land Cover	GLOBCOVER_2009_Europian Space Agency	Europian Space Agency
39	obtained	Energy	Photovoltaic power potential	Global Solar Atras
40	obtained	Infrastructure	School Map (Primary)	
41	obtained	Infrastructure	School Map (Secondary)	
42	obtained	Infrastructure	Health Unit Map	
43	obtained	Infrastructure	Road	
44	obtained	Infrastructure	Bridges	
45	obtained	Infrastructure	Location of Water Supply Facilities Map	MWE
46	obtained	Settlement, etc.	Settlement boundary	FAO
47	TBC	Settlement, etc.	Refugee settlements, protected areas	World Bank
48	TBC	Settlement, etc.	Biomass stock,	FAO
49	TBC	Land Use / Land Cover	LULC(Land Use and Land Cover) maps	NFA
50	TBC	Land Use / Land Cover	land cover change/land suitability	GIZ
51	TBC	Settlement	Administrative geographical division	
52	TBC	Population	Latest number of registered refugees	
54	TBC	Settlement	Settlement2020	UNHCR
55	TBC	Population	by village, parish, sub county, county, district	UBOS
56	TBC	Energy	Distribution Line, Plant, Facility	

Required data

7. GIS (GONAI)

◆ Updating the boundary data of the settlement

◆ Demographic data (settlement, host community and others)

◆ Landcover

◆ Latest power grid plan or mini/off grid plan

> Where it the hotspot (deforestation)
>
> Trying geospatial analysis using existing
> data (Univ. of Maryland) x JJ FAST*
> X
> Latest settlement and demographic data

We kindly request your continued support in providing data from each institution.
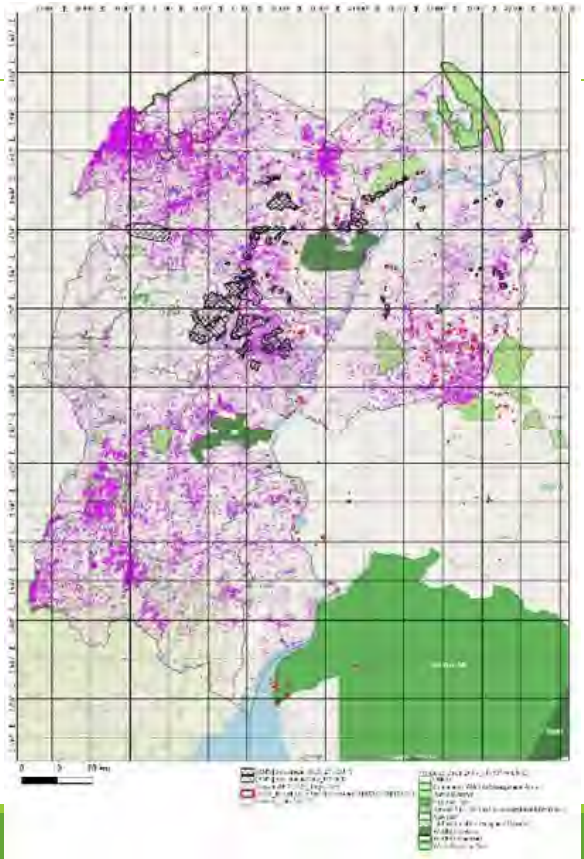
* The JICA-JAXA Forest Early Warning System in the Tropics (JJ-FAST) is capable to detect deforestation sites with size larger than 2 hectares

---

Information Collection Survey on Sustainable Forest/Natural Resource Management in West Nile Region, the Republic of Uganda

Webinar on the results (findings) and future direction of the survey

Priority Criteria & Idea Notes for the Future Cooperation
APRIL 2021

JAPAN INTERNATIONAL COOPERATION AGENCY   JICA

IC-NET LIMITED
ORIENTAL CONSULTANTS GLOBAL CO., LTD.
NTC INTERNATIONAL CO., LTD.

7. Priority criteria

7.1 target area selection through GIS data

1. Deforestation: Principal criteria in determination of the target area

   First, deforestation itself need to be looked at as a complex phenomena. This is because forest resources are not only reduced by local use, but also by illegal and commercial logging from outside.

   - Landcover maps
     - Tree cover loss data (Maryland Univ. Hansen)
     - JJ-FAST*

2. Population pressure on natural resources (forest) : Supplemental criteria

   In addition, the population to forest area ratio in each district is calculated to identify the most likely vulnerable areas in forest resources.

   - Forest cover / person (km2/pers)

      -> Forest area in district / Total population in district (Host community and settlement) , the data to be collected

3. 1 and 2 are combined with a GIS analysis to determine the critical target area.

      Deforestation x Human pressure   GIS Analysing

2

7.2 Other Important Considerations

1. Environment/Land

   - Whether it will cause environmental destruction (require EIA) or not
   - Whether the lands for implementation of the project are available

2. Peace-building / Community Development

   - Whether it benefits both settlement and host community
   - Whether it does not ostracise/exclude socially-vulnerable people in either settlement or host community.
   - Whether it contributes to reducing conflicts and SGBV
   - Whether it can be implemented through existing administrative and community structure
   - Whether it provides equal opportunities to all people to participate?
   - Whether the activities are beneficial to small-scale farmers/refuges?
      - ～beyond the humanitarian relief to development

3

7. Priority criteria

7.3 Alinement with National Policy

Alinement with NDP III

The Goal "To Increase Household Incomes and Improve Quality of Life of Ugandans".

1. Agro-Industrialisation;
2. Mineral-based Industrialisation;
3. Petroleum Development;
4. Tourism Development;
5. Water, Climate Change and ENR Management;
6. Private Sector Development;
7. Manufacturing;
8. Digital Transformation;
9. Integrated Transport Infrastructure and Services;

10. Sustainable Energy Development;
11. Sustainable Urban and Housing Development;
12. Human Capital Development;
13. Community Mobilisation and Mindset Change;
14. Innovation, Technology Development and Transfer;
15. Regional Development;
16. Governance and Security;
17. Public Sector Transformation; and
18. Development Plan Implementation.

Expected results	BL. 2017/18	NDP III 2024/25	Vision 2040
Forest cover (% of total land area)	9.5%	18%	24%

4

8. The direction of the future cooperation

8.1 Agroforestry and tree growing

• Possibility of application from JICA Forestry project experiences in East Africa.

• **Farm Forestry Field School** approach which is a <u>combination of improvement of agriculture practices and development of perennial crops</u> like fodders and trees seems appropriate.

1. 5

Since 2004

Farm Forestry Field Schools

Kenya

Farm Forestry FFS Implementation system under JICA Projects

Weekly sessions

Roll call (Opening)
The group decide a day in week for FFS and all members to be present on time agreed. Attendance strictly checked

Recap of last week

Agro-ecosystem analysis (AESA)
AESA is regular farm monitoring, plants observation, data taking, crop analysis and decision making process to empower farming practices.

Group dynamics
Energisers and group building practices are useful for all members to continue together during long learning period or even after the FFS.

Today's topic
Necessary knowledge and techniques related to the learning enterprises or members' particular interests will be taught and discussed

Planning for next week

Announcement

Roll call (Closing)

Onset of rain
Land preparation
Onset of rain
Tree planting
Start Nursery → *Seedling production* → **Tree planting**
Tree planting → **Trees established**
Farm establishment → **Crop harvested and results analysed**

1 Year of Agroforestry FFS **52 Weeks**

52 Weekly Sessions

Group Organisation
FFS Events
Field Day
Field Day Evaluation
Graduation

10 FFS Related Topics **52 Topics** **30 Enterprise Related Topics**

12 Non-Enterprise Related Topics

Can be converted to Particular Target Topics like "Energy saving"

Example of learning enterprises

Trees & Cereals Intercropping

Horticulture/ Vegetables

Fruit Orchard

Fodder Trees & Grass

Woodlot

Tree Nursery

A4-39

Participatory Enterprise Selection
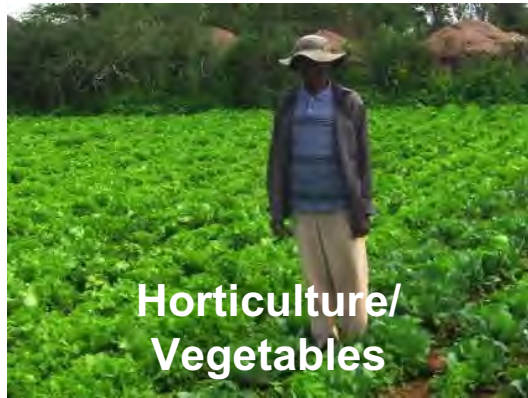
Set up of experiment and regular farm observation & monitoring

Equip farmers with systematic analytical skill

Build their capacity through presentation, discussion & decision making

Woodlot developments

Senna siamea woodlot by a FFS member

Eucalyptus woodlot by a FFS

Acacia polyacantha woodlot by a FFS member

Melia vilkensii woodlot by a FFS   Kenya

Calliandra calothrysus fodder bank by a FFS member

Mango Orchard by a FFS member

Moringa woodlot by a FFS group

Tree Nursery managed by FFS group   Kenya

8. The direction of the future cooperation

8.2 Promotion of the energy saving stoves and alternative source of energy

- As same as wood fuel promoting, it is necessary to promote efficient use of resources.

- Topic session during Agroforestry FFS also can be used for this.

1. 15

8. The direction of the future cooperation

8.3 Promotion of new energy technology

9.3.1 Utilisation of municipal waste and farm waste (plantain/banana peels, cassava peels/stem, cotton stalk, wood waste etc)

- Promotion of the private sector activities and technical transfer to the farmers.

9.3.2 Promotion of clean cooking with renewable energy (ex. solar power / ECOCA) solar home system.

- Mobile money system by major mobile network operator (MNO) such as MTN, Airtel are available and believed to be widespread.

1. 16

8. The direction of the future cooperation

8.4 Enhancement of National Forest Monitoring

Sharing the forest information with the district and promotion of the understanding about the forest by local communities

- Biomass monitoring by the district for efficient natural resource management and planning for the parish, sub-county, district
- Monitoring CFR, LRF, Community forest land
- Registration and securing of the community forest land

Early warning for:

- Detect deforestation (illegal cutting) / land-use change from forest/woodland to non-forest
- Bushfire monitoring and firefighting

1. 17

Wrap-up

■ Coordination with other donor project *Sweden finding project in West Nile.

■ Aspect Riverbank degradation : some restoration measures are needed. Water and soil conservation – river system – energy (siltation in the reservoir of hydropower station) / Wetland- Forest- Riverbank

■ Target group A-B-C, development supporting scheme

■ Energy- / need to look up the affordability comparing the price of charcoal -> Near future or already people facing the price escalation of charcoal ? We should ready for that now.

■ Extension system : Our tentative proposal is FFS.

Wrap-up

■ Agroforestry

■ Planting borders / highways, riverbank, afforestation

■ Introducing Bamboo / for alternative energy sources also for alternative of poles or some hand craft?

■ Promoting briquettes charcoal business *coordination with private sector

■ sustainable charcoal production / ban of charcoal does no work / mix alternative source

■ High calorific wood spps. promotion.

■ Limitation of the human resources at district level -> Capacity Development for the forest officers and rangers -> Cooperation with agricultural ext. services and FFS approach may work.