NURI CSA Monitoring Survey Report, 2022

IN KITGUM, LAMWO, NEBBI, MADI-OKOLLO, OBONGI & ADJUMANI

Northern Uganda Resilience Initiative (NURI)

NURI Coordination Function (CF), Umoja House, Plot 20, Nakasero RD

Email: info@nuri.ag.

NURI CSA MONITORING SURVEY 2022

Perficient Research Development Consult (PREDCO) LTD.

Plot 6/8, Juba Road; P.O. Box 360093, Gulu City, Uganda.

Email: info@predconsults.com

Web: https://predconsults.com/

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ACRONYMS

AEO	Agricultural Extension Officer
AES	Agricultural Extension Supervisor
CBT	Community Based Trainer
CF	Coordination Function
CSA	Climate Smart Agriculture
DKK	Danish Krona
DLG	District Local Government
FGD	Focus Group Discussion
FGs	Farmer Groups
FRM	Feedback and Response Mechanisms
HHs	Households
ICT4D	Information Communication Technology for Development
IP's	Implementing Partners
Kgs	Kilograms
KII	Key Informant Interview
LLG	Lower Local Government
M&E	Monitoring and Evaluation
MEAL	Monitoring Evaluation Accountability and Learning
MoU	Memorandum of Understanding
NAADS	National Agriculture Advisory Services
NGO	Non-Governmental Organization
NURI	Northern Uganda Resilience Programme
PIA	Participatory Impact Assessment
PREDCO	Perficient Research Development Consults Ltd
RAUs	Resilience Agricultural Units
RI	Rural Infrastructure
WRM	Water Resource Management
SACCO	Savings and Credit Cooperative Organization
SHEA	Sexual Harassment Exploitation and Abuse
Ugx	Ugandan Shillings
UPSIDE	Uganda Programme on Sustainable Inclusive Development of the Economy
VSLA	Village Savings and Loan Association

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PREDCO acknowledges the participation of the primary beneficiaries of the NURI programme (farmer groups both national and refugees), the key informant interview respondents from the participating local governments and sub-counties in the districts of study. These were very positive and responded without hesitation to the request by PREDCO.

Lastly, we appreciate the cooperation and resilience exhibited by the PREDCO enumeration team and front-line team who designed and made this mission possible. The design and technical guidance of the mission was done by Mr. Malingumu Richard (as Lead Consultant) with support from Nelson Ojok (co-consultant and leader in Acholi sub-region), Okot Micheal as Data analyst.

Mr. Samuel Akera

Executive Director and Disaster Risk Reduction Specialist

PREDCO – Consults Limited.

EXECUTIVE SUMMARY

NURI CSA MONITORING SURVEY, 2022

Location: Kitgum, Lamwo, Adjumani, Obongi, Madi Okollo and Nebbi

EXECUTIVE SUMMARY

The NURI CSA programme has been operational since January 2019 in 13 districts of Northern Uganda including refugee hosting areas. The programme is now in its final year of implementation and by design of the M&E framework, a survey was conducted to identify results of the CSA activities. PREDCO was contracted to conduct the survey on behalf on NURI Coordination function with the core objective to assess the extent of achievement of outcome and output performance indicators of the programme in selected districts of implementation in Acholi sub region and West Nile. The survey targeted national and refugee farmers operating in well-organized farmer groups. By design, 07 districts were covered, 2 in Acholi and 5 in West Nile region.

PREDCO adopted a **cross-sectional design** employing both quantitative and qualitative methods to collect data on variables provided in the results framework. The design adopted enabled deep understanding of the target population and provided the results needed to respond to the performance indicators. PREDCO reached out to both primary (direct) and secondary (indirect) beneficiaries of the programme to obtain data. Data collected was carefully recorded and analyzed using SPSS & Epi-Data and reports written in accordance to the provisions of the contract. A total of 2,600 interviews were conducted, 30 Focus group discussions and 90 Key informant interviews done.

Key Study Findings:

- *11% increase in Agricultural cash income for New Nationals*
- *15% increase in Agricultural cash income for refugees in mixed groups*
- *% of participating households reporting Food insecurity reduced from 45% to 23% for New Nationals*
- *% of participating households reporting Food insecurity reduced from 43% to 19% for refugees in mixed groups*

The goal of NURI is to enhance resilience and equitable economic development in supported areas of Northern Uganda including for refugees and host communities. NURI planned to measure contribution to the goal by assessing these indicators:

1. % Increase in average annual agricultural cash income of participating households (segregated by age, gender of household head and refugee status),
2. reduction in number of participating households reporting periods of food insecurity (segregated by age, gender of household head and refugee status).

Adoption of CSA practice: 89% of new national farmers and 70%+ of refugees in both categories targeted used improved inputs as one of the practices promoted under CSA.

Marketing: 70% of the strategic crop harvests were marketed. Yield figures varied by strategic crop as explained.

Results show that compared to baseline, average agricultural cash income increased by 11% for new nationals, 15% for refugees in mixed groups and 51% for women groups however for the new

nationals, achievement fell short of the performance target of 20% by end of 2022. Under food security, finding indicates that households reporting food insecurity reduced from 45% at baseline to 35% for new nationals, 43% to 19% for refugees in mixed groups and from 55% to 18% for women refugee groups.

NURI aims to increase agricultural output of small-scale farmers through training in CSA practices and provision of extension services to the farmers including refugees. The performance indicator to assess this contribution are; cumulative percentage increase in households adopting additional CSA practices, cumulative percentage increase in yields for strategic crops and cumulative percentage of the quantity of strategic crops harvest that is sold. Under adoption, PREDCO understands that a special study on adoption of CSA practices was conducted however from the survey, results show that 89% of new national farmers and 70% of refugees in both categories used improved inputs as one of the practices promoted under CSA. In terms of marketing, finding show that 70% of the strategic crop harvests were marketed. Yield figures varied compared to baseline however, results show increase for sesame, beans, maize, soybeans and sunflower. Rice, potatoes, cassava and onions declined explained by weather vagaries.

NURI supports the farmer groups with VSLA training and creating awareness on sexual reproductive health and rights. Core interest for VSLA is knowing if funds borrowed is used for agricultural production purpose and results show that 70% of the loans borrowed was for that purpose which is above baseline value of 50% and meets the performance target.

The survey captured other social-economic characteristics like age, gender, household types and size, main occupation and youth participation. Results show more female respondents, male headed household dominance, household size of between 7-9 and farming as the main occupation and reliable income source. Other factors like land access & ownership, sources of funds for production other than VSLA, collective marketing, relationship between host and refugee population were included and results are all included in the detailed report.

PREDCO as an entity provides support in CSA and MEAL and endeavored to provide some recommendations that are included in the report.

In a nutshell, the survey reveals that there has been positive change in nearly all the performance areas/indicators for the programme compared to baseline. Areas where performance fell short of target are explained by the dependence on rain fed production systems.

1.0 INTRODUCTION

NURI is a five-year program (2018 – 2022) funded by the Government of Denmark to the tune of DKK 325 million. It is one of three Development Engagements under the UPSIDE thematic area of the Danish Country Programme whose objective is *sustainable and inclusive economic growth*.

The outcome of NURI is ''*Enhanced resilience and equitable economic development in supported areas of Northern Uganda, including for refugees and refugee-hosting communities*''. To realize this outcome, NURI is supporting activities in Climate-Smart Agriculture, Rural Infrastructure, and Water Resources Management. The objective of Climate Smart Agriculture is ''increase agricultural output of small-scale farmers'' and core activities in support of Climate Smart Agriculture is focused on improving farmers' knowledge on climate-smart production practices and technologies, as well as their understanding of and ability to engage with markets and services, adoption of Village Savings and Loan Association (VSLA).

In order to support Uganda's progressive refugee policy and the nexus between development and humanitarian action, refugees and their host communities are among the beneficiaries in those NURI implementing districts hosting refugee settlements.

Geographically the programme covers 13 districts in the West Nile and Acholi Sub Regions of Northern Uganda. The districts are Agago, Kitgum and Lamwo in Acholi sub-region and Arua, Madi-Okollo, Terego Pakwach, Nebbi, Zombo, in South West-Nile, Moyo, Obongi, Adjumani and Koboko in North West Nile. The selected settlements are Rhino Camp Refugee Settlement in Madi-Okollo District, Imvepi in Terego, Palorinya Refugee Settlement in Obongi, a number of smaller settlements in Adjumani, and Palabek Refugee Settlement in Lamwo District.

NURI has engaged implementing partners and has set up implementation units charged with the responsibility of farmer training and have established the necessary structures for this purpose. They have recruited Agricultural Extension Officers (AEOs) at sub-county level, Agricultural Extension Supervisors (AES) to supervise the AEOs at district level and to date, more than 4,000 farmer groups (120,000 Households) have been supported across the implementation districts of which over 28% are refugees. The training and support to the beneficiary farmer groups is in its fourth and last year and therefore NURI pursues to document the progress hence this Climate Smart Agriculture survey. According to the NURI M&E framework, output and outcome assessment should be done to report on the high-level performance indicators of the programme.

NURI OUTPUT AREAS

- **Climate Smart Agriculture (CSA):** *Increased agricultural output of small-scale farmers*
- **Rural Infrastructure (RI):** *Rural Infrastructure which is renovation and construction of agriculturally related rural infrastructures*
- **Water Resources Management (WRM):** *Water Resources Management which is improved climate change resilience in Northern Uganda through WRM, including for refugees and host* communities

1.1 Purpose of the survey

To conduct an assessment of the extent of achievement of output and outcome performance indicators of the NURI programme in selected districts of implementation in West Nile and Acholi sub region. The assessment covered both host communities and refugees in the selected districts.

1.2 Scope of the assignment

The survey was conducted in 07 selected districts of NURI implementation in West Nile and Acholi sub region with the 7th being an addendum to the 06 districts initially indicated in the RFP. The request was to allow for the inclusion of all strategic crop types supported by the NURI programme in the region. The assessment was limited to activities implemented under Output 1 of the programme which is Climate Smart Agriculture. The selected districts were Madi-Okollo, Nebbi, Obongi, Adjumani with Moyo being included at a later stage in West Nile and Kitgum, Lamwo in Acholi sub region. Data collection was restricted to farmer group members that have benefited from the NURI programme as new nationals and mixed groups. The assessment areas were limited to the performance indicators specified in the M&E framework; however, attempt was made to capture some important general issues.

The coverage was 262 farmer groups (2,424 individual households), 90 key informant interview respondents, 30 Focus Group Discussions and 30 staff from -RAUs and IPs.

* **Note** – *The study focused on the output one of the Northern Uganda Resilience Initiative (NURI), which is Climate Smart Agriculture. NURI works with farmer communities established in well registered and function groups. NURI provides training in CSA practices using demonstration approach and delivers extension advise. Farmer groups are worked with for two to three years depending on the group categories*

2.0 SURVEY METHODOLOGY

2.1. Survey Design & Strategy:

The study employed a **cross-sectional design** to collect data on variables from the study population. The method supported the understanding of what the respondents were feeling at that particular point in time and as well, measured their direct opinions without influencing the situation. The study also adopted a mix of both qualitative and quantitative methods to guide the overall process of this survey. This was to ensure the validity and reliability of the study findings and allowed for the exploration of the quantifiable study variables defined in the NURI Monitoring and Evaluation framework. Important to note is that the study was purposively extended to cover 7 districts and not 6 as was previously stipulated in the Terms of Reference.

2.2. Survey Population:

The population under study were household members of farmer groups supported under the output 1 of the NURI programme in 7 districts of Kitgum and Lamwo in Acholi region; Adjumani, Moyo and Obongi in North West Nile region and Madi Okollo and Nebbi in South West Nile region. These, by the design of the NURI programme, were farmers mainly on subsistence scale noted as small scale farmers as per the NURI documents. The NURI programme has categorized the population/groups as (i) new national farmer groups; and (ii) mixed groups. The mixed groups consist of national and refugee farmers.

The study was conducted at household level; therefore, the individual farmers and their respective households constituted the primary respondents while the other stakeholders; the District Local Government (DLG) officials and the Sub-County officials constituted the secondary respondents. At least 5 sub-counties were sampled in each district for New National groups, except in Lamwo and Obongi districts where the NURI programme is being implemented in only 4 sub-counties.

Below is a representation of the sampled sub-counties and settlements per district studied.

#	District under Study	Sampled Sub-counties
1	Kitgum	Akwang, Lagoro, Omiya Nyima, Namokora and Layamo
2	Lamwo	Padibe East, Lokung, Padibe West, Palabek Gem and Palabek Settlement
3	Adjumani	Arinyapi, Pakele, Itirikwa, Okusijoni, Pacara and Mungula 1 and Majji 1
4	Obongi	Gimara, Itula, Palorinya and Palorinya settlement
5	Madi-Okollo	Ogoko, Pawor, Uleppi, Ofakka, Rhino camp and Rhino Camp settlement
6	Nebbi	Erusi, Akworo, Nebbi, Ndewu and Kucwiny
7	Moyo	Leffori

2.3. Sampling Procedure & Sample Size

2.3.1. Sampling Method:

The study considered **four (4) levels of sampling**; sub-counties in selected districts, parishes in the sub-counties; farmer groups in the parishes and household members of the farmer groups. As a deliberate move to select at least 5 sub-counties per district, the sub-counties in the selected districts were ranked according to their **production output as high, medium and low performance**.

2.3.2. Sample size:

A sample size of 2,642 individual respondents was selected from a population that included 1,262 groups equating to 36,840 individual households in 7 districts as presented in the table below. It should be noted that Moyo district was added as an addendum to the contract which was targeting 06 districts. The addition was to allow for the inclusion of all strategic crop types in the survey.

Table 1: Sample Population per district

District	FG Category	FG Population		Selected sample size	
Adjumani	New National	300	9,000	56	562
	Mixed Groups	120	3,600	20	200
Obongi	New National	106	3,180	20	200
	Mixed Groups	113	3,390	20	200
Moyo	New National	194	5,820	10	50
Madi-Okollo	New National	195	5,850	36	362
	Mixed Groups	109	3,270	20	200
Nebbi	New National	75	2,250	20	200
	Mixed Groups	N/A	0	0	0
Kitgum	New National	105	3,150	30	300
	Mixed Groups	N/A	0	0	0
Lamwo	New National	105	3,150	30	300
	Mixed Groups	34	1,020	10	100
Total		**1,262**	**36,840**	**262**	**2,624**

The study approach employed both systematic and purposive sampling techniques in order to form **a manageable subset** of the above sample population. Systematic sampling was more conducive for covering the wide areas of 7 districts under study. The sampling approach involved selection of the NURI beneficiaries who fulfilled the **inclusion criteria of being one of the benefiting households** in the programme. The procedure was applied equally to both new national and mixed farmer groups using Probability Proportional to Size (PPS) sampling method.

There was a deliberate move to sample respondents from the **Mixed farmer Groups** using a ratio of 60% nationals to 40% refugees. However, there was a unique variation in Lamwo district where the groups had a **unique socio-demographic context** characterized by a lower population of nationals (22%) and a higher population of refugees (78%). In this case, a **Probability proportionate to Size (PPS)** sampling approach was employed.

The sampling of secondary respondents was done using **Purposive sampling** where the selection was based on them **possessing characteristics that both PREDCO and NURI feel as being relevant** to the programme. This set of respondents included the District Agriculture Officers, District

Environment Officers, Senior Assistant Secretaries (Sub- County chiefs), Community Development Officers, amongst others. ***(Refer to a full list in the Appendix).***

2.3.3. Actual Sampling process:

A sampling frame containing a list of farmer groups was **stratified according to group category** (new national or mixed farmer groups) and their location (by district and sub-county). A stratiform of 262 (192 new national and 70 mixed farmer groups) was derived from the master sampling list with specific numbers for each district. Sub-counties were ranked based on production outputs as "High, Medium and Low" performance, which was a deliberate approach to select at least 5 sub-counties per district.

Based on the list of the sampled sub-counties, parishes were sampled based **on accessibility from the sub-county headquarters**; as "Nearby, Medium and Hard to reach". A **"Probability Proportionate-to-Size**" sampling was applied when sampling the groups from each parish, depending on the number of groups in each pre-sampled parish. This was a deliberate move that gave every parish a chance to be selected for participation in the survey and allowed every corner of a sub-county to be reached.

The study also adopted the programme's method of 60% to 40% sampling between nationals and refugees in mixed farmer groups, except in districts that had groups with unique socio-demographic characteristics **(Explained in Sampling Method** above**)**. All the respondents were selected randomly from the sampled groups with no bias whatsoever in mind, and to **give every group, and every household** member a chance to participate in the study.

2.4. Data collection methods:

The study was inclined to the following data collection methods: **Household interviews; Key informant interviews**; **Focus Group Discussions;** and **Desk Reviews of Secondary data** as explained below**.**

Household Interviews: Structured and semi-structured direct interviews were carried out with sampled individual members of New Nationals and Mixed farmer groups to collect quantitative data. A carefully designed questionnaire was administered to the sampled primary respondents.

Each questionnaire contained a set of standard predetermined questions on a wide range of aspects including socio economic characteristics, Household income, food security, household assets, land ownership and preparation, access and use of improved agricultural production as well as access to markets, marketing strategy and communication. The tool was subjected to a pre-test prior to actual data collection.

Key Informant Interviews (KIIs): A detailed Key Informant Interview (KII) Guide with a carefully developed set of questions was administered to various key informants to collect data from secondary respondents in the study. The secondary respondents included; stakeholders at the sub-county, settlement and district levels. The selection of the secondary respondents was based on the fact that they were knowledgeable about the variables of the study and have been actively involved in the implementation of NURI activities in their respective areas.

Focus Group Discussion (FGD): FGDs were organized and facilitated with different farmer groups. A well-developed **FGD guide** was used to guide the discussion while a **Participatory Impact Assessment (PIA) tool** was also employed to support in simple ranking and scoring such as; "before" and "after" scoring, pairwise ranking and matrix scoring, impact calendars, radar diagrams, and proportional piling. The FGDs were conducted with a number of members ranging between 15 and 18 to have an objective discussion.

The data collected using FGD was used to **triangulate data collected** using other methods as clearly explained above.

Document/Desk review: Several NURI documents were reviewed to obtain information that could support the study. The reviewed documents included: NURI annual reports, NURI baseline survey reports, NURI adoption study reports and other monitoring reports, NURI implementation guidelines, manuals and toolkits, etc.

2.5. Data Analysis and Reporting:

The final datasets for this study were created in three unique stages: Collating data forms for entry; Cleaning the data; and weighting the data. Data collected were checked for errors relating to illogical and inconsistent responses and to correctness of responses and entered into the computer system using EPI-DATA. Additionally, existing sampling documentation and interview tracking forms were used to double check errors related to location variables.

To have a result that is representative of the entire target population, values were given to every data record to adjust the importance given to it during analysis. The following aspects of the study were adjusted for, during data weighting:

- Probability of selection (sample size weight);
- Non-response (non-response weight);
- Differences between the sample population and target population (population weight).

Data collected, cleaned and weighted were imported to SPSS 26 for analysis through computation of basic and inferential statistics; which was also based on the analytical need of every given variable. Qualitative responses were coded prior to analysis. Analysis of qualitative data was done through content analysis, and thematic methods of analysis, using a qualitative data analysis software called NVIVO 12.

2.6. Data Quality Assurance:

To address data quality issues, the study focused on ensuring data accuracy, completeness, consistency, timeliness, validity and uniqueness.

To ensure accuracy of the Survey data, a team of enumerators with the right professional background and experiences in collecting agricultural research were assembled. The enumerators also underwent a 3-day training and one day of field tool pretest before actual data collection was rolled out to the communities. This enabled the team to acquaint themselves with data collection tools and give rooms to correct errors in the tools.

To ensure completeness of the data, Data were checked on a daily basis, for possible omissions by error. Areas of gaps were addressed immediately by scanning through raw datasets for pattern consistency of data.

The study also developed a work plan and work breakdown structure for its time **to ensure timeliness**. The study approach measured the intended results of the NURI programme correctly, thus ensuring the **validity of results**. Findings were compared to sample reports and baseline situation.

To ensure uniqueness as a quality dimension, our team varied raw data submitted on a daily basis and pull-out unwanted duplication existing across submitted records. Respondents were met independently to avoid similar responses which is a common occurrence in communities.

2.7. Ethical Consideration:

Ethical standards were observed at every stage of the study. Key ethical considerations during the activity included:

- Consent seeking from respondents during data collection: A consent form was developed for every respondent to sign and consent to participate in the study.
- Adherence to confidentiality during reporting: Confidentiality is important during such a study, therefore, identity about the respondents are kept highly confidential and only shared to NURI programme Management team for the study purposes.
- Adherence to zero tolerance to corruption and fraud;
- Zero tolerance to Sexual Harassment, Exploitation and Abuse (SHEA):
- Commitment to managing risks and avoidance of harm.

3.0 SURVEY RESULTS COMPARED TO BASELINE FINDINGS

3.1 FINDINGS FOR NATIONAL GROUPS

3.1.1 Socio-demographic characteristics of the respondents in the new national farmer group category (households)

The survey assessed key demographic characteristics of the respondents, which are known to influence household agricultural livelihoods activities. It should be noted that baseline years for the districts of study were not the same as such; Kitgum, Lamwo, Nebbi and Madi-Okollo was 2018 while Obongi, Moyo and Adjumani was 2019. In comparing findings, PREDCO dwelt on the findings from the first lot of baseline study which relates to the period right before NURI activities were rolled out. For the newer districts by baseline, comparison was based on the total respondents of the survey.

Gender: A total of 1,981 respondents were interviewed and results show that 68% of the respondents were female and 32% male. This is different from baseline finding which was 48% male and 52% female. The difference in the results does not indicate a rise in women enrollment into NURI programme because NURI selects beneficiaries as a one-off exercise and support is given for three years. It was also reported that dropout rate from the groups was so minimal.

Age: The average age of respondents is 41 years a slight deviation from findings at baseline of 39. 52% were aged between 29 – 48 years, 20% were youth by the definition of NURI programme and 18% were 49+. The highest number (29%) of respondents were in the age group 29 – 38 years which is similar to baseline findings followed by age group of 39 – 48 years. It can be deduced that majority of the beneficiaries of the NURI CSA programme are not youths.

Education: Results show that 67% of the respondents attended primary school. From this 40% completed upper primary (P.5-P.7) while 20% completed lower level (P.1-P.4). The respondents reported being able to read and write their names correctly. The result is similar to baseline findings although now fewer beneficiaries reported to have attended secondary school.

Main Occupation: Up to 94% of the respondents indicated farming as their main occupation. The main occupation of the household heads was farming with 94% which was consistent throughout all the seven districts. It was a similar case with the baseline value of 98% respondents' main occupation being farming.

Household category: Results show that 77% of the household categories are male headed while 21% female headed and only 2% female managed. The results for child headed families is insignificant. This is slightly different from the baseline values which were 86% for male headed and 11% female headed respectively. It was reported in the qualitative interviews that male headed households are predominant.

Household size: Results show that the average household size is 7 however 71% is in the range of 4 – 9. 11% below 4 and 18% had 10+. What was homogenous though was the fact that there was no respondent that did not have any dependents.

Average age of household head: The average age of the household head was 44 years however the highest proportion were in the age bracket of 29 – 38 years followed by the age bracket of 39 – 48 years.

After comparison of the demography of the respondents, it was found out that there is a lot of similarity between now and baseline situation.

Table 2: Demographic characteristics of sampled community people

Demography of respondents and their households		Adjumani		Kitgum		Lamwo		Madi Okolo		Moyo		Nebbi		Obongi		Total	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Sex of Respondent	Female	359	64	229	78	237	80	302	71	41	75	90	46	98	66	**1,356**	**68**
	Male	205	36	63	22	60	20	126	29	14	25	107	54	50	34	**625**	**32**
	Total Respondents	**564**		**292**		**297**		**428**		**55**		**197**		**148**		**1,981**	
Respondent Age Group	18 – 28	120	21	62	21	66	22	81	19	6	11	33	17	21	14	**389**	**20**
	29-38	170	30	75	26	75	25	130	30	20	36	56	28	50	34	**576**	**29**
	39-48	119	21	63	22	71	24	102	24	15	27	38	19	43	29	**451**	**23**
	49-58	104	18	43	15	45	15	67	16	10	18	37	19	21	14	**327**	**17**
	59+	51	9	49	17	40	13	48	11	4	7	33	17	13	9	**238**	**11**
	Average Age	**40**		**42**		**42**		**41**		**41**		**43**		**41**		**41**	
Highest level of Education of Respondent	No Formal Education	72	13	70	24	62	21	51	12	8	15	24	12	18	12	**305**	**15**
	Lower-Level Primary Education (P1-P4)	173	31	65	22	47	16	144	34	13	24	48	24	43	29	**533**	**27**
	Upper-Level Primary Education (P5-P7)	237	42	97	33	121	41	154	36	25	45	82	42	54	36	**770**	**40**
	O' Level Education (S1-S4)	71	13	44	15	51	17	51	12	7	13	33	17	29	20	**286**	**14**
	A' Level Education (S5-S6)	4	1	4	1	4	1	9	2	1	2	3	2	3	2	**28**	**1**
	Attended Tertiary Institution	5	1	12	4	12	4	16	4	1	2	5	3	1	1	**52**	**3**
	University Education	2	0	0	0	0	0	3	1	0	0	2	1	0	0	**7**	**0**
Main Occupation of the Respondent	Farming	529	95	286	98	290	98	393	92	54	98	190	97	113	76	**1,855**	**94**
	Petty trade	15	3	3	1	2	1	13	3	0	0	1	1	13	9	**47**	**2**
	Fish monger	0	0	0	0	0	0	6	1	0	0	0	0	5	3	**11**	**1**
	Fisherman	5	1	0	0	0	0	1	0	0	0	1	1	4	3	**11**	**1**
	Civil servant	1	0	0	0	1	0	5	1	1	2	2	1	1	1	**11**	**1**

	Tailoring	0	0	0	0	2	1	3	1	0	0	2	1	3	2	**10**	**1**
	Technician	1	0	2	1	2	1	3	1	0	0	0	0	1	1	**9**	**0**
	Boda boda riding	5	1	0	0	0	0	0	0	0	0	0	0	3	2	**8**	**0**
	Others	3	1	0	0	0	0	4	1	0	0	0	0	5	3	**12**	**1**
Household Category	Female Child Headed	0	0	0	0	0	0	1	0	0	0	0	0	0	0	**1**	**0**
	Male Child Headed	6	1	0	0	1	0	0	0	0	0	1	1	1	1	**9**	**0**
	Female Managed	5	1	4	1	2	1	15	4	2	4	1	1	6	4	**35**	**2**
	Female Headed	92	16	66	23	64	22	116	27	13	24	22	11	38	26	**411**	**21**
	Male Headed	461	82	222	76	230	77	296	69	40	73	173	88	103	70	**1,525**	**77**
Age group of household head	18 – 28 years	85	15	42	14	33	11	47	11	3	5	17	9	14	9	**241**	**12**
	29 – 38 years	150	27	62	21	75	25	109	25	19	35	57	29	46	31	**518**	**26**
	39 – 48	147	26	78	27	66	22	116	27	16	29	40	20	36	24	**499**	**25**
	49 – 58	108	19	44	15	55	19	77	18	10	18	34	17	33	22	**361**	**18**
	59+	74	13	66	23	68	23	79	18	7	13	49	25	19	13	**362**	**18**
Average age		**43**		**45**		**47**		**44**		**44**		**46**		**44**		**44**	
Household size	1 – 3	46	8	40	14	33	11	60	14	8	15	29	15	7	5	**223**	**11**
	4 – 6	203	36	113	39	106	36	158	37	22	40	60	30	55	37	**717**	**36**
	7 – 9	199	35	94	32	122	41	138	32	18	33	67	34	56	38	**694**	**35**
	10 +	116	21	45	15	36	12	72	17	7	13	41	21	30	20	**347**	**18**
	Average Age	**43**		**45**		**47**		**44**		**44**		**46**		**44**		**45**	

3.1.2 Increase in Average Annual Agricultural Cash Income for Participating Households

According to the NURI M&E results framework, assessment of average annual agricultural cash income is one of the core performance indicators at outcome level. The survey investigated this, capturing both agricultural and non-agricultural income sources to further understand household income fully. Data captured all different sources considered agricultural production related as well as non-agricultural related. Key agricultural related sources included sale of crop produce, vegetables, animals (*i.e. cattle, goats, pigs and sheep*), poultry (*i.e. chicken, ducks and turkeys*), sale/hire of land, oxen and ox-plough, interest from VSLA savings while non-agricultural products/services such as boda boda riding, brick laying, sale of firewood, charcoal, brewing local alcohol, stone quarrying, casual labours among others.

Results show that average annual agricultural cash income for NURI was 1,868,509 Ugx with the highest income noticed in Lamwo district having an average of 2,562,919 Ugx and lowest in Obongi with 1,409,635 Ugx. The high average annual agricultural cash income in Lamwo can be attributed to the vast productive land put to production and viable enterprises like sesame and soybeans. Marketing crop produce is a bit challenging due to location except to the refugee population. Compared to baseline, there was an increase from 1,685,419 Ugx to 1,868,509 by 11%. Farmer groups were further asked to compare their income in 2021 to 2020 and 64% reported that 2021 was higher. This was attributed to more reliable weather in 2021 compared to the previous year. In terms of the non-agricultural related sources, the average was 994,738 Ugx with the highest being noted in Nebbi and lowest in Obongi. Nebbi had the highest probably due to its strategic location compared to the districts under this survey. The respondents reported that the year 2021 was faced with COVID 19 restrictions and therefore limited their off-farm activities. Overall, there was a positive change compared to baseline although in terms of performance target of 20% in the results framework by end of the programme period was not achieved. Qualitative feedback denotes that production years 2020 and 2019 were not good in terms of yield and therefore affected income sources. Farmer groups continued to assert that they are optimistic about the year 2022 in terms of production since they have already faced challenges with weather in the first season.

The average agricultural cash income at household level across the programme showed that 63% earned between 1,597,829 Ugx 2,011,115 Ugx. Only 14% earned less than 1Million Ugx. A comparison of cash income from both sources shows that the new national farmer groups participating in NURI earned more cash income from participating in agricultural related activities compared to non-agricultural activities in 2021.

Disaggregation of household income data by gender and age of the head of the household reveals notable differences. Results show that majority of male headed households earned more than 1.4Million Ugx in 2021 compared to female headed. Qualitative report attributes this to better access to production resources compared to the female headed households. Also, 68% of respondents reported sale of crop produce as the most reliable source of agricultural household cash income followed by VSLA activities. The respondents attributed this to the ready produce market throughout the year irrespective of price fluctuations during some months of the year. Furthermore, several participants acknowledged that agriculture is the backbone/source of livelihood for most households in their communities and therefore, crop produce ranks high on their sources of income. Other sources like sale of animals is occasional.

When both income sources are combined, one can see that the districts in West-Nile have had a slightly higher income compared to the Acholi sub-region. In general, the culture of operating small business is not so strong amongst the farmer households in Acholi, most of their livelihood options are built within agriculture. See figure 1 below.

Table 3: Agricultural income range for the participating households per district

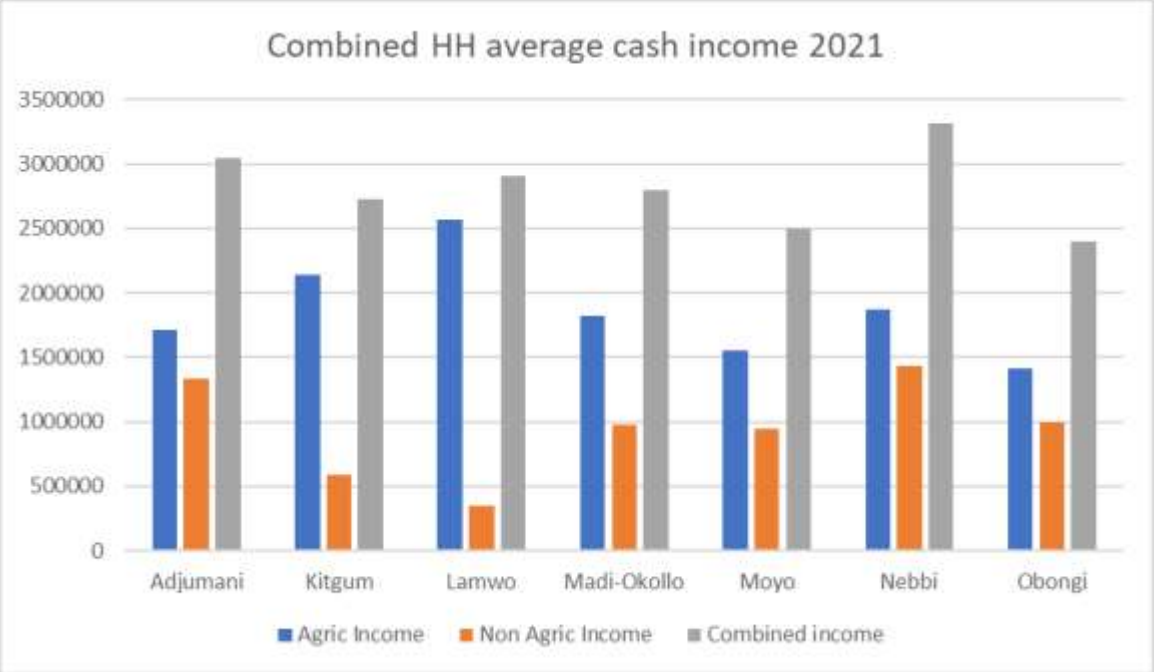


Figure 1: showing % range of agric income in 2021 for NURI FGs

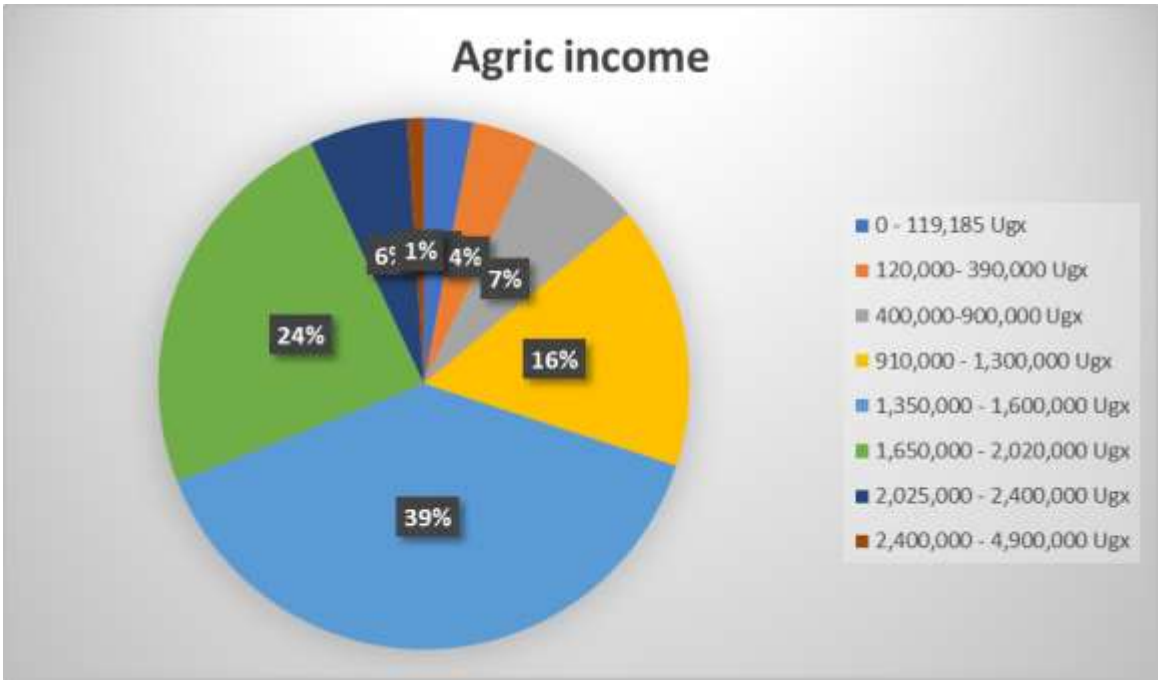


Table 4: Agricultural income range for the participating households per district

	Adjumani			Kitgum			Lamwo			Madi Okolo			Moyo			Nebbi				Obongi				
Income range	**N**	**%**	**Average**	**N**	**%**	**Average**	**N**	**%**	**Average**	**N**	**%**	**Average**	**N**	**%**	**Average**	**N**	**%**	**Average**	**N**	**%**	**Average**	**N**	**%**	**Average**
< 200,001	10	2	126,412	8	3	128,347	13	5	137,519	8	2	103,073	1	2	128,176	5	3	102,661	6	5	116,115	438	3	119,185
200,001-600,000	11	2	385,761	18	7	413,748	16	6	416,726	18	4	370,191	2	4	423,429	10	5	382,065	11	9	338,293	699	4	387,804
600,001-1,000,000	21	4	783,318	21	8	854,354	25	9	856,837	29	7	795,144	3	6	895,000	21	11	763,228	41	32	801,364	296	7	810,708
1,000,001 - 1,400,000	120	26	1,239,924	48	17	1,251,048	51	18	1,209,852	110	27	1,195,159	17	32	1,262,500	28	15	1,169,762	62	49	1,221,333	125	16	1,213,074
1,400,001 - 1,800,000	218	46	1,548,600	111	40	1,580,944	51	18	1,675,375	169	41	1,576,122	14	26	1,750,000	62	34	1,575,000	2	2	1,609,000	275	39	1,597,829
1,800,001 - 2,200,000	66	14	1,985,909	49	18	1,981,250	84	30	1,995,077	66	16	2,011,875	8	15	2,064,000	46	25	2,072,000	4	3	2,075,000	52	24	2,011,115
2,200,001 - 2,600,000	23	5	2,400,000	19	7	2,300,000	42	15	2,230,000	11	3	2,300,000	7	13	2,400,000	9	5	2,327,000	1	1	0	112	6	2,323,800
2,600,001 +	1	0	5,176,739	2	1	4,818,947	1	0	5,142,762	1	0	4,545,273	1	2	3,927,429	4	2	4,476,556	0	0	3,000,000	10	1	4,887,500
Grand Total	**470**	**100**	**1,714,466**	**276**	**100**	**2,141,895**	**284**	**100**	**2,562,919**	**412**	**100**	**1,825,734**	**53**	**100**	**1,549,547**	**185**	**100**	**1,875,368**	**127**	**100**	**1,409,635**	**1807**	**100**	**1,868,509**

Table 5: Non-agricultural income range for the participating households per district

	Adjumani			Kitgum			Lamwo			Madi Okolo			Moyo			Nebbi			Obongi			Total		
Income range	N	%	Average	N	%	Average	N	%	Average	N	%	Average	N	%	Average	N	%	Average	N	%	Average	N	%	Average
< 200,001	6	14	108,333	4	25	96,500	17	74	108,471	3	15	110,000	0	0	0	2	12	40,000	3	16	83,333	35	25	101,143
200,001-600,000	14	33	462,143	6	38	400,000	4	17	435,000	7	35	411,429	1	33	500,000	3	18	390,000	5	26	384,000	40	28	427,000
600,001-1,000,000	6	14	975,000	4	25	725,000	1	4	800,000	6	30	916,667	1	33	1,000,000	4	24	806,000	4	21	796,000	26	18	863,769
1,000,001-1,400,000	5	12	1,260,000	0	0	0	0	0	0	0	0	0	1	33	1,350,000	2	12	1,170,000	2	11	1,200,000	10	7	1,239,000
1,400,001-1,800,000	3	7	1,533,333	1	6	1,700,000	0	0	0	0	0	0	0	0	0	2	12	1,550,000	3	16	1,500,000	9	6	1,544,444
1,800,001-2,200,000	0	0	0	1	6	2,000,000	0	0	0	2	10	2,000,000	0	0	0	1	6	2,100,000	0	0	0	4	3	2,025,000
2,200,001-2,600,000	1	2	2,400,000	0	0	0	0	0	0	1	5	2,400,000	0	0	0	0	0	0	0	0	0	2	1	2,400,000
2,600,001+	8	19	3,886,250	0	0	0	1	4	3,600,000	1	5	4,320,000	0	0	0	3	18	4,126,667	2	11	3,300,000	15	11	3,866,000
Grand Total	**43**	**100**	**1,333,953**	**16**	**100**	**586,625**	**23**	**100**	**347,130**	**20**	**100**	**971,500**	**3**	**100**	**950,000**	**17**	**100**	**1,434,941**	**19**	**100**	**992,316**	**141**	**100**	**994,738**

Table 6: Comparison of income between 2021 and the previous year 2020

	Adjumani		Kitgum		Lamwo		Madi Okolo		Moyo		Nebbi		Obongi		Total	Total
Row Labels	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Higher than 2020	305	54	213	73	220	74	209	49	33	60	129	65	77	52	1186	60
Lower than 2020	223	40	60	21	60	20	195	46	22	40	53	27	61	41	674	34
No difference	35	6	19	7	16	5	23	5		0	15	8	10	7	118	6
Grand Total	**563**	**100**	**292**	**100**	**296**	**100**	**427**	**100**	**55**	**100**	**197**	**100**	**148**	**100**	**1978**	**100**

Table 7: Ranking of reliable income sources

Income sources	Adjumani		Kitgum		Lamwo		Madi Okolo		Moyo		Nebbi		Obongi	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Sale of Household Produce	321	57	215	74	228	77	347	81	43	78	154	78	100	68
Interests from VSLA Savings	87	15	22	8	21	7	22	5	3	5	9	5	13	9
Sale of vegetables	83	15	5	2	8	3	6	1	2	4	6	3	11	7
Sale of animals (cattle, goats, …)	26	5	27	9	16	5	30	7	5	9	16	8	13	9
Sale of Poultry	13	2	8	3	15	5	6	1	1	2	9	5	6	4
Hire of oxen & ox-plough	4	1	3	1	1	0	1	0	0	0	0	0	0	0
Sales of cuttings & vines	2	0	0	0	1	0	4	1	0	0	1	1	0	0
Sale of or hire of land	0	0	0	0	2	1	0	0	0	0	0	0	0	0
Other sources	28	5	12	4	5	2	12	3	1	2	2	1	5	3

Table 8: Average annual household income and agricultural cash income by gender and age of household heads

	Female		Male		18 – 28		29-38		39-48		49-58		59+	
Agric income range	N	%	N	%	N	%	N	%	N	%	N	%	N	%
< 200,001	34	8	7	0	43	17	27	5	31	6	54	15	139	38
200,001-600,000	47	11	144	9	54	22	18	3	29	6	121	34	127	35
600,001-1,000,000	100	24	259	16	35	15	69	13	84	17	52	14	41	11
1,000,001-1,400,000	100	24	447	29	17	7	162	31	88	18	81	22	21	6
1,400,001-1,800,000	89	21	268	17	39	16	127	24	117	23	12	3	10	3
1,800,001-2,200,000	28	6	242	15	45	18	84	16	113	22	7	2	9	2
2,200,001-2,600,000	3	0	98	6	0	0	4	1	3	1	2	1	1	0
2,600,001+	10	2	102	7	8	3	27	5	32	6	31	9	14	4

3.1.3 HOUSEHOLD FOOD SECURITY

To understand this indicator, the survey investigated periods that participating households reported food shortage and average number of meals per day as a proxy indicator. By definition, number of meals was defined as breakfast, lunch and supper in a day. Households that reported having all the above were classified as having three (3) meals per day. Households were asked first if they experienced food shortage in 2021 and later define the months during which shortages were experienced.

Results show that, 35% of the respondents reported having experienced food shortage during the year while 65% did not. This is an improvement compared to baseline where 45% reported food shortage in 2018. Looking at the household categories, the male headed households reported more food shortage compared to the female headed. Results further show that, food shortage was more

experienced during the months of May, June and July with June being the highest as can be seen in the table below.

In terms of the average number of meals per day, finding shows that 57% of the respondents had 3 meals per day while 40% had two and only 3% one. Baseline finding shows regional disparities where in Acholi more households consumed two meals per day on average while in West Nile it was three. The survey results indicate more households across the programme areas had three meals per day on average compared to baseline which was regionally defined. What can be clearly stated though from the qualitative discussions is that no household reported to have spent a day without anything to eat.

From the FGD notes, farmers report that causes of food shortage during the months of May, June and July were limited harvest from 2020 production, poor storage methods, poor planning, poor weather and high demand for food due to COVID 19 restrictions. During this period, households reduced on the ration of food consumed and number of meals per day. Sub-counties around the settlements like Rhino camp, Ogoko in Madi-Okollo, Pakele, Itirikwa, Arinyapi in Adjumani and Palorinya in Obongi. Scarcity was more severe for beans, sorghum, millet, cassava, sesame, groundnuts and maize.

3.3 Food security analysis

Table 9: Respondents who experienced of food shortage in 2021

Experienced food shortage	Adjumani		Kitgum		Lamwo		Madi Okolo		Moyo		Nebbi		Obongi		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
No	377	67	189	65	229	77	207	48	40	73	167	85	75	51	1284	65
Yes	186	33	103	35	67	23	220	52	15	27	30	15	73	49	694	35
Grand Total	**563**	**100**	**292**	**100**	**296**	**100**	**427**	**100**	**55**	**100**	**197**	**100**	**148**	**100**	**1978**	**100**

Table 10: Experienced food shortage according to HH type and age category

Experience of food shortage in 2021		18 – 28		29-38		39-48		49-58		59+		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
Female	No	5	2	45	9	61	12	61	17	62	17	234	12%
	Yes	13	5	23	4	48	10	44	12	49	14	177	9%
Male	No	150	62	312	60	247	50	171	48	170	47	1050	53%
	Yes	73	30	138	27	141	28	84	23	81	22	517	26%
Grand Total		**241**	**100%**	**518**	**100**	**497**	**100**	**360**	**100**	**362**	**100**	**1978**	**100**

Table 11: Average number of meals per month in 2021

No of meals	Jan		Feby		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
1	21	1	23	1	23	1	30	2	78	4	208	11	192	10	75	4	36	2	27	1	22	1	17	1	752	3
2	754	38	759	38	799	40	821	42	833	42	847	43	832	42	800	40	797	40	771	39	747	38	745	38	9505	40

3	1203	61	1196	60	1156	58	1127	57	1067	54	923	47	954	48	1103	56	1145	58	1180	60	1209	61	1216	61	13479	57
Total	**1978**	**100**	**1978**	**100**	**1978**	**100**	**1978**	**100**	**1978**	**100**	**1978**	**100**	**1978**	**100**	**1978**	**100**	**1978**	**100**	**1978**	**100**	**1978**	**100**	**1978**	**100**	**23736**	**100**

Figure 2: Months in which food shortage was experienced by respondents

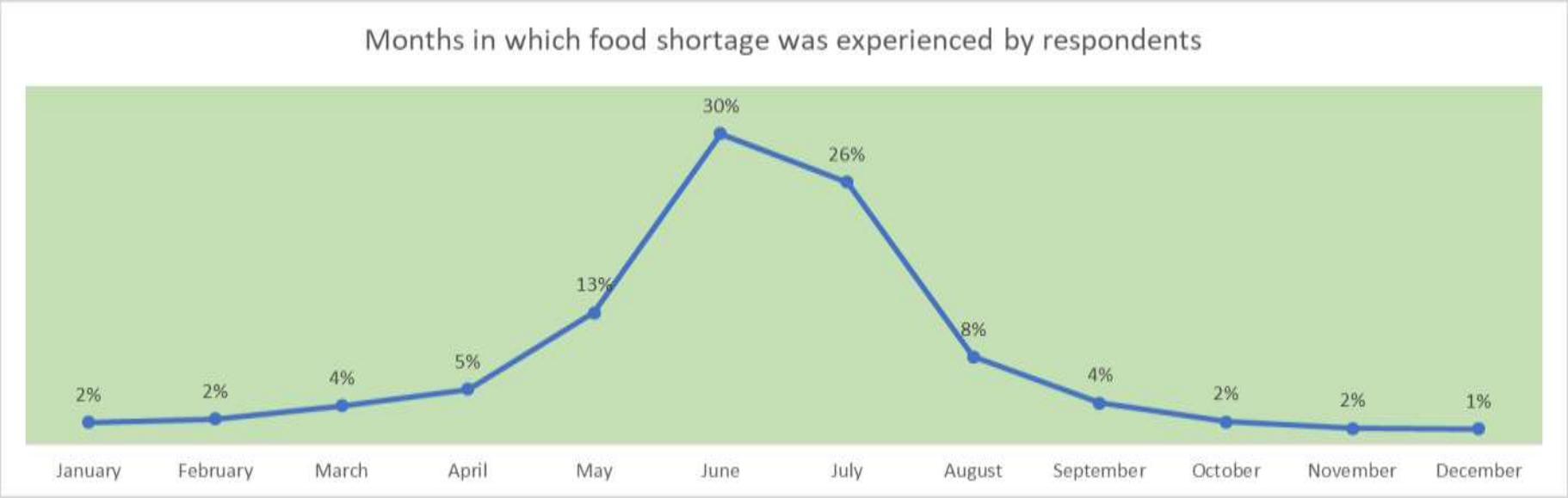


Table 12: Reported number of meals consumed per day at household level in 2021 by gender and age of household head

	Female		Male		18 – 28		29-38		39-48		49-58		59+	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Average number of meals eaten														
1	5	0	13	1	5	0	1	0	2	0	6	0	4	0
2	173	9	617	31	95	5	196	10	200	10	137	7	162	8
3+	233	12	935	47	140	7	321	16	295	15	216	11	196	10
Periods of food insecurity reported by Households														
January	12	2	28	2	4	2	11	3	13	2	4	1	8	2
February	12	2	34	2	4	2	13	3	16	3	5	1	8	2
March	20	4	51	4	5	2	17	4	25	5	10	3	14	4
April	27	5	75	5	9	4	24	6	33	6	16	5	20	5
May	68	13	177	13	21	10	51	12	65	12	50	15	58	15
June	145	27	434	32	76	36	124	29	156	29	107	31	116	29
July	135	25	355	26	63	30	110	26	134	25	86	25	97	24
August	51	9	112	8	14	7	41	10	39	7	31	9	38	10
September	29	5	48	3	4	2	18	4	25	5	14	4	16	4
October	16	3	25	2	3	1	10	2	11	2	7	2	10	3
November	10	2	19	1	3	1	8	2	9	2	4	1	5	1
December	14	3	14	1	3	1	4	1	9	2	6	2	6	2

3.1.4 Availability of Production Assets

This survey established the production assets owned by the farmer households supported by the programme. Asset ownership relates to overall production levels, patterns and outcomes. Assessing production asset value enhances understanding of household income because farmers have a tendency of re-investing their income into production assets. In every household surveyed, participants were asked to declare the types of production assets they owned in 2021; their quantity, mode of acquisition, cost of each asset and functionality status.

Finding shows that the average value of production assets across the districts assessed is 4,574,024 Ugx which is an increase of 51% from 2,230,000 Ugx as per the baseline. Asset value in Acholi sub-region was more than double compared to baseline and in general an increase was registered in all the districts of assessment. The difference is attributed to the asset types since there are more oxen for ploughing, ox-ploughs and cattle that is not used for ploughing owned by farmers in Acholi sub-region compared to West-Nile. These asset types are of a higher monetary value compared to the rest. Lamwo and Kitgum compared to the other districts had the highest value.

In an FGD, a farmer from Lacan Pe nino FG in Ywaya In Padibe East noted that:

"…During the lockdown, we were not having monthly or regular cattle markets, it was also not possible for traders from outside to come to our communities. Our animals (cattle, goats) were able to multiply. Outside traders were allowed to start coming to our communities this year…".

Another farmer from Pe nongi Labedo FG in Palabek Gem noted that:

"…We were asked to stay put and avoid unnecessary movements including crowding in market places that were also closed for a long period of time. Sometimes you take animals to the market but not all are bought and yet they contract diseases from the market places. When you bring home, the rest that remained home also get sick. So many farmers avoided the market and our animals stayed healthy and multiplied during the COVID 19 lockdown…".

Overall, the most common asset type owned by the new national farmer households is the hand hoe with statistics of 98% across all the programme implementations in 2021. The hand hoe is closely followed by a panga (or known as "machete") found in 70% of households, poultry, telephone and goats at 61% and 60% respectively.

With regard to mode of acquisition, results show that nearly all participants bought their production assets. At baseline, a few assets like other cattle, spray pumps were seen to have been provided by the government or development partners but this has not been the case as over the last five years, focus of most development agencies has been on development assistance and not humanitarian assistance except for refugee population. See tables below

Table 13: House Assets in 2021

Asset Type	Adjumani		Kitgum		Lamwo		Madi Okolo		Moyo		Nebbi		Obongi		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Hoe	559	99	280	96	286	96	423	99	55	100	194	98	146	99	1943	98
Panga	346	61	175	60	212	71	341	80	44	80	164	83	105	71	1387	70
Poultry	318	56	188	64	167	56	286	67	29	53	142	72	76	51	1206	61
Telephone	319	57	171	59	152	51	272	64	45	82	140	71	104	70	1203	61
Goat	307	54	163	56	142	48	303	71	36	65	146	74	91	61	1188	60
Radio	177	31	90	31	74	25	193	45	19	35	107	54	62	42	722	36
Bicycle	116	21	101	35	101	34	147	34	19	35	57	29	46	31	587	30
Other cattle	145	26	88	30	74	25	124	29	18	33	54	27	56	38	559	28
Pig	122	22	60	21	47	16	62	14	19	35	42	21	12	8	364	18
Ox-plough	107	19	122	42	108	36	5	1	15	27	1	1	6	4	364	18
Oxen for ploughing	94	17	103	35	84	28	2	0	11	20	2	1	7	5	303	15
Motorcycle	59	10	32	11	37	12	66	15	4	7	51	26	22	15	271	14
Spray pump	13	2	37	13	31	10	41	10	5	9	46	23	14	9	187	9
Sheep	16	3	20	7	22	7	50	12	5	9	20	10	12	8	145	7
Other specify	22	4	12	4	9	3	23	5	2	4	1	1	6	4	75	4

Table 14: Average asset value in 2021

Asset	Adjumani		Kitgum		Lamwo		Madi Okolo		Moyo		Nebbi		Obongi		Total	
	N	UGX (000)	N	UGX (000)	N	UGX (000)	N	UGX (000)	N	UGX (000)	N	UGX (000)	N	UGX (000)	N	UGX (000)
Bicycle	121	177,230	107	231,110	114	292,310	167	210,280	19	0	62	64,480	51	109,930	641	1,085,340
Goat	1,446	740,900	705	49,121	517	394,430	1,521	980,047	158	0	881	443,950	621	493,740	5,849	3,544,277
Hoe	2,679	299,758	978	116,900	1,004	122,535	1,482	136,985	245	2,372,000	759	95,950	651	81,545	7,798	1,443,895
Motorcycle	65	1,210,300	33	1,054,200	37	2,005,980	73	682,170	5	0	57	625,600	24	972,000	294	6,550,250
Other cattle	714	1,587,850	302	2,427,810	173	2,325,050	520	1,299,880	56	0	165	479,000	287	1,807,300	2,217	9,926,890
Oxen for ploughing	193	539,600	187	1,864,850	168	1,876,080	2	1,450,000	16	0	5	1,836,000	13	1,060,000	584	4,824,630
Ox-plough	128	236,750	138	289,790	136	249,600	8	292,000	15	0	4	72,000	7	193,500	436	799,130
Panga	485	24,874	238	22,820	319	55,215	517	53,985	84	0	234	77,150	176	13,120	2,053	177,729
Pig	283	237,300	135	91,800	102	93,400	176	81,560	61	0	152	977,900	47	89,500	956	691,350
Poultry	2,435	258,440	2,126	231,500	2,607	610,300	2,634	251,638	252	0	1,427	96,270	755	149,170	12,236	1,597,318
Radio	190	62,815	96	82,700	77	82,130	212	82,775	21	0	127	33,510	68	28,800	791	372,730
Sheep	70	85,300	100	94,000	44	48,050	149	86,740	17	0	91	52,500	44	65,400	515	431,990
Spray pump	19	18,560	41	14,330	32	18,480	46	20,920	5	0	48	14,100	15	42,300	206	90,620
Telephone	458	183,230	241	163,940	189	123,031	416	231,730	66	0	240	91,300	198	199,480	1,808	992,711
Other specify	17	9,410	9	4,300	3	27,760	19	163,700	2	0	1	0	3	11,160	54	216,330
Grand Total	**9,303**	**5,672,317**	**5,436**	**7,181,260**	**5,522**	**7,324,351**	**7,942**	**1,785,139**	**1,022**	**2,372,000**	**4,253**	**2,136,485**	**2,960**	**2,150,725**	**36,438**	**4,574,024**

Table 15: Mode of acquisition of household production assets

		Adjumani		Kitgum		Lamwo		Madi Okolo		Moyo		Nebbi		Obongi		Total	
Asset	**Mode of acquisition**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
Bicycle	Purchased	35	97	59	97	48	96	71	95	19	100	39	100	30	97	301	97
	Others	1	3	2	3	2	4	4	5	0	0	0	0	1	3	10	3
Goat	Purchased	166	97	125	98	92	99	207	98	35	100	124	98	72	99	821	98
	Others	5	3	2	2	1	1	5	2	0	0	3	2	1	1	17	2
Hoe	Purchased	60	100	20	100	17	100	28	100	51	100	76	100	11	100	263	100
	Others	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Motorcycle	Purchased	13	100	21	100	10	100	17	100	4	100	31	100	19	100	115	100
	Others	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other cattle	Purchased	44	100	53	100	46	100	54	98	18	100	35	100	40	100	290	100
	Others	0	0	0	0	0	0	1	2	0	0	0	0	0	0	1	0
Oxen for ploughing	Purchased	18	100	58	100	34	100	1	100	11	100	0		5	100	127	100
	Others	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
Ox-plough	Purchased	28	100	77	100	45	100	1	100	15	100	1	100	4	100	171	100
	Others	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Panga	Purchased	235	98	127	99	165	98	254	98	44	100	139	99	80	99	1044	99
	Others	4	2	1	1	3	2	5	2	0	0	1	1	1	1	15	1
Pig	Purchased	39	98	35	100	18	100	22	100	19	100	26	100	9	100	168	99
	Others	1	3	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Poultry	Purchased	3	100	0		0		0		1	100	1	100	0		5	100
	Others	0	0	0		0		0		0	0	0	0	0		0	0
Radio	Purchased	73	100	62	100	38	100	101	100	19	100	86	100	45	98	424	100
	Others	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	0
Sheep	Purchased	3	100	13	100	7	100	6	86	5	100	8	100	7	100	49	98
	Others	0	0	0	0	0	0	1	14	0	0	0	0	0	0	1	2
Spray pump	Purchased	2	100	22	100	9	100	12	100	5	100	20	91	10	100	80	98
	Others	0	0	0	0	0	0	0	0	0	0	2	9	0	0	2	2
Telephone	Purchased	192	99	133	100	112	100	174	98	45	100	116	100	89	100	861	100
	Others	1	1	0	0	0	0	3	2	0	0	0	0	0	0	4	0

3.1.5 Land Ownership and Preparation Techniques

Land is one of the most important agricultural production enablers and therefore important to understand ownership and access. The survey investigated the acreage of land cultivated for all crop types in 2021 by the respondents, their mode of acquisition, labour for cultivation and method of cultivation.

Findings show that on average, respondents cultivated 3.09 acres in 2021 compared to 4.6 acres at baseline. This seemed like a decline however farmers reported that due to poor crop performance in 2020 and 2019, they decided to reduce on acreages to avoid wasted efforts. Comparing the two regions West Nile and Acholi, there was higher access in Acholi with an average of 4 acres while it was 2.5 in West Nile. In terms of land ownership and access, results show that 85% of the land cultivated in 2021 with the new nationals was family owned across (inherited and purchased) the programme implementation areas. About 11% was hired which is noted in all the districts but mostly done because part of land owned were exhausted and left to fallow to regain fertility. In the districts of Madi-Okollo, Nebbi and Adjumani, farmers reported they moved to hire land in the districts of Nwoya and Amuru to grow crops like sesame and soybeans.

The land preparation methods assessed were hand-hoe, ox-ploughing, tractor services and combination of methods. Results show that 48% of the respondents used the hand-hoe to prepare their land for cultivation, 35% oxen and 14% used combined methods (hand-hoe and oxen). There was none that used tractor services as farmers reported that this was common for commercial farmers. Use of oxen was more common in the Acholi sub region compared to West Nile, explained by the terrain in West Nile.

Respondents of the survey used varied and mixed sources of labor for cultivation in 2021 but mostly family and hired labour as the dominant sources. Overall, 59% used family labour and 31% hired. On average family labor was used in 62% of the households, hired labor in 31% while group rotational labor was only reported by 9% of the households surveyed. Use of hired labor was higher in West-Nile (49%) compared to the Acholi sub-region (30%) with Moyo and Obongi district recording the highest percentage and lowest in Lamwo. Use of hired labour was attributed to the need to supplement family labour, numerous production activities and production cycle. From the Focus Group Discussions, the women reported that during land opening, weeding and harvesting additional labour is required because they normally experience a lot of losses if delays occur.

Farmer groups were asked to indicate if they had land access challenges in 2021 and 66% reported not to have had any challenges while 34% reported some land conflict issues however it was indicated that they were resolved by the local authorities amicably. More than half of the respondents reported they cultivated more land compared to 2020.

Table 16: Households acquisition method for mean acres of land cultivated in 2021

Land acquisition methods	Adjumani			Kitgum			Lamwo			Madi Okolo			Moyo			Nebbi			Obongi			Total		
	A*	%	M*	A*	%	M*	A*	%	M*	A*	%	M*	A*	%	M*	A*	%	M*	A*	%	M*	A*	%	M*
Family owned – inherited	539	93	2.74	235	67	4.34	244	71	4.33	399	85	3.07	49	73	4.06	185	69	1.88	125	76	2.72	1,776	79	3.19
Hired land	19	3	2.13	54	15	4.28	47	14	2.87	33	7	2.03	14	21	3.25	61	23	1.50	19	12	2.50	247	11	2.66
Family owned – purchased	7	1	1.59	40	11	3.21	39	11	4.15	25	5	3.03	0	0	0.00	17	6	1.81	3	2	1.83	131	6	3.16
Borrowed	11	2	1.49	11	3	1.86	6	2	1.42	11	2	1.39	4	6	1.50	5	2	0.85	16	10	1.59	64	3	1.51
Communal owned	1	0	2.00	9	3	4.78	6	2	3.17	1	0	2.00	0	0	0.00	0	0	0.00	2	1	2.50	19	1	3.74
Government protected land	1	0	5.00	1	0	6.00	2	1	3.50	1	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	5	0	3.60
Grand Total	**578**	**100**	**2.69**	**350**	**100**	**4.14**	**344**	**100**	**4.04**	**470**	**100**	**2.95**	**67**	**100**	**3.74**	**268**	**100**	**1.77**	**165**	**100**	**2.56**	**2,242**	**100**	**3.09**

A* = Acres of land, M* = Mean acres of land

Table 17: Source of labour for land opening employed by the respondents

Method	Adjumani			Kitgum			Lamwo			Madi Okolo			Moyo			Nebbi			Obongi			Total		
	HH	Acre	%	HH	Acre	%	HH	Acre	%	HH	Acre	%	HH	Acre	%	HH	Acre	%	HH	Acre	%	HH	Acre	%
Family labour	472	1,100	72	247	849	53	254	944	57	402	843	63	33	103	41	174	249	54	113	209	50	**1695**	**4,297**	**59**
Hired labour	163	422	27	115	470	29	140	471	28	182	377	28	38	147	59	113	195	42	90	203	49	**841**	**2,284**	**31**
Group rotational labour	8	14	1	86	282	18	74	252	15	55	115	9	0	0	0	11	18	4	2	3	1	**236**	**684**	**9**
Total	**643**	**1,536**	**100**	**448**	**1,602**	**100**	**468**	**1,667**	**100**	**639**	**1,334**	**100**	**71**	**250**	**100**	**298**	**462**	**100**	**205**	**415**	**100**	**2772**	**7,266**	**100**

Table 18: Methods used in preparation of land for production

Land opening method	Adjumani			Kitgum			Lamwo			Madi Okolo			Moyo			Nebbi			Obongi			Total		
	A*	%	M*	A*	%	M*	A*	%	M*	A*	%	M*	A*	%	M*	A*	%	M*	A*	%	M*	A*	%	M*
Hand hoe	576	38	2.24	621	31	4.08	619	32	3.66	1,258	95	3.05	34	14	1.60	407	86	2.20	242	58	2.40	3,756	48	2.89
Ox plough	759	50	2.66	826	42	5.13	813	42	5.21	2	0	2.00	190	79	3.95	30	6	2.50	119	28	2.76	2,738	35	3.88
Tractor	89	6	3.28	10	1	10.00	15	1	3.75	27	2	1.78	17	7	2.36	29	6	3.25	33	8	3.69	219	3	3.04
Hand hoe, Ox plough	71	5	1.51	521	26	4.78	511	26	5.17	0	0	0.00	0	0	0.00	7	1	1.66	21	5	1.30	1,130	14	4.11
Hand hoe, Tractor	6	0	3.00	0	0	0.00	0	0	0.00	34	3	2.59	0	0	0.00	0	0	0.00	2	0	2.00	42	1	2.60
Hand hoe, Ox plough, Tractor	8	1	2.56	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	8	0	2.56
Grand Total	**1,508**		**2.43**	**1,977**		**4.67**	**1,959**		**4.58**	**1,320**		**2.99**	**240**		**3.15**	**473**		**2.25**	**417**		**2.45**	**7,892**		**3.33**

A* = Acres of land, M* = Mean acres of land

Table 19: Experience land access challenges in 2021

Experienced challenges	Adjumani				Kitgum				Lamwo				Madi Okolo				Moyo				Nebbi				Obongi			
	Female		Male		Female		Male		Female		Male		Female		Male		Female		Male		Female		Male		Female		Male	
	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%
No	297	83	180	88	175	**76**	51	81	211	89	54	90	250	83	98	78	34	83	12	86	68	76	73	68	70	71	33	66
Yes	62	17	25	12	54	**24**	12	19	26	11	6	10	52	17	28	22	7	17	2	14	22	24	34	32	28	29	17	34
Total	**359**	**100**	**205**	**100**	**229**	**100**	**63**	**100**	**237**	**100**	**60**	**100**	**302**	**100**	**126**	**100**	**41**	**100**	**14**	**100**	**90**	**100**	**107**	**100**	**98**	**100**	**50**	**100**

3.1.6 Access and Use of Improved Agricultural inputs

One of the practices promoted under CSA training is use of improved agricultural inputs. This was observed in all households across the seven districts targeted in the study. PREDCO understands that a special study was done on adoption of CSA practices and use of improved agro-inputs was one of the areas analyzed. From the survey however, results show that 89% of the respondents used improved seeds which is an increase by over 50% compared to baseline. From the list provided by NURI, the least applied was fertilizer where most of the respondents said there was no need since their soils were not so bad. For all the other input types, farmers reported that they could not afford like fertilizer, factory made Pesticides, tarpaulins etc.

In assessing the source of the agro-inputs used, the survey considered inputs from accredited input dealers, home saved and other sources (usually from open markets, friends, group members). For improved seeds which was the most commonly used input type, 35% reported to have got them from input dealers and 35% from development partners. 11% used home saved seeds and 13% used combined sources (home saved and input dealers). Distance to the input sources was also assessed and results show that on average the input dealers were located 7.6km away from the farmer households. This has improved compared to baseline which was between 13 – 16km.

About input quality, between 70 – 80% of the respondents rated the quality of inputs as high mostly for seeds, cuttings and pesticides. For instance, among farmers that used improved crop seeds, 76% rated their quality as high, 20% moderate; only 5% low. Equally among users of modern pesticides from input dealers, 71% rated their quality as high, 23% moderate and 6% low. For seeds, farmers remarked that they were clean, not broken and had high germination rates while the pesticides were effective in killings the pests.

37% of the respondents rated their knowledge on use of improved seeds as good attributed to the CSA training sessions. Although this seemed like a decline from baseline which was 45%, generally it could be seen that farmers were confident about use of especially improved seeds. The farmers reported they would love to use agro-inputs of all types however they are limited by costs. Also, during the lock down, supplies were limited due to travel restrictions

Table 20: Access and Use of Improved Agricultural inputs

Improved input used	Adjumani		Kitgum		Lamwo		Madi Okolo		Moyo		Nebbi		Obongi		Total N	Total %
	N	%	N	%	N	%	N	%	N	%	N	%	N	%		
Crop seeds	459	81	259	86	280	93	300	82	36	72	190	95	180	90	1,704	89
Tools (e.g. spray pumps, tarpaulins, gumboots)	127	23	94	30	97	34	63	13	13	17	81	29	56	21	531	23
Livestock drugs	76	14	22	7	29	10	53	11	7	9	11	4	48	18	246	11
Cuttings and vines	39	7	15	5	4	1	92	19	11	15	31	11	30	11	222	10
Pesticides/Herbicide	15	3	9	3	16	6	16	3	6	8	47	17	20	8	129	6
Vegetable seeds	50	9	9	3	5	2	16	3	0	0	7	2	20	8	107	5
Fertilizers	4	1	8	3	10	3	1	0	2	3	7	2	3	1	35	2

Sources of inputs used

Table 21: Level of use of improved agricultural inputs, sources, quality of inputs and distance to input dealers

Input type	Source of improved inputs	Adjumani		Kitgum		Lamwo		Madi Okolo		Nebbi		Obongi		Total N	Total %
		N	%	N	%	N	%	N	%	N	%	N	%		
Crops seeds	Home saved	20	10	18	11	16	13	28	13	5	9	6	8	93	11
	Input dealer	89	43	54	34	59	47	28	13	33	58	39	49	302	35
	Home saved & Input dealer	15	7	8	5	2	2	55	25	8	14	19	24	107	13
	Other specify	21	10	9	6	9	7	12	5	0	0	1	1	52	6
	Development partner	61	30	72	45	39	31	101	45	11	19	15	19	299	35
Cuttings and vines	Home saved	1	3	2	13	0	0	8	9	2	11	3	10	16	9
	Input dealer	24	77	8	53	0	0	9	10	11	58	11	38	63	34
	Home saved & Input dealer	4	13	1	7	0	0	25	29	2	11	12	41	44	24
	Other specify	2	6	4	27	4	100	45	52	4	21	3	10	62	34
Fertilizers	Input dealer	3	100	6	75	8	80	0	0	2	67	2	100	21	78
	Home saved & Input dealer	0	0	1	13	0	0	0	0	1	33	0	0	2	7

	Other specify	0	0	1	13	2	20	1	100	0	0	0	0	4	15
Vegetable seeds	Home saved	1	3	2	22	1	20	0	0	1	14	1	5	6	6
	Input dealer	30	75	6	67	3	60	3	21	3	43	13	65	58	61
	Home saved & Input dealer	6	15	0	0	0	0	5	36	2	29	5	25	18	19
	Other specify	3	8	1	11	1	20	6	43	1	14	1	5	13	14
Livestock drugs	Home saved	1	2	0	0	1	3	2	4	1	14	3	7	8	4
	Input dealer	54	84	20	91	25	86	16	35	3	43	25	54	143	67
	Home saved & Input dealer	9	14	2	9	0	0	9	20	2	29	14	30	36	17
	Other specify	0	0	0	0	3	10	19	41	1	14	4	9	27	13
Pesticides/Herbicide	Home saved	0	0	1	11	0	0	2	13	1	3	0	0	4	4
	Input dealer	10	83	7	78	13	81	5	33	24	73	12	63	71	68
	Home saved & Input dealer	2	17	0	0	0	0	2	13	6	18	4	21	14	13
	Other specify	0	0	1	11	3	19	6	40	2	6	3	16	15	14
Tools (e.g. spray pumps, tarpaulins, gumboots)	Home saved	1	1	16	17	13	13	12	21	7	13	4	8	53	12
	Input dealer	63	61	31	33	47	48	13	22	29	53	25	48	208	45
	Home saved & Input dealer	12	12	8	9	2	2	11	19	8	15	15	29	56	12
	Other specify	27	26	39	41	35	36	22	38	11	20	8	15	142	31

Table 22: Average distance to nearest source of input

Crop Seeds	Adjumani	Kitgum	Lamwo	Madi Okolo	Nebbi	Obongi	Grand Total
Crops seeds	9.7	8.3	5.4	6.1	6.2	5.1	7.3
Cuttings and vines	5.2	8.5	0.0	11.0	6.1	7.7	7.0
Fertilizers	7.7	6.0	7.4	0.0	3.3	6.5	6.5
Vegetable seeds	7.6	10.5	10.7	4.5	8.3	5.2	7.4
Livestock drugs	15.2	11.2	6.1	2.4	3.0	5.0	9.6
Pesticides/Herbicide	10.0	14.3	4.7	2.7	6.3	4.9	6.8
Tools (e.g. spray pumps, tarpaulins, gumboots)	9.8	10.3	5.3	2.8	5.6	6.3	7.4
Grand Total	**10.2**	**9.5**	**5.6**	**5.0**	**5.9**	**5.6**	**7.6**

Table 23: Rating of the quality of improved inputs

		Adjumani		Kitgum		Lamwo		Madi Okolo		Moyo		Nebbi		Obongi		Total N	Total %
Improved input	**Rating**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**		
Crop seeds	High	63	90	13	87	3	75	70	66	29	81	52	87	17	47	247	76
	Moderate	7	10	1	7	1	25	26	25	5	14	6	10	19	53	65	20
	Low	0	0	1	7	0	0	10	9	2	6	2	3	0	0	15	5
Cuttings and vines	High	184	86	129	80	107	86	168	73	7	64	61	88	54	67	710	80
	Moderate	27	13	20	12	14	11	50	22	3	27	7	10	23	28	144	16
	Low	3	1	12	7	4	3	11	5	1	9	1	1	4	5	36	4
Fertilizers	High	2	50	5	63	10	100	1	100	1	50	6	86	3	100	28	80
	Low	2	50	0	0	0	0	0	0	0	0	0	0	0	0	2	6
	Moderate	0	0	3	38	0	0	0	0	1	50	1	14	0	0	5	14
Livestock drugs	High	62	82	15	68	24	83	31	58	4	57	9	82	30	63	175	71
	Moderate	7	9	7	32	3	10	15	28	3	43	2	18	16	33	53	22
	Low	7	9	0	0	2	7	7	13	0	0	0	0	2	4	18	7
Pesticides/Herbicide	High	7	47	8	89	14	88	10	63	1	17	38	81	13	65	91	71
	Moderate	4	27	1	11	1	6	5	31	4	67	9	19	6	30	30	23
	Low	4	27	0	0	1	6	1	6	1	17	0	0	1	5	8	6
Tools (e.g. spray pumps, tarpaulins, gumboots)	High	105	83	90	96	88	91	40	63	9	69	62	77	36	64	430	81
	Moderate	12	9	1	1	6	6	12	19	4	31	13	16	17	30	65	12
	Low	10	8	3	3	3	3	11	17	0	0	6	7	3	5	36	7
Vegetable seeds	High	45	90	7	78	4	80	7	44	0		7	100	12	60	82	77
	Moderate	4	8	2	22	0	0	9	56	0		0	0	7	35	22	21
	Low	1	2	0	0	1	20	0	0	0		0	0	1	5	3	3

Quality inputs	Rating	Adjumani		Kitgum		Lamwo		Madi Okolo		Moyo		Nebbi		Obongi		Total N	Total %
		N	%	N	%	N	%	N	%	N	%	N	%	N	%		
Crop seeds	Fair	15	3	20	6	6	2	34	7	3	4	10	4	27	10	115	5
	Good	225	40	133	42	117	41	194	40	27	36	87	31	57	22	840	37
	Poor	5	1	8	3	2	1	15	3	6	8	1	0	3	1	40	2
Cuttings and vines	Fair	2	0	0	0	3	1	5	1	3	4	1	0	9	3	23	1
	Good	42	8	7	2	2	1	13	3	8	11	18	6	9	3	99	4
	Poor	4	1	2	1	0	0	1	0	0	0	0	0	3	1	10	0
Fertilizers	Fair	0	0	2	1	1	0	0	0	1	1	4	1	1	0	9	0
	Good	2	0	6	2	9	3	1	0	0	0	3	1	2	1	23	1
	Poor	2	0	0	0	0	0	0	0	1	1	0	0	0	0	3	0
Livestock drugs	Fair	16	3	18	6	10	3	16	3	2	3	3	1	20	8	85	4
	Good	37	7	3	1	15	5	9	2	4	5	3	1	15	6	86	4
	Poor	23	4	1	0	4	1	28	6	1	1	5	2	13	5	75	3
Pesticides/Herbicide	Fair	3	1	5	2	3	1	4	1	5	7	6	2	8	3	34	2
	Good	9	2	4	1	12	4	11	2	1	1	37	13	8	3	82	4
	Poor	3	1	0	0	1	0	1	0	0	0	4	1	4	2	13	1
Tools (e.g. spray pumps, tarpaulins, gumboots)	Fair	5	1	2	1	5	2	5	1	4	5	3	1	15	6	39	2
	Good	119	21	88	28	91	32	51	11	9	12	78	28	40	15	476	21
	Poor	3	1	4	1	1	0	7	1	0	0	0	0	1	0	16	1
Vegetable seeds	Fair	3	1	2	1	0	0	22	5	0	0	3	1	17	6	47	2
	Good	37	7	13	4	4	1	64	13	0	0	16	6	12	5	146	6
	Poor	1	0	0	0	0	0	3	1	0	0	0	0	0	0	4	0

3.1.7 Cumulative percentage increase in average yields per acre for strategic crops

As an agricultural extension programme, yield assessment is paramount to validate uptake of practices that farmer groups are trained and supported to adopt. PREDCO considered the different strategic crops cultivated per district of survey, the total land under cultivation and quantity of harvest (yields) for each of the crops. Comparison was made with research data and other available programme yield data obtained from the NURI team. Yield data provided is on the strategic crops are highlighted in the table below:

Table 24: Strategic crops FGs were supported in per district

Region	District	Strategic crop
West-Nile	Arua/Madi Okollo	Sesame, Beans, Soybeans, Cassava
	Nebbi	Onions, Irish potatoes, Beans and Soybeans
	Adjumani	Sesame, Soybeans
	Obongi	Sesame,
	Moyo	Groundnuts
Acholi	Kitgum	Sesame, Cassava, Sunflower and Beans
	Lamwo	Sesame, Cassava, Sunflower and Soybeans

3.1.8 Average yields for strategic crops

The performance target for yield according to the NURI results framework was 15%. Results show increase in yields for sesame, maize, soybeans, sunflower, groundnuts and beans compared to baseline although in terms of meeting the performance target, only Sesame, soybeans and sunflower achieved. A decline was noted for rice, cassava, onions, potatoes and groundnuts. Farmers were encouraged to apply CSA practices to all crops although CSA training focusses on the selected strategic crops.

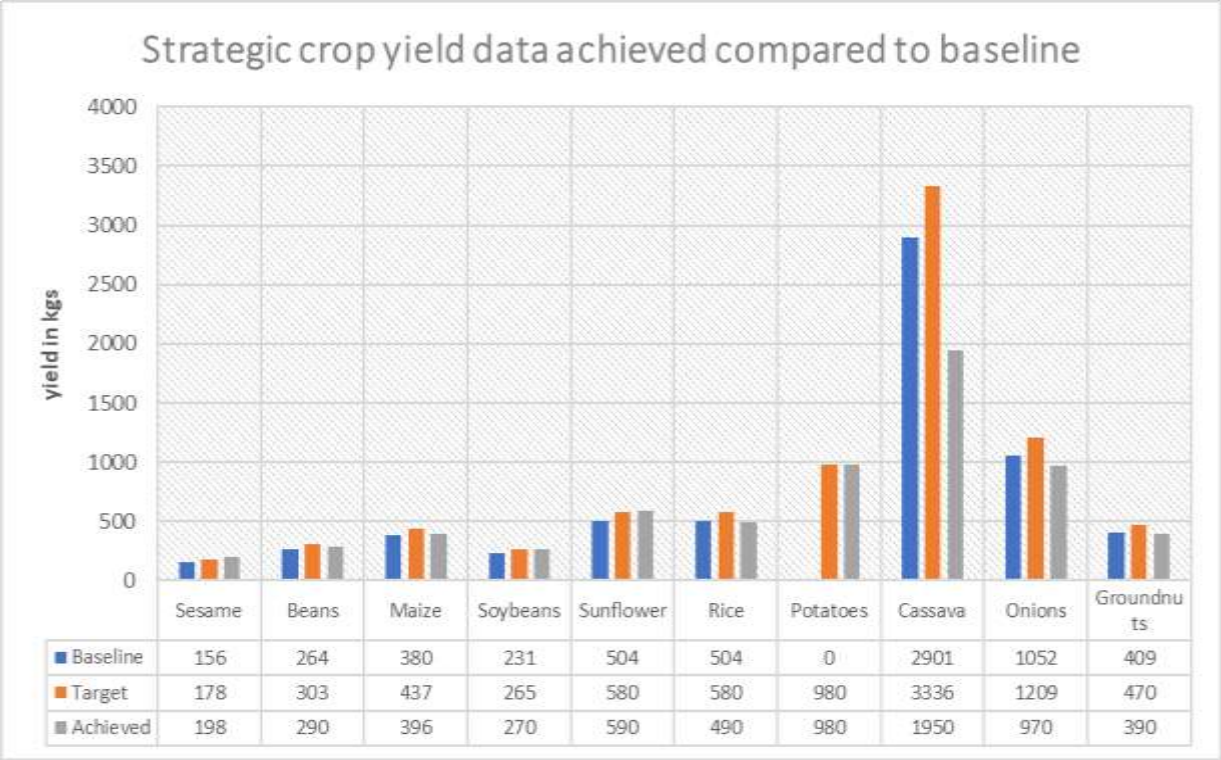
Qualitative finding indicates that farmers had better yield in 2021 compared to the production years 2020 and 2019. All through the programme areas, farmers reported high incidence of striga weed affecting sorghum and millet forcing them to look for cultivable land far away from their regular farmer lands however there is fear that as they move to look for other areas, they may carry the weed to the new locations. Some farmers confessed to have abandoned heavily infested fields.

Table 25: Average yields for strategic crops in 2021

Strategic crop name	Average yield per acre at baseline (kg)	Average yield end line target (kg)	Average yield achieved per acre end line (kg)	% Improvement compared to baseline
Sesame	156	178	198	21%
Beans	264	303	290	9%
Maize	380	437	396	4%
Soybeans	231	265	270	14%
Sunflower	504	580	590	15%
Rice	504	580	490	-2%
Potatoes	-	980	980	-
Cassava	2,901	3336	1950	-48%

Onions	1,052	1209	970	-8%
Groundnuts	409	470	390	-4%

Figure 3: Yield data showing achieved compared to target and baseline



Cumulative percentage increase in average yields per acre for strategic crops

Table 26: Average yields in kilograms for strategic crops in 2021

	Sesame	Beans	Maize	Soybeans	Sunflower	Rice	Potatoes	Cassava	Groundnuts
End line	198	290	396	270	590	490	980	1950	390
Baseline	156	254	380	231	249	504	-	2901	-

Table 27: Average crop yields per acre in 2021

Crop output type	Adjumani		Kitgum		Lamwo		Madi Okolo		Moyo		Nebbi		Obongi		Total HH	Total Mean
	HH	Mean	HH	Mean	HH	Mean	HH	Mean	HH	Mean	HH	Mean	HH	Mean		
Sesame	415	123	238	318	240	338	403	147	23	113	13	145	125	138	1,457	198
Maize	375	408	215	365	193	427	247	365	45	757	103	241	89	200	1,267	396
Groundnuts	147	402	134	170	51	324	191	204	31	399	54	267	46	93	654	390
Cassava	110	1,496	58	1,592	40	1,972	313	474	36	1,537	138	1,437	40	1,457	735	1950
Soybeans	107	547	27	303	117	297	87	290	11	259	63	196	12	202	524	270
Beans	76	256	76	260	84	300	103	266	17	143	107	285	6	193	469	290
Sweet Potatoes	47	923	10	294	10	81	63	389	8	384	4	430	50	269	192	468
Sorghum	35	257	162	350	151	396	156	124	15	212	11	92	40	6,168	570	694
Rice	27	0	0	40	2	199	25	15	6	0	10	653	6	0	76	490
Pigeon Peas	14	0	91	0	87	0	50	240	8	0	5	309	9	0	264	292
Millet	8	297	96	207	88	341	112	120	3	28	2	170	6	170	315	213
Sunflower	7	99	43	608	67	580	14	78	12	40	0	42	4	62	147	590
Onions	1	0	0	0	1	0	1	0	0	0	39	0	0	0	42	970
Bananas	0	0	1	0	3	0	2	0	0	0	6	0	0	0	12	0
Vegetables	0	347	0	183	0	287	0	92	0	293	0	0	0	72	0	236
Irish Potatoes	0	0	1	10	2	17	2	20	0	0	26	1018	0	0	31	980

3.1.9 Cumulative percentage of the quantity of strategic crops harvest that is sold

The survey assessed the quantity of strategic crops cultivated in 2021 that was marketed by participating households. The results in table 30 show that the performance target of 70% by the end of 2022 was achieved for Sunflower (80%), rice (80%) and soybean (78%) while sesame, groundnuts was above baseline. Sunflower, rice and soybeans registered very high percentages because they are not consumed so much in the households while beans, maize, sesame and cassava were consumed in the households.

Collective marketing generally is challenging however results show increase for sunflower, soybean, sesame and maize compared to baseline. Farmers reported improvement in marketing as most of their produce was marketed early this year when the economy was re-opened after two years of COVID 19 restrictions. Most of the households surveyed reported to have obtained information about available markets and/or prices of their produce from local market places and friends. Farmers households reported about resuming weekly and monthly market days held in designated places. Such market days attracted buyers from within and outside the regions, farmers received price information during such events. Other sources of information were relatives, radio adverts, company agents and farmer organization.

Table 28: Average percentage of crops marketed in 2021

Crop output type	Adjumani	Kitgum	Lamwo	Madi Okolo	Moyo	Nebbi	Obongi	Total
Sesame	44%	65%	68%	58%	59%	66%	45%	68%
Groundnuts	56%	50%	5%	55%	66%	57%	65%	66%
Soybeans	63%	78%	71%	89%	52%	68%	41%	78%
Beans	57%	60%	62%	55%	52%	46%	29%	36%
Cassava	37%	23%	33%	23%	50%	24%	54%	28%
Maize	32%	22%	22%	18%	36%	41%	19%	26%
Irish Potatoes	0%	0%	0%	0%	0%	28%	0%	19%
Rice	0%	0%	0%	0%	0%	80%	0%	80%
Sunflower	0%	75%	85%	0%	0%	0%	0%	80%
Onions	0%	0%	0%	0%	0%	0%	0%	0%

Figure 4: Comparison of marketing between 2021 and 2020

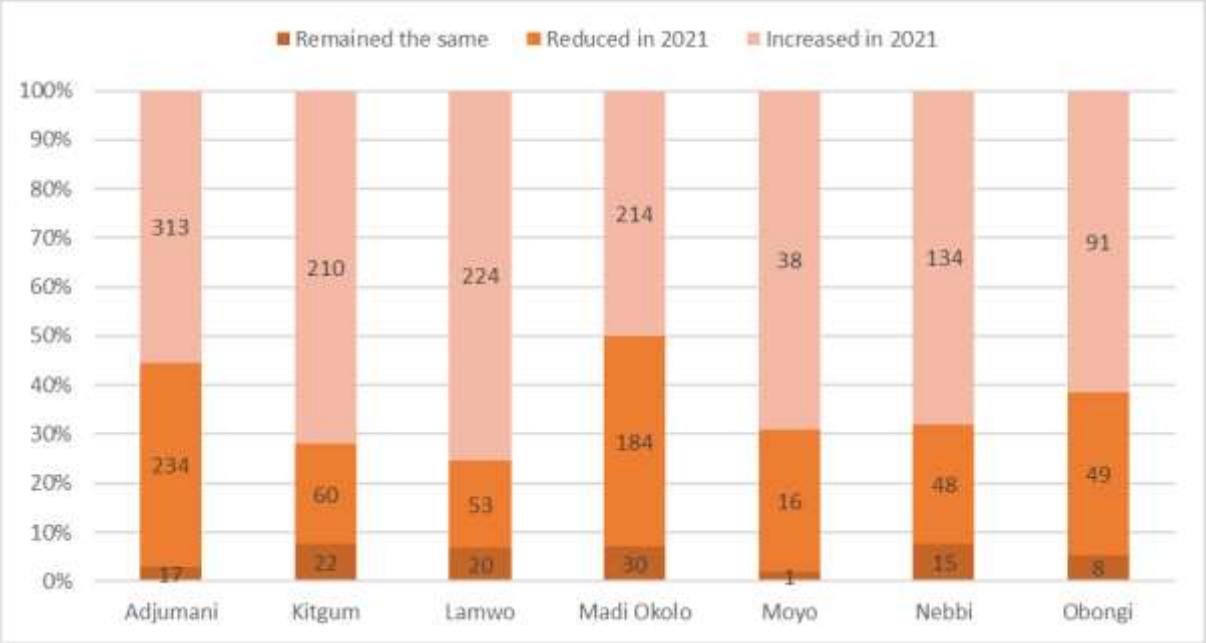


Figure 5: comparison of produce marketing

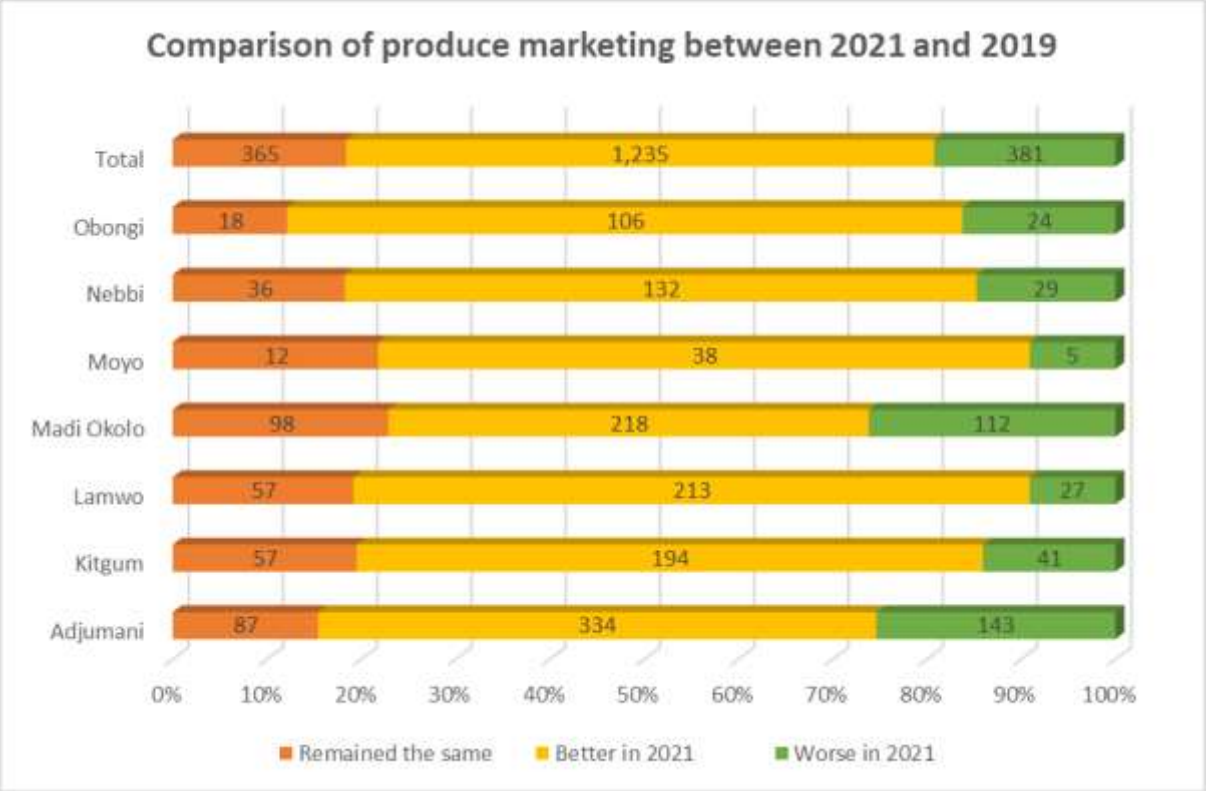


Table 29: Average value of crop production per household for different crops by district

Mean volume of food staff produced that were either consumed or sold

Crop output type	Adjumani		Kitgum		Lamwo		Madi Okolo		Moyo		Nebbi		Obongi		Total	
	Mean consumed	Mean sold	Mean consumed	Mean sold	Mean consumed	Mean sold	Mean consumed	Mean sold	Mean consumed	Mean sold	Mean consumed	Mean sold	Mean consumed	Mean sold	Mean consumed	Mean sold
Bananas	-	-	4	6	-	50	20	-	-	-	86	132	-	-	47	85
Beans	94	144	103	64	117	123	43	24	85	54	55	87	47	47	79	83
Cassava	864	738	313	144	224	170	302	160	205	394	1,039	350	158	301	508	301
Groundnuts	91	75	98	73	69	44	56	44	120	77	55	100	59	39	77	63
Irish Potato	-	-	20	20	7	92	15	-	-	-	49	196	-	-	43	171
Maize	192	1,119	266	99	373	122	62	26	290	508	76	67	147	56	198	399
Millet	76	188	125	74	217	116	66	47	28	-	65	105	119	51	127	78
Onions	-	-	-	-	-	-	10	230	-	-	29	305	-	-	27	289
Pigeon Peas	81	19	96	47	120	105	77	25	40	5	42	8	53	22	95	58
Rice	125	359	-	-	50	250	49	62	79	81	133	394	78	80	92	219
Sesame	155	351	116	198	112	221	198	89	61	50	44	98	54	80	142	202
Sorghum	151	42	264	98	297	88	100	22	136	76	50	41	3,124	3,055	414	277
Soybeans	37	371	49	186	63	344	18	33	8	225	28	109	87	100	44	230
Sunflower	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sweet potato	830	77	265	3,017	82	7	308	60	347	37	400	30	293	22	421	204
Vegetables	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 30: quantity of produce marketed collectively/individually by participating farmer households

Strategic Crops Planted	Method of Sale	Adjumani		Kitgum		Lamwo		Madi Okolo		Moyo		Nebbi		Obongi		Total	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Beans	Collectively	7	20	6	15	5	38	8	31	2	50	10	23	0	0	38	23
	Individually	28	80	33	85	8	62	18	69	2	50	33	77	2	100	124	77
Cassava	Collectively	8	36	3	16	2	100	13	23	6	35	3	19	5	24	40	26
	Individually	14	64	16	84	0	0	43	77	11	65	13	81	16	76	113	74
Groundnuts	Collectively	7	17	4	44	6	67	2	11	6	38	4	31	3	18	32	26
	Individually	35	83	5	56	3	33	16	89	10	63	9	69	14	82	92	74
Maize	Collectively	3	55	0	19	0	50	0	56	0	14	2	48	0	0	5	44
	Individually	9	45	0	81	0	50	0	44	3	86	10	52	2	100	24	56
Potatoes	Collectively	1	33	1	50	2	100	0	0	1	20	4	27	1	50	10	32
	Individually	2	67	1	50	0	0	2	100	4	80	11	73	1	50	21	68
Rice	Collectively	5	26	3	12	0	0	0		1	33	0	0	0	0	9	13
	Individually	14	74	22	88	13	100	0		2	67	3	100	4	100	58	87
Sesame	Collectively	90	29	20	22	11	22	18	6	4	33	0	0	21	21	164	19
	Individually	217	71	69	78	39	78	291	94	8	67	2	100	78	79	704	81
Soybeans	Collectively	82	56	21	21	43	31	15	38	1	14	38	61	0	0	200	40
	Individually	65	44	81	79	96	69	24	62	6	86	24	39	4	100	300	60
Sunflower	Collectively	14	58	1	25	18	40	2	25	5	56	0	0	1	14	41	41
	Individually	10	42	3	75	27	60	6	75	4	44	3	100	6	86	59	59

Table 31: Period of sale strategic crops

Strategic Crops	Period of sale	Adjumani		Kitgum		Lamwo		Madi Okolo		Moyo		Nebbi		Obongi		Total	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Beans	After harvesting	35	100	37	95	12	92	23	88	4	100	42	98	2	100	**155**	**96**
	Before harvest	0	0	2	5	1	8	1	4	0	0	1	2	0	0	**5**	**3**
	During harvest	0	0	0	0	0	0	2	8	0	0	0	0	0	0	**2**	**1**
Cassava	After harvesting	19	86	16	84	2	100	54	96	17	100	16	100	19	90	**143**	**93**
	Before harvest	1	5	0	0	0	0	1	2	0	0	0	0	1	5	**3**	**2**
	During harvest	2	9	3	16	0	0	1	2	0	0	0	0	1	5	**7**	**5**
Groundnuts	After harvesting	42	100	7	78	6	67	17	94	16	100	13	100	17	100	**118**	**95**
	Before harvest	0	0	2	22	1	11	1	6	0	0	0	0	0	0	**4**	**3**
	During harvest	0	0	0	0	2	22	0	0	0	0	0	0	0	0	**2**	**2**
Maize	After harvesting	83	100	7	78	18	69	14	93	28	100	30	100	28	100	**208**	**100**
	Before harvest	1	0	2	22	8	31	1	7	0	0	0	0	0	0	**12**	**0**
	During harvest	1	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	**0**
Potatoes	After harvesting	2	67	1	50	1	50	2	100	4	80	15	100	1	50	**26**	**84**
	Before harvest	1	33	0	0	0	0	0	0	0	0	0	0	1	50	**2**	**6**
	During harvest	0	0	1	50	1	50	0	0	1	20	0	0	0	0	**3**	**10**
Rice	After harvesting	14	78	21	87	13	100	0	0	3	100	2	33	4	100	**57**	**86**
	Before harvest	2	11	1	4	0	0	0	0	0	0	2	67	0	0	**5**	**8**
	During harvest	2	11	2	9	0	0	0	0	0	0	0	0	0	0	**4**	**6**
Sesame	After harvesting	292	95	82	92	50	100	304	98	12	100	2	100	98	99	**840**	**97**
	Before harvest	0	0	6	7	0	0	2	1	0	0	0	0	1	1	**9**	**1**
	During harvest	15	5	1	1	0	0	3	1	0	0	0	0	0	0	**19**	**2**
Soybeans	After harvesting	143	97	97	95	127	91	34	87	7	100	62	100	4	100	**474**	**95**
	Before harvest	1	1	4	4	8	6	2	5	0	0	0	0	0	0	**15**	**3**
	During harvest	3	2	1	1	4	3	3	8	0	0	0	0	0	0	**11**	**2**
Sunflower	After harvesting	23	96	4	100	45	100	8	100	9	100	3	100	6	86	**98**	**98**
	Before harvest	0	0	0	0	0	0	0	0	0	0	0	0	1	14	**1**	**1**
	During harvest	1	4	0	0	0	0	0	0	0	0	0	0	0	0	**1**	**1**

Table 32: Source of marketing information for the crops produced

Source of market information	Adjumani		Kitgum		Lamwo		Madi Okolo		Moyo		Nebbi		Obongi		Total HH	Total %
	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%	HH	%		
Market places	236	33	98	33	106	38	267	35	37	45	83	37	75	35	902	35
Friends/relatives	195	27	53	18	48	17	150	20	23	28	49	22	41	19	559	22
Radio adverts	143	20	59	20	38	13	96	13	8	10	20	9	42	20	406	16
Farmer organizations	65	9	30	10	26	9	92	12	5	6	34	15	25	12	277	11
Company agents	50	7	19	6	37	13	83	11	3	4	10	4	7	3	209	8
Development partners	26	4	42	14	27	10	68	9	6	7	28	13	24	11	221	9

3.1.10 Household participation in VSLA & use of loans for agricultural purpose

Access to credit facilities is a major factor in influencing agricultural production in farmer households. In the rural communities, most farmers are involved in VSLA activities as a means of accessing funds to support production activities. The survey established the proportion of households that were participating in VSLA (formal and informal) activities in the base year 2018 and end line year 2021, farmer households saving ability and proportion of funds borrowed that is used for agricultural production.

The survey result indicates that up to 92% of the respondent participated in VSLA in 2021 compared to 78% at baseline as a result of the approach used by NURI. PREDCO understands that in the design of the programme, nearly all farmer groups enrolled in the programme were targeted however a selection criterion was used in the selection of the participating groups. At district level, Kitgum (98%) had the highest level of participation in VSLA, and the least were in Moyo (73%) and Nebbi (82%). In the base year, Kitgum district had the lowest level of 68% participation in VSLA. Among households that participated in VSLA activities in 2021 almost all (98%) had received some training on VSLA methodology. Their major trainer was NURI CBTs with 96% having been trained by them. This was also consistent among all the districts. This is a big increase in proportion of farmers trained in VSLA since the base year indicated that only 68% were trained.

The survey examined various sources from which farmer households obtain finance to support their agricultural production activities outside VSLA. It further assessed the proportion of funds received through VSLA which was used for agricultural purpose. The sources were defined as, Banks, Micro-finance (SACCOs), individual household saving, borrowing from friends, gifts, and sale of agricultural produce. Results show that the highest source of funding for production activities came from sale of agricultural produce with 50% (60% base year) this was followed by individual household saving at 31%. The least was observed from banks, micro-finance, and gifts, as was the case in the base year.

VSLA funds are used for various purposes which include agricultural production, medical needs, purchase of food stuff, building/ construction, purchase of assets and petty trade. According to

the results, 70% of the funds borrowed are used for production compared to 66% at baseline. School fees and other related requirements was 10%, and petty trade 10%.

The survey established the average amount a farmer could borrow and pay back with interest. Results show that on average, a household was able to borrow UGX 174,668 (UGX 211,674/= base value) which was much less than the base value across the seven districts as a result of COVID 19 restrictions that hindered movements and crowds in markets places hence affecting business opportunities. Obongi had the highest average which was UGX 228,675 (UGX 277,414/= base value) and Kitgum had the lowest with UGX 137,407/=. Moyo was the only other district past the UGX 200,000 mark for average loan borrowed. The amount borrowed varied and depended on an individual's ability to pay back and sometimes the magnitude of the use of the money.

Participation of the youth in VSLA activities was assessed and results showed mixed observations. 32% reported youth participation as high nearer to baseline (35% during base year), 33% medium while 35% rated it low.

Table 33: Other sources of household income other than from VSLA

	Adjumani		Kitgum		Lamwo		Madi Okolo		Moyo		Nebbi		Obongi		Total N	Total %
Source of finances	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**		
Sale of agricultural produce	372	51	247	54	247	56	297	45	24	53	117	45	79	46	1,383	50
Individual household savings	200	28	147	32	142	32	224	34	12	27	100	38	43	25	868	31
Borrowing from families/ friends	111	15	45	10	39	9	117	18	6	13	18	7	23	13	359	13
SACCO	30	4	2	0	3	1	10	2	3	7	2	1	21	12	71	3
Gifts	6	1	12	3	7	2	10	2	0	0	13	5	3	2	51	2
Bank	4	1	3	1	6	1	6	1	0	0	10	4	3	2	32	1
Grand Total	**723**	**100**	**456**	**100**	**444**	**100**	**664**	**100**	**45**	**100**	**260**	**100**	**172**	**100**	**2,764**	**100**

Figure 6: % use of VSLA Loans:

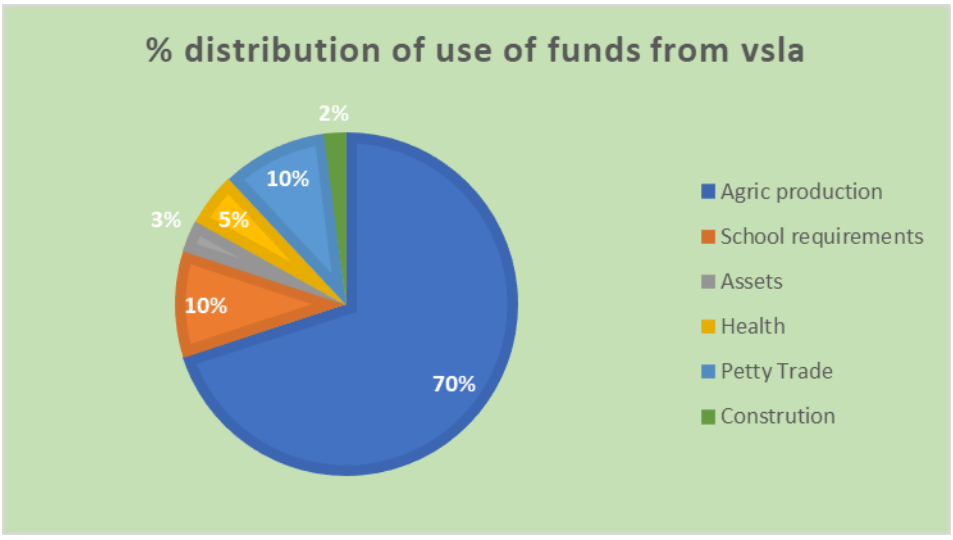


Table 34: Comparison of use of loans borrowed in VSLA

	Adjumani		Kitgum		Lamwo		Madi Okolo		Moyo		Nebbi		Obongi		Total HH	Total %
Proportion used in various activities	**HH**	**%**	**HH**	**%**	**HH**	**%**	**HH**	**%**	**HH**	**%**	**HH**	**%**	**HH**	**%**		
Agricultural production	389	62	188	70	163	68	258	60	35	58	119	75	69	65	1,221	70
School requirements (including fees)	220	12	120	9	98	10	109	10	13	7	48	9	50	10	658	10
Petty trade	78	7	45	8	38	11	152	10	5	3	48	17	54	12	420	10
Household asset (bicycle, goats,…)	171	5	76	5	67	5	99	6	3	5	40	5	13	6	469	5
Health	162	5	81	5	59	5	68	6	0	0	39	4	20	3	429	3
Construction (house/shelter)	34	4	16	5	8	2	23	4	3	4	10	5	12	8	106	2

Table 35: Participation of Households in VSLA Activities

	Adjumani		Kitgum		Lamwo		Madi Okolo		Moyo		Nebbi		Obongi		Total HH	Total %
	HH	**%**	**HH**	**%**	**HH**	**%**	**HH**	**%**	**HH**	**%**	**HH**	**%**	**HH**	**%**		
Participated in VSLA	545	97	286	98	267	90	388	91	40	73	162	82	140	95	1828	92
Household received training on VSLA methodology	537	99	284	99	263	99	380	98	37	93	146	90	138	99	1785	98
Training provider																
CBTs from NURI	524	98	275	97	246	94	372	98	36	97	132	90	120	87	1705	96
Trainers from NGOs	12	2	8	3	14	5	6	2	1	3	13	9	12	9	66	4
Learnt from another group	0	0	1	0	3	1	2	1	0	0	1	1	6	4	13	1
Church based organization	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Rating of youth participation in VSLA																
High	80	15	123	43	111	42	154	40	11	28	56	35	41	29	576	32
Medium	153	28	93	33	79	30	151	39	19	48	66	41	40	29	601	33
Low	312	57	70	24	77	29	83	21	10	25	40	25	59	42	651	35

3.1.11 Gender and Youth Participation in Agricultural Production

NURI has been making emphasis on addressing gender and the youth question in their programming however there are no direct activities targeting the initiative. In principle their targeting is intertwined in the delivery of planned activities. The youth definition by the programme is persons between the age of 18 –28 years. The women form part of the farmer groups, some in the leadership positions and for the refugee, there is a category called women refugee groups. The survey assessed participation of the youth in respect to agricultural production stages/cycle; land opening/preparation, planting, weeding, pest & disease management, post-harvest handling, marketing and planning.

Gender in production

In every household, the survey considered the participation of adult males, adult females, male children, female children and where combined efforts were observed. Results show that in general participation depended on the stage of production however adult female participated highest. The adult male and children participated according to the production stage but in general every household member contributed to at least a production stage.

Decision making is critical in managing production activities at every stage. Results indicate that irrespective of the level of participation, most of the decisions are made by adult male for male headed households. Although the men dominate most of the mobilization activities, the female are not far away according to the findings. But the female adults only dominate in decision making when mobilizing for harvesting and post-harvest handling.

See details of the findings in the graphs below

Figure 7: Level of participation of household members in various agricultural production

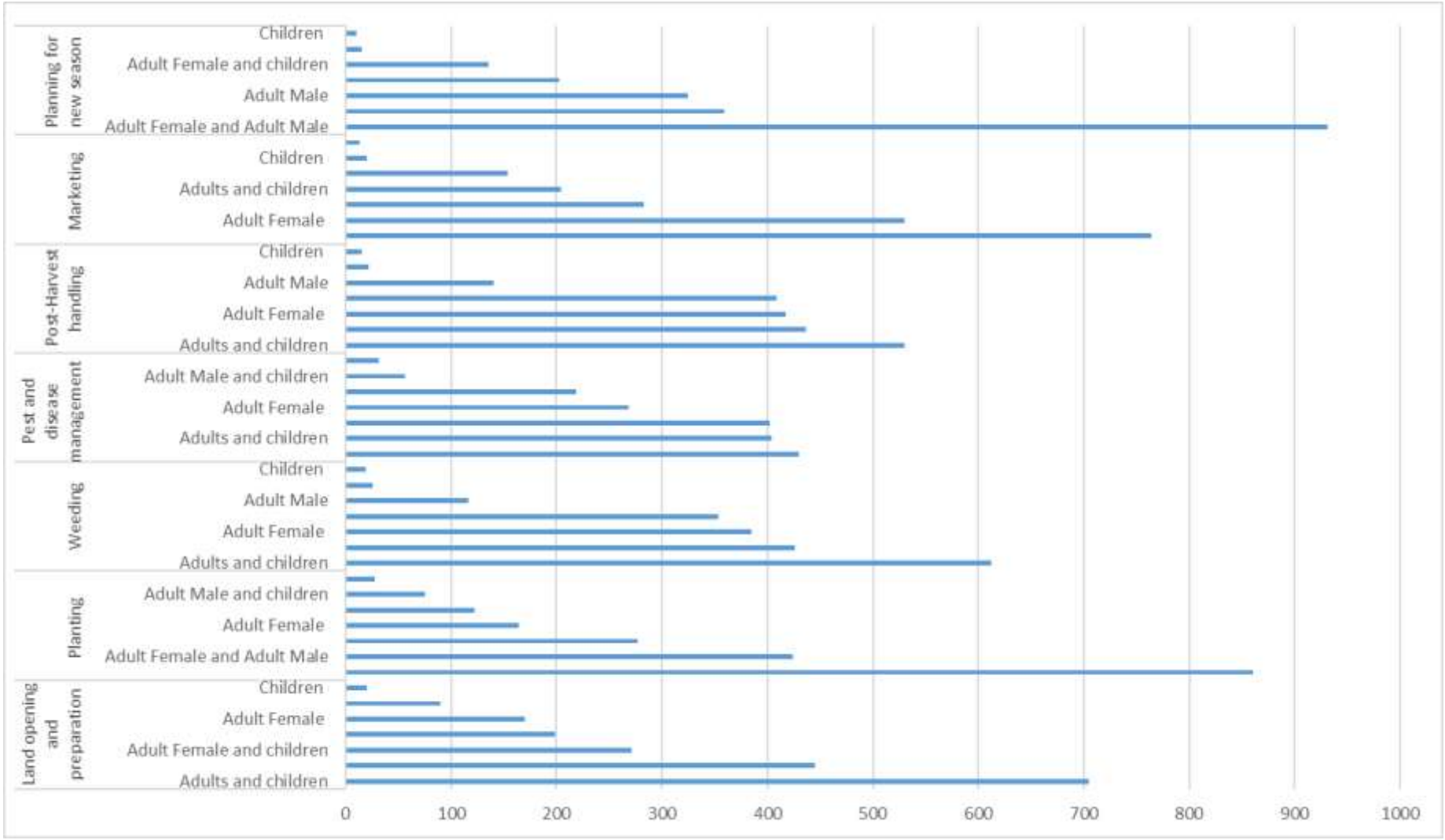
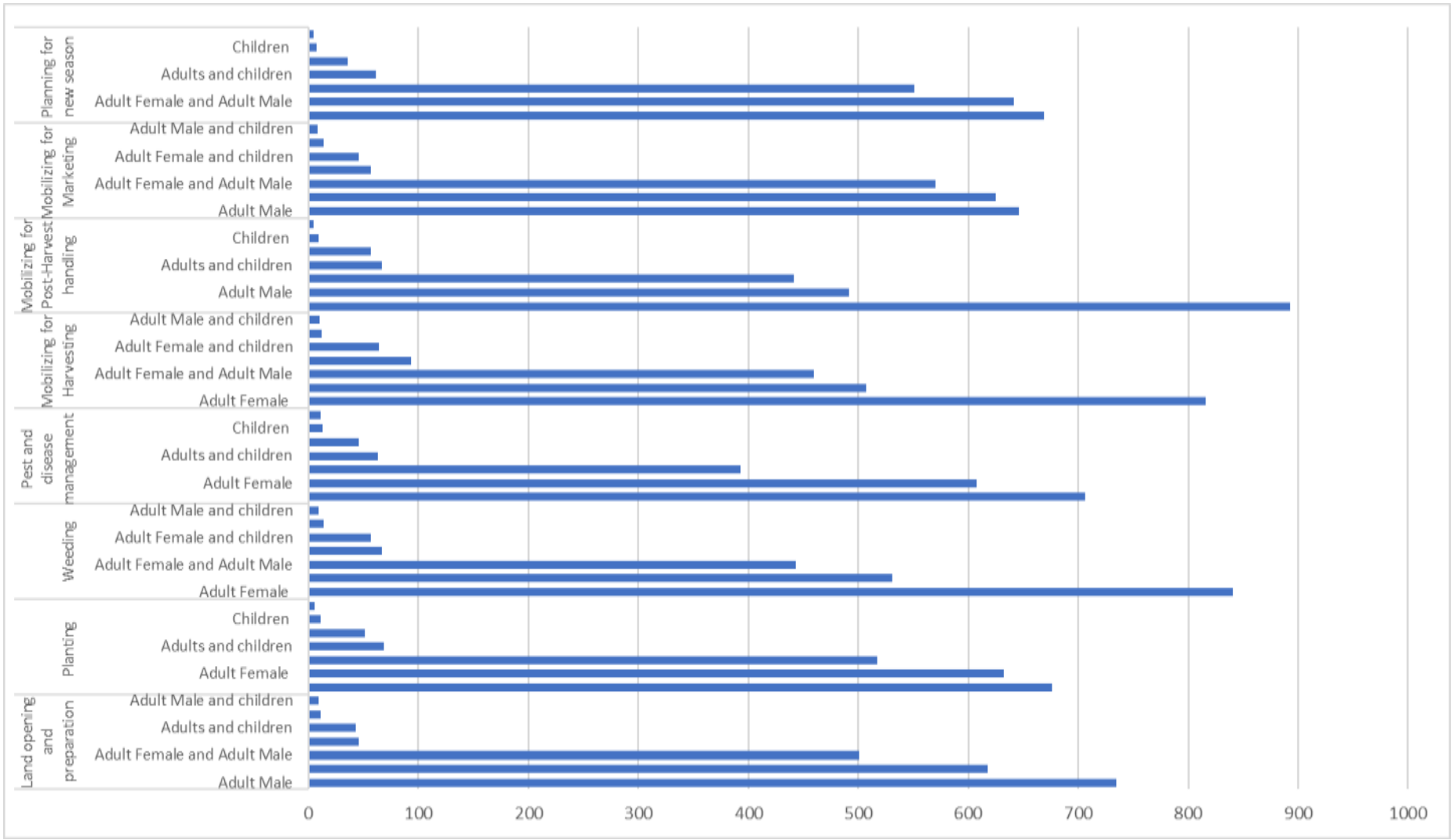


Figure 8: Household member in charge of mobilizing for the various agricultural production activities



3.1.12 Youth participation in production

40% of the respondents rated participation of the youth in production as high while 37% medium and 23% low. In general, there is a feeling from the qualitative report that the youths are beginning to appreciate the value of agricultural production and therefore getting more involved. Others reported no other alternatives but there is big interest compared to the baseline situation. Across districts, all districts except Obongi indicated youth participation is high, with the highest per district wise recorded in Kitgum (48%), Lamwo (47%), and Moyo (58%). Obongi had the least level of youth participation at 32%. However, youth participation was lower in 2021 by 24% compared to the baseline value.

Focus group discussions revealed that some youths are school going, some are not focused, so they like to stay idle, drunkenness and gambling activities. However, the youths tend to get more involved in production when they are married.

Figure 9: Youth participation in production in percentages

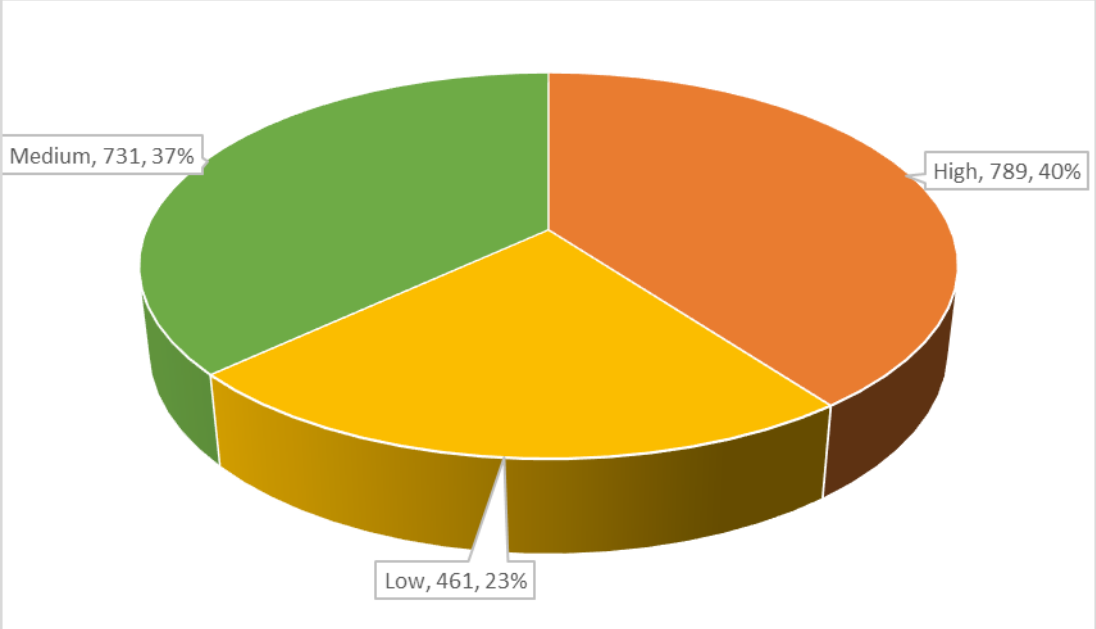


Table 36: Rating of youth participation in agricultural production by district

Opinion rating	Adjumani		Kitgum		Lamwo		Madi Okolo		Moyo		Nebbi		Obongi	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
High	181	32	141	48	140	47	175	41	32	58	92	47	28	19
Low	200	35	30	10	47	16	80	19	6	11	43	22	55	37
Medium	183	32	121	41	110	37	173	40	17	31	62	31	65	44

3.3.10 Sexual Reproductive Health and Rights

The survey ascertained the respondent's knowledge about sexual reproductive health and rights, a component of the NURI programme implemented with technical support from CARE International. The farmer groups are offered training and awareness activities on SRHR including being made

aware of places they can seek redress from SRHR issues. The result across the seven districts indicates that 84% of the respondents are aware about SRHR issues and 64% had attended trainings from NURI extension staff and Care. About 24% were trained by government workers and 12% by other development partners. Up to 93% of the respondents who were trained on SRHR agreed that the training helped to improve SRHR issues in their communities. Also, 49% of the respondents who were trained had used family planning methods. Most of the respondents received their services from health facilities (96%) and 2% received the service from development partners.

The participants of a FGD of refugees from Arinyapi sub county in Adjumani noted that there is low uptake of family planning methods in their communities because the men were reluctant to attend trainings unless there was some incentive for attending. Since the many men do not have the knowledge on family planning, it creates issued of GBV if the woman suggests that they should use it.

Some members of Kudi Icaya farmers group in Nebbi sited "fear of knowing their HIV status" as one of the main reasons men do not want to hear issues to do with family planning services.

Table 44: Awareness and use of family planning services among refugee HHs

	Adjumani		Kitgum		Lamwo		Madi Okolo		Moyo		Nebbi		Obongi		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Aware about SRHR	287	51	210	72	228	77	317	74	40	73	79	40	103	70	**1,264**	**84**
Training provider																
NURI extension staff & CARE	86	22	100	39	107	39	200	47	8	18	19	18	50	38	**570**	**64**
Government Health workers	116	29	63	24	54	20	89	21	21	47	47	45	41	31	**431**	**24**
Other NGOs/Development Partner	51	13	33	13	43	16	23	5	8	18	21	20	16	12	**195**	**12**
Family/Friends	4	1	5	2	1	0	2	0	1	2	15	14	4	3	**32**	**2**
Training improved SRHR & GBV issues	264	92	202	96	216	95	291	92	33	83	71	90	98	95	**1,175**	**93**
Used FP methods	160	56	96	46	106	46	143	45	17	43	45	57	50	49	**617**	**49**
Source of service for SRHR																
Health facility	204	98	108	96	113	97	171	96	17	94	78	95	57	93	**748**	**96**
Family/friends	2	1	2	2	1	1	3	2	1	6	1	1	0	0	**10**	**1**
Development partner centre	2	1	2	2	1	1	1	1	0	0	2	2	4	7	**12**	**2**
Other	1	0	0	0	2	2	3	2	0	0	1	1	0	0	**7**	**1**

3.2 FINDINGS FOR REFUGEES GROUPS

3.2.1 Demographic characteristics for host communities in mixed groups

The survey assessed the performance of refugees participating in the NURI CSA programme. The refugees are participating in what NURI calls mixed groups category (refugees plus host communities) and as refugee women groups. In analysing the mixed group data, effort was made to make comparison in performance of the nationals verses the refugees. As understood from the NURI programme documents, there was the assumption that having this group type would enhance land access, labour and inputs for refugees as a result of built relationships with the host communities.

The key areas assessed under demographic characteristics include gender, age of respondent, household type, household size, age of the household head and main occupation.

For the refugees in mixed groups, 74% were female while 26% were male. In the women groups 97% were female and 7% male. In the female groups, the respondents reported that they need a few men to support in fulfilling other requirements like registration, land discussion etc.

Most of the respondents were in the 26-35 age group with 35%, followed by those between 36-45 years category. The result also indicates 13% of the respondents were younger than 25 years and another 13% falling in 46-55 age group. This was also a similar pattern with the women headed households.

The result further shows that 93% of the respondents' main occupation was farming, while petty trade was the main occupation for 3% of the respondents. For the household size of the respondents, 38% had 7 to 9 members, 32% had 4 to 6 participants and 18% had 10 or more members.

About education, 32% attained lower-level primary education, 30% attained upper primary education and 23% had no formal education, and 2% attained tertiary level education. Concerning the age of the household head, 34% were in the 35-45 age bracket, 32% were in the 26-35 age group. It is also important to note that 4% were older than 65 years while 8% were in the 56-65 age group.

Results for the new nationals in the mixed groups is similar to that of the refugees as well those in the new national groups. The were more female respondents (62%) than male (38%) and 80% of the household types are male headed. 98% of the respondents are engaged in farming as their main occupation with average household size of 8. About 62% attended primary education with 30% having completed upper primary and therefore could read and write their names.

Table 3.1.1: Demographics of Nationals in the Mixed Group

National Demographic summary		Adjumani		Lamwo		Madi Okolo		Obongi		Total	
		No		No		No		No		No	
Sex of Respondent	Female	83	61	15	79	60	54	43	73	201	**62**
	Male	53	39	4	21	51	46	16	27	124	**38**
Age of Respondent	<25	8	6	2	11	9	8	10	17	29	**9**
	26-35	55	40	5	26	34	31	16	27	110	**34**
	36-45	31	23	5	26	30	27	17	29	83	**26**
	46-55	25	18	3	16	26	23	6	10	60	**18**

National Demographic summary		Adjumani		Lamwo		Madi Okolo		Obongi		Total	
		No		No		No		No		No	
	56-65	15	11	2	11	10	9	7	12	34	**10**
	65+	2	1	2	11	2	2	3	5	9	**3**
Household Head Type	Female Headed	20	15	4	21	15	14	20	34	59	**18**
	Female Managed	4	3	0	0	2	2	1	2	7	**2**
	Male Headed	112	82	15	79	94	85	38	64	259	**80**
Main Occupation of the household head	Farming	135	99	19	100	106	95	57	97	317	**98**
	Petty trade	1	1	0	0	1	1	1	2	3	**1**
	Teacher	0	0	0	0	2	2	0	0	2	**1**
	Tailoring	0	0	0	0	1	1	0	0	1	**0**
	Charcoal burning	0	0	0	0	0	0	1	2	1	**0**
	Fishing	0	0	0	0	1	1	0	0	1	**0**
Household Size	1-3	5	4	1	5	7	6	5	8	18	**6**
	4-6	37	27%	10	53%	37	33%	16	27%	100	**31%**
	7-9	58	43	2	11	32	29	27	46	119	**37%**
	10+	36	26	6	32	35	32	11	19	88	**27%**
Education Level of household head	No Formal Education	9	14	21	26	16	19	38	27	84	**23%**
	Lower-Level Primary Education (P1-P4)	18	28	18	22	44	52	40	28	120	**32%**
	Upper-Level Primary Education (P5-P7)	23	36	34	42	16	19	38	27	111	**30%**
	O' Level Education (S1-S4)	12	19	8	10	4	5	24	17	48	**13%**
	A' Level Education (S5-S6)	0	0	0	0	0	0	2	1	2	**1%**
	Tertiary Institution	2	3	0	0	4	5	0	0	6	**2%**
Age of Household Head	<25	5	4	0	0	8	7	4	7	17	**5%**
	26-35	47	35	6	32	29	26	18	31	100	**31%**
	36-45	38	28	5	26	28	25	15	25	86	**26%**
	46-55	19	14	3	16	30	27	9	15	61	**19%**
	56-65	20	15	3	16	14	13	7	12	44	**14%**
	65+	7	5	2	11	2	2	6	10	17	**5%**
Grand Total		**136**	**100%**	**19**	**100**	**111**	**100**	**59**	**100**	**325**	**100**

Table 37: Demographics of the Refugees at in 2021

		Mixed Refugee Households										Women Refugee Households									
		Adjumani		Lamwo		Madi Okolo		Obongi		Total		Adjumani		Lamwo		Madi Okolo		Obongi		Total	
		N	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Sex of Respondent	Female	47	73	63	78	60	71	105	74	275	**74**	36	84	29	94	36	100	66	94	167	**93**
	Male	17	27	18	22	24	29	37	26	96	**26**	7	16	2	6		0	4	6	13	**7**
Age of Respondent	<25	12	19	16	20	0	0	21	15	49	**13**	11	26	3	10		0	9	13	23	**13**
	26-35	17	27	34	42	32	38	48	34	131	**35**	8	19	13	42	20	56	19	27	60	**33**
	36-45	18	28	16	20	36	43	44	31	114	**31**	13	30	7	23	12	33	24	34	56	**31**
	46-55	10	16	5	6	12	14	20	14	47	**13**	6	14	1	3	4	11	12	17	23	**13**
	56-65	4	6	4	5	4	5	7	5	19	**5**	3	7	3	10		0	4	6	10	**6**
	65+	3	5	6	7	0	0	2	1	11	**3**	2	5	4	13		0	2	3	8	**4**
Household Head Type	Female Headed	33	52	30	37	36	43	63	44	162	**44**	33	77	30	97	36	100	63	90	162	**90**
	Female Managed	10	16	1	1	0	0	7	5	18	**5**	10	23	1	3	0	0	7	10	18	**10**
	Male Child Headed	0	0	1	1	0	0	0	0	1	**0**	0	0	0	0	0	0	0	0	0	**0**
	Male Headed	21	33	49	60	48	57	72	51	190	**51**	0	0	0	0	0	0	0	0	0	**0**
Main Occupation of the Respondent	Farming	57	89	75	93	80	95	132	93	344	**93**	37	86	29	94	36	100	67	96	169	94
	Petty trade	3	5	2	2	4	5	3	2	12	**3**	3	7	1	3	0	0	1	1	5	3
	Teacher	1	2	0	0	0	0	2	1	3	**1**	0	0	0	0	0	0	1	1	1	1
	Builder	1	2	0	0	0	0	1	1	2	**1**	1	2	0	0	0	0	0	0	1	1
	Brewing	0	0	2	2	0	0	0	0	2	**1**	0	0	1	3	0	0	0	0	1	1
	Boda boda riding	0	0	1	1	0	0	0	0	1	**0**	1	2	0	0	0	0	0	0	1	1
	Nutrition champion	1	2	0	0	0	0	0	0	1	**0**	1	2	0	0	0	0	0	0	1	1
	Vegetables vendor	0	0	0	0	0	0	1	1	1	**0**	0	0	0	0	0	0	0	0	0	0
	Credit Officer (Vision Fund Ug)	1	2	0	0	0	0	0	0	1	**0**	0	0	0	0	0	0	0	0	0	0
	VHT	0	0	0	0	0	0	1	1	1	**0**	0	0	0	0	0	0	0	0	0	0
	Na	0	0	0	0	0	0	1	1	1	**0**	0	0	0	0	0	0	0	0	0	0
	Block leader	0	0	1	1	0	0	0	0	1	**0**	0	0	0	0	0	0	0	0	0	0
	Hotel Vending	0	0	0	0	0	0	1	1	1	**0**	0	0	0	0	0	0	1	1	1	1

Household Size	1-3	9	14	8	10	8	10	19	13	44	**12**	7	16	4	13	4	11	12	17	27	**15**
	4-6	7	11	31	38	24	29	60	42	122	**33**	5	12	11	35	12	33	33	47	61	**34**
	7-9	30	47	28	35	36	43	46	32	140	**38**	17	40	10	32	16	44	15	21	58	**32**
	10+	18	28	14	17	16	19	17	12	65	**18**	14	33	6	19	4	11	10	14	34	**19**
Education Level of respondent	No Formal Education	9	14	21	26	16	19	38	27	84	**23**	8	19	14	45	12	33	22	31	56	**31**
	Lower-Level Primary Education (P1-P4)	18	28	18	22	44	52	40	28	120	**32**	13	30	7	23	24	67	23	33	67	**37**
	Upper-Level Primary Education (P5-P7)	23	36	34	42	16	19	38	27	111	**30**	11	26	8	26	0	0	17	24	36	**20**
	O'Level Education (S1-S4)	12	19	8	10	4	5	24	17	48	**13**	10	23	2	6	0	0	7	10	19	**11**
	A'Level Education (S5-S6)	0	0	0	0	0	0	2	1	2	**1**	0	0	0	0	0	0	1	1	1	**1**
	Tertiary Institution	2	3	0	0	4	5	0	0	6	**2**	1	2	0	0	0	0	0	0	1	**1**
Age of Household Head	<25	3	5	4	5	0	0	12	8	19	**5**	2	5	0	0	0	0	6	9	8	**4**
	26-35	12	19	37	46	28	33	41	29	118	**32**	7	16	13	42	20	56	16	23	56	**31**
	36-45	22	34	23	28	32	38	50	35	127	**34**	16	37	9	29	12	33	27	39	64	**36**
	46-55	14	22	7	9	16	19	24	17	61	**16**	7	16	2	6	4	11	13	19	26	**14**
	56-65	7	11	4	5	8	10	12	8	31	**8**	6	14	3	10	0	0	5	7	14	**8**
	65+	6	9	6	7	0	0	3	2	15	**4**	5	12	4	13	0	0	3	4	12	**7**

3.2.2 Increase in average annual agricultural cash income for participating HH

The survey assessed average annual agricultural related cash income for the households in the mixed group and refugee women to address the outcome indicators in the results framework which was compared against baseline. Results show that average agricultural cash income for refugees in mixed groups in 2021 was 1,000,930 UGX compared to 872,410 at baseline. For the women refugees, income was 594,853 Ugx up from 294,241 Ugx at baseline. The highest income for refugee women groups was registered in Madi-Okollo meanwhile, for the refugees in mixed groups was noted in Lamwo. Performance was better compared to baseline although slightly below performance target of 20% increase by end of 2022 for mixed groups while the women groups, it was surpassed by 68%.

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KEY NOTES FOR NATIONALS IN MIXED GROUPS

- *The results show that the average agricultural income for nationals was 1,218,000 Ugx which is 21% above that of the refugees.*
- *Finding relates to production levels where for the nationals as host communities is higher.*
- *When compared to the nationals in the New National Groups, one can see that the difference is not so big implying that production levels are similar.*
- *It should also be noted that the refugee population in Obongi is higher than that of the host communities.*
- *From the qualitative notes, it was reported that farmers before establishment of the settlements did not take production as very key in terms of providing household income rather, they looked to other sources like small businesses, fish mongering but which were limited by inadequate market opportunities.*

Table 5: Average Total HH Income and the Sources for Nationals in mixed groups in 2021

		Adjumani		Lamwo		Madi Okolo		Obongi		Total	
		No	%	No	%	No	%	No	%	No	%
Agricultural income	< 200,001	17	13	3	16	12	11	5	8	54	17
	200,001-600,000	22	16	1	5	12	11	2	3	37	11
	600,001-1,000,000	20	15	3	16	21	19	22	37	49	15
	1,000,001-1,400,000	55	40	8	42	35	32	28	47	126	39
	1,800,001-2,200,000	3	2	3	16	12	11	1	2	19	6
	2,200,001-2,600,000	6	4	1	5	6	5	0	0	13	4
	2,600,001+	0	0	0	0	2	2	0	0	2	1
	Average	**1,032,252**		**1,109,474**		**1,097,568**		**989,915**		**1,218,000**	

For the FGDs, refugee farmers reported that their relationship with the host communities has improved over the years and has given them more opportunities to carry out agricultural production. In the refugee women groups, it could be seen that 39% earned between 200,000 Ugx to 600,000 Ugx and 29% earned above 600,000 Ugx. In the mixed groups, 55% of refugee household had income figures between 1,000,000 Ugx to 1,400,000 Ugx. The male headed household earned higher incomes compared to the female headed.

An interesting observation is the shift in income sources in 2021 compared to baseline where refugees reported income from agricultural production is more reliable. The income values from agricultural activities were higher compared to figures from non-agricultural sources. A farmer from **Can Diya mixed** group from Lamwo settlement reported that:

> *"…Back home in Sudan we do farming as our main livelihood source, but when we just settled in Uganda, there was no land for cultivation so we resorted to doing other activities. When we had chance to access land, we settled for production activities which has helped us a lot….".*
>
> *In Madi Okollo, refugees in mixed groups reported that farmers that planted sesame with the new nationals earned money after selling their proceeds in groups. There was a high demand for sesame as there were more buyers for the low supply. Therefore, sesame prices were very high.*

Table 38a: Average HH Income and the Sources for women Refugee households in 2021

		Adjumani		Lamwo		Madi Okolo		Obongi		Total	
		N		n		n		n		n	
Agriculture related HH income	< 200,001	3	13	0	0	2	12	9	43	5	8
	200,001-600,000	4	17	1	25	2	12	11	52	26	39
	600,001-1,000,000	12	50	1	25	24	24	1	5	19	29
	1,000,001-1,400,000	2	8	0	0	24	24	0	0	6	9
	1,400,001-1,800,000	1	4	1	25	4	24	0	0	6	9
	1,800,001-2,200,000	0	0	1	25	0	0	0	0	1	2
	2,600,001+	2	8	0	0	1	6	0	0	3	5
	Average	**531,140**		**461,419**		**1,032,333**		**354,521**		**594,853**	
Non-agriculture related HH income	< 200,001	43	100	31	100	32	89	70	100	176	98
	200,001-600,000	0	0	0	0	4	11	0	0	4	2
	Average	**685,349**		**218,290**		**253,333**		**262,914**		**354,228**	

Table 41b: Average HH Income and the Sources for mixed Refugee households in 2021

		Adjumani		Lamwo		Madi Okolo		Obongi		Total	
		n		N		n		n		N	
Agriculture related HH income	< 200,001	9	14	0	0	12	14	0	0	26	7
	200,001-600,000	6	9	6	7	32	38	3	2	50	13
	600,001-1,000,000	21	33	13	16	20	24	108	76	82	22
	1,000,001-1,400,000	27	42	62	77	12	14	30	21	203	55
	1,400,001-1,800,000	0	0	0	0	4	5	0	0	4	1
	1,800,001-2,200,000	1	2	0	0	0	0	1	1	2	1
	2,600,001+	0	0	0	0	4	5	0	0	4	1
	Average	**1,076,102**		**1,179,494**		**898,095**		**856,239**		**1,002,930**	
Non-agriculture related HH income	< 200,001	62	97	81	100	80	95	141	99	364	98
	200,001-600,000	2	3	0	0	4	5	0	0	6	2
	600,001-1,000,000	0	0	0	0	0	0	1	1	1	0
	Average	**732,453**		**234,117**		**335,524**		**307,106**		**370,980**	

Food Security situation

The assessment of this performance indicator was based on percent of households that reported experiencing food shortage in 2021 compared to baseline. Another proxy indicator is average number of meals consumed per day in a household.

Results show that 19% of women refugee household experienced food shortage mainly in the months of May, June and July while for the refugees in mixed groups, it was 18%. This is an improvement compared to baseline which was 43% and 55%. In terms of average number of meals per day, results show that more than half of the respondents had between 2 meals a day. No

household was recorded to have had no food per day. Comparing the two regions, refugees in West Nile recorded more households having on average 3 meals per day compared to Acholi sub-region.

The study also sought to establish the different food categories refugee HHs consumed in 2021, the frequency of consumption and source of the food. No food category was eaten daily by all the respondents in any of the four districts. However, some crops that were eaten daily by more than half of the respondents across the four districts were, cereals (64), sugar (64), and vegetables (55). The food types most eaten monthly were fruits (58), meat (54) and fish (44). Food types that were most eaten weekly were roots and tubbers (68) and pulses (50). Oils, fats, and butter were not eaten at all by 66 of the respondents. This pattern was similar to the female refugee households. See tables 43 and 44 for details.

Sources of food consumed by refugee HHs in 2021 analysis revealed that, in Adjumani, most of the cereals (65) and vegetables (51) consumed were from household production. The rest of the food types were mostly bought from markets. In Lamwo, milk and milk products were mostly distributed by development partners. In Lamwo, Madi Okolo and Obongi, cereals were mainly distributed by development partners. There was a high level of reliance on the market to consume many of the food types as indicated in table 45 and 46 below.

For the new nationals, finding indicates that 63% of the respondents had at least three meals a day in 2021. This was also consistent across all districts that the majority had 3+ meals except for Lamwo that the majority (79%) had an average of two meals a day. The result also revealed that May, June, and July were the months in which most households experienced food shortage in 2021, with June being the peak of food shortage with 34% who experienced food shortage. The pattern was similar across each district, but Adjumani (60%) and Madi Okolo (54%) had the highest number of respondents who experienced food shortage in June 2021.

Table 39: Food security situation in HHs for Refugees during 2021

	Women Refugees										Mixed Refugees									
	Adjumani		Lamwo		Madi Okolo		Obongi		Total		Adjumani		Lamwo		Madi Okolo		Obongi		Total	
Number of meals	n		n		n		n		n		n		n		n		n		n	
Average number of meals consumed per day																				
1	0	0	1	3	4	11	4	6	9	5	1	2	4	5	4	5	9	6	18	5
2	21	49	23	74	20	56	25	36	89	49	33	52	58	72	36	43	60	42	187	50
3+	22	51	7	23	12	33	41	59	82	46	30	47	19	23	44	52	73	51	166	45
Months during which food shortage was experienced																				
January	0	0	0	0	12	7	9	4	21	4	1	1	1	1	24	6	18	4	44	4
February	0	0	0	0	12	7	10	4	22	4	2	2	1	1	24	6	17	4	44	4
March	1	2	0	0	12	7	11	5	24	5	2	2	1	1	24	6	21	5	48	5
April	2	3	4	8	12	7	14	6	32	6	3	3	7	5	28	7	27	6	65	6
May	8	13	9	17	24	13	32	14	73	14	13	14	22	15	48	13	54	13	137	13
June	23	38	22	42	28	16	53	23	126	24	34	35	57	39	60	16	93	22	244	23
July	22	37	11	21	20	11	47	20	100	19	32	33	36	24	44	11	85	20	197	19
August	4	7	5	10	12	7	21	9	42	8	5	5	13	9	32	8	37	9	87	8
September	0	0	1	2	12	7	12	5	25	5	1	1	5	3	28	7	24	6	58	5
October	0	0	0	0	12	7	8	3	20	4	1	1	2	1	24	6	19	4	46	4
November	0	0	0	0	12	7	8	3	20	4	1	1	2	1	24	6	17	4	44	4
December	0	0	0	0	12	7	8	3	20	4	1	1	1	1	24	6	17	4	43	4

Percentage of HHs for nationals that experienced food shortage in each month in 2021

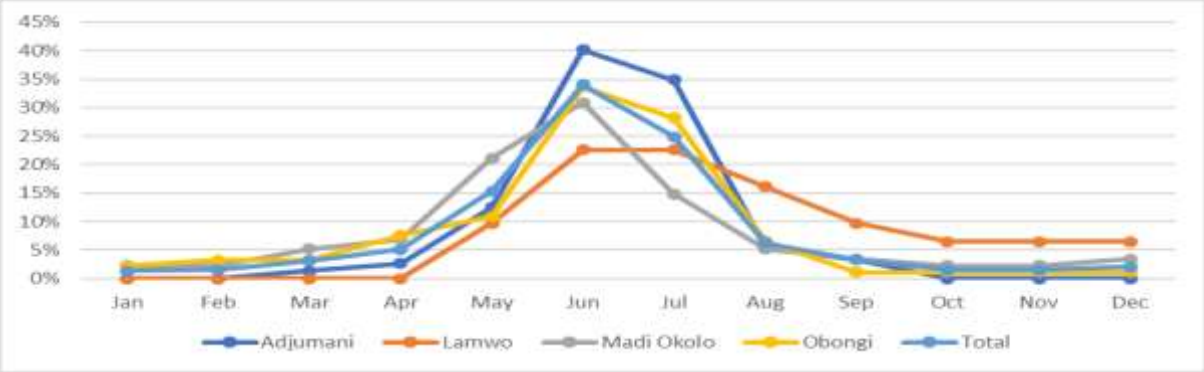

Table 40: Food categories consumed by women refugee HHs in 2021

Food Type	Adjumani				Lamwo				Madi Okolo				Obongi				General Average			
	Daily	Monthly	Weekly	Not at all	Daily	Monthly	Weekly	Not at all	Daily	Monthly	Weekly	Not at all	Daily	Monthly	Weekly	Not at all	Daily	Monthly	Weekly	Not at all
Cereals	58	0	42	0	68	6	26	0	56	11	33	0	73	4	23	0	64	5	31	0
Tubers & roots	14	16	70	0	6	19	65	10	33	0	67	0	9	37	50	4	16	18	63	3
Vegetables	33	0	67	0	77	0	19	3	78	0	22	0	33	10	57	0	55	3	42	1
Fruits	0	63	28	9	10	52	3	35	22	67	11	0	1	50	26	23	8	58	17	17
Meat	0	72	12	16	6	45	3	45	11	44	22	22	0	54	4	41	4	54	10	31
Eggs	33	14	33	21	16	45	23	16	67	0	33	0	39	9	33	20	38	17	30	14
Fish	0	35	21	44	10	32	6	52	0	89	11	0	0	21	11	67	2	44	12	41
Pulses	0	35	60	5	13	42	23	23	11	11	78	0	10	33	40	17	9	30	50	11
Milk & milk products	37	19	40	5	45	16	10	29	22	33	44	0	46	6	41	7	38	18	34	10
Oils, fats & butter	0	33	16	51	10	29	3	58	0	11	11	78	3	19	3	76	3	23	8	66
Sugar	42	14	37	7	81	3	10	6	89	0	11	0	46	10	30	14	64	7	22	7

Table 41: Food categories consumed in mixed refugee HHs in 2021

Food Type	Adjumani				Lamwo				Madi Okolo				Obongi			
	Daily	Monthly	Weekly	Not at all	Daily	Monthly	Weekly	Not at all	Daily	Monthly	Weekly	Not at all	Daily	Monthly	Weekly	Not at all
Cereals	59	2	39	0	67	4	30	0	48	14	38	0	76	3	21	0
Tubers & roots	14	11	75	0	9	14	73	5	38	14	43	5	6	32	53	9
Vegetables	33	0	67	0	69	9	21	1	67	5	29	0	30	8	61	1
Fruits	0	59	30	11	5	52	17	26	10	67	10	14	2	42	25	30
Meat	0	66	13	22	5	43	7	44	5	43	10	43	1	50	5	44
Eggs	28	13	41	19	21	38	20	21	38	10	43	10	36	9	34	21
Fish	0	36	20	44	5	36	9	51	0	62	19	19	0	24	13	63
Pulses	0	30	63	8	7	42	15	36	5	14	71	10	6	32	46	16
Milk & milk products	36	14	45	5	37	17	9	37	14	38	43	5	47	8	37	7
Oils, fats & butter	0	28	19	53	7	28	4	60	0	14	10	76	3	17	6	75
Sugar	39	11	42	8	75	6	10	9	57	0	38	5	50	8	25	17

Table 42: Sources of food consumed by refugee HHs in 2021

	Source of food consumed by women refugee HHs in 2021																	
	Adjumani				Lamwo					Madi Okolo					Obongi			
Food Type	**1***	**2***	**3***	**4***	**1***	**2***	**3***	**4***	**5***	**1***	**2***	**3***	**4***	**5***	**1***	**2***	**3***	**4***
Cereals	65	26	9	0	14	7	71	0	7	22	11	56	0	11	28	12	60	0
Tubers & roots	40	60	0	0	32	46	14	7	0	56	44	0	0	0	31	67	0	1
Vegetables	51	49	0	0	80	17	3	0	0	78	11	0	11	0	69	30	1	0
Fruits	13	77	0	10	10	70	5	5	10	11	78	11	0	0	13	83	2	2
Meat	6	92	3	0	0	65	0	35	0	0	100	0	0	0	7	93	0	0
Eggs	13	83	4	0	0	67	7	27	0	0	100	0	0	0	10	90	0	0
Fish	17	78	0	4	0	50	7	43	0	11	89	0	0	0	40	60	0	0
Pulses	3	95	3	0	0	65	6	29	0	0	100	0	0	0	2	94	4	0
Milk & milk products	24	62	5	10	17	17	33	25	8	50	50	0	0	0	35	18	47	0
Oils, fats & butter	24	67	0	10	8	15	46	31	0	0	100	0	0	0	21	71	7	0
Sugar	21	61	15	3	0	16	64	8	12	0	67	33	0	0	6	29	65	0

COLUMNS: 1* Household produced 2* Bought from the market 3* Distributed by development partners 4* Borrowed 5*. Gifts

Table 43: Sources of food consumed by refugee HHs in 2021

	Source of food consumed by combined refugee HHs in 2021																	
	Adjumani				Lamwo					Madi Okolo					Obongi			
Food Type	**1***	**2***	**3***	**4***	**1***	**2***	**3***	**4***	**5***	**1***	**2***	**3***	**4***	**5***	**1***	**2***	**3***	**4***
Cereals	64	23	13	0	9	6	78	0	6	35	20	40	0	5	21	10	68	0
Tubers & roots	39	59	2	0	31	55	10	3	1	65	35	0	0	0	29	70	0	1
Vegetables	53	47	0	0	80	16	4	0	0	81	14	0	5	0	65	33	2	0
Fruits	12	75	0	12	7	75	10	5	3	11	61	6	17	6	10	87	1	2
Meat	8	90	2	0	2	71	2	22	2	8	92	0	0	0	8	92	0	0
Eggs	11	86	3	0	3	68	11	19	0	6	94	0	0	0	6	90	4	0
Fish	23	71	0	6	3	54	3	40	0	6	94	0	0	0	23	77	0	0
Pulses	2	96	2	0	0	60	8	33	0	5	95	0	0	0	4	94	3	0
Milk & milk products	27	63	3	7	7	13	43	17	20	20	60	20	0	0	25	25	50	0
Oils, fats & butter	27	63	3	7	3	22	38	38	0	0	100	0	0	0	16	74	10	0
Sugar	22	61	14	2	3	13	67	5	12	0	68	32	0	0	4	24	72	0

COLUMNS: 1* Household produced 2* Bought from the market 3* Distributed by development partners 4* Borrowed 5*. Gifts

3.2.3 Access to Land for Refugee Households

Land access is a key issue for the refugees who would like to take part in agricultural production. NURI developed a model through their group categorisation where it is hoped that refugees in the mixed groups through their close interaction with the host communities could have better access to cultivatable land. The survey assessed the different land access models namely through OPM allocation, hiring, borrowing, family owned and communal land.

Results show that 75% of the land cultivated by refugees in mixed groups was hired and for the women groups it was 65%. On average, refugee households cultivated between 0.8- 1 acre of land. Better land access was recorded in Lamwo and Adjumani with averages of 2.5 and 4.4 acres. The mode of acquisition of land were similar in both categories of women refugees' households and mixed refugee households.

In Adjumani, refugees in the mixed groups reported in the qualitative interviews that negotiating for land was easier as host farmers had a tendency to cultivate as far as the nearby district of Amuru while in Lamwo, host communities reported abundance of communally owned land which made it easy to allocate some portions for the refugees. Also, they reported that the refugees were supporting them with improved inputs so their stay in groups together was beneficial.

Table 44: Land cultivated (in acres) by Refugee HHs in 2021 and mode of acquisition

Land ownership	Women Refugee Households												Mixed Refugee Households											
	Adjumani			Lamwo			Madi Okolo			Obongi			Adjumani			Lamwo			Madi Okolo			Obongi		
	(n)	Mean	%	(n)	Mean	%	(n)	Mean	%	(n)	Mean	%	(n)	Mean	%	(n)	Mean	%	(n)	Mean	%	(n)	Mean	%
OPM	4	0.1	0	13	0.4	4	8	1.1	12	50	0.8	33	4	0.1	0	32	0.5	5	24	0.6	9	116	0.6	32
Borrowed	9	2.3	20	22	0.7	11	0	0	0	23	0.4	7	23	1.6	21	44	1.1	16	12	0.3	2	64	0.5	13
Hired	89	0.9	79	50	2.4	84	92	0.7	81	136	0.5	58	128	1.1	76	146	1.4	68	172	0.6	66	240	0.5	52
Family Owned	1	1.0	1	3	0.5	1	28	0.2	7	3	0.6	1	2	2.5	3	7	4.4	10	96	0.4	23	13	0.5	3

Use of Improved Agro-Inputs

Agro-inputs form part of the sessions that are delivered to the refugee farmers under the CSA training according to the NURI documents. Results show that 71% of refugees in mixed groups used improved inputs and 74% of women refugee groups did the same. It was also found out that 62% (mixed groups) and 58% (women refugees) received the inputs from development partners. The inputs received from partners were seeds and pesticides however the respondents also supplemented by buying their own. A few of them reported to have borrowed from host communities through the established relationships as reported in the focus group discussions.

The quality of improved input was rated highly irrespective of the source. For instance, 92 rated the quality of crop seeds high from input dealer (92), development partners (78) and home saved (58). However, there was a significant proportion that rated low for the quality of Pesticides/ Fertilizer that were home saved (14) and input dealer (11). In general, the use of improved inputs in 2021 increased compared to baseline situation in all the settlements.

Table 45: Use of improved agricultural inputs by refugee HHs in 2021

	Mixed Refugee Households								Women Refugee Households							
	Adjumani		Lamwo		Madi Okolo		Obongi		Adjumani		Lamwo		Madi Okolo		Obongi	
Input source	**HH**		**HH**		**HH**		**HH**		**HH**		**HH**		**HH**		**HH**	
Improved Inputs	49	77	49	60	52	62	125	88	35	81	18	58	24	67	65	93
Source of the inputs																
Input Dealer	22	21	6	3	16	0	28	14	16	3	20	13	16	3	20	13
Home saved	45	29	110	55	72	18	70	16	17	45	60	25	17	45	60	25
Family / Friends	1	2	0	0	0	0	0	0	1	0	0	1	1	0	0	1
Development partner	60	48	46	43	80	82	186	70	67	53	20	62	67	53	20	62

3.2.4 Agricultural Enterprise Production on refugee Households

Refugee farmer households are equally trained on the 10 CSA sessions in order to help them carry out agricultural production. They are supported with seeds to cultivate depending on the enterprises selected by the group. As assessment of their production levels was done to respond to the production indicators in the NURI results framework. The survey looked at their land access under production, planting method, seed type, quantity of crop type harvested, consumed and marketed.

The results across the four districts show that average yield for strategic crops sesame, beans, maize and groundnuts was 155Kgs, 121kgs, 124kgs and 159kgs. Compared to that of the new nationals, this was lower although slightly above baseline. Also finding indicate that more than 60% of the crops harvested was sold by the farmer groups. The survey revealed that beans was the most sold strategic crop in Adjumani, maize in Lamwo, sesame in Madi Okolo and Obongi at the district level. Among the non-strategic crops grown, most households grew groundnuts with an average of 91 Kg. Millet was sold by very few respondents and contributed very little to household income as seen from the volume of sales.

Average yield per acre for new nationals in the mixed groups was higher than for refugees for sesame, beans, maize and soybeans. Results show 155kgs for sesame, 220kgs for beans, 219kgs maize and 207kgs soybeans. The performance is similar to that of farmer groups under the new national groups category for all strategic crop types. Results also show improvement compared to baseline figures for sesame and beans. Refugees from the qualitative interviews asserted that the land cultivated by the new nationals are more fertile compared to what they cultivate.

Table 46: Average yield per acre for crops produced refugee HH in 2021

	Adjumani				Lamwo				Madi Okolo				Obongi				Totals			
	Yield		Sold		Yield		Sold		Yield		Sold		Yield		Sold		Yield		Sold	
Crop type	**HH**	**Mean Kg**	HH	Mean %	**HH**	**Mean Kg**	HH	Mean%	**HH**	**Mean Kg**	HH	Mean%	**HH**	**Mean Kg**	HH	Mean%	**HH**	**Mean Kg**	HH	Mean%
Strategic crop																				
Sesame	5	140	4	78	29	182	16	80	68	139	60	97	79	162	62	35	181	155	142	67
Beans	47	155	40	86	7	173	4	28	4	160	4	40	12	136	6	14	70	121	54	70
Maize	43	209	31	144	45	128	19	138	36	122	16	85	113	92	51	58	237	124	117	97
Nonstrategic crop																				
Soybeans	0	0	0	0	23	64	20	56	8	70	4	10	7	44	4	29	38	62	28	46
Groundnuts	25	199	21	96	41	170	25	49	60	101	40	71	108	167	59	41	234	159	145	59
Cassava	8	2,414	7	1,574	5	56	2	65	44	482	28	398	4	232	3	138	61	684	40	67
Sorghum	5	74	1	30	31	125	15	100	16	149	8	70	24	62	10	39	76	107	34	73
Millet	0	0	0	0	2	128	1	15	0	0	0	0	1	12	0	0	3	89	1	15
Pigeon Peas	1	480	0	0	6	33	3	33	4	20	0	0	8	31	3	87	19	53	6	60
Sweet Potatoes	6	780	4	285	8	65	3	25	20	209	8	128	21	188	4	55	55	242	19	29
Vegetables	0	0	0	0	6	10	3	21	20	60	16	40	8	23	3	22	34	42	22	35

Table 47: Mean yields per acre for strategic and non-strategic crops grown by Nationals in 2021

Crop type	Adjumani		Lamwo		Madi Okolo		Obongi		Totals	
	HH	Mean Kg	HH	Mean Kg	HH	Mean Kg	HH	Mean Kg	HH	Mean Kg
A) Strategic crop										
Sesame	54	155	15	223	91	160	37	121	197	164
Beans	112	194	6	169	32	278	15	241	165	220
Maize	115	305	11	118	79	172	46	112	251	219
Soybeans	12	223	7	246	8	240	9	120	36	207
B) Nonstrategic crop										
Groundnuts	67	166	15	110	81	117	49	90	212	126
Cassava	50	833	8	51	87	692	28	159	173	617
Sorghum	9	137	10	337	51	281	13	192	83	258
Millet	2	98	0	0	6	77	1	120	9	86
Pigeon Peas	12	0	7	0	10	0	6	0	35	0
Sweet Potatoes	14	616	2	200	22	385	11	171	49	396

3.2.5 Refugee Households' participation in VSLA

The project intended to improve access to finances to the farmers. Therefore, the respondents were asked questions to understand their level of engagement with the various VSLA activities how they have used the money from the loans they picked.

The results for the mixed refugee households indicate that 62% of the refugee respondents participated in VSLA and that up to 96% received training on VSLA methodology across the four districts. At district level, the highest percentage of those trained was in Madi Okolo, where everyone was trained. The trainings were mostly conducted by CBTs from NURI with 94% having been trained by the CBTs. Participation of youths in VSLA was very low as indicted by 62% of the respondents. Only 15% of the respondents found that youth participation was high across the four districts. In Madi Okolo, no one rated the participation of the youth as being high. Across the four districts, the respondents mostly utilized sale of agricultural produce for investing in agriculture as indicated by the 53 of the respondents.

In terms of money used to finance agricultural production, the refugees indicated the sale of agricultural produce 53%, followed by individual household savings at 31%, VSLA 27% with the least being gifts at 12%. Madi Okollo had the highest sale of agricultural produce at 71% and Obongi was the least with 39%.

**The new nationals in the mixed groups had similar results in terms of participation in VSLA activities. 94% reported having received training from CBTs. The results also revealed that VSLA was a very important source of finances for investment in agricultural production. Up to 72% of the respondents accessed loans to invest in agricultural activities. Sale of agricultural produce was a means used by 60% of the respondents, while Individual household savings was used by 35% of the respondents for investment in agriculture. Also, 64% used the loan received to support agricultural production, 63% used to fund petty trade. **

Table 48: Participation of refugee HHs in VSLA activities for 2021

Mixed Refugees participation	Adjumani		Lamwo		Madi Okolo		Obongi		Total	
	(n)	(%)	(n)	(%)	(n)	(%)	(n)	(%)	(n)	(%)
Household participated in any VSLA activities in 2021	56	88	39	48	48	57	88	62	231	62
Household received training on VSLA methodology	55	98	38	97	48	100	83	94	224	97
Entity that provided the training on VSLA methodology										
CBTs from NURI	123	96	7	78	66	92	37	95	233	94
Trainers from NGOs	2	2	2	22	6	8	2	5	12	5
Learnt from another group	3	2		0		0		0	3	1
Rating of youth participation										
High	8	15	7	18	0	0	19	23	34	15
Medium	15	27	6	16	8	17	22	27	51	23
Low	32	58	25	66	40	83	42	51	139	62
Ways of accessing money to finance agricultural production activities in 2021										
VSLA	33	52	15	19	36	43	15	11	99	27
SACCO	5	8	8	10	8	10	0	0	0	13
Individual household savings	9	14	29	36	36	43	40	28	114	31
Borrowing from families/ friends	25	39	16	20	8	10	31	22	80	22
Gifts	4	6	8	10	4	5	21	15	45	12
Sale of agricultural produce	35	55	45	56	60	71	56	39	196	53

Table 49: Participation in VSLA activities by Nationals in 2021

	Adjumani		Lamwo		Madi Okolo		Obongi		Total	
	(n)	()	(n)	()	(n)	()	(n)	()	(n)	()
Household participated in any VSLA activities in 2021	129	95	9	47	74	67	43	73	255	78
Household received training on VSLA methodology	128	99	9	100	72	97	39	91	248	97
Entity that provided the training on VSLA methodology										
CBTs from NURI	123	96	7	78	66	92	37	95	233	94
Trainers from NGOs	2	2	2	22	6	8	2	5	12	5
Learnt from another group	3	2		0		0		0	3	1
Rating of youth participation										
High	36	28	2	22	23	32	7	18	68	27
Medium	57	45	2	22	22	31	15	38	96	39
Low	35	27	5	56	27	38	17	44	84	34
Ways of accessing money to finance agricultural production activities in 2021										
VSLA	124	91	7	37	68	61	34	58	233	72

	Adjumani		Lamwo		Madi Okolo		Obongi		Total	
	(n)	()	(n)	()	(n)	()	(n)	()	(n)	()
Sale of agricultural produce	86	63	12	63	72	65	27	46	197	61
Individual household savings	36	26	8	42	55	50	15	25	114	35
Borrowing from families/ friends	39	29	3	16	17	15	16	27	75	23
Gifts	5	4	1	5	9	8	6	10	21	6
SACCO	10	7	1	5	0	0	2	3	13	4

3.2.6 Participation of refugee household members in Agricultural Production

Understanding gender roles and youth participation in agricultural production was done for the refugee households too. Although their production level was much lower than for new national farmers, participation of household members varied and sometimes depended on the production stage. In the households that are participating through mixed groups, the adult males were more engaged during land opening, pest & disease management, marketing and planning for new season. Weeding, harvesting, drying, sorting and storage was left to the women to conduct. In the female-headed households and women groups, the production activities were done by the women in all stages with some help from their children. The households that managed to cultivate more than 1 acre of land supported their labour by hiring and seeking help from relatives and friends.

Making decisions about production activities was majorly done by the males for households that participated through mixed groups. Sometimes it depended on the stage of production, for instance during weeding and harvesting, the women took lead. In the female-headed households and women refugee groups it was the women that made all the production decisions. In a nutshell, during the discussions, the refugee households noted that decisions in a household whether it was to do with production or not, are made by men as long as it is a male-headed household.

Youth participation was rated low by all the refugee households. In the group discussions, respondents remarked that youths in the settlement prefer non-agricultural livelihood activities like operating small kiosks, boda-boda riding, small scale carpentry. Further probing revealed that their interest sometimes was influenced by the type of enterprises. Youths were interested in the non-labour-intensive enterprises like onions, maize and cassava which were easier to manage. Overall, youths in the lower age bracket within the settlement have found it difficult to access land for production.

Table 50: Participation of refugee HH members in agricultural production

Farm activity	Adult Female	Adult Male	Children	Adult Female & Adult Male	Adult Female & children	Adult Male & children	All members	No one involved
Land opening and preparation	47	27	1	16	5	0	3	1
Planting	23	8	3	18	20	2	25	2
Weeding	25	6	1	17	25	1	20	5
Pest and disease management	30	13	1	18	15	2	11	11
Harvesting	24	8	2	14	25	0	26	1
Post-Harvest handling	35	9	2	16	19	1	17	1
Marketing	47	13	1	16	12	1	8	2
Planning for new season	40	16	0	22	10	1	10	1
Use of income from received production	40	15	0	21	9	1	13	1

Table 51: Refugee Household Member Responsible for mobilizing resources.

Farm activity	Adult Female	Adult Male	Children	Adult Female and Adult Male	Adult Female and children	All (Adult female, adult male & children)	No HH member involved
planting	55	23	0	15	3	3	2
Weeding	62	15	0	14	4	4	1
Pest and disease management	44	25	1	16	2	4	8
Harvesting	64	15	0	15	2	4	1
Post-Harvest handling	63	18	0	15	1	3	1
Marketing	62	18	0	14	2	2	1
use of income from received production	53	22	0	19	2	3	1
Planning for new season	53	22	0	20	1	2	1

3.2.7 Sexual Reproductive Health and Rights

This study asked the respondents about their knowledge on SRHR, the entity that offered them the training and sources for their SRHR information/services, if they had used it. The result across the four districts indicates that 80% of the respondents knew about SRHR, and 95% had been trained on the same. The training providers were almost equally distributed between development partners (32%), health facility (34%), and family / friends (32%). But, only 26% of those who knew about SRHR had used. Reasons offered for not using them included being too old to need it (menopause), some were not yet married, others were afraid of adverse side effects, also some were abstaining while others indicated that it was against the culture. Of those that used the SRHR, 97% got the service from health facilities. See table below.

Table 52: Awareness and use of family planning services among refugee HHs

	Adjumani		Lamwo		Madi Okolo		Obongi		Total	
Ever heard about SRHR	50	78	76	94	60	71	109	77	295	**80**
Received training about SRHR	120	97	16	94	90	96	37	86	263	**95**
Providers of training										
Development partner/NGO	17	24	54	39	48	34	39	27	158	**32**
Health facility	36	50	29	21	40	29	65	45	170	**34**
Family/Friends	17	24	54	39	48	34	39	27	158	**32**
Government official	2	3	2	1	4	3	0	0	8	**2**
Ever used any FP methods	17	27	32	40	32	38	23	16	104	**28**
Source of FP services used										
Health facility	17	100	28	90	32	100	23	100	100	**97**
Development partner center	0	0	3	10	0	0	0	0	3	**3**

3.2.8 Refugees' Relationship with host Communities

This study sought to find out the level of relationships between refugees and the host communities before and after joining NURI programme, ranking of their relationship level and what kind of production related support they received. The result indicates that, 87% were already interacting with the host communities, and 54% believed that the project improved their relationship. Land for production was the major support that the refugees received through contacts made with nationals.

Table 53: Relationship between refugees and nationals

		HH	%
Interacting with national farmers before joining the NURI programme		321	87
Upon joining the NURI programme, has the interaction between national farmer households and refugees changed		200	54
Description of the relationship between the national farmer households and refugees in the settlement now	Very good	170	46
	Good	167	44
	Fair	32	9

	Poor	2	1
The kind of production related support that refugees received through contacts made with national households	Land for production	289	50
	Opportunities for casual work to earn income	138	24
	Seed for production	78	13
	Tools (hoes)	37	6
	Animal traction	37	6

4.0 OBSERVATIONS/RECOMMENDATIONS DURING THE SURVEY

Synergies between NURI Outputs:

The synergy among program outputs has played out positively in the implementation of NURI activities. Findings from the survey showed the aspect of synergy was adopted in the mid of the implementation of the programme which eased self-appraisal and sustainability of the interventions.

Relationship with the LLG and DLG:

The relationship of NURI with local governments in the districts of implementation is what PREDCO observed as the pillar for success for the supported communities. NURI appointed focal point officers in each district, worked in close collaboration with the relevant departments from the district to the sub-county. This provided an enabling environment for the NURI partners and units to operate smoothly. This should be encouraged and leaders should constantly be serviced with progress reports.

Early preparation for response to weather vagaries/variability:

Production limitation due to weather vagaries was a scenario reported by farmers across the programme area especially during production year 2020 where above normal rains were received causing flash floods and inaccessibility to farm lands especially in Obongi, Adjumani and Kitgum districts. NURI could explore options of enabling farmers prepare timely using early signs and encouraging diversification of production. Farmers reported they were caught unaware and therefore had heavy losses in 2020 due to unpredictable weather patterns.

Exploring the ICT4D model (information, communication and technology for development)

NURI needs to digitalize data management processes including demo data, business plans, acreage, marketing and materials for extension. This will ensure efficient and effective tracking of progress during implementation. The survey findings indicate that most of the data capture mechanisms are conventional and that requires rigorous processes that are expensive in the process of management.

Many development organizations have adopted many digital platforms in successful data management thus digitizing NURI will be in the best interest of the programme.

Encouraging indigenous seeds production:

The extension services need to integrate training on local seed production and management in the CSA training as the farmers presented a challenge of input access. As much as NURI has been providing foundation seed to farmers to multiply in the demonstration gardens, there still exists a challenge of input access by farmers due to limited accessibility to input services.

Agroforestry principles on farm:

As a programme, NURI is training communities in CSA practices with the aim that adoption of these practices can be achieved. PREDCO noted that more is needed to address environmental degradation caused by agricultural activities. Much as it is mentioned in the training manuals, PREDCO recommends uptake of agroforestry practices seriously to mitigate climate effects. This could include among others promoting on farm tree growing, tree growing around the homesteads, promoting commercial tree growing, fruit tree growing etc. Focus should be given to agroforestry species like Grevelia, Caliandra, Leucenia, which have a double role of improving soils and averting climate change effects. Also, species like calliandra are good for beekeeping which can be a diversification of on farm income sources through apiculture.

Establishing feedback response mechanisms amongst stakeholders:

Feedback and response mechanisms (FRM) are important for any MEAL system to promote learning and improvement. PREDCO has supported the development of MEAL systems in many development organizations but noted this was weak in NURI. A mention was made about a communications forum and/or committee however this needs improvement. FRM empowers stakeholders in any programme to provide objective feedback on implementation processes which enhances accountability from all stakeholders.

Building safety nets and increasing capital access for farmer groups to support production:

There is a need for the program to engage with local authorities about insecurity threats to VSLA groups and reinforce the aspects of financial linkages to financial institutions. Farmers have severally reported some cases of insecurity affecting their VSLA activities especially in Obongi district.

Periodic audit of farmer groups selected for support:

NURI has worked with the farmer groups interviewed for between 2-3 years and the group dynamics noted was very good. Based on the sampling experience, there is a need to audit groups at least annually. It may not be very comprehensively done, but some rapid processes organized to ensure what is reported by stakeholders is reliable and valid.

M&E process and systemic changes

PREDCO provides MEAL technical consultancy too and normally provides recommendations to development agencies where possible. During this survey, PREDCO noted that inconsistency in sample population between baseline and the survey, this made comparison also possible when results were taken as absolute numbers. It is advisable to have consistency to ensure validity and reliability. Also, it is important to have the element of control and non-control so that the multiplier effect of the programme is clearly understood from the external perspective.

For future programme, there is need to review the performance indicator on food security to include all the parameter i.e. access, availability, utilization and stability. The definition of a complete meal as proxy indicator to food security should be reviewed. Some households asserted that defining a complete meal is difficult because sometimes they consume in small bits due to the nature of their production activities. The production asset list needs to be reviewed and aligned to what development agencies use.

Collaboration with the relevant knowledge partners

It's important to note that NURI is making the best use of the available partners within the region and this is keeping the program up to date with current information. This engagement was clearly evident with ZARDI's and Muni University were scientists are consulted and hired to support NURI. This has enhanced access to adequate agricultural information and inputs, provision of harmonized quality training on diversification of crops, promotion of best practices and investments in agriculture. This engagement should continue and more potential entities can be explored.

Flexibility within the programme to adjust to learnings generated during the implementation

Within the NURI programme, learnings have been generated and tried through the implementation period. Its important to note that integration of VSLA and production enabled some of the households to meet the plans as a result of having access to finances from the VSLA to finance their agricultural activities. This also enabled them to invest in their households since the approach of development of household visions was taken into consideration in the middle of implementation. This should be continued in the next phase of the programme since it refocuses the minds of the farmers right before the start of production and savings.

5.0 CONCLUSION

The purpose for the monitoring survey was achieved in terms of scope, methodology, results and recommendations. Being a monitoring and evaluation assignment, all the result areas according to the results framework were addressed. NURI being a programme that is in its final year of implementation needed to ascertain changes that have been brought about by the programme activities in the respective districts of implementation. A total of 2642 households were reached out with 30 community groups targeted for qualitative data and 90 Key informant interviews.

Results show that agricultural income levels increased by 11% for new nationals although performance target was not realized, 39% for refugees in mixed groups and 20% for women refugee groups. There was a reduction in the number of households that reported experiencing food shortage in 2021 compared to baseline. Strategic crop yield increase for some crops while for others a decline was recorded compared to baseline. Farmers reporting increased marketing due to the reopening of the economy. Majority of the farmer groups are engaged in VSLA activities with a greater portion of funds borrowed used for production. In general, production activities in 2021 were better compared to baseline situation and in some cases met the performance target set for 2022.

NURIs approach of working with farmers established in well functional groups has greatly contributed to the achievement of performance targets under CSA. The refugee households that are participating under the mixed group category have had better production opportunities in terms of access to land and inputs. As activities for 2022 are still on going, it is optimistic that the programme objectives will be met.

For the remaining project timeline and a possible second phase of the programme, PREDCO urges that NURI looks into the recommendations provided to ensure gaps in performance targets are achieved while setting foundations for a future support in the Northern Uganda.

6.0 ANNEXES

6.1 STUDY TOOLS EMPLOYED

Household Interviews for New National Groups

Household Interview Guide - Ne

Household Interview Guide for Mixed Groups

Household Interviews for Mixed

Key Informant Interview Guide

Key Informat Guide

Focus Group Discussion Guide

Focus Group Discussions