Republic of zambia

MINISTRY OF NATIONAL DEVELOPMENT PLANNING

2020 ZIFLP BENEFICIARY IMPACT ASSESSMENT SURVEY

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November, 2020

FOREWORD

Between August and September 2020, the Zambia Integrated Forest Landscape Project (ZIFLP) conducted a Beneficiary Impact Assessment Survey (BIAS) in Eastern Province. The ZIFLP project objective is to improve landscape management and increase environmental and economic benefits for targeted rural communities in the Eastern Province (EP) and to improve the recipient's capacity to respond promptly and effectively to an Eligible Crisis or Emergency. In order to properly measure future progress, a Beneficiary Impact Assessment survey was conducted to give detailed Data on achieving key project indicators.

The 2020 BIAS was designed to provide estimates at district level in rural Eastern Province. The study sought to provide the basis for subsequent assessments on how efficiently the activities of the project are being implemented and the eventual results of the project. Using the 2010 Census frame, the survey sampled 122 EAs. The survey collected information on many aspects of the household such as Demographic Characteristic, General Household Characteristics, Access to Agricultural and Forest Land user rights, Crop Production and Management practices, Crop stocks and Sales, Household Income and Expenditure; food production, Household food insecurity, Collection of Wood and Non-wood forest products and Incomes, access to both Forest and Agricultural extension services, Energy sources and Utilisation and Ownership of Improved Cook stove. The Survey also went on to ask questions on the Grievance Redress Mechanism.

This survey provides a solid basis upon which the project contribution to the 7NDP are founded and upon which successes will be measured.

I would like to take this opportunity to thank the Government of the Republic of Zambia (GRZ) and the World Bank for funding the 2020 ZIFLP BIAS activities from survey design and preparation to data analysis and report writing. Further, I would also like to extend my sincere thanks and appreciation to the households surveyed, for their patience, cooperation

and truthfulness when responding to our data collectors. I also thank all the staff involved in the different stages of the survey for ensuring successful implementation. I hope Results contained in this report, and the rich dataset upon which it is based will find use among policy makers, programme managers, researchers and other data users for the betterment of the Zambian population.

Chola Chabala
PERMANENT SECRETARY – DPA
MINISTRY OF NATIONAL DEVELOPMENT PLANNING

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We thank the local authorities, stakeholders and partner representatives for their cooperation before and during the collection of this data. We also thank a whole range of people in project areas who were selected and accepted to participate in the study. We would also like to thank the Provincial Administration of Eastern Province for their support. The main participants of this study, whom we thank, include smallholder farmers, traditional leadership and community leaders. Their willingness to share time and personal perspectives on issues reflected in this report was the greatest asset we needed and got from them.

Special recognition to the Monitoring and Evaluation Officer Mr. Mushokabanji Likulunga for his contribution and support throughout the survey process.

Finally, a big thank you to our survey team (Mr. Lovemore Zonde, Mr. Taonga Zulu, Mr. Moses Tembo, Mr. Masiliso Sooka, Mr. Tabo Simutanyi, Ms. Bertha Nachinga, Mr. Michelo Choongo, Mr. Gift Lubinda and Mr. Anthony M. Nkole) whose passion and energy led to the successful delivery of this report. I hope Results contained in this report and the rich data set upon which it is based will find use among policy makers, researchers and other data users for the betterment of the Zambian Population.

Dr. Tasila Banda
NATIONAL PROJECT COORDINATOR - ZIFLP

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ACRONYMS

7NDP	The Seventh National Development Plan
CSA	Census Supervisory Area
CSO	Central Statistical Office
EA	Enumeration Area
ERPA	Emission Reduction Purchase Agreement
FAO	Food and Agriculture Organization of the United Nations
FD	Forestry Department
FGD	Focus Group Discussion
FLES	Forest Livelihood and Economic Survey
GDP	Gross Domestic Product
GEF	Global Environmental Facility
GHG	Greenhouse Gas
GIS	Geographical Information System
GMA	Game Management Area
GRZ	Government of the Republic of Zambia
HH	Household
HHD	Household Head
IDA	International Development Agency
ILUA	Integrated Land Use Assessment
ISFL	Initiative for Sustainable Forest Landscape
KII	Key Informant Interview
LUV	Land Use/Vegetation type
MNDP	Ministry of National Development Planning
NGO	Non-Governmental Organization
NPU	National Project Unit
NTFP	Non-timber Forest Products
NWFP	Non-wood Forest Product
PA	Protected Area
PDO	Project Development Objective
PPES	Probability Proportional to Estimated Size
PPIU	Provincial Project Implementation Unit
PSU	Primary Sampling Unit
REDD+	Reduced Emissions from Deforestation and Forest Degradation
SEA	Standard Enumeration Area
SDG	Sustainable Development Goals
TFP	Timber Forest Products
ZAFFICO	Zambia Forest and Forestry Industrial Corporation
ZIFLP	Zambia Integrated Forest Landscape Project

EXECUTIVE SUMMARY

The Zambia Integrated Forest Landscape Project Beneficiary Impact Assessment Survey was conducted in August/September 2020 and covered 122 Enumeration areas in Rural Eastern Province. The distribution of Households by level of education showed that, 18.1 percent had never attended school, 47.9 had onlu attended primary school, 18.7 percent had only completed Junior secondary, 11.2 percent had completed Senior secondary school with 4.4 percent having done Tertiary education.

Survey results show that 78.1 percent of households residing in rural Eastern Province are male-headed. Overall, 78.7 percent of the Heads in rural Eastern were Married, 5.0 percent Divorced, 2.1 percent have Never Married and 11.0 percent were Widowed. 13.1 percent of the households in rural Eastern have at least one member of the household with a disability.

Results show that the total area planted to Maize seed in rural Eastern Province was 332,100.9 hectares of which Beneficiary households planted 213,847.8 hectares while non-beneficiary households planted 118,253.1 hectares. The average area planted per household was 1.2 hectares at provincial level with both Beneficiary and Non-beneficiary households both planting an average of 1.2 hectares. Results also show that total area planted to Soya bean seed in rural Eastern Province was 97,947 hectares. Beneficiary households planted 62,418 hectares while Non-beneficiary households planted 35,529 hectares. The average area planted to Soya bean seed per household was 0.9 hectares at provincial level with Beneficiary and Non-beneficiary households both having the same average of 0.9 hectares.

By type of tillage methods used, 25.1 percent of Beneficiary households used conventional hand hoeing while 26.9 percent Non-beneficiary households used conventional hand hoeing. 37.6 percent of beneficiary households used ploughing, 34.8 percent of Non-beneficiary households used ploughing.

Results also show that 32.4 percent of households tilled their land before the rains while 67.6 percent tilled the land during the rains while 34 percent of Beneficiary households tilled before the rains compared to 29.6 percent of Non-beneficiary households.

Results show that 14.3 percent of the households in rural Eastern Province did the 1st maize weeding one (1) week after planting. About 54.3 percent of the households did their maize weeding two weeks after planting. 21.2 percent of the households weeded their Maize fields three weeks after planting while only 6.8 percent did their weeding three weeks after planting. About 3.6 percent of the households did not do any weeding at all in their maize fields.

Further, results of the survey show that 54.3 percent of all the households in rural Eastern Province weeded their Soya bean fields during the second week after planting. An estimated

44.7 percent of the beneficiary households in rural Eastern Province compared to 51.1 percent of the non-beneficiary households, did the weeding during the second week after planting.

Results of the survey show that 48.3 percent of all the households in rural Eastern Province weeded their groundnut fields during the second week after planting. An estimated 49.1 percent of the beneficiary households compared to 46.8 percent of the non-beneficiary households, did the weeding during the second week after planting.

Results further show that 46.0 percent of all the households in rural Eastern Province weeded their groundnut fields during the second week after planting. An estimated 46.2 percent of the beneficiary households compared to 45.7 percent of the non-beneficiary households, did the weeding during the second week after planting.

Out of an estimated 274, 630 households in rural Eastern Province that grew maize, 1.9 percent applied lime. About 2.2 percent of the beneficiary compared to 1.4 percent of the non-beneficiary households applied lime to maize.

Out of the estimated 113, 892 households that grew soya beans, 0.2 percent applied lime. About 0.1 percent of the beneficiary compared to 0.5 percent of the non-beneficiary households applied lime to soya beans.

Out of the estimated 159, 590 households that grew groundnuts, 0.1 percent applied lime. About 0.2 percent of the beneficiary compared to 0.0 percent of the non-beneficiary households applied lime to groundnuts.

Out of the estimated 97,875 households in rural Eastern Province that grew sunflower, no household reported having applied lime.

About 91 percent of the beneficiary compared to 85.6 percent of the non-beneficiary households left most of the maize crop residues in the field.

Results show that 17.1 percent of the households in rural Eastern grew 1 crop. By beneficiary status, 16.2 percent of the beneficiary households grew 1 crop relative to 18.8 percent among the non-beneficiary households.

Further, 332,329.4 hectares of land were planted to maize leading to 691, 463.6 metric tonnes of maize being produced. Further, survey results show that per hectare of maize planted, the yield rate was 2.2 metric tonnes.

By beneficiary status, the maize yield rates of beneficiary households were 0.2-percentage points higher than households not supported by the project.

Beneficiary households adhering to Crop rotation and Conservation agriculture practices had the largest shares at 75.2 and 27.7 percent, respectively while households practicing Improved water management had the smallest share at 0.4 percent.

Further, 5.1 percent more households among male-headed beneficiary households practiced CSA than their non-beneficiary counterparts at 33.0 percent compared to 27.9 percent. In addition, 9.5 percent female-headed households among beneficiaries practiced CSA compared to 5.5 percent of their female counterparts among the non-beneficiary households.

July and September were the three months over the 12-month period in which households in rural Eastern Province were most food secure at 89.8, 88.1 and 89.6 percent, respectively while January, February and March represented the months with the lowest proportion of households reporting being food secure at 39.6, 32.6,49.1 percent, respectively.

Results show that male headed households cut down more trees than female headed households. Results show that 47 percent of male headed households reported cutting down trees over the past 12 months' while 40 percent of the female headed households reported cutting down trees. Results show that an average of 0.42 hectares was cleared in Eastern Province. At Provincial level, the beneficiary households also cleared less land area (0.30 hectares) compared to non-beneficiary households who cleared an average 0.45 hectares per household. Beneficiary male headed households with 0.42 percent cleared less land area than non-beneficiary male headed households with 0.49 hectares.

The average income earned per month by households in rural Eastern was ZMW3, 955.47, beneficiary households earned ZMW431.31 more than non-beneficiary households whose monthly average earning was ZMW 4,113.35 compared to ZMW 3,682.04 earned by their non-beneficiary counterparts.

Results show 19.1 percent of households in Eastern Province owned an Improved Cook Stove, while 2.8 percent reported not having owned one. Further, 78.1 percent reported never having heard of it.

Further, results show that 59.9 percent reported having accessed forest extension services in rural Eastern Province.

Regardless of sex of head, the overall results show that almost 30 out of every 100 households had had a grievance with a ZIFLP activity.

Additionally, results show that 98.2 percent of household in Eastern Province were aware of the existence of Covid-19. Results further show that all of the districts in Eastern Province had above 95 percent awareness of the existence of Covid-19

Chapter 1: Introduction

1.1 ZIFLP Background

Zambia's long-term development strategy is articulated in the **"Vision 2030: A prosperous Middle-Income Nation by 2030."** To attain this objective, the Government of the Republic of Zambia (GRZ) aims to steadily grow the country's GDP by at least 2 percent every year in the next 5 years. Currently, the sectoral strategy for achieving this desired economic growth is outlined in the GRZ's 7th National Development Plan (7NDP), which has three overarching development pillars: Infrastructure Development, Rural Development, and Human Development. The Government has prepared the 7th National Development Plan (7NDP) and rural development is high priority on the national development agenda as agriculture, mining, and tourism contribute greatly to the Zambian economy. The 7NDP focuses on building a diversified and resilient economy.

Zambia's natural resources capital such as forests are under pressure from various developmental sectors, including mining, energy, infrastructure and agriculture. Some of the main drivers of deforestation emanate from these sectors. The mechanism for reducing deforestation and forest degradation (REDD+) presents an opportunity for Zambia to address deforestation in a comprehensive and integrated manner by involving identified sectors and key actors. All the key drivers of deforestation must be analyzed by showing the interrelationships that exist in order to formulate sustainable interventions for deforestation and forest degradation. Zambia has developed the National REDD+ Strategy focusing on tackling different drivers of deforestation in both the forestry and other identified key sectors in particular, agriculture, energy, mining and infrastructure. The Vision of this Strategy is to contribute to a prosperous climate change resilient economy by 2030, anchored on sustainable management and utilization of the nation's natural resources towards improved livelihoods. Its Goal is to contribute to national reductions in greenhouse gas emissions by improving forest and landscape management and to ensure equitable sharing of both carbon and non-carbon benefits among stakeholders.

To facilitate the implementation of the National REDD+ strategy, and overall transitional arrangements from REDD+ Readiness to implementation, Government developed the Zambia Integrated Forest Landscape Project (ZIFL-P).The Zambia Integrated Forest Landscape Project's (ZIFLP) is co-financed by the Government of Zambia (GRZ), through the Ministry of National Development Planning (MNDP), the World Bank, through the International Development Agency (IDA), Bio-Carbon Fund Initiative for Sustainable Forest Landscapes (BioCFplus-ISFL), the Global Environmental Facility (GEF) and contributions from beneficiary communities.

1.2 Project Development Objective (PDO)

The Zambia Integrated Forest Landscape Project's (ZIFLP) Development Objective is "to improve landscape management and increase environmental and economic benefits for targeted rural communities in the Eastern Province (EP) and to improve the Recipient's capacity to respond promptly and effectively to an Eligible Crisis or Emergency."

1.3 Project Beneficiaries1

The ZIFLP's key beneficiaries are people in targeted rural communities in Eastern Province that are most directly dependent on agriculture and forest resources for livelihoods and the most vulnerable to climate change. An estimated 214,955 persons including provincial and national government staff will directly benefit from the project's investments. It is intended that at least 30 percent of the beneficiaries will be female.

1.4 Project Components

To achieve this Project Development Objective, the ZIFLP is organized around four components which are;

COMPONENT 1: ENABLING ENVIRONMENT

This component (i) builds conditions for implementation of the livelihood investments under Component 2 and (ii) develops the country capacity for emission reduction purchases. The component includes two subcomponents (a) District and local planning in support of integrated district development and local planning including land use and action planning through participatory processes; and (b) Emissions
Reduction framework, which will help establish the instruments needed for a future Emission Reduction Purchase Agreement (ERPA).

COMPONENT 2: LIVELIHOOD AND LOW CARBON INVESTMENTS

This component provides financing to on-the-ground activities that improve rural livelihoods, conserve ecosystems and reduce GHG emissions. It has two subcomponents: Agriculture and Forestry management, and Wildlife management. Although the sub-components are sectoral in nature, the cross-sectoral and landscape approach of the planning activities that will underlie the activities will ensure a landscape approach is retained.

COMPONENT 3: PROJECT MANAGEMENT

This component will finance activities related to national- and provincial-level project coordination and management, including annual work planning and budgeting; fiduciary aspects (financial management [FM] and procurement); human resource management; safeguards compliance monitoring; M&E and impact assessment studies; and communication strategy and citizen engagement. There are two subcomponents, one for the National Project Unit (NPU) and one for the Provincial Project Implementation Unit (PPIU).

COMPONENT 4: CONTINGENCY EMERGENCY RESPONSE

This is a zero-budget component which is included to facilitate the use of IDA funds in the event of a crisis or emergency that is related to the project and to be able to respond quickly to a potential Government request to reallocate some funding from existing World Bank projects to provide emergency relief.

1.5 Main Objectives of the ZIFLP Beneficiary Impact Assessment Survey

The study is designed to provide project staff, key stakeholders and implementing partners with detailed data on achieving key project indicators to enable changes in livelihoods of targeted communities to be measured over the course of the project. The data collected will be both qualitative and quantitative in nature, and will include information gathered on the outcome indicators and on knowledge, attitudes and practices in the areas of Climate Smart Agriculture (CSA), Sustainable Forest Management (e.g. beekeeping, sustainable woodlots) and Wildlife as well as government policy and other enabling environment.

The specific objectives of the beneficiary impact assessment are to assess the socio-economic activities of households in terms of but not limited to;

I. Assess the extent to which farmers targeted by the project are adopting improved agricultural technologies on their land (proportion) by gender and by type of technology,

II. Assess proportion of farmers' land holding (agricultural area) allocated to CSA practices (Ha) by type of technology,

III. Average yields (MT/ha) per household by crop of the areas under CSA practices.

IV. Average value of sales (ZMK) of various crops by gender, of crops grown under CSA practices, compared to value of sales of various crops grown under conventional practices.

V. Examine people in targeted communities with increased monetary and non-monetary benefits by gender as a result of the project,

VI. Establish the current status of household adoption of sustainable forestry management practices by gender, type and district in the project operational area; critically analyze sources and mode of information on the above-mentioned practices,

VII. Access the extent to which households have diversified their crop production/ percent households by number of crops grown, gender and district;

VIII. Assess the extent to which households have adopted improved cook stoves and post-harvest technologies disaggregated by gender and district.

IX. Access to extension services related to climate smart agriculture and forest management

X. Analyze community attitudes toward wildlife as well as government policy and other enabling or disabling conditions.

XI. Assess the Protected Area effectiveness using the METT3

XII. Assess the relative reduction of deforestation of each intervention. This will be based on best practice examples and secondary sources.

Chapter 2: Survey Methodology

2.1 Introduction

This chapter gives an outline of the activities that were undertaken during the 2020 ZIFLP Beneficiary Impact Assessment Survey (BIAS) in rural Eastern Province of Zambia. It encompasses issues related to survey management, sample design, survey instruments, data processing and response rate. The sample drawn was adequate to give representative results at district level.

2.2 Target Population

The target population was all households residing in rural Eastern Province at the time of the survey, excluding those residing within protected areas, institutionalised population groups and diplomats accredited to Zambia. The survey was conducted in all the 14 districts of the Eastern Province namely: Chadiza, Chasefu, Chipangali, Chipata, Kasenengwa, Katete, Lumezi, Lundazi, Lusangazi, Mambwe, Nyimba, Petauke, Sinda and Vubwi.

2.3 Sample Design

2.3.1 Sampling Frame

Zambia is administratively divided into 10 provinces, each of which is further subdivided into districts. These districts are subdivided into constituencies which are in turn also subdivided into wards. For statistical purposes, each ward is further subdivided into census supervisory areas (CSAs), which in turn nest standard enumeration areas (SEAs). For data collection purposes, the SEA is the smallest geographical unit assigned to each enumerator. The sampling frame for this study was constructed using the 2010 Census frame. This work was done by Geographical Information System (GIS) officers from the Zambia Statistics Agency (ZamStats) in collaboration with staff from the Forestry Department and Ministry of Agriculture. The sampling frame is a list of standard enumeration areas, also referred to as primary sampling units (PSUs). The frame was further categorized into agricultural blocks and camps as defined by the Ministry of Agriculture.

2.3.2 Sample Size

The 2020 ZIFLP Beneficiary Survey was based on 122 Standard Enumeration Areas, equivalent to 2,440 households. The sample covered all the districts in Eastern. The sample size was adequate to give reliable estimates at district level.

2.3.3 Sample Allocation, Stratification and Listing

2.3.3.1 Sample Stratification and Allocation

In order to have similar precision in the estimates in all the districts and also at the same time rectify the disproportional nature of the districts, the Square Root N Allocation Method was used to allocate the number of enumeration areas across the study domains. This approach presents a better compromise between Equal and Proportional Allocation methods in terms of reliability of both combined and disaggregated estimates.

2.3.3.2 Sample Selection

This study employed a multi-stage stratified cluster sample design whereby during the first stage, 122 EAs were selected with Probability Proportional to Estimated Size (PPEs). During the second stage, households were systematically selected from an enumeration area listing.

A comprehensive listing exercise of the sampled enumeration areas was conducted. During this listing exercise, households were classified into two categories i.e. beneficiary (ZIFLP-supported) and non-beneficiary households. For purposes of this study, 14 beneficiary and 6 non-beneficiary households were sampled from each sampled enumeration area, respectively.

The selection of households was done using the Circular Systematic sampling method. This method assumes that households are arranged in a circle and the following relationship applies:

Let N=nk

Where:

N= Total number of households assigned sampling serial numbers in a stratum
n= Total desired sample size to be drawn from a stratum in an EA
k= Sampling interval in a given EA calculated as k=N/n

2.3.4 Sample Distribution

The table 2.1 shows the percentage distribution of the sampled households by beneficiary status and district in rural Eastern Province.

Of the 340,345 sampled households, results show that 64 percent were beneficiaries while the rest were non-beneficiary . Beneficiary households are those supported by the Zambia Integrated Forest Landscape Project.

Further, results show that Petauke and Sinda districts had the largest share of sampled beneficiary households at 15.8 and 12.3 percent, respectively. Among the sampled non-beneficiary households, Lundazi and Kasenengwa districts had the largest share at 12.2 and 12 percent, respectively. Incidentally, Lusangazi District had the smallest share of sampled households both among beneficiary and non-beneficiary households.

Table 2.1: Percentage distribution of Sampled Households by type and district, rural Eastern Province 2020

District	Total Count	Percent	
		Ben	Non-Ben
Rural Eastern	**340,345**	**64.0**	**36.0**
Chadiza	16,070	5.1	4.0
Chasefu	24,008	8.0	5.4
Chipangali	30,651	10.2	6.8
Chipata	29,303	9.7	6.6
Kasenengwa	26,204	5.3	12.0
Katete	32,058	9.1	10.1
Lumezi	24,636	5.9	9.6
Lundazi	31,874	7.8	12.2
Mambwe	16,251	4.7	4.8
Lusangazi	581	0.2	0.1
Nyimba	16,363	3.3	7.6
Petauke	47,779	15.8	10.9
Sinda	36,863	12.3	8.2
Vubwi	7,703	2.6	1.7

2.4 Organisation of the Survey

2.4.1 Questionnaire Design

For purposes of the survey, four survey instruments were used.

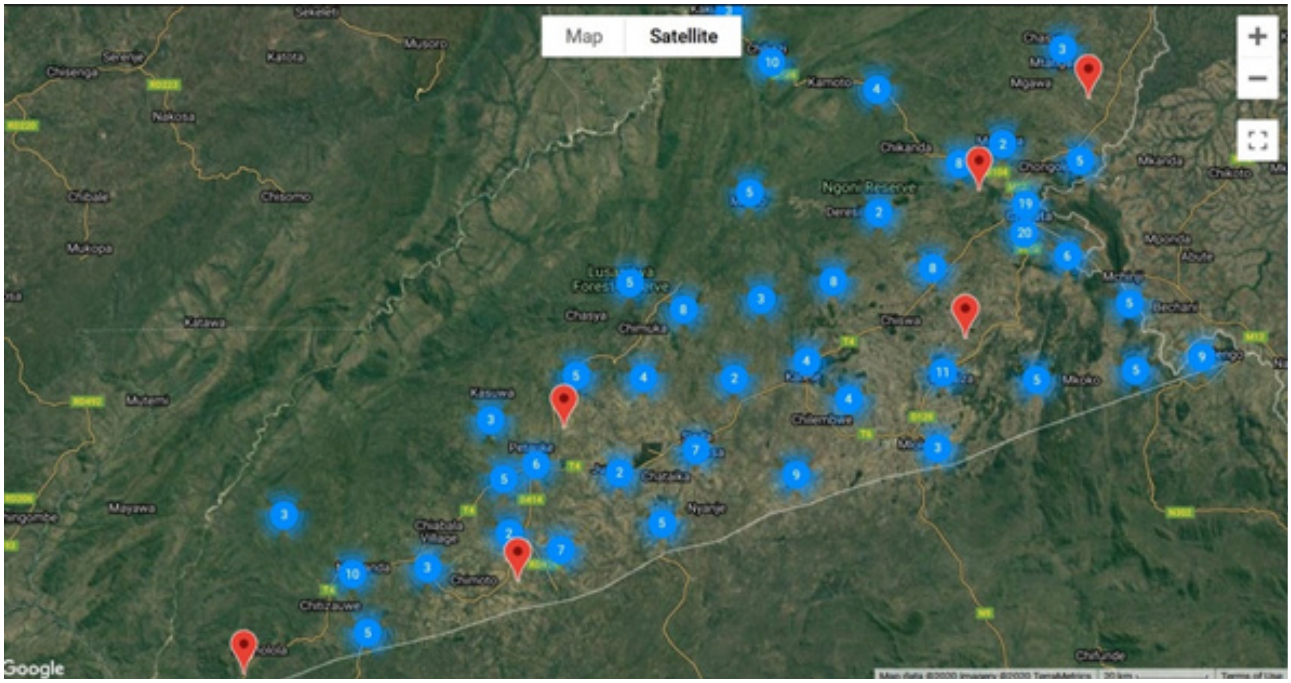
1. Electronic listing questionnaire
2. An electronic household-based questionnaire
3. Community focused group discussion questionnaire
4. Key informant questionnaire

The following topics were covered:

- Demographic Characteristics
- General Household Characteristics
- Access to Agricultural and Forest Land user rights
- Crop Production and Management practices
- Crop stocks and Sales

- Vegetable, Fruit and Sugarcane Sales
- Herbicides and Pesticides Utilisation
- Household Expenditure and Consumption
- Food Purchases and Food Aid/ Relief for home Consumption
- Household Food Insecurity
- Household Forest Clearing, Planting and Regeneration
- Collection of Wood and Non-wood forest Products
- Forestry income
- Income from Non-agricultural and Forest Activities
- Buying and Bartering of Wood and Non-wood Forest Products
- Access to Forest Extension Services
- Access to Agricultural Extension Services
- Energy Sources and Utilisation
- Household Assets/ Implement Ownership

2.4.2 Map Showing Data Collection Points



Chapter 3: Demographic Characteristics

The socio-economic characteristics of any given population of interest, commonly referred to as "demographic characteristics" are important in understanding the welfare of the population through the impact they may have on the prevailing socio-economic situation. In addition, demographic characteristics are part of background information and serve as a platform for understanding other aspects of the population of interest, including economic activities, household food security and vulnerability of the population. Information on all aspects of living conditions become more informative when disaggregated by demographic characteristics such as age, sex and geographical area.

The 2020 Zambia Integrated Forest landscape Project (ZIFLP) Beneficiary Impact Assessment Survey collected data on the following demographic characteristics: • Population size, age, sex and geographical distribution • Household size and headship • Marital status • Educational level • Disability • Household income.

Figure 3.1.1 depicts the population distribution of households by district, rural Eastern Province in 2020 Results show that Petauke and Sinda districts had the largest and second largest shares of the population in rural Eastern at 14.0 and 10.8 percent, respectively. Lusangazi District, one of the newly created districts, had the smallest share of the population at 0.2 percent. Petauke`s share of the population was 74 times as much as that of Lusangazi.

Figure 3.1.1: Population Distribution of Households by District, Rural Eastern Province, 2020

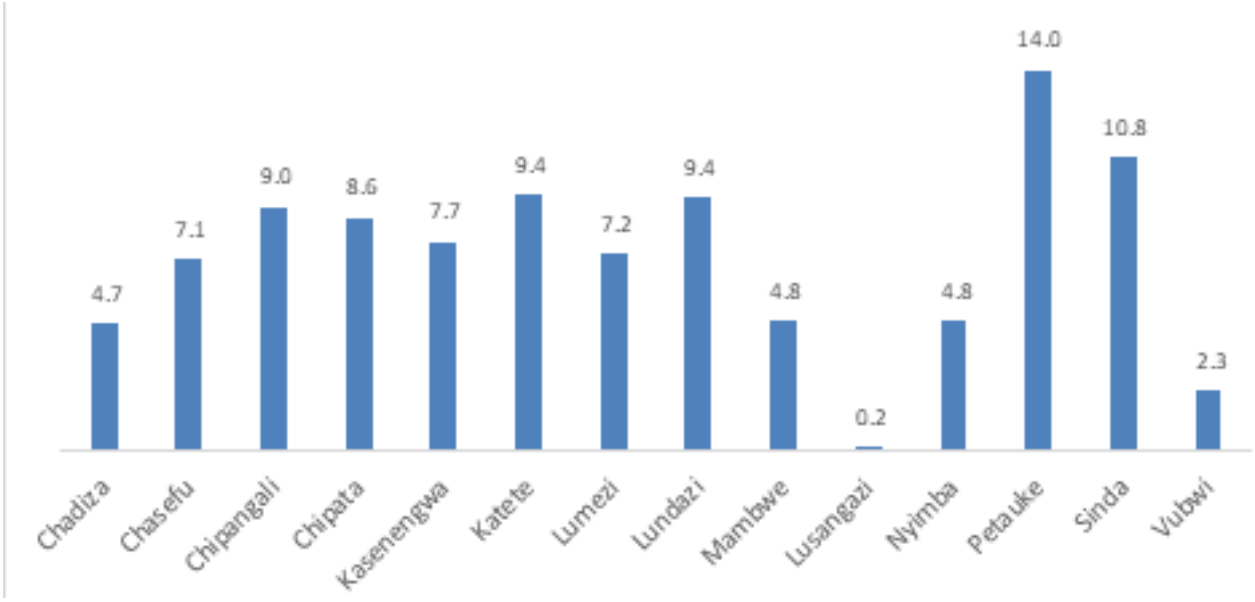


Table 3.1.1 shows the percentage distribution of households by Level of Education of Head in rural Eastern Province 2020 Overall, results show that 47.9 percent of the household heads in rural Eastern Province had completed Primary school representing the highest percentage followed by those who had completed Junior secondary school at 18.3 percent. Less than 1 percent had not completed any level of education.

Analysed by district, the highest level of education completed by most of the household heads in rural Eastern Province was Primary school. Kasenengwa, Lumezi, Chasefu and Chipangali districts at 57.1, 55.3, 53.4 and 53.3 percent, respectively, were among the four districts with the highest proportions of household heads that had completed primary school while Vubwi and Chadiza had the least at 24.3 and 37.0 percent, respectively.

Further, Junior secondary represented the second highest level of education completed among household heads in rural Eastern. Vubwi at 33.9 percent had the largest share of household heads with Junior secondary while Kasenengwa had the lowest share at 6.9 percent. In addition, in more than half the number of districts in Eastern, the proportion of household heads with senior secondary education level was higher than the provincial average at 11.2 percent. Sinda and Chipangali districts had the least shares of households that had completed Senior secondary at 7.1 and 7.2 percent, respectively.

Mambwe and Chipata districts at 12.8 and 12.7 percent, respectively reflected the highest and second highest proportion of heads with Tertiary education. However, Katete and Kasenengwa had less than 2 percent of its household Heads with Tertiary education.

Table 3.1.1: Percentage Distribution of Households by Level of Education of Head, Rural Eastern Province, 2020

District	Total	Never Attended	None	Primary	Junior Secondary	Senior Secondary	Tertiary	Not Stated
Total	**100**	**18.1**	**0.2**	**47.9**	**18.3**	**11.2**	**4.4**	**0**
Chadiza	100	29	0.8	37	16.4	10.5	6.4	0
Chasefu	100	11.1	0.4	53.4	20.9	11	3.3	0
Chipangali	100	14.5	0	53.3	22.6	7.2	2.5	0
Chipata	100	12.7	0	45.6	16.2	12.8	12.7	0
Kasenengwa	100	22.4	0.7	57.1	6.9	12.6	0.4	0
Katete	100	20.9	0.4	48.5	14.8	13.3	1.6	0.5
Lumezi	100	6.6	0	55.3	25.7	8.6	3.8	0
Lundazi	100	6.4	0	47.9	27.2	12.6	5.8	0
Mambwe	100	14.7	0	41.8	18.1	12.6	12.8	0
Lusangazi	100	12.9	0	48.2	18.1	13.4	7.3	0
Nyimba	100	17.5	0	48.1	18.1	13.1	3.3	0
Petauke	100	25.2	0	44.6	14.6	12.7	2.8	0
Sinda	100	28.8	0	45.9	15.9	7.1	2.3	0
Vubwi	100	22.7	0	24.3	33.9	15.5	3.5	0

Table 3.1.2 shows average the household size by age-group; level of education and sex of head in rural Eastern Province in 2020 Overall, results show that the average household size in rural Eastern was 5.4 persons. Male-headed households on average were 0.9 times larger than female headed households at 5.6.

Analysed by agegroup of head, average household size tended to increase with increase in agegroup of head up to 54 years. However, beyond 54 years of age, average household size tended to reduce as the household head grew older.

Analyzing average household size by education level completed, results show that the higher the level of education completed by the household head, the smaller the average households size. On average, households headed by persons who had never attended school and those who had completed upper primary school had the largest household sizes at 6.97 and 5.66, respectively. Household heads who had completed tertiary education had the smallest average household size of 5.04 persons.

Table 3.1.2: Average Household Size by Age-group and Level of Education Completed by Sex of Head of Household, Rural Eastern 2020

Age Group	Households		
	Total	Male headed	Female headed
	5.45	**5.65**	**4.74**
12-14	6		6
15-19	2.69	2.58	2.92
20-24	3.29	3.26	3.51
25-29	3.95	3.89	4.51
30-34	4.92	4.97	4.65
35-39	5.52	5.6	5.23
40-44	6.19	6.43	4.97
45-49	6.53	6.8	5.42
50-54	6.57	6.89	5.36
55-59	6.13	6.54	5.32
60-64	5.44	6.35	3.66
65+	5.13	5.95	4.07
Level Of Education			
Not Stated	1	1	
Never Attended	5.26	5.79	4.4
None	6.97	7	6.96
Lower Primary	5.47	5.82	4.72
Upper Primary	5.66	5.78	5.15
Junior Secondary	5.54	5.63	4.79
Senior Secondary	5.19	5.23	4.83
Tertiary	5.04	5.16	3.95
Not Stated	1	1	

Table 3.1.3 shows the percentage distribution of households by sex of head and district in rural Eastern Province in 2020 Overall, results show that 78.1 percent of the households in rural Eastern were male-headed while 21.9 percent were female-headed.

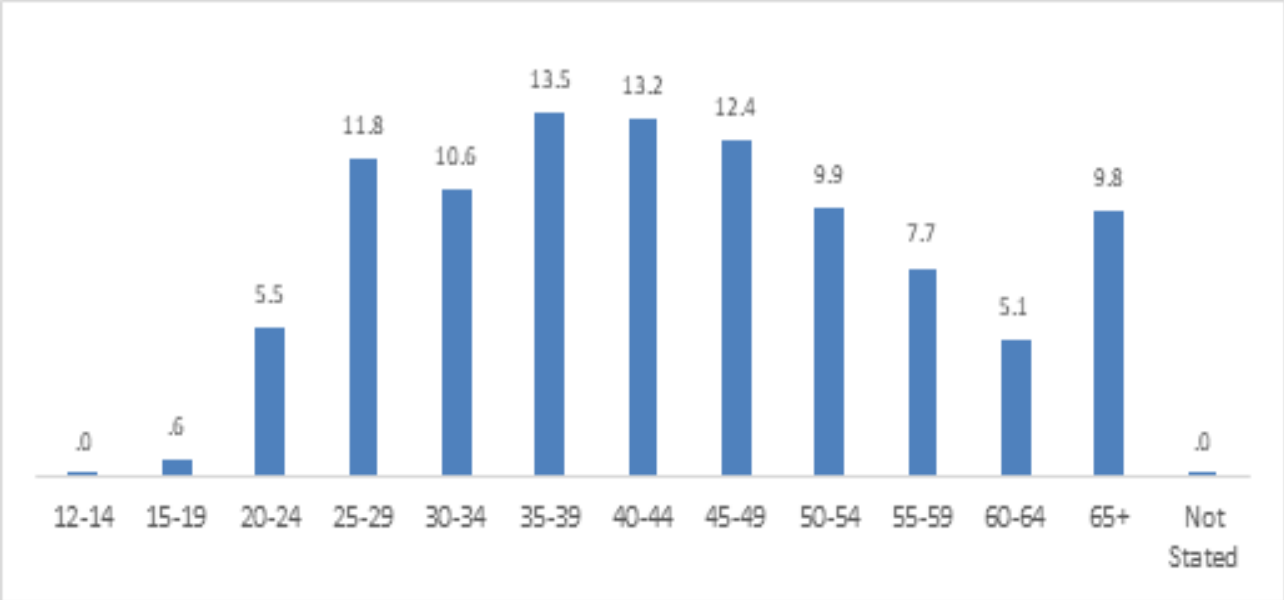
Analysis of results by district show that Vubwi had the highest proportion of male-headed households in the rural Eastern at 92.2 percent while Katete district had the lowest at 71.1 percent. Among female-headed households, Katete District had the highest proportion at 28.3 percent with Vubwi district having the lowest at 7.8 percent.

Table 3.1.3: Percentage Distribution of Households by Sex of Head by District, Rural Eastern, 2020

District	Total		Male		Female	
	Count	Row N per-cent	Count	percent	Count	percent
Total	**340,345**	**100**	**265,954**	**78.1**	**74,392**	**21.9**
Chadiza	16,070	100	13,212	82.2	2,858	17.8
Chasefu	24,008	100	19,491	81.2	4,517	18.8
Chipangali	30,651	100	23,742	77.5	6,909	22.5
Chipata	29,303	100	21,939	74.9	7,364	25.1
Kasenengwa	26,204	100	21,107	80.5	5,098	19.5
Katete	32,058	100	22,971	71.7	9,087	28.3
Lumezi	24,636	100	22,283	90.4	2,353	9.6
Lundazi	31,874	100	25,750	80.8	6,124	19.2
Mambwe	16,251	100	11,987	73.8	4,264	26.2
Lusangazi	581	100	465	80	116	20
Nyimba	16,363	100	11,750	71.8	4,612	28.2
Petauke	47,779	100	35,213	73.7	12,566	26.3
Sinda	36,863	100	28,942	78.5	7,921	21.5
Vubwi	7,703	100	7,100	92.2	603	7.8

Figure 3.1.2 shows the percentage distribution of households by agegroup of household head in rural Eastern Province in 2020 Results show that 13.5 percent of the households in rural Eastern were headed by persons aged between 35-39 years while 13.2 percent of the households were headed by persons aged 40-44 years. Further, 9.8 percent of the households were headed by persons aged 65 years and above. It is also notable that 0.02 percent of the households were headed by persons below the age of 15 years.

Figure 3.1.2: Percentage Distribution of Households by Agegroup of Household Head in Rural Eastern Province, 2020



3.1.1 Marital Status

Table 3.1.4 shows the percentage distribution of households by marital status of household head and district, rural Eastern Province in 2020 Overall, 78.7 percent of the household heads in rural Eastern were Married, 5.0 percent Divorced, 2.1 percent Never Married and 11.0 percent Widowed.

Analysed by district, results show that the majority of the household heads in each rural part of the districts Eastern Province were married. Chasefu and Lumezi districts had the highest and second highest percentage of households headed by persons that were married at 89.4 and 89.3 percent, respectively. Chipata and Nyimba districts had the least proportions at 71.6 and 70.4 percent, respectively.

Further, Mambwe, Petauke and Katete districts, relatively, had higher percentages of household heads that were divorced at 8.9, 7.7 and 6.3 percent, respectively. Chasefu and Lumezi districts had the least percentages of household Heads that were divorced at 1.8 and 1.2 percent, respectively.

Analysing widowhood by district, results show that Chasefu, Chadiza, Lumezi, Petauke, Sinda, Vubwi and Lundazi districts had widowhood proportions below that of the provincial average of 11.0 percent. The proportions of widowers in the rest of the districts in rural Eastern were higher than the provincial average with Chipata and Nyimba representing the highest and second highest proportions at 17.3 and 15.3 percent, respectively.

Table 3.1.4 : Percentage Distribution of Households by Marital Status of Head and District, Rural Eastern, 2020

District	Total	Never Married	Married	Separated	Divorced	Widowed	Co-habiting	Not Stated
Total	**100**	**2.1**	**78.7**	**3.1**	**5**	**11**	**0.1**	**0**
Chadiza	4.7	4.3	81.6	5.1	3.2	5.8	-	-
Chasefu	7.1	-	89.4	0.7	1.8	8.2	-	-
Chipangali	9	1.8	77.6	4.5	4.8	11.3	-	-
Chipata	8.6	2.1	71.6	2.7	6.2	17.3	-	-
Kasenengwa	7.7	1.5	78.8	5.4	2.4	12	-	-
Katete	9.4	2.7	75.2	1.6	6.3	13.6	-	0.5
Lumezi	7.2	1.3	89.3	1.7	1.2	6.5	-	-
Lundazi	9.4	0.8	82.6	2.2	5.3	9.1	-	-
Mambwe	4.8	2.5	75.1	2.6	8.9	11	-	-
Lusangazi	0.2	5.2	75.9	0.8	6.1	12	-	-
Nyimba	4.8	3.4	70.4	6.5	4.5	15.3	-	-
Petauke	14	3.2	74.1	4.2	7.7	10.4	0.5	-
Sinda	10.8	2.7	79	2.2	5.4	10.6	-	-
Vubwi	2.3	-	85.2	1.1	2.8	10.9	-	-
		78.7						

Table 3.1.5 shows the percentage distribution of households in rural Eastern Province by reason cited for never having attended school. Overall, about 54 out of every 100 household heads cited "never enrolled" while almost 1 out of every 100 households cited "illness/ injury." Furthermore, almost 33 out of every 100 household heads cited "no financial support". Notably, 2 out of every 100 household heads in rural Eastern cited "school too expensive" and almost 3 out of every 100 households cited "unsafe to travel" as a reason for having never attended school.

Analysed by district, results indicate that 78 out of every 100 household heads in Lundazi districts cited "was never enrolled", almost 18 out of every 100 in Chasefu cited "couldn't get a place", almost 10 out of every100 households in Nyimba cited "school too expensive" and while another 47 out of every 100 cited "no financial support" reflecting the highest percentage.

Table 3.1.5: Percentage Distribution of Households by Reason Cited for Having Never Attended School by District, Rural Eastern, 2020

District	Total		Under-age	Was never enrolled	Couldn't get a place	Expensive	No financial support	School too far	Illness/ injury	School not important	Unsafe to travel to school	Other specify
Total	**100**	**-**	**-**	**53.5**	**2**	**2.1**	**32.6**	**1.5**	**0.8**	**6.1**	**2.5**	**5.4**
Chadiza	7.6	-	-	73.9	2.6	-	11.1	8.2	-	2.4	3.3	-
Chasefu	4.3	-	-	28.1	17.8	-	41.5	-	-	-	44.9	-
Chipangali	7.2	-	-	41.5	-	-	46.5	-	5.5	15.7	-	-
Chipata	6.1	-	-	55	-	-	33.2	-	6.3	-	10	-
Kasenengwa	9.6	-	-	63.1	-	9.1	27.8	-	-	-	-	-
Katete	10.9	-	-	48.5	3.8	1.8	30.4	-	-	21.3	-	10.7
Lumezi	2.6	-	-	49.2	-	-	50.8	-	-	-	-	-
Lundazi	3.3	-	-	78.3	11.7	-	10	-	-	-	-	-
Mambwe	3.9	-	-	56.1	-	2.2	38.1	-	-	-	6.6	-
Lusangazi	0.1	-	-	75.2	15.4	-	9.4	-	-	-	-	-
Nyimba	4.6	-	-	30.6	3.6	9.7	47.4	6.1	-	-	8.5	-
Petauke	19.6	-	-	61.5	-	1.8	24	1.5	-	1.9	-	16.3
Sinda	17.3	-	-	43	-	0.8	46.8	-	-	17.4	-	4.5
Vubwi	2.8	-	-	69.7	-	-	17.9	12.4	-	-	-	-

3.1.2 Disability

Table 3.1.6 shows the percentage distribution of households by disability, sex of head & district in rural Eastern in 2020 Overall, results show that 13.1 percent of the households in rural Eastern had at least one member of the household with a disability.

Disaggregated by sex of household head, female-headed households reported having 3.1 percent less households with a disabled member than households headed by their male counterparts at 8.1 percent.

Analysed by district, results show that Katete (19.4 percent) and Mambwe (18.4 percent) had the largest and second largest shares of households with persons with a disability. Chipangali at 5.3 percent had the smallest share.

Analysed by sex of head, overall results show that regardless of the district, male-headed households in rural Eastern generally had larger shares of households living with someone with a disability. In particular, Petauke and Kasenengwa districts had the largest shares of households with a disabled member among male-headed households at 11.3 and 11 percent, respectively. However, among female-headed households, Katete had the largest share of households with someone with a disability while Lumezi ha he smallest share at 1.7 percent.

Table 3.1.6: Percentage Distribution of Households by Disability, Sex of Head & District, Rural Eastern, 2020

District	Disabled household		
	Total	Male	Female
Total	**13.1**	**8.1**	**5**
Chadiza	9.6	5.4	4.2
Chasefu	7.9	5.5	2.5
Chipangali	5.3	3.3	2
Chipata	12.5	6.6	5.9
Kasenengwa	16.2	11	5.2
Katete	19.4	9.8	9.6
Lumezi	9.2	7.5	1.7
Lundazi	13.5	8.9	4.6
Mambwe	18.4	9.7	8.6
Lusangazi	12.3	9.1	3.2
Nyimba	16.1	8.7	7.4
Petauke	17.1	11.3	5.7
Sinda	11.9	7.8	4.1
Vubwi	8.3	5.5	2.8

Chapter 4: Land Ownership and Use

Chapter 4: Land Ownership and Use

Land ownership is one of the key elements to increase crop production and improvement in general household welfare. The survey covered tenure status for the rural Eastern Province by beneficiary status i.e. beneficiary and the non-beneficiary households. Additionally, survey sought disaggregation of land ownership by sex of head and joint ownership.

Table 4.1 shows proportional distribution of land ownership by beneficiary status, sex of head and by district in rural Eastern Province.

Overall, results show that 45 percent of the land in rural Eastern is owned by male members of the household while their female counterparts own 17 percent. The remaining 38 percent is jointly owned.

Analysed by beneficiary status, of the total land owned by beneficiary households, 45.8 percent of that land is owned by male-headed households while female-headed households own 16.5 percent. The rest is jointly owned. Further, of the land owned by non-beneficiary households, results show that male-headed household own more than two and half times the share of land owned by female-headed households. Male-headed households own 43.7 percent relative 17.3 percent owned by their female head counterparts. The remaining 39.8 percent is jointly owned

Overall, analysing results by district, 65.3 percent of the land in Chasefu is owned by male-headed households representing the highest percentage followed by Kasenengwa at 61.6 and Petauke at 54 percent.

Among the beneficiary households, Kasenengwa District had the highest share of male heads who own land at 64.2 percent followed by Chasefu with 63.7 percent and Nyimba at 55.7 percent. Chipata had largest share of female heads that owned land at 45.9 percent followed by Petauke (24.2 percent) and Sinda at 23.9 percent. In Chipangali district, 69.6 percent of the land was jointly owned.

Among the non-beneficiary households, Chasefu District had the highest share of male heads that owned land at 69.6 percent followed by Kasenengwa District at 59.4 and Petauke District at 57.7 percent. Among the female-headed household, Chipata District had the highest share of female-headed households who owned land at 26.5 percent followed by Sinda District at 26.3 percent and Petauke at 20.2 percent. Lusangazi District had 61.1 of the land owned jointly.

Table 4.1. Percentage distribution of land ownership by sex of head in both beneficiary and non-beneficiary households, Rural Eastern Province, 2020

District	All households									
		Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben
	Total	Male Owned			Female Owned			Jointly Owned		
Rural Eastern	**301,983**	**45**	**45.8**	**43.7**	**17**	**16.5**	**17.3**	**38**	**36.9**	**39.8**
Chadiza	15,318	45.3	48.5	38	8.8	11.7	7.5	45.9	44	50.3
Chasefu	22,563	65.3	63.7	69.6	14.2	9.8	15.8	20.5	20.5	20.6
Chipangali	25,540	23.9	19	37.3	13.2	17.9	11.4	62.9	69.6	44.8
Chipata	17,461	42.5	44.4	36.3	31.1	45.9	26.5	26.4	29.1	17.8
Kasenengwa	25,520	61.6	64.2	59.4	14.8	14.8	14.8	23.6	20.9	25.7
Katete	28,485	49.3	44.8	57.5	24.4	21.3	26.1	26.3	29.1	21.2
Lumezi	23,284	23.1	26	19.9	2.8	4	1.8	74.1	72.2	76.1
Lundazi	27,955	42.9	47.5	37.7	9.3	7.6	10.8	47.9	41.7	54.7
Mambwe	13,784	34	35.6	31.3	13.2	7.7	16.6	52.8	47.8	61
Lusangazi	521	33.8	38.4	23.8	7.6	15.1	4.2	58.6	57.5	61.1
Nyimba	14,237	43.2	55.7	33.4	21.7	23.4	19.5	35.1	24.8	43.2
Petauke	44,703	54	52.5	57.7	21.3	24.2	20.2	24.8	27.3	18.1
Sinda	35,235	42.7	45.1	36.3	25.7	23.9	26.3	31.7	28.5	39.8
Vubwi	7,376	46.4	53	27.8	7.8	11.7	6.5	45.8	40.5	60.5

Table 4.2a shows the size of land in hectares under agro-forestry by sex of head and district in rural Eastern Province in 2020 Overall, 31,971.9 hectares of land in rural Eastern Province in 2020 was under agro-forestry. Of the total area under agro-forestry, 30,356.4 hectares belonged to male-headed households while female headed households accounted for 1,615.5 hectares. This implies that male-headed households used 18.6 times as much land on agro-forestry as that used by female-headed households.

Analysed further by sex of head and beneficiary status, male-headed beneficiary households allocated 19,548.8 hectares of land to agro-forestry relative to 10,807.6 hectares allocated to agro-forestry by households headed by their non-beneficiary counterparts. Similarly, female-headed households belonging to beneficiaries allocated 1,453.2 hectares to agro-forestry relative to 162.2 hectares allocated to agro-forestry by their non-beneficiary counterparts. This implies female-headed beneficiary households allocated 9 times as much of their land to agro-forestry as their non-beneficiary counterparts.

Analysed by district, Lumezi and Chipangali districts allocated the largest and second largest land areas to agro-forestry at 8,020.1 and 4,969.3 hectares, respectively. However, Chasefu and Lusangazi districts allocated the least land areas to agro-forestry at 47.9 and 40.5 hectares, respectively.

Table 4.2a : Size of Land in hectares under Agro-forestry by Sex of Head and District in rural Eastern Province, 2020

District	Hectares under Agro-forestry						
	All Households	Male Headed			Female Headed		
		Generally	Ben	Non-ben	Generally	Ben	Non-ben
Rural Eastern	**31,971.9**	**30,356.4**	**19,548.8**	**10,807.6**	**1,615.5**	**1,453.2**	**162.2**
Chadiza	1,162.7	956.5	760.1	196.4	206.2	176.3	29.9
Chasefu	47.9	47.9	47.9	0.0	0.0	0.0	0.0
Chipangali	4,969.3	4,813.9	399.8	4,414.2	155.4	130.5	24.8
Chipata	3,160.5	3,160.5	3,160.5	0.0	0.0	0.0	0.0
Kasenengwa	1,935.7	1,737.2	1,185.5	551.7	198.5	129.3	69.1
Katete	2,220.9	1,957.7	1,373.0	584.7	263.2	247.7	15.5
Lumezi	8,020.1	8,020.1	3,544.3	4,475.7	0.0	0.0	0.0
Lundazi	2,558.9	2,400.1	2,347.9	52.2	158.8	158.8	0.0
Mambwe	3,001.0	2,744.3	2,542.7	201.6	256.7	256.7	0.0
Lusangazi	40.5	36.2	36.2	0.0	4.4	3.0	1.4
Nyimba	760.9	540.2	302.0	238.3	220.7	220.7	0.0
Petauke	3,411.8	3,330.9	3,330.9	0.0	80.9	80.9	0.0
Sinda	297.4	275.3	275.3	0.0	22.1	22.1	0.0
Vubwi	384.3	335.6	242.8	92.8	48.7	27.1	21.5

Table 4.2b shows the size of land in hectares specifically used for growing trees by sex of head and district in rural Eastern Province in 2020 Overall, 28,416.7 hectares of land in rural Eastern was specifically used for growing trees. Of the total land specifically used for growing trees, male-headed households accounted for 24,596.8 hectares while female headed households accounted for 3,819.9 hectares. This implies that male-headed households used 7.4 times as much land of their land specifically for growing trees.

Analysed further by sex of head and beneficiary status, male-headed beneficiary households specifically used 14,266.6 hectares of their land for growing trees compared to 10,330.2 hectares by male-headed non-beneficiary households. Similarly, female-headed households belonging to beneficiaries used 2,592.7 hectares specifically for growing trees relative to 1,227.2 hectares specifically used for growing trees by their non-beneficiary counterparts. This implies female-headed beneficiary households used 2.1 times as much of their land specifically for growing trees than their non-beneficiary counterparts.

Analysed by district, Chipangali and Chasefu districts used the largest and second largest land areas specifically for growing trees at 6,977.1 and 4,816.1 hectares, respectively. However, Chipata and Lusangazi districts used the least land areas specifically for growing trees at 696.4 and 281.5 hectares, respectively.

Table 4.2b: Size of Land in Heactares Specifically used for Growing Trees by Sex of Head and District in rural Eastern Province, 2020

District	Hectares specifically for growing trees						
	All Households	Male Headed			Female Headed		
		Generally	Ben	Non-ben	Generally	Ben	Non-ben
Rural Eastern	**28,416.70**	**24,596.80**	**14,266.60**	**10,330.20**	**3,819.90**	**2,592.70**	**1,227.20**
Chadiza	1,438.30	1,188.30	806.4	381.9	250	235.1	14.9
Chasefu	4,816.10	4,816.10	1,829.00	2,987.10	0	0	0
Chipangali	6,977.10	6,804.10	2,626.00	4,178.10	173	173	0
Chipata	696.4	245.6	245.6	0	450.8	17.8	433
Kasenengwa	1,288.60	1,063.80	655.3	408.5	224.8	0	224.8
Katete	1,873.10	1,439.40	661.5	777.8	433.8	248.3	185.4
Lumezi	1,611.20	1,576.30	1,541.10	35.1	34.9	34.9	0
Lundazi	1,870.70	1,639.50	1,065.30	574.2	231.2	231.2	0
Mambwe	3,688.50	2,703.60	2,121.20	582.5	984.9	897.3	87.6
Lusangazi	281.5	209.1	139.2	70	72.4	55.2	17.2
Nyimba	949	369.2	133.5	235.8	579.7	328.3	251.5
Petauke	1,288.10	964.5	964.5	0	323.6	323.6	0
Sinda	958.2	936.1	921.6	14.5	22.1	22.1	0
Vubwi	679.8	641.2	556.4	84.8	38.7	25.9	12.8

Table 4.3 shows the average size of land owned by sex of head among both beneficiary and non-beneficiary households. Overall, results show that the average land size owned by households in rural Eastern Province in 2020 was 3.13 hectares.

Generally, male and female headed households own an average of 3.35 and 2.31 hectares, respectively. Among beneficiary households, male-headed households own an average of 3.35 hectares while female-headed households own an average of 2.38 hectares of land. This implies that males own 0.97 hectares more than the land owned by their female counterparts. For non-beneficiary households, males owned an average of 3.35 hectares of land while the females owned an average of 2.20 hectares which is 1.15 hectares less than their male counterparts.

Analyzed by district, Lusangazi and Chipangali districts, on average, owned had the largest share of land at 4.5 and 4.43 hectares, respectively.

By sex of head at district level, Chipangali and Lusangazi owned the largest size of land on average at 4.9 and 4.85 hectares, respectively among male-headed households. On the other hand, both Nyimba and Lusangazi districts owned the largest size of land at 3.10 hectares among female-headed households.

Among beneficiary households by district, on average, Lumezi and Katete owned the largest size of land at 4.06 and 3.78 hectares, respectively among male-headed households while Nyimba and Lusangazi districts owned the largest and second largest sizes of land at 3.82 and 3.71 hectares, respectively among female-headed households.

Among non-beneficiary households, Chipangali and Lusangazi districts owned the two largest average sizes of land at 8.83 and 5.43 hectares, respectively among male-headed households while Lumezi and Petauke districts owned the two largest average sizes of land at 3.71 and 2.96 hectares, respectively among female-headed households.

Table 4.3: Average Size of Land (Ha) owned by Beneficiary Status, Sex of Household Head and District, Rural Eastern Province 2020

District	Hectares owned						
	All House-holds	Gen Male Headed	Ben Male Headed	Non-Ben Male Headed	Gen Female Headed	Ben Female Headed	Non-Ben Female Headed
Total	**3.13**	**3.35**	**3.35**	**3.35**	**2.31**	**2.38**	**2.2**
Chadiza	3.18	3.28	3.12	3.63	2.69	2.87	2.13
Chasefu	2.77	2.99	2.95	3.09	1.87	2.32	0.91
Chipangali	4.43	4.95	3.73	8.83	2.46	2.71	2.04
Chipata	1.89	2.07	2.21	1.58	1.3	1.33	1.23
Kasenengwa	2.78	2.91	3.22	2.64	2.27	2.43	2.17
Katete	3.28	3.51	3.78	3.04	2.68	2.91	2.2
Lumezi	3.94	4.04	4.06	4.01	2.99	1.84	3.71
Lundazi	2.92	3	2.86	3.16	2.52	2.64	2.38
Mambwe	2.68	2.84	3.4	1.82	2.21	2.93	1.36
Lusangazi	4.5	4.85	4.62	5.43	3.1	3.71	2.32
Nyimba	3.27	3.34	4.15	2.62	3.1	3.82	2.68
Petauke	2.93	3.11	2.98	3.47	2.4	2.16	2.96
Sinda	3.2	3.63	4.03	2.56	1.73	1.79	1.59
Vubwi	2.83	2.93	3.08	2.47	1.74	1.66	1.82

Table 4.4 shows the average size of land (Ha) specifically used for growing trees by beneficiary status, sex of household head and district in rural Eastern Province in 2020

Regardless of sex, survey results show that 16.9 percent of the land in rural Eastern is specifically used for growing trees.

By sex of head, male and female headed households used 16.2 and 19.6 percent of their land specifically for growing trees.

By beneficiary status and sex of head, among beneficiary households, female-headed households used 3 percent more of the land they owned to specifically grow trees compared to their male counterparts who used 15.5 percent of their land. Similarly, among non-

beneficiary households, female-headed households set aside 5.15 percent more of their land specifically for growing trees compared to male-headed households who used 18.5 percent.

Analyzed by district, Chasefu and Mambwe districts had the largest share of land being used for growing trees at 39.7 and 29.8 percent, respectively.
By sex of head and district, Chasefu and Mambwe districts had the largest share of land that was specifically being used to grow trees at 39.7 and 29.5 percent respectively among male headed households. Lusangazi and Kasenengwa districts had the largest share of land being used to grow trees at 30.2 and 30.4 percent, respectively, among female-headed households.

Among beneficiary households, Chasefu and Lusangazi districts had the largest share of land being used to grow trees at 33.1 and 29.9 percent respectively among male-headed households while Mambwe and Lusangazi districts had the largest share of land being used to grow trees at 33.5 and 29.8 percent respectively among female-headed households.

Among non-beneficiary households Chasefu and Nyimba districts had the largest share of land being used to specifically grow trees at 57 and 40 percent respectively among male-headed households while Chipata and Nyimba districts had the largest share of land being used to grow trees at 50 and 39 percent respectively among female headed households.

Table 4.4: Average Size of Land (Ha) Specifically Used for Growing Trees by Beneficiary Status, Sex of Household Head and District, Rural Eastern Province 2020

District	All Households	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben
		Male Headed			Female-Headed		
Rural Eastern	**16.94**	**16.21**	**15.57**	**18.5**	**19.6**	**18.17**	**23.69**
Chadiza	10.48	10.33	10.7	9.53	11.32	11.93	5
Chasefu	39.74	39.74	33.13	57.14			
Chipangali	10.88	12.86	11.74	21.05	7.52	7.52	
Chipata	17.34	13.54	13.54		21.42	8.75	50
Kasenengwa	18.98	16.11	17.64	14.29	30.42		30.42
Katete	16.25	15.76	15.61	16.07	17.66	26.36	8.43
Lumezi	10.82	10.06	9.24	21.95	25	25	
Lundazi	21.68	23.03	24.55	14.85	18.43	18.43	
Mambwe	29.87	29.55	28.93	30.74	30.41	33.51	20.25
Lusangazi	29.63	29.4	29.9	28.4	30.28	29.81	31.15
Nyimba	19.69	16.3	7.85	40.97	22.89	11.78	39.19
Petauke	15.95	16.42	16.42		12.5	12.5	
Sinda	14.88	15.19	17.59	2.07	8.33	8.33	
Vubwi	8.9	8.81	9.02	7.78	10.18	10.12	10.29

Chapter 5 Crop Production and Management practices

Chapter 5 Crop Production and Management practices

Crop management begins with the sowing of seeds, continues with crop maintenance during growth and development, and ends with crop harvest, storage, and distribution (Tivy, 1990).

Area Planted to Maize

Table 5.1.1 shows the number of households and area planted to maize by beneficiary type and by district during the 2019/20 Agricultural season in rural Eastern Province.

Results show the total area planted to Maize in rural Eastern Province was 332,101 hectares. The average area planted per household was 1.2 hectares. The average area planted by both beneficiary and non-beneficiary households was 1.2 hectares.

At district level, Lusangazi and Petauke recorded the largest average areas planted to maize with 1.7 hectares each. In Lusangazi, the average area under maize was 1.7 among both beneficiary and non-beneficiary households. In Petauke, beneficiary households recorded an average area planted to maize of 1.5 compared to non-beneficiary households who recorded an average area of 2.1 hectares.

Table 5.1.1: Number of Households and Area Planted to MAIZE by Beneficiary Type, by District, 2019/20 Season

District	Hectares Planted								
	All Households			Beneficiary Households			Non-beneficiary households		
	Number of Households Growing Maize	Area Planted	Average	Households	Area	Average	Households	Area	Average
Total	**274,833**	**332,100.90**	**1.2**	**178056**	**213,847.80**	**1.2**	**96777**	**118,253.10**	**1.2**
Chadiza	10,782	16,152.70	1.5	7508	10,071.10	1.3	3274	6,081.60	1.9
Chasefu	21,910	18,905.40	0.9	15906	14,705.00	0.9	6003	4,200.40	0.7
Chipangali	27,854	35,627.70	1.3	21309	25,478.50	1.2	6544	10,149.20	1.6
Chipata	19,198	11,892.50	0.6	14838	9,708.40	0.7	4360	2,184.10	0.5
Kasenengwa	23,412	26,561.10	1.1	9864	12,942.60	1.3	13549	13,618.50	1
Katete	23,648	32,160.50	1.4	14734	21,093.00	1.4	8914	11,067.60	1.2
Lumezi	22,962	27,005.80	1.2	11678	12,475.10	1.1	11285	14,530.80	1.3
Lundazi	25,566	25,045.70	1	13779	12,071.80	0.9	11787	12,973.90	1.1
Mambwe	13,366	12,634.00	0.9	8605	8,421.60	1	4762	4,212.50	0.9
Lusangazi	515	889.1	1.7	360	627.1	1.7	154	262	1.7
Nyimba	11,072	16,696.00	1.5	4593	8,316.90	1.8	6479	8,379.10	1.3
Petauke	33,809	57,184.60	1.7	25315	39,096.40	1.5	8495	18,088.20	2.1
Sinda	34,593	44,429.40	1.3	25393	34,348.20	1.4	9200	10,081.30	1.1
Vubwi	6,146	6,916.30	1.1	4174	4,492.20	1.1	1972	2,424.10	1.2

Area Planted to Soya beans

Table 5.1.2 shows the number of households and area planted to soya beans by beneficiary type and by district during the 2019/20 Agricultural season in rural Eastern Province.

Results show that the total number of households that grew soya beans was 113, 678 while the area planted to soya beans in rural Eastern Province was 97,947 hectares. The average area planted per household was 0.9 hectares. The average area planted by both beneficiary and non-beneficiary households was 0.9 hectares.

At district level, Sinda and Vubwi recorded the largest average areas planted to soya beans with 0.9 hectares each. In Sinda, the average area under soya beans was 0.8 hectares among both beneficiary compared to 1.3 hectares among non-beneficiary households.

In Petauke, beneficiary households recorded an average area planted to soya beans of 1.1 compared to non-beneficiary households who recorded an average area of 0.8 hectares.

Table 5.1.2: Number of Households and Area Planted to SOYA BEANS by Beneficiary Type, by District, 2019/20 Season

District	Hectares Planted								
	All Households			Beneficiary Households			Non-beneficiary households		
	Number of House-holds Growing Maize	Area Planted	Average	House-holds	Area	Average	House-holds	Area	Average
Total	**113,678**	**97,947**	**0.9**	**72572**	**62,418**	**0.9**	**41106**	**35,529**	**0.9**
Chadiza	7,584	5,528	0.7	5320	3,428	0.6	2264	2,100	0.9
Chasefu	6,921	4,647	0.7	5609	3,548	0.6	1313	1,098	0.8
Chipangali	11,881	12,519	1.1	8137	7,576	0.9	3744	4,943	1.3
Chipata	5,830	2,930	0.5	3915	2,090	0.5	1915	840	0.4
Kasenengwa	10,766	8,510	0.8	4145	3,577	0.9	6622	4,933	0.7
Katete	12,709	12,978	1	9050	10,449	1.2	3659	2,529	0.7
Lumezi	12,593	13,897	1.1	7124	8,289	1.2	5469	5,608	1
Lundazi	17,687	12,253	0.7	8635	6,788	0.8	9052	5,466	0.6
Mambwe	956	637	0.7	779	579	0.7	177	58	0.3
Lusangazi	151	119	0.8	98	84	0.9	53	34	0.6
Nyimba	617	436	0.7	343	273	0.8	274	163	0.6
Petauke	1,192	1,234	1	974	1,057	1.1	218	177	0.8
Sinda	19,729	17,934	0.9	14943	11,595	0.8	4785	6,339	1.3
Vubwi	5,061	4,327	0.9	3499	3,085	0.9	1562	1,243	0.8

Area Planted to Groundnuts

Table 5.1.3 shows the number of households and area planted to groundnuts by beneficiary type and by district during the 2019/20 Agricultural season in rural Eastern Province.

Results show that the total number of households that grew groundnuts was 159,590 while the area planted to groundnuts in rural Eastern Province was 88,042 hectares. The average area planted to groundnuts in rural Eastern Province was 0.6 hectares. The average area planted to groundnuts by beneficiary households was 0.5 hectares while the average area planted by non-beneficiary households was 0.6 hectares.

At district level, Petauke recorded the largest average area planted to groundnuts with 0.7 hectares per household. The average area planted to groundnuts per household in Petauke was 0.6 hectares among both beneficiary compared to 0.9 hectares among non-beneficiary households.

Table 5.1.3: Number of Households and Area Planted to GROUNDNUTS by Beneficiary Type, by District, 2019/20 Season

District	Hectares Planted								
	All Households			Beneficiary Households			Non-beneficiary households		
	House-holds Growing Maize	Area Planted	Average	House-holds	Area	Average	House-holds	Area	Average
Total	**159,590**	**88,042**	**0.6**	**106,122**	**58,235**	**0.5**	**53468**	**29,806**	**0.6**
Chadiza	4,544	2,280	0.5	3,233	1,620	0.5	1,312	661	0.5
Chasefu	16,384	8,859	0.5	11,627	6,622	0.6	4,757	2,237	0.5
Chipangali	18,495	11,171	0.6	14,653	8,418	0.6	3,843	2,753	0.7
Chipata	10,137	3,444	0.3	7,613	2,639	0.3	2,524	805	0.3
Kasenengwa	17,829	11,474	0.6	7,804	5,651	0.7	10,025	5,823	0.6
Katete	9,345	3,880	0.4	7,026	3,074	0.4	2,319	806	0.3
Lumezi	14,799	9,170	0.6	7,377	4,814	0.7	7,422	4,356	0.6
Lundazi	11,621	5,250	0.5	7,235	3,046	0.4	4,386	2,204	0.5
Mambwe	7,883	3,953	0.5	6,178	3,359	0.5	1,705	594	0.3
Lusangazi	233	151	0.6	155	93	0.6	78	57	0.7
Nyimba	6,765	3,888	0.6	2,756	1,996	0.7	4,008	1,892	0.5
Petauke	21,053	15,078	0.7	15,602	10,116	0.6	5,451	4,962	0.9
Sinda	17,477	7,522	0.4	12,642	5,394	0.4	4,835	2,128	0.4
Vubwi	3,026	1,922	0.6	2,222	1,394	0.6	803	528	0.7

Area Planted to Sunflower

Table 5.1.4 shows the number of households and area planted to sunflower by beneficiary type and by district during the 2019/20 Agricultural season in rural Eastern Province.

Results show that the total number of households that grew sunflower was 97, 875 while the area planted to sunflower in rural Eastern Province was 56, 070 hectares. The average area planted to sunflower per household in rural Eastern Province was 0.6 hectares. The average area planted to sunflower per household by both beneficiary and non-beneficiary households was 0.6 hectares.

At district level, Sinda and Vubwi recorded the largest average areas planted to sunflower with 0.7 hectares per household. The average area planted to sunflower per household in Sinda among beneficiary households was 0.7 hectares compared to 0.5 hectares among non-beneficiary households. In Vubwi, the average area planted to sunflower for both beneficiary and non-beneficiary households was 0.7 hectares.

Table 5.1.4: Number of Households and Area Planted to SUNFLOWER by Beneficiary Type, by District, 2019/20 Season

District	Hectares Planted								
	All Households			Beneficiary Households			Non-beneficiary households		
	House-holds Growing Maize	Area Planted	Average	House-holds	Area	Average	House-holds	Area	Average
Total	**97,875**	**56,070**	**0.6**	**64156**	**37,524**	**0.6**	**33,718**	**18,546**	**0.6**
Chadiza	5,815	3,441	0.6	3,976	2,279	0.6	1,839	1,162	0.6
Chasefu	6,832	2,995	0.4	5,013	2,393	0.5	1,819	602	0.3
Chipangali	3,504	1,820	0.5	2,277	1,117	0.5	1,227	704	0.6
Chipata	5,348	1,802	0.3	4,444	1,452	0.3	904	350	0.4
Kasenengwa	8,148	4,426	0.5	3,430	1,963	0.6	4,718	2,463	0.5
Katete	9,839	4,575	0.5	6,790	3,197	0.5	3,049	1,377	0.5
Lumezi	7,233	5,427	0.8	3,132	2,763	0.9	4,101	2,664	0.6
Lundazi	10,106	5,813	0.6	5,421	3,103	0.6	4,685	2,710	0.6
Mambwe	1,987	674	0.3	1,670	575	0.3	317	99	0.3
Lusangazi	258	161	0.6	186	136	0.7	72	26	0.4
Nyimba	3,486	1,705	0.5	1,206	725	0.6	2,280	981	0.4
Petauke	17,140	11,050	0.6	13,407	8,407	0.6	3,733	2,642	0.7
Sinda	16,285	10,839	0.7	11,891	8,495	0.7	4,394	2,344	0.5
Vubwi	1,893	1,343	0.7	1,314	920	0.7	580	423	0.7

Tillage Method Used

Tillage is used to prepare the soil prior to sowing crops. It involves applying power to break up and rearrange the entire topsoil structure. The primary aim is to destroy weeds and pests but is also important for incorporating, redistributing or releasing nutrients and making the soil texture suitable for seed sowing, seed germination and for easy penetration of seedling roots.

Tables 5.2.1 shows the distribution of households practicing type of tillage method by type of beneficiary and by district during the 2019/20 Agricultural Season.

5.2.1 Conventional Hand Hoeing

Conventional Hand Hoeing is a tillage method where a hand-hoe is used to turn the soil in the field.

Results of the survey show that in rural Eastern Province, 25.1 percent of the beneficiaries used conventional hand hoeing while 26.9 percent of the non-beneficiaries used conventional hand hoeing as a tillage method.

At district level 57.3 percent of the beneficiary households in Vubwi used conventional hand hoeing while 51.3 percent of the non-beneficiary households used conventional hand hoeing as the main tillage message. About 7.4 percent of the beneficiary households in Sinda used conventional hand hoeing while 10.6 percent of the non-beneficiary households used conventional hand hoeing as the main tillage message.

5.2.2 Planting Basins (Potholes)

Planting basins (potholes) is a land preparation practice where the crop is planted in planting holes or basins. This practice does not involve use of plough or conventional plough.

According to Results of the survey, only an estimated 2.2 percent of the beneficiary households compared to 1.3 percent of the non-beneficiary households used planting basins (potholes) in rural Eastern Province as the main tillage method.

At district level 16.5 percent of the beneficiary households compared to 17.4 percent of the beneficiaries in Mambwe district used planting basins (potholes) as the main tillage method while less than one (1) percent of the beneficiary households in Chadiza, Chipata, Kasenengwa, Katete, Petauke and Vubwi districts used planting basins (potholes) as main tillage method.

5.2.3 Zero Tillage

Zero tillage is a land preparation method where the land is left undisturbed, with the exception of planting stations.

An estimated 2.8 percent of the beneficiary households compared to 2.2 percent of the non-beneficiary households used Zero tillage in rural Eastern Province as the main tillage method.

At district level 27.3 percent of the beneficiary households compared to 26.0 percent of the non-beneficiary households in Mambwe District used Zero tillage as the main tillage method. Less than one (1) percent of the households in Kasenengwa, Katete, Lumezi, Petauke and Vubwi districts used Zero tillage as the main tillage method.

5.2.4 Ploughing

Ploughing is a land preparation method that involves turning the soil with a plough. This could either be done using a tractor or oxen.

An estimated 37.6 percent of the beneficiary households compared to 34.8 percent of the non-beneficiary households used ploughing in rural Eastern Province as the main tillage method.

At district level 73.0 percent of the beneficiary households compared to 65.0 percent of the non-beneficiary Petauke used ploughing as the main tillage method. Only 7.6 percent of the beneficiary and 7.4 percent of the non-beneficiary households in Chipata reported using ploughing as their main tillage method.

5.2.5 Ripping

Ripping is a form of minimum tillage where land is left undisturbed, with the exception of planting lines, which are ripped with a ripper. Ripping is the form of conservation agriculture which involves the use of oxen-drawn ploughs, modified to rip the soil. It is the ripping of soil using oxen-drawn implements, to improve water storage capacity and cropland productivity.

The aim of ripping is to increase water infiltration and reduce runoff. In contrast to conventional tillage, the soil is not inverted, thus leaving a certain amount of crop residue on the surface. As a result, the soil is less exposed and not so vulnerable to the impact of splash and sheet erosion, and water loss through evaporation and runoff. In addition, there are savings in terms of energy used for cultivation.

An estimated 9.8 percent of the beneficiary households compared to 5.6 percent of the non-beneficiary households used ripping in rural Eastern Province as the main tillage method.

At district level 30.8 percent of the beneficiary households compared to 21.1 percent of the non-beneficiary households in Petauke used ripping as the main tillage method. Only 7.6 percent of the beneficiary households and 7.4 percent of the non-beneficiary households in Chipata reported using Ploughing as their main tillage method.

5.2.6 Ridging

Ridging is a form of land preparation that involves making ridges with a ridger or hand-hoe which is done before planting or sometimes during the rainy season. Ridging is a term used to describe the earthen ridges that are created by the action of prolonged ploughing, which cause soil to build up in regularly spaced ridges along the length of a field.

An estimated 18.7 percent of the beneficiary households compared to 25.9 percent of the non-beneficiary households used ridging in rural Eastern Province as the main tillage method.

At district level 48.8 percent of the beneficiary households compared to 65.1 percent of the non-beneficiary households in Chipata used ridging as the main tillage method. Only 2.7 percent of the beneficiary households and less than 1 percent of the non-beneficiary households in Petauke reported using ridging as their main tillage method.

5.2.7 Bunding

Bunding is a form of land preparation that involves making mounds with a hand-hoe. One method of erosion control is bunding. Bunding reduces run off and helps impound water longer for it to infiltrate the soil.

An estimated 3.7 percent of the beneficiary households compared to 3.4 percent of the non-beneficiary households used bunding in rural Eastern Province as the main tillage method.

At district level 13.6 percent of the beneficiary households compared to 7.5 percent of the non-beneficiary households in Lundazi used bunding as the main tillage method. Less than 1 percent of the beneficiary households in Chadiza, Chasefu, Chipata, Kasenengwa, Lusangazi and Vubwi reported using bunding as their main tillage method.

Table 5.2.1: Distribution of Households Practicing Type of Tillage Method by Type of Beneficiary, by District, 2019/20 Agricultural Season

District	What was the main tillage method used for ... ?															
	Total		Conventional Hand Hoeing		Planting Basins (potholes)		Zero Tillage		Ploughing		Ripping		Ridging		Bunding	
	B	Non B	B	Non B	B	Non B	B	Non B	B	Non B	B	Non B	B	Non B	B	Non B
Total	**453,087**	**244,116**	**25.1**	**26.9**	**2.2**	**1.3**	**2.8**	**2.2**	**37.6**	**34.8**	**9.8**	**5.6**	**18.7**	**25.9**	**3.7**	**3.4**
Chadiza	21,272	9,600	55.8	53.6	0.4	-	2.9	2.5	22	18.9	4.6	5	14.3	20.1	-	-
Chasefu	41,710	15,063	23.2	34.9	1	2.8	6.2	4.6	29.3	29.3	8.6	6.5	31.7	21.9	-	-
Chipangali	49,337	16,822	44.3	52.7	1.6	0.5	1.8	-	12.7	12.1	14.9	5.2	13.8	20.3	10.9	9.3
Chipata	31,477	9,853	35.4	26.9	0.6	-	1.6	-	7.6	7.4	6.1	0.6	48.8	65.1	-	-
Kasenengwa	27,765	35,918	22.4	13.4	-	1.2	0.7	-	53	53.4	10.2	5.7	13.8	24.3	-	2
Katete	38,952	19,031	10.6	22.7	0.4	-	-	2.4	43.5	33.8	30.8	21.1	13.2	19.3	1.5	0.8
Lumezi	32,363	31,842	33.1	31.7	1.8	-	0.8	2.1	23.5	13.5	6.6	3.2	26.9	40.9	7.3	8.6
Lundazi	39,385	32,705	16.7	13.7	3.6	0.6	1.2	1	19.2	23.6	11.2	4.7	34.5	48.9	13.6	7.5
Lusangazi	904	402	9.2	17	8.7	9.5	19.9	18.8	28.4	28.4	21.9	5.4	11.9	18.5	-	2.4
Mambwe	23,502	10,107	17.7	28.2	16.5	17.4	27.3	26	13	23	8.7	2.2	9.5	2.1	7.4	1
Nyimba	9,550	13,835	29.2	40.6	16	2.1	1.1	-	33.6	49.5	9.9	3.6	9.2	4.2	1.1	-
Petauke	59,454	20,060	22.1	31.1	-	-	-	-	73	65	2.2	3.9	2.7	-	-	-
Sinda	65,972	23,812	7.4	10.6	1	-	0.7	1	70.5	64.4	5.7	1.1	12.5	20.1	2.1	2.7
Vubwi	11,444	5,067	57.3	51.5	-	-	-	1.4	15.5	11.3	8.3	15.6	18.8	20.2	-	-

Tillage

5.3. Number and Percentage of Households that tilled before the rains. (S3Q5)

Table 5.3.1 shows the distribution of households tilling Maize fields before and during the rainy season by district in rural Eastern Province in the 2019/20 Agricultural Season.

Results show that 32.4 percent (274,632 households) of all the households in rural Eastern Province tilled their Maize fields before the rainy season. About 34.0 percent of the beneficiary households tilled their maize fields before the rainy season compared to 29.6 percent of non-beneficiary households.

At district level, 78.1 percent of all the households in Mambwe tilled maize fields before the onset of the rains. About 89.1 percent of the beneficiary households in Mambwe compared to 60.1 percent of the non-beneficiary households tilled their Maize fields before the rains.

In Petauke District, 89.1 percent of all the households tilled their maize fields during the rainy season. Among the beneficiary households, 89.7 percent of the households in Petauke tilled their maize fields during the rainy season compared to 87.3 percent of the non-beneficiary households.

Table 5.3.1 Distribution of Households Tilling Maize Fields Before and During the Rainy Season by beneficiary type, by District, Rural Eastern Province, 2019/20 Agricultural Season.

District	When was tillage for Maize done?						
	Total Number of Households	Before the rains (percent)			During the rainy season (percent)		
		All Households	Beneficiary Households	Non-beneficiary . Households	All Households	Beneficiary. Households	Non-beneficiary . Households
Total	**274,632**	**32.4**	**34.0**	**29.6**	**67.6**	**66.0**	**70.4**
Chadiza	10,782	55.5	53.0	61.2	44.5	47.0	38.8
Chasefu	21,910	33.1	32.5	34.6	66.9	67.5	65.4
Chipangali	27,652	24.2	23.5	26.5	75.8	76.5	73.5
Chipata	19,198	45.7	47.2	40.5	54.3	52.8	59.5
Kasenengwa	23,412	15.6	20.3	12.3	84.4	79.7	87.7
Katete	23,648	31.5	38.9	19.3	68.5	61.1	80.7
Lumezi	22,962	57.8	59.2	56.3	42.2	40.8	43.7
Lundazi	25,566	35.6	45.7	23.7	64.4	54.3	76.3
Mambwe	13,366	78.8	89.1	60.1	21.2	10.9	39.9
Lusangazi	515	44.6	47.8	37.3	55.4	52.2	62.7
Nyimba	11,072	27.5	33.5	23.3	72.5	66.5	76.7
Petauke	33,809	10.9	10.3	12.7	89.1	89.7	87.3
Sinda	34,593	19.1	16.8	25.4	80.9	83.2	74.6
Vubwi	6,146	45.4	50.6	34.5	54.6	49.4	65.5

Table 5.3.2 shows the distribution of households tilling Soya bean fields before and during the rainy season by district in rural Eastern Province in the 2019/20 Agricultural Season.

Results show that an estimated 18.5 percent (113,892 households) of all the households in rural Eastern Province tilled their Soya bean fields before the rains. About 18.6 percent of the beneficiary households compared to 18.2 percent of the non-beneficiaries tilled their soya bean fields before the rains started.

At district level 45.9 percent of all the beneficiary households in Vubwi tilled their Soya bean fields before the onset of the rains. Among the beneficiary households in Vubwi, 53.9 households compared to 28.0 non-beneficiary households tilled their Soya bean fields before the rains. In Petauke, all most all the households tilled their soya bean fields during the rainy season.

Table 5.3.2 Distribution of Households Tilling Soya bean Fields Before and During the Rainy Season by Beneficiary Type by District, Rural Eastern Province, 2019/20 Agricultural Season.

District	When was tillage for Soya done?						
	Total Number of Households	Before the rains (percent)			During the rainy season (percent)		
		All Households	Beneficiary Households	Non-beneficiary . Households	All Households	Beneficiary. Households	Non-beneficiary . Households
Total	**113,892**	**18.5**	**18.6**	**18.2**	**81.5**	**81.4**	**81.8**
Chadiza	7,584	37.1	32.8	47.3	62.9	67.2	52.7
Chasefu	6,921	12.2	10.6	19.0	87.8	89.4	81.0
Chipangali	11,881	19.4	17.2	24.0	80.6	82.8	76.0
Chipata	5,830	9.2	11.6	4.5	90.8	88.4	95.5
Kasenengwa	10,766	8.4	9.8	7.6	91.6	90.2	92.4
Katete	12,923	14.3	17.7	5.6	85.7	82.3	94.4
Lumezi	12,593	23.4	21.0	26.6	76.6	79.0	73.4
Lundazi	17,687	24.1	27.9	20.4	75.9	72.1	79.6
Mambwe	956	41.8	40.0	50.0	58.2	60.0	50.0
Lusangazi	151	38.3	41.6	32.0	61.7	58.4	68.0
Nyimba	617	9.5	17.0	0.0	90.5	83.0	100.0
Petauke	1,192	0.0	0.0	0.0	100.0	100.0	100.0
Sinda	19,729	8.8	7.6	12.7	91.2	92.4	87.3
Vubwi	5,061	45.9	53.9	28.0	54.1	46.1	72.0

Table 5.3.3 shows the distribution of households tilling groundnuts fields before and during the rainy season by type of beneficiary by district in rural Eastern Province in the 2019/20 Agricultural Season.

Results show that an estimated 17.1 percent (159, 590 households) of all the households in rural Eastern Province tilled their groundnuts fields before the rains. About 18.1 percent of the beneficiary households compared to 15.1 percent of the non-beneficiaries tilled their groundnuts fields before the rains started.

At district level 64.7 percent of all the beneficiary households in Mambwe tilled their groundnuts fields before the onset of the rains. Among the beneficiary households in Mambwe, 61.5 percent of the households compared to 76.2 percent of the non-beneficiary households tilled their groundnuts fields before the rains. In Petauke, an estimated 99.1 percent of all the households tilled their groundnuts fields during the rainy season.

Table 5.3.3 Distribution of Households Tilling Groundnuts Fields Before and During the Rainy Season by Beneficiary Type, by District, Rural Eastern Province, 2019/20 Agricultural Season.

District	When was tillage for Groundnuts done?						
	Total Number of Households	Before the rains (percent)			During the rainy season (percent)		
		All Households	Beneficiary Households	Non-beneficiary households	All Households	Beneficiary. Households	Non-beneficiary households
Total	**159,590**	**17.1**	**18.1**	**15.1**	**82.9**	**81.9**	**84.9**
Chadiza	4,544	9.0	10.8	4.5	91.0	89.2	95.5
Chasefu	16,384	12.3	11.8	13.4	87.7	88.2	86.6
Chipangali	18,495	17.7	15.6	25.7	82.3	84.4	74.3
Chipata	10,137	17.6	21.5	5.9	82.4	78.5	94.1
Kasenengwa	17,829	8.6	10.1	7.4	91.4	89.9	92.6
Katete	9,345	20.3	21.9	15.4	79.7	78.1	84.6
Lumezi	14,799	34.7	39.0	30.5	65.3	61.0	69.5
Lundazi	11,621	24.6	27.5	19.8	75.4	72.5	80.2
Mambwe	7,883	64.7	61.5	76.2	35.3	38.5	23.8
Lusangazi	233	25.4	25.5	25.2	74.6	74.5	74.8
Nyimba	6,765	1.1	2.7	0.0	98.9	97.3	100.0
Petauke	21,053	0.7	0.9	0.0	99.3	99.1	100.0
Sinda	17,477	6.5	6.8	5.9	93.5	93.2	94.1
Vubwi	3,026	60.5	62.8	54.3	39.5	37.2	45.7

Table 5.3.4 shows the distribution of households tilling sunflower fields before and during the rainy season by district in rural Eastern Province in the 2019/20 Agricultural Season.

Results show that an estimated 14.3 percent (97, 875 households) of all the households in rural Eastern Province tilled their sunflower fields before the rains. About 14.0 percent of the beneficiary households compared to 15.0 percent of the non-beneficiaries tilled their sunflower fields before the rains started.

At district level 57.6 percent of all the beneficiary households in Vubwi tilled their sunflower fields before the onset of the rains. Among the beneficiary households in Vubwi, 59.4 percent of the households compared to 53.7 percent of the non-beneficiary households tilled their sunflower fields before the rains. In Petauke and Nyimba, all most all the households tilled their sunflower fields during the rainy season.

Table 5.3.4 Distribution of Households Tilling sunflower Fields Before and During the Rainy Season by Beneficiary Type by District, Rural Eastern Province, 2019/20 Agricultural Season.

District	When was tillage for groundnuts done?						
	Total Number of Households	Before the rains (percent)			During the rainy season (percent)		
		All Households	Beneficiary Households	Non-beneficiary households	All Households	Beneficiary. Households	Non-beneficiary households
Total	**97,875**	**14.3**	**14.0**	**15.0**	**85.7**	**86.0**	**85.0**
Chadiza	5,815	34.9	38.4	27.4	65.1	61.6	72.6
Chasefu	6,832	1.8	2.4	0.0	98.2	97.6	100.0
Chipangali	3,504	13.5	4.5	30.3	86.5	95.5	69.7
Chipata	5,348	16.3	12.8	33.3	83.7	87.2	66.7
Kasenengwa	8,148	15.5	15.4	15.5	84.5	84.6	84.5
Katete	9,839	20.9	28.6	3.7	79.1	71.4	96.3
Lumezi	7,233	13.7	6.2	19.4	86.3	93.8	80.6
Lundazi	10,106	27.3	26.9	27.7	72.7	73.1	72.3
Mambwe	1,987	51.5	42.3	100.0	48.5	57.7	0.0
Lusangazi	258	39.9	45.2	26.1	60.1	54.8	73.9
Nyimba	3,486	0.0	0.0	0.0	100.0	100.0	100.0
Petauke	17,140	0.0	0.0	0.0	100.0	100.0	100.0
Sinda	16,285	7.6	8.0	6.5	92.4	92.0	93.5
Vubwi	1,893	57.6	59.4	53.7	42.4	40.6	46.3

Time of Weeding

5.4.1 Maize Fields

Table 5.4.1 shows the distribution of households by time of first weeding of Maize fields by district during the 2019/20 Agricultural season.

Results of the survey show that 14.3 percent of the households in rural Eastern Province did the 1st weeding of their Maize fields one (1) week after planting. About 54.3 percent of the households did their weeding two weeks after planting. Twenty one point two (21.2 percent) percent of the households weeded their Maize fields three weeks after planting while only 6.8 percent did their weeding three weeks after planting. About 3.6 percent of the households did not do any weeding at all in their maize fields.

At district level, 57.6 percent of the households in Vubwi weeded their Maize fields one week after planting. An estimated 59.4 beneficiary households compared to 53.7 non beneficiary households in Vubwi did the weeding in their maize fields one week after planting.

About 69.2 percent of all the households in Chipata did the weeding two weeks after planting. Among the beneficiaries, 68.2 percent compared to 72.4 percent non-beneficiary households in Chipata did the weeding two weeks after planting.

In Nyimba, 36.8 percent of all the households did the weeding of their maize fields three weeks after planting. Among the beneficiary households, 33.3 percent compared to 39.3 percent of the non-beneficiary households did the weeding of their maize fields three weeks after planting.

In Vubwi district, 15.6 percent of all the households did the weeding in their maize fields four weeks after planting. Among the beneficiary households, 13.0 percent compared to 21.1 percent of the non-beneficiary households did the weeding in their maize fields four weeks after planting.

Results show that 15.7 percent of the households in Sinda District never weeded their maize fields. About 18.3 percent of the beneficiary households compared to 8.5 non-beneficiary households never did the weeding in their maize fields.

5.4.2 Soya bean Fields

Table 5.4.2 shows the distribution of households by time of first weeding of Soya bean fields by district during the 2019/20 Agricultural season.

Results of the survey show that 54.3 percent of all the households in rural Eastern Province weeded their Soya bean fields during the second week after planting. An estimated 44.7 percent of the beneficiary households in rural Eastern Province compared to 51.1 percent of the non-beneficiary households, did the weeding during the second week after planting.

At district level, 77.4 percent of all the households in Chasefu did the weeding of their soya bean fields during the second week after planting. About 64.0 percent of all beneficiary households compared to 67.5 percent of the non-beneficiary households did the weeding of their soya bean fields in the second weed after planting.

5.4.3 Groundnut Fields

Table 5.4.3 shows the distribution of households by time of first weeding of sroundnut fields by district during the 2019/20 Agricultural season.

Results of the survey show that 48.3 percent of all the households in rural Eastern Province weeded their groundnut fields during the second week after planting. An estimated 49.1 percent of the beneficiary households compared to 46.8 percent of the non-beneficiary households, did the weeding during the second week after planting.

At district level, 69.6 percent of all the households in Chasefu did the weeding of their groundnut fields during the second week after planting. About 72.1 percent of all beneficiary households compared to 63.7 percent of the non-beneficiary households did the weeding of their soya bean fields in the second weed after planting.

5.4.4. Sunflower Fields

Table 5.4.3 shows the distribution of households by time of first weeding of sunflower fields by district during the 2019/20 Agricultural season.

Results of the survey show that 46.0 percent of all the households in rural Eastern Province weeded their groundnut fields during the second week after planting. An estimated 46.2 percent of the beneficiary households compared to 45.7 percent of the non-beneficiary households, did the weeding during the second week after planting.

At district level, 67.1 percent of all the households in Mambwe did the weeding of their groundnut fields during the second week after planting. About 70.3 percent of all beneficiary households compared to 50.0 percent of the non-beneficiary households did the weeding of their soya bean fields in the second weed after planting.

Table 5.4.1 Distribution of Households by Time of First Weeding of Maize Fields by District, 2019/20 Agricultural Season.

District	How many weeks after planting did you finish the 1st weeding maize?															
	Number of HHs	Within one week			After two weeks			After three weeks			After four weeks			Didn't weed		
		All HHs	Ben.	Non-Ben	All HHs	Ben.	Non-Ben	All HHs	Ben.	Non-Ben	All HHs	Ben.	Non-Ben	All HHs	Ben.	Non-Ben
Total	**274,632**	**14.3**	**14.0**	**15.0**	**54.3**	**55.3**	**52.5**	**21.2**	**19.5**	**24.4**	**7.0**	**6.8**	**7.2**	**3.6**	**4.2**	**2.7**
Chadiza	10,782	34.9	38.4	27.4	48.1	51.3	40.7	34.9	34.8	35.2	6.1	4.2	10.5	0.7	1.0	0.0
Chasefu	21,910	1.8	2.4	0.0	77.4	81.0	68.0	10.7	11.6	8.5	0.5	0.8	0.0	0.5	0.8	0.0
Chipangali	27,652	13.5	4.5	30.3	53.6	54.2	51.5	23.0	21.2	28.8	7.4	8.2	5.1	0.6	0.8	0.0
Chipata	19,198	16.3	12.8	33.3	69.2	68.2	72.4	14.4	15.2	11.7	10.3	9.0	14.5	0.8	1.1	0.0
Kasenengwa	23,412	15.5	15.4	15.5	44.7	52.7	38.9	31.4	22.7	37.8	4.2	3.6	4.6	6.8	4.7	8.4
Katete	23,648	20.9	28.6	3.7	55.9	51.4	63.4	8.8	8.1	9.8	6.0	5.6	6.7	10.5	12.2	7.5
Lumezi	22,962	13.7	6.2	19.4	58.3	58.0	58.6	21.5	17.6	25.6	4.1	6.6	1.5	0.0	0.0	0.0
Lundazi	25,566	27.3	26.9	27.7	56.5	53.7	59.9	17.4	17.7	17.0	7.6	8.1	7.0	0.0	0.0	0.0
Mambwe	13,366	51.5	42.3	100.0	50.8	49.1	53.9	21.5	24.3	16.4	8.6	7.3	11.0	0.0	0.0	0.0
Lusangazi	515	39.9	45.2	26.1	61.0	60.0	63.3	12.8	8.8	22.2	3.2	3.1	3.5	0.9	0.0	3.1
Nyimba	11,072	0.0	0.0	0.0	45.1	45.8	44.7	36.8	33.3	39.3	10.4	8.5	11.8	0.0	0.0	0.0
Petauke	33,809	0.0	0.0	0.0	43.9	48.1	31.6	30.8	27.2	41.3	13.7	12.7	17.0	0.0	0.0	0.0
Sinda	34,593	7.6	8.0	6.5	51.4	48.7	58.8	15.0	15.8	12.7	3.2	3.1	3.4	15.7	18.3	8.5
Vubwi	6,146	57.6	59.4	53.7	42.3	48.4	29.4	26.2	24.6	29.8	15.6	13.0	21.1	0.0	0.0	0.0

Table 5.4.2 Distribution of Households by Time of First Weeding of Soya bean Fields by District, 2019/20 Season.

District	How many weeks after planting did you finish the 1st weeding soya beans															
	Number of HHs	Within one week			After two weeks			After three weeks			After four weeks			Didn't weed		
		All HHs	Ben.	Non-Ben	All HHs	Ben.	Non-Ben	All HHs	Ben.	Non-Ben	All HHs	Ben.	Non-Ben	All HHs	Ben.	Non-Ben
Total	**274,632**	**13.9**	**16.1**	**11.6**	**54.3**	**44.7**	**51.1**	**21.2**	**25.8**	**25.1**	**7.0**	**8.1**	**7.2**	**3.6**	**5.4**	**5.1**
Chadiza	10,782	10.2	17.8	17.0	48.1	27.4	28.3	34.9	33.0	54.6	6.1	21.9	0.0	0.7	0.0	0.0
Chasefu	21,910	10.8	12.2	19.6	77.4	64.0	67.5	10.7	23.7	0.0	0.5	0.0	12.9	0.5	0.0	0.0
Chipangali	27,652	15.4	23.4	17.5	53.6	33.9	36.4	23.0	31.8	34.9	7.4	10.9	6.6	0.6	0.0	4.6
Chipata	19,198	5.3	2.5	0.0	69.2	53.1	80.0	14.4	21.7	20.0	10.3	22.7	0.0	0.8	0.0	0.0
Kasenengwa	23,412	12.9	4.0	11.3	44.7	47.1	29.4	31.4	25.3	36.1	4.2	11.0	4.7	6.8	12.6	18.5
Katete	23,648	18.8	5.9	3.1	55.9	51.8	51.4	8.8	21.9	30.6	6.0	11.9	0.0	10.5	8.5	14.9
Lumezi	22,962	16.1	32.0	10.0	58.3	48.6	71.8	21.5	19.4	13.0	4.1	0.0	5.2	0.0	0.0	0.0
Lundazi	25,566	18.5	13.0	12.1	56.5	58.6	44.9	17.4	24.3	24.5	7.6	4.0	18.4	0.0	0.0	0.0
Mambwe	13,366	19.1	20.0	0.0	50.8	20.0	50.0	21.5	60.0	50.0	8.6	0.0	0.0	0.0	0.0	0.0
Lusangazi	515	22.0	8.9	35.2	61.0	60.0	41.2	12.8	23.5	23.6	3.2	7.6	0.0	0.9	0.0	0.0
Nyimba	11,072	7.6	36.9	54.0	45.1	46.1	46.0	36.8	17.0	0.0	10.4	0.0	0.0	0.0	0.0	0.0
Petauke	33,809	11.6	79.1	0.0	43.9	20.9	100.0	30.8	0.0	0.0	13.7	0.0	0.0	0.0	0.0	0.0
Sinda	34,593	14.8	13.7	9.0	51.4	39.7	83.1	15.0	25.7	4.9	3.2	3.2	0.0	15.7	17.7	2.9
Vubwi	6146	15.9	24.1	22.4	42.3	24.2	20.1	26.2	36.3	38.4	15.6	15.5	19.0	0.0	0.0	0.0

Table 5.4.3 Distribution of Households by Time of First Weeding of Groundnuts Fields by District, 2019/20 Season.

District	How many weeks after planting did you finish the 1st weeding for groundnuts?															
	Total Count	Within one week			After two weeks			After three weeks			After four weeks			Didn't weed		
		Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben
Total	**159,590**	**14.7**	**15.3**	**13.5**	**48.3**	**49.1**	**46.8**	**25.0**	**25.2**	**24.6**	**8.4**	**7.3**	**10.5**	**3.5**	**3.0**	**4.6**
Chadiza	4,544	12.0	11.4	13.7	25.3	27.3	20.4	47.1	46.9	47.7	15.6	14.5	18.2	0.0	0.0	0.0
Chasefu	16,384	8.3	7.2	11.0	69.6	72.1	63.7	18.3	18.0	18.9	3.8	2.8	6.4	0.0	0.0	0.0
Chipangali	18,495	17.7	16.8	21.5	43.5	46.5	32.4	27.4	27.5	27.1	11.3	9.2	19.0	0.0	0.0	0.0
Chipata	10,137	8.6	9.9	4.8	43.6	36.4	65.4	32.3	37.1	17.9	15.4	16.6	11.9	0.0	0.0	0.0
Kasenengwa	17,829	7.1	1.3	11.5	37.3	48.3	28.8	37.7	37.9	37.5	6.6	7.1	6.2	11.3	5.4	16.0
Katete	9,345	9.4	8.6	12.0	47.5	48.9	43.2	21.4	21.3	21.7	7.1	7.6	5.7	14.5	13.6	17.3
Lumezi	14,799	15.4	18.5	12.4	59.3	55.8	62.8	20.1	25.7	14.5	5.2	0.0	10.4	0.0	0.0	0.0
Lundazi	11,621	14.0	14.2	13.7	61.6	70.8	46.4	17.9	9.2	32.3	6.5	5.8	7.7	0.0	0.0	0.0
Mambwe	7,883	18.0	17.6	19.7	47.6	45.4	55.5	28.6	32.3	15.5	5.7	4.7	9.3	0.0	0.0	0.0
Lusangazi	233	18.6	21.6	12.5	57.3	52.6	66.5	15.8	13.2	21.0	8.4	12.6	0.0	0.0	0.0	0.0
Nyimba	6,765	17.7	25.1	12.6	55.0	49.9	58.4	21.3	13.8	26.4	1.6	2.7	0.8	4.5	8.4	1.7
Petauke	21,053	23.3	25.5	16.7	39.4	41.8	32.5	22.8	22.0	25.0	14.6	10.7	25.7	0.0	0.0	0.0
Sinda	17,477	19.8	22.1	13.7	46.9	40.4	64.1	18.1	21.6	9.2	3.8	3.2	5.4	11.3	12.7	7.7
Vubwi	3,026	10.7	7.0	21.0	33.2	42.9	6.4	31.5	32.1	29.8	24.6	18.1	42.7	0.0	0.0	0.0

Table 5.4.4 Distribution of Households by Time of First Weeding of Sunflower Fields by District, 2019/20 Season.

District	How many weeks after planting did you finish the 1st weeding for groundnuts?															
	Total Count	Within one week			After two weeks			After three weeks			After four weeks			Didn't weed		
		Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben
Total	**97,875**	**15.8**	**17.8**	**11.9**	**46.0**	**46.2**	**45.7**	**24.0**	**23.2**	**25.6**	**7.9**	**7.0**	**9.6**	**6.3**	**5.8**	**7.2**
Chadiza	5,815	4.5	6.5	0.0	33.5	45.5	7.8	40.8	36.1	50.8	21.2	11.9	41.4	0.0	0.0	0.0
Chasefu	6,832	12.6	10.4	18.8	57.5	58.9	53.6	25.8	25.1	27.6	1.8	2.4	0.0	2.3	3.2	0.0
Chipangali	3,504	18.8	20.1	16.3	45.1	51.9	32.5	20.7	15.3	30.9	15.4	12.7	20.3	0.0	0.0	0.0
Chipata	5,348	5.7	5.5	6.6	64.4	58.5	93.4	13.0	15.6	0.0	17.0	20.4	0.0	0.0	0.0	0.0
Kasenengwa	8,148	7.1	12.9	2.9	41.0	46.1	37.3	29.0	21.2	34.7	3.3	3.1	3.4	19.5	16.7	21.6
Katete	9,839	9.3	9.7	8.5	50.0	46.7	57.4	23.5	29.8	9.4	1.3	0.0	4.4	15.8	13.8	20.3
Lumezi	7,233	21.9	33.1	13.3	59.1	51.7	64.7	11.3	15.2	8.3	7.8	0.0	13.7	0.0	0.0	0.0
Lundazi	10,106	23.5	26.4	20.1	42.2	46.9	36.6	31.8	24.4	40.4	2.5	2.2	2.8	0.0	0.0	0.0
Mambwe	1,987	0.0	0.0	0.0	67.1	70.3	50.0	15.8	9.3	50.0	9.2	11.0	0.0	7.8	9.3	0.0
Lusangazi	258	17.4	17.7	16.6	56.9	60.1	48.6	17.6	16.4	20.5	6.3	3.2	14.3	1.8	2.5	0.0
Nyimba	3,486	12.5	11.6	13.0	20.4	32.8	13.9	45.5	37.2	49.9	9.2	18.4	4.4	12.4	0.0	18.9
Petauke	17,140	17.1	17.1	17.1	42.8	41.8	46.4	30.6	31.2	28.2	9.5	9.9	8.4	0.0	0.0	0.0
Sinda	16,285	27.0	32.2	13.0	44.9	37.2	65.6	9.1	11.7	2.1	5.0	2.7	11.2	14.0	16.1	8.2
Vubwi	1,893	5.0	7.2	0.0	26.8	34.8	8.8	29.8	28.1	33.8	38.4	29.9	57.4	0.0	0.0	0.0

5.1 Distribution of Households Applying Manure to Crop (S3Q8)

5.5.1 Maize Crop

Table 5.5.1 shows the distribution of households applying manure to maize crops by districts in the 2019/20 Agricultural season.

Out of the estimated 274,632 households that grew soya beans, 16.1 percent percent applied animal manure. About 19.4 percent of the beneficiary households compared to 10.1 percent of the non-beneficiary households applied animal manure. At district level, Chadiza had the highest proportion of soya bean growing households that applied animal manure 43.2 percent. An estimated 48.1 percent of the beneficiaries, compared to 17 percent of the non-beneficiary households applied animal manure to the soya bean crop.

Out of the estimated 274,632 households that grew soya beans, 5.4 percent applied plant manure. About 6.6 percent of the beneficiary households compared to 3.2 percent of the non-beneficiary households applied plant manure. At district level, Chadiza had the highest proportion of soya bean growing households that applied plant manure with 17 percent. An estimated 14.2 percent of the beneficiary, compared to 23.3 percent of the non-beneficiary households applied plant manure.

Table 5.5.1: Distribution of Households Applying Manure to Maize Crops by Beneficiary Type, by District, 2019/20 Agricultural Season.

District	Number of Households Growing Maize	Percent Households Applying Animal Manure to Maize			Percent Households Applying Plant Manure to Maize		
		All Households	Beneficiary Households	Non-beneficiary households	All Households	Beneficiary Households	Non-beneficiary households
Rural Eastern	**274,632**	**16.1**	**19.4**	**10.1**	**5.4**	**6.6**	**3.2**
Chadiza	10,782	43.2	41.1	48.1	17	14.2	23.3
Chasefu	21,910	6.6	9	-	9.1	7.5	13.2
Chipangali	27,652	9.3	11.3	2.8	4.4	5.4	1.2
Chipata	19,198	5.7	5.3	7	1.2	1.5	-
Kasenengwa	23,412	11.1	15.6	7.8	2.7	1.8	3.3
Katete	23,648	25.5	31.1	16.1	1.4	1.3	1.5
Lumezi	22,962	5.7	8.6	2.6	2.4	4.7	-
Lundazi	25,566	9.2	13.1	4.7	3.7	6.9	-
Mambwe	13,366	7.6	10	3.3	8.6	11.6	3.3
Lusangazi	515	21.5	26.5	9.8	2.1	3	-
Nyimba	11,072	12.5	13.9	11.5	4.5	9.7	0.8
Petauke	33,809	20.7	23.2	13.5	11.6	14.6	2.6
Sinda	34,593	26.6	30.8	15	2.3	3.2	-
Vubwi	6,146	57.1	61.3	48.3	12.6	8.4	21.7

5.5.2 Soya bean crop

Table 5.5.2 shows the distribution of households applying manure to Soya bean crop by beneficiary type by district in the 2019/20 Agricultural season.

Out of the estimated households (113,892) that grew soya beans, 5.5percent applied animal manure. About 6.2 percent of the beneficiary households compared to 4.2 percent of the non-beneficiary households applied animal manure. At district level, Chadiza had the highest proportion of soya bean growing households with 20.8 percent that applied animal manure. An estimated 13.7 percent of the beneficiaries, compared to 37.5 percent of the non-beneficiary households applied animal manure to the soya bean crop.

Out of the estimated households (113,892) that grew soya beans, 1.7 percent applied plant manure. About 1.9 percent of the beneficiary households compared to 1.3 percent of the non-beneficiary households applied plant manure. At district level, Chadiza had the highest proportion of soya bean growing households that applied plant manure with 6.5 percent. An estimated 2.2 percent of the beneficiaries, compared to 16.8 percent of the non-beneficiary households applied plant manure.

Table 5.5.2: Distribution of Households Applying Manure to Soya bean Crop by Beneficiary Type, by District, 2019/20 Agricultural Season.

District	Number of Households Growing Soya	Application of animal manure to the Soya			Application of plant manure to the Soya		
		All Households	Beneficiary Households	Non-beneficiary households	All Households	Non-beneficiary households	Non-beneficiary households
Total	**113,892**	**5.5**	**6.2**	**4.2**	**1.7**	**1.9**	**1.3**
Chadiza	7,584	20.8	13.7	37.5	6.5	2.2	16.8
Chasefu	6,921	0	0	0	0	0	0
Chipangali	11,881	0	0	0	0	0	0
Chipata	5,830	0	0	0	0	0	0
Kasenengwa	10,766	3.3	8.5	0	3.3	8.5	0
Katete	12,923	9.8	13.7	0	1.7	2.3	0
Lumezi	12,593	3.1	5.4	0	0	0	0
Lundazi	17,687	2.9	2.1	3.7	1	2.1	0
Mambwe	956	0	0	0	0	0	0
Lusangazi	151	0	0	0	0	0	0
Nyimba	617	20.5	15.3	27	20.5	15.3	27
Petauke	1,192	0	0	0	0	0	0
Sinda	19,729	2.9	3.8	0	0	0	0
Vubwi	5061	28.8	28.1	30.3	10.7	12.7	6.4

5.5.3 Groundnut crop

Table 5.5.3 shows the distribution of households applying manure to groundnuts crop by beneficiary type by district in the 2019/20 Agricultural season.

Out of the estimated 159,590 households that grew groundnuts, 2.4 percent applied animal manure. About 2.3 percent of the beneficiary households compared to 2.6 percent of the non-beneficiary households applied animal manure. At district level, Chadiza had the highest proportion of groundnuts growing households with 11.5 percent that applied animal manure. An estimated 7.8 percent of the beneficiaries, compared to 20.4 percent of the non-beneficiary households applied animal manure to the groundnuts crop.

Out of the estimated 159,590 households that grew groundnuts, 1.3 percent applied plant manure. About 1.4 percent of the beneficiary households compared to 1.1 percent of the non-beneficiary households applied plant manure. At district level, Chadiza had the highest proportion of groundnuts growing households that applied plant manure with 20.5 percent. An estimated 12.7 percent of the beneficiaries, compared to 39.7 percent of the non-beneficiary households applied plant manure.

Table 5.5.3: Distribution of Households Applying Manure to Groundnuts Crop by Beneficiary Type, by District, 2019/20 Agricultural Season.

District	Number of Households Growing Soya	Application of animal manure to the groundnuts			Application of plant manure to the groundnuts		
		All Households	Beneficiary Households	Non-beneficiary households	All Households	Non-beneficiary households	Non-beneficiary households
Total	**159,590**	**2.4**	**2.3**	**2.6**	**1.3**	**1.4**	**1.1**
Chadiza	4,544	11.5	7.8	20.4	20.5	12.7	39.7
Chasefu	16,384	0.0	0.0	0.0	0.0	0.0	0.0
Chipangali	18,495	0.6	0.7	0.0	0.0	0.0	0.0
Chipata	10,137	0.6	0.0	2.4	0.0	0.0	0.0
Kasenengwa	17,829	0.0	0.0	0.0	0.6	1.3	0.0
Katete	9,345	5.2	5.8	3.3	2.3	3.0	0.0
Lumezi	14,799	1.0	0.0	2.0	0.0	0.0	0.0
Lundazi	11,621	6.2	4.4	9.3	1.4	2.2	0.0
Mambwe	7,883	1.9	2.4	0.0	1.9	2.4	0.0
Lusangazi	233	0.9	1.4	0.0	0.0	0.0	0.0
Nyimba	6,765	0.0	0.0	0.0	0.0	0.0	0.0
Petauke	21,053	3.3	3.5	2.6	1.5	2.1	0.0
Sinda	17,477	4.4	4.7	3.7	0.0	0.0	0.0
Vubwi	3,026	7.2	4.2	15.6	5.0	3.4	9.4

5.5.4 Sunflower crop

Table 5.5.4 shows the distribution of households applying manure to sunflower crop by beneficiary type by district in the 2019/20 Agricultural season.

Out of the estimated 97,875 households that grew sunflower, 4.7 percent applied animal manure. About 5.9 percent of the beneficiary compared to 2.4 percent of the non-beneficiary households applied animal manure. At district level, Vubwi had the highest proportion of sunflower growing households with 30.4 percent that applied animal manure. An estimated 33.1 percent of the beneficiaries, compared to 24.4 percent of the non-beneficiary households in Vubwi applied animal manure to the sunflower crop.

Out of the estimated 97,875 households that grew sunflower in rural Eastern Province, 15.8 percent applied plant manure. About 21.3 percent of the beneficiary households compared to 3.5 percent of the non-beneficiary households applied plant manure. At district level, Vubwi had the highest proportion of sunflower growing households that applied plant manure with 15.8 percent. An estimated 21.3 percent of the beneficiaries, compared to 3.5 percent of the non-beneficiary households applied plant manure.

Table 5.5.4: Distribution of Households Applying Manure to Sunflower Crop by Beneficiary Type, by District, 2019/20 Agricultural Season.

District	Number of Households Growing Soya	Application of animal manure to the sunflower			Application of plant manure to the sunflower		
		All Households	Beneficiary Households	Non-beneficiary households	All Households	Non-beneficiary households	Non-beneficiary households
Total	**97,875**	**4.7**	**5.9**	**2.4**	**2.3**	**2.5**	**2.1**
Chadiza	5,815	18.5	21.4	12.4	9.8	8.3	13.0
Chasefu	6,832	0.0	0.0	0.0	0.0	0.0	0.0
Chipangali	3,504	0.0	0.0	0.0	0.0	0.0	0.0
Chipata	5,348	0.0	0.0	0.0	0.0	0.0	0.0
Kasenengwa	8,148	0.0	0.0	0.0	4.3	10.3	0.0
Katete	9,839	5.5	7.9	0.0	2.2	3.1	0.0
Lumezi	7,233	2.1	0.0	3.6	3.9	0.0	6.9
Lundazi	10,106	0.0	0.0	0.0	0.0	0.0	0.0
Mambwe	1,987	8.0	0.0	50.0	8.0	0.0	50.0
Lusangazi	258	2.3	3.2	0.0	0.0	0.0	0.0
Nyimba	3,486	0.0	0.0	0.0	2.1	6.1	0.0
Petauke	17,140	5.9	6.5	3.8	1.1	1.4	0.0
Sinda	16,285	6.6	9.0	0.0	0.9	1.3	0.0
Vubwi	1,893	30.4	33.1	24.4	15.8	21.3	3.5

5.6 Lime Application

Lime is a valuable soil amendment that helps plants flourish by raising soil pH. A low soil pH, or acidic soil, is often the underlying problem when it comes to many common farmland problems. But even with a healthy farmland, liming can improve soil quality, helping crops to flourish.

Adding lime to soil, has many benefits. Because liming improves the quality of the soil, crops can reap all the benefits of a healthy soil environment. At a neutral pH, existing soil nutrients are unlocked, and readily available for plant uptake. Neutral soil pH allows microbes and worms to prosper, organic matter to break down, and soil to truly become the living environment it desires to be. In addition, fertilizer is more effective at a neutral pH. When acidic soil is corrected, plants are greener, stronger, use less water, and are more able to resist diseases.
Lime is also an important source of calcium for crops. Liming a field is a great way to improve the soil, and the overall health of crops

5.6.1 Maize fields

Table 5.6.1 shows the distribution of households applying lime to maize crop by beneficiary type by district in the 2019/20 Agricultural season.

Out of the estimated 274, 630 households in rural Eastern Province that grew maize, 1.9 percent applied lime. About 2.2 percent of the beneficiary compared to 1.4 percent of the non-beneficiary households applied lime to maize.

At district level, Petauke had the highest proportion of households that applied lime to maize fields with 10.3 percent. Among the beneficiary households, 12.1 percent compared to 5 percent of the non-beneficiary households applied lime.

Table 5.6.1: Distribution of Households Applying Lime to Maize by Beneficiary Type by District, 2019/20 Agricultural Season.

District	Number of Household Growing Maize	Application of lime to Maize		
		All Households	Beneficiary Households	Non-beneficiary households
Total	**274,632**	**1.9**	**2.2**	**1.4**
Chadiza	10,782	0.0	0.0	0.0
Chasefu	21,910	1.3	1.0	2.2
Chipangali	27,652	0.0	0.0	0.0
Chipata	19,198	0.3	0.0	1.3
Kasenengwa	23,412	1.2	0.0	2.1
Katete	23,648	0.0	0.0	0.0
Lumezi	22,962	0.9	1.8	0.0
Lundazi	25,566	1.9	0.0	4.1
Mambwe	13,366	1.4	2.1	0.0
Lusangazi	515	0.0	0.0	0.0
Nyimba	11,072	2.1	5.1	0.0
Petauke	33,809	10.3	12.1	5.0
Sinda	34,593	0.0	0.0	0.0
Vubwi	6,146	0.0	0.0	0.0

5.6.2 Soya bean

Table 5.6.2 shows the distribution of households applying lime to soya beans by beneficiary type by district in the 2019/20 Agricultural season.

Out of the estimated 113, 892 households that grew soya beans, 0.2 percent applied lime. About 0.1 percent of the beneficiary compared to 0.5 percent of the non-beneficiary households applied lime to soya beans.

At district level, Vubwi had the highest proportion of households that applied lime to soya beans fields with 1.2 percent. Among the beneficiary households, 1.7 percent compared to less than 1 percent of the non-beneficiary households that applied lime.

Table 5.6.2: Distribution of Households Applying lime to Soya beans by Beneficiary Type by District, 2019/20 Agricultural Season.

District	Number of Household Growing Maize	Application of Lime to Soya beans		
		All Households	Beneficiary Households	Non-beneficiary households
Total	**113,892**	**0.2**	**0.1**	**0.5**
Chadiza	7,584	0.0	0.0	0.0
Chasefu	6,921	0.0	0.0	0.0
Chipangali	11,881	0.0	0.0	0.0
Chipata	5,830	0.0	0.0	0.0
Kasenengwa	10,766	0.0	0.0	0.0
Katete	12,923	0.0	0.0	0.0
Lumezi	12,593	0.0	0.0	0.0
Lundazi	17,687	1.1	0.0	2.2
Mambwe	956	0.0	0.0	0.0
Lusangazi	151	0.0	0.0	0.0
Nyimba	617	0.0	0.0	0.0
Petauke	1,192	0.0	0.0	0.0
Sinda	19,729	0.0	0.0	0.0
Vubwi	5,061	1.2	1.7	0.0

5.6.3 Groundnuts

Table 5.6.3 shows the distribution of households applying lime to groundnuts by beneficiary type by district in the 2019/20 Agricultural season.

Out of the estimated 159, 590 households that grew groundnuts, 0.1 percent applied lime. About 0.2 percent of the beneficiary compared to 0.0 percent of the non-beneficiary households applied lime to groundnuts.

At district level, Kasenengwa had the highest proportion of households that applied lime to groundnuts fields with 1.0 percent. Among the beneficiary households, 2.3 percent compared to 0.0 percent of the non-beneficiary households that applied lime.

Table 5.6.3: Distribution of Households Applying lime to Groundnuts by Beneficiary Type by District, 2019/20 Agricultural Season.

District	Number of Household Growing Maize	Application of Lime to Groundnuts		
		All Households	Beneficiary Households	Non-beneficiary households
Total	**159,590**	**0.1**	**0.2**	**0.0**
Chadiza	4,544	0.0	0.0	0.0
Chasefu	16,384	0.0	0.0	0.0
Chipangali	18,495	0.0	0.0	0.0
Chipata	10,137	0.0	0.0	0.0
Kasenengwa	17,829	1.0	2.3	0.0
Katete	9,345	0.0	0.0	0.0
Lumezi	14,799	0.0	0.0	0.0
Lundazi	11,621	0.0	0.0	0.0
Mambwe	7,883	0.0	0.0	0.0
Lusangazi	233	0.0	0.0	0.0
Nyimba	6,765	0.0	0.0	0.0
Petauke	21,053	0.0	0.0	0.0
Sinda	17,477	0.0	0.0	0.0
Vubwi	3,026	0.0	0.0	0.0

5.6.4 Sunflower

Table 5.6.3 shows the distribution of households applying lime to sunflower by beneficiary type by district in the 2019/20 Agricultural season.

Out of the estimated 97,875 households in rural eastern Province that grew sunflower, no household reported to have applied lime.

Table 5.6.4: Distribution of Households Applying lime to Sunflower by Beneficiary Type by District, 2019/20 Agricultural Season.

District	Number of Household Growing Maize	Application of Lime to Groundnuts		
		All Households	Beneficiary Households	Non-beneficiary households
Total	**97,875**	**0.0**	**0.0**	**0.0**
Chadiza	5,815	0.0	0.0	0.0
Chasefu	6,832	0.0	0.0	0.0
Chipangali	3,504	0.0	0.0	0.0
Chipata	5,348	0.0	0.0	0.0
Kasenengwa	8,148	0.0	0.0	0.0
Katete	9,839	0.0	0.0	0.0
Lumezi	7,233	0.0	0.0	0.0
Lundazi	10,106	0.0	0.0	0.0
Mambwe	1,987	0.0	0.0	0.0
Lusangazi	258	0.0	0.0	0.0
Nyimba	3,486	0.0	0.0	0.0
Petauke	17,140	0.0	0.0	0.0
Sinda	16,285	0.0	0.0	0.0
Vubwi	1,893	0.0	0.0	0.0

5.7 Distribution of Households by Method of Disposing Maize crop residues by District (S3Q10)

5.7.1 Maize Crop Residues

Table 5.7.1 shows the distribution of households by mode of disposing most of the maize crop residues by beneficiary type by district, 2019/20 Agricultural season.

Results of the survey show that 274, 632 households in rural Eastern Province grew maize. About 91 percent of the beneficiary compared to 85.6 percent of the non-beneficiary households left most of the maize crop residues in the field.

At district level 96.8 percent of the beneficiary compared to 100 percent of the non-beneficiary households in Lusangazi District left the maize crop residues in the fields.

Table 5.7.1: Distribution of Households by Mode of disposing most of the Maize Crop Residues by Beneficiary Type by District, 2019/20 Agricultural Season.

Disrict	Number of House-holds Growing Maize	How most of the crop residues from Maize are disposed											
		Burned them (percent)		Left them in the fields (percent)		Collected for animal feed (percent)		Fed to ani-mals in field (percent)		Threw them away (percent)		Gave away (percent)	
		Ben	Non-Ben	Ben	Non-Ben	Ben	Non-Ben	Ben	Non-Ben	Ben	Non-Ben	Ben	Non-Ben
Total	**274,632**	**5.4**	**10.1**	**90.7**	**85.6**	**0.6**	**0.3**	**3.1**	**3.7**	**0.2**	**0.3**	**0.0**	**0.0**
Chadiza	10,782	12.6	27.6	75.7	51.4	0.0	1.8	9.8	15.4	1.8	3.7	0.0	0.0
Chasefu	21,910	3.5	5.1	94.4	92.7	1.5	0.0	0.6	2.2	0.0	0.0	0.0	0.0
Chipangali	27,652	5.4	6.9	89.0	87.4	0.0	0.0	4.7	5.7	0.9	0.0	0.0	0.0
Chipata	19,198	3.4	3.4	96.6	96.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kasenengwa	23,412	0.0	0.8	95.5	92.1	0.0	1.7	4.5	5.4	0.0	0.0	0.0	0.0
Katete	23,648	3.9	5.5	90.0	89.4	2.8	0.0	3.3	3.3	0.0	1.8	0.0	0.0
Lumezi	22,962	11.2	16.1	84.1	79.9	0.0	0.0	4.7	4.0	0.0	0.0	0.0	0.0
Lundazi	25,566	7.0	24.9	84.6	67.7	0.0	0.0	8.4	7.4	0.0	0.0	0.0	0.0
Mambwe	13,366	7.1	16.0	92.9	84.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lusangazi	515	1.9	0.0	96.8	100.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nyimba	11,072	14.5	11.2	85.5	88.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0
Petauke	33,809	4.6	8.7	89.6	91.3	1.7	0.0	4.1	0.0	0.0	0.0	0.0	0.0
Sinda	34,593	3.6	3.4	96.4	95.2	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0
Vubwi	6,146	3.8	4.6	93.9	95.4	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0

5.7.2 Soya bean Crop Residues

Table 5.7.2 shows the distribution of households by mode of disposing most of the soya bean crop residues by beneficiary type by district, 2019/20 Agricultural season.

Results of the survey show that 113, 892 households in rural Eastern Province grew soya beans. About 80 percent of the beneficiary compared to 77.2 percent of the non-beneficiary households left most of the soya beans crop residues in the field.

At district level, almost all the beneficiary and non-beneficiary households in Chipangali, Mambwe and Nyimba left the soya beans crop residues in the fields.

Table 5.7.2: Distribution of Households by Mode of disposing most of the Soya beans Crop Residues by Beneficiary Type by District, 2019/20 Agricultural Season.

Disrict	Number of House-holds Growing Soya bean	How most of the crop residues from the Soya beans are disposed											
		Burned them (percent)		Left them in the fields (percent)		Collected for animal feed (percent)		Fed to ani-mals in field (percent)		Threw them away (percent)		Gave away (percent)	
		Ben	Non-Ben	Ben	Non-Ben	Ben	Non-Ben	Ben	Non-Ben	Ben	Non-Ben	Ben	Non-Ben
Total	**113,892**	**11.1**	**14.7**	**79.9**	**77.2**	**2.4**	**.9**	**2.6**	**3.9**	**3.9**	**3.3**	**.1**	**0.0**
Chadiza	7,584	12.4	24.9	70.1	52.9	6.3	0.0	6.7	7.9	3.0	14.3	1.5	0.0
Chasefu	6,921	17.9	29.2	54.0	22.9	4.2	0.0	0.0	9.4	23.9	38.5	0.0	0.0
Chipangali	11,881	24.4	32.0	66.0	53.6	2.0	0.0	4.2	14.4	3.4	0.0	0.0	0.0
Chipata	5,830	0.0	0.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kasenengwa	10,766	4.4	4.2	95.6	95.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Katete	12,923	7.9	6.3	89.9	93.7	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0
Lumezi	12,593	17.0	10.9	72.6	74.9	2.3	4.2	6.1	7.9	2.0	2.1	0.0	0.0
Lundazi	17,687	14.3	30.6	63.5	59.7	6.1	1.4	5.7	3.8	10.5	4.5	0.0	0.0
Mambwe	956	0.0	0.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lusangazi	151	0.0	0.0	100.0	68.2	0.0	9.2	0.0	0.0	0.0	22.6	0.0	0.0
Nyimba	617	0.0	0.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Petauke	1,192	20.9	0.0	79.1	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sinda	19,729	3.4	0.0	95.1	100.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vubwi	5,061	10.1	1.3	84.7	98.7	2.4	0.0	2.8	0.0	0.0	0.0	0.0	0.0

5.7.3 Sunflower Crop Residues

Table 5.7.3 shows the distribution of households by mode of disposing most of the sunflower crop residues by beneficiary type by district, 2019/20 Agricultural season.

Results of the survey show that 97, 875 households in rural Eastern Province grew sunflower. About 92 percent of the beneficiary compared to 87 percent of the non-beneficiary households left most of the sunflower crop residues in the field.

At district level, almost all the beneficiary and non-beneficiary households in Chipata and Mambwe left the sunflower crop residues in the fields.

Table 5.7.3: Distribution of Households by Mode of disposing most of the Sunflower Crop Residues by Beneficiary Type by District, 2019/20 Agricultural Season.

Disrict	Number of House-holds Growing Sunflow-er	How most of the crop residues from the sunflower are disposed											
		Burned them (percent)		Left them in the fields (percent)		Collected for animal feed (percent)		Fed to ani-mals in field (percent)		Threw them away (percent)		Gave away (percent)	
		Ben	Non-Ben	Ben	Non-Ben	Ben	Non-Ben	Ben	Non-Ben	Ben	Non-Ben	Ben	Non-Ben
Total	**97,875**	**4.2**	**8.6**	**92.0**	**86.7**	**.4**	**.5**	**1.7**	**2.5**	**1.1**	**1.6**	**.5**	**.0**
Chadiza	5,815	25.9	6.7	64.1	63.8	0.0	0.0	0.0	0.0	8.0	29.5	2.0	0.0
Chasefu	6,832	0.0	11.5	100.0	81.8	0.0	0.0	0.0	6.7	0.0	0.0	0.0	0.0
Chipangali	3,504	20.1	0.0	79.9	90.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0
Chipata	5,348	0.0	0.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kasenengwa	8,148	0.0	0.0	96.9	100.0	0.0	0.0	3.1	0.0	0.0	0.0	0.0	0.0
Katete	9,839	2.9	5.1	94.1	94.9	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
Lumezi	7,233	0.0	0.0	86.1	91.7	0.0	0.0	13.9	8.3	0.0	0.0	0.0	0.0
Lundazi	10,106	2.9	30.4	92.6	63.8	0.0	0.0	0.0	5.8	0.0	0.0	4.5	0.0
Mambwe	1,987	0.0	0.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lusangazi	258	0.0	0.0	97.4	93.2	2.6	0.0	0.0	0.0	0.0	0.0	0.0	6.8
Nyimba	3,486	6.1	2.2	93.9	97.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Petauke	17,140	3.4	22.7	89.9	72.5	1.8	4.8	2.4	0.0	2.4	0.0	0.0	0.0
Sinda	16,285	1.9	0.0	98.1	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vubwi	1,893	9.0	15.9	83.6	84.1	0.0	0.0	0.0	0.0	7.5	0.0	0.0	0.0

5.7.4 Groundnuts Crop Residues

Table 5.7.4 shows the distribution of households by mode of disposing most of the groundnut crop residues by beneficiary type by district, 2019/20 Agricultural season.

Results of the survey show that 159, 590 households in rural Eastern Province grew groundnuts. About 92 percent of the beneficiary compared to 89 percent of the non-beneficiary households left most of the groundnuts crop residues in the field.

At district level, almost all the beneficiary and non-beneficiary households in Lusangazi left the groundnuts crop residues in the fields.

Table 5.7.4: Distribution of Households by Mode of disposing most of the Groundnuts Crop Residues by Beneficiary Type by District, 2019/20 Agricultural Season.

Disrict	Number of House-holds Growing Ground-nuts	How most of the crop residues from the groundnuts are disposed											
		Burned them (percent)		Left them in the fields (percent)		Collected for animal feed (percent)		Fed to ani-mals in field (percent)		Threw them away (percent)		Gave away (percent)	
		Ben	Non-Ben	Ben	Non-Ben	Ben	Non-Ben	Ben	Non-Ben	Ben	Non-Ben	Ben	Non-Ben
Total	**159,590**	**4.3**	**5.6**	**91.7**	**88.7**	**.9**	**1.5**	**2.8**	**3.4**	**.3**	**.8**	**0.0**	**0.0**
Chadiza	4,544	27.5	41.3	68.3	58.7	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chasefu	16,384	2.6	0.0	93.5	86.7	2.0	0.0	1.9	8.9	0.0	4.4	0.0	0.0
Chipangali	18,495	9.7	10.5	87.5	81.8	1.1	0.0	1.7	7.7	0.0	0.0	0.0	0.0
Chipata	10,137	4.0	0.0	96.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kasenengwa	17,829	1.3	1.1	98.7	92.8	0.0	4.4	0.0	1.7	0.0	0.0	0.0	0.0
Katete	9,345	0.0	0.0	91.5	94.3	0.0	0.0	8.5	5.7	0.0	0.0	0.0	0.0
Lumezi	14,799	2.2	4.3	89.8	91.8	1.5	0.0	3.7	3.8	2.9	0.0	0.0	0.0
Lundazi	11,621	3.6	19.9	80.5	55.6	2.6	7.8	11.4	12.1	1.9	4.6	0.0	0.0
Mambwe	7,883	2.5	0.0	97.5	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lusangazi	233	0.0	0.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nyimba	6,765	0.0	4.5	97.3	95.5	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Petauke	21,053	1.2	3.1	93.3	96.9	.6	0.0	4.9	0.0	0.0	0.0	0.0	0.0
Sinda	17,477	1.6	0.0	98.4	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vubwi	3,026	24.4	51.8	75.6	48.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

5.12 Distance to the Main Markets

In the survey, households were asked to estimate the largest distance to the main market for the type of crop they grew relating to the largest transaction they did.

Table 5.7.5 shows the distance to the main market by type of crop (of the largest transaction) by district in the 2019/2020 Agricultural Season.

Overall, results show that the average distance to the main market for maize, sunflower, groundnuts and soybeans was 15.7km (maize); 22.2km (Sunflower); 33.4km (Groundnuts); and 45.8km (Soya beans), respectively.

Analysed by beneficiary status and crop type, the largest distance to the main market was recorded among beneficiary households that grew soya beans and groundnuts at 65.6 and 39.3 kilometres, respectively.

Analysed by district, households in Petauke and Lumezi reported the longest and second longest distances to the main maize markets at 81.6 and 18.9 kilometres, respectively. The shortest distance to the main maize market was recorded among the households in Chasefu at 3.0 kilometres.
Further, among the households that grew sunflower, the longest distance to the main market was reported by beneficiary households in Lumezi District at 20.0 kilometres while non-beneficiary households cited 5 kilometres.

For households growing groundnuts, the longest distance to the main market was recorded among both beneficiary (255.1 kilometres) and non-beneficiary (245.1 kilometres) households in Nyimba District. The shortest distance among beneficiary households growing groundnuts was 0.8 kilometres in Petauke while their non-beneficiary counterparts cited 0.3 kilometres in Chipata.

In case of households growing soya beans, the longest distance to the main market for beneficiary households was reported in Chasefu at 513.7 kilometres while for their non-beneficiary counterparts, the longest distance was reported in Kasenengwa at 24.8 kilometres.

Table 5.7.5.: Average Distance to the Main Markets (Km) by Crop Type (i.e. of the Largest Transaction) by District, Rural Eastern Province in the 2019/2020 Agricultural Season.

District	Maize			Sunflower			Groundnuts			Soybeans		
	Overall	Ben	Non-Ben	Overall	Ben	Non-Ben	Overall	Ben	Non-Ben	Overall	Ben	Non-Ben
Maize	15.7	19.1	9.3	22.2	33.6	2.7	33.4	39.3	19.8	45.8	65.6	12.2
Chadiza	3.8	4.5	2	0.5	0.5		-	-	-	1.6	1.6	2
Chasefu	3	3.7	0.6	1.9	2.4	0.7	6.3	7.4	2.5	42.1	513.7	1.3
Chipangali	6	5.9	6.9	1		1	6.1	7	2	13.6	13.6	
Chipata	9.8	6.9	``	1	1		15.3	16.1	0.3	6.9	7.2	6.1
Kasenengwa	10.3	7.4	11.9	7.4	8.2	5	17.6	2.8	27.3	17.8	4.3	24.8
Katete	5.2	5.3	5	7.4	12.2	1.3	3.7	1.9	7.3	5	4.4	11.2
Lumezi	18.9	30.8	11.5	8.4	20	0.7	14	16	11	13.7	8.8	21.2
Lundazi	5.2	4.4	6.2	4.6	7	2.3	6.9	4.5	12.5	6.5	5	8
Mambwe	4.7	4.7					47.1	52	21	15	17.7	1
Lusangazi	3.2	4.6	0.9	0.8	0.7	1	142.9	196.5	1	1	1.1	1
Nyimba	14	2.8	21.5	8	8		250.3	255.1	245.1	1	1	
Petauke	81.6	89.1	9.2	99.5	135.1	3.6	0.7	0.8	0.5	10		10
Sinda	16.6	18.7	2.6	14.2	13.7	20	202.2	217	2	7.9	9.4	5.1
Vubwi	1.9	1.5	3.8	2		2	0.5		0.5	1.8	1	2.7

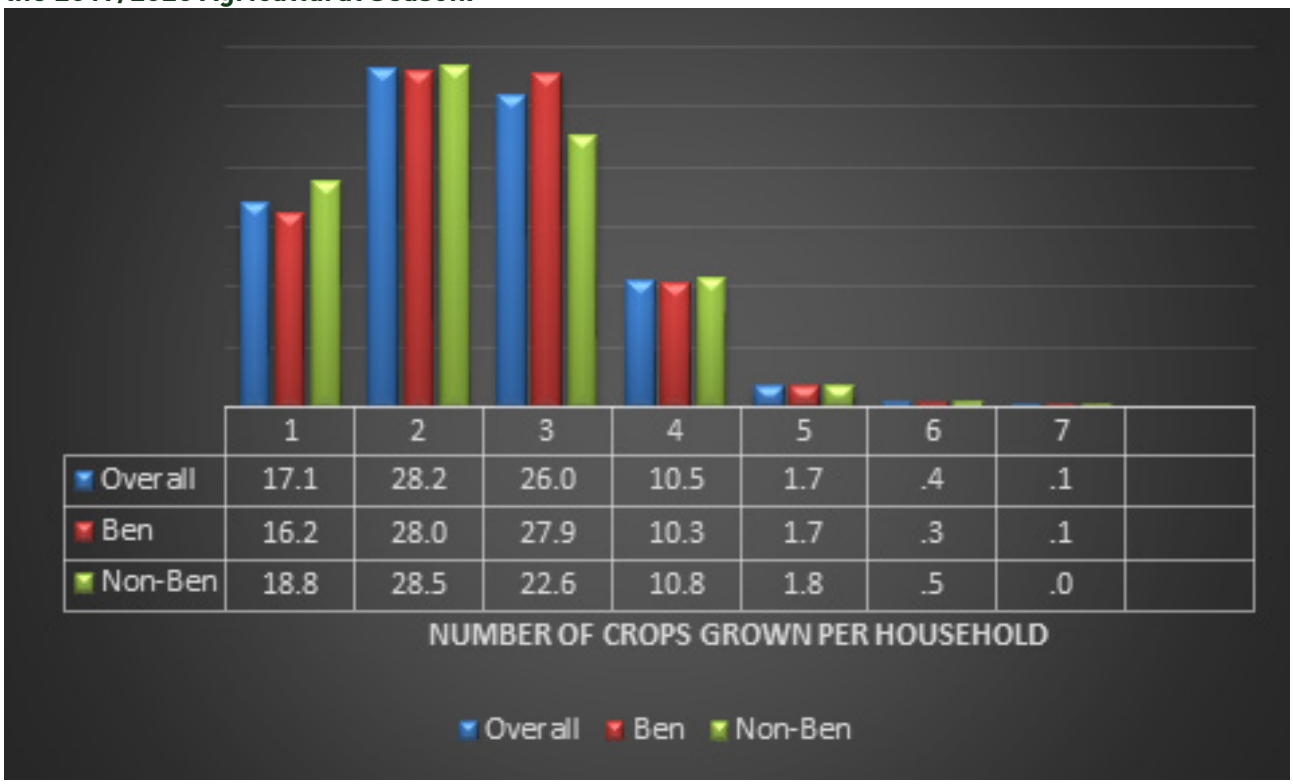
CROP DIVERSIFICATION

Crop diversification is defined as the addition of a new crop to the existing cropping system. Given the fact that the more the number of crops grown by the household, the more resilient that household is likely to be to crop failure. The survey collected data on the number of crops grown by each household by beneficiary status.

Figure 5.1 shows the proportional distribution of households by the number of Crops cultivated per household in rural Eastern Province in the 2019/2020 Agricultural Season.

Overall, results show that 17.1 percent of the households in rural Eastern grew 1 crop. By beneficiary status, 16.2 percent of the beneficiary households grew 1 crop relative to 18.8 percent among the non-beneficiary households. Further, the share of beneficiary households that grew 3 crops was higher than that of non-beneficiary households at 27.9 percent compare to 22.6 percent. Only a paltry 0.1 percent of the households grew 7 crops.

Figure 5.1: Proportional Distribution of Households by Number of Crops in Rural Eastern Province the 2019/2020 Agricultural Season.



HOUSEHOLD CROP YIELD RATE

During the survey, households were asked to indicate area planted by type of crop, quantity produced i.e. output during the 2019/2020 Agricultural Season.

Table 5.10.1 show area planted in hectares, estimated production in metric tonnes and the yield rates by crop type and district in rural Eastern Province in the 2019/2020 Agricultural Season. Overall, 332,329.4 ha of land were planted to maize resulting into 691, 463.6 metric tonnes of maize being produced. Further, survey results show that per hectare of maize planted, the yield rate was 2.2 metric tonnes. This implies the yield rate was 14.6 percentage point higher than the figure obtained in the Zambia Integrated Forest Landscape Project Socioeconomic Baseline Report of 2019.

By beneficiary status, the maize yield rates of beneficiary households were 0.2-percentage points higher than households not supported by the project. Regardless of beneficiary status, Vubwi and Lundazi districts had higher maize

Other than the maize crop, Chadiza, Chasefu and Kasenengwa districts were among the districts with sunflower yield rates higher than 2.1 tonnes per hectare regardless of beneficiary status.

Table 5.10.1: Estimated Production and Yield Rate by Crop Type & Agricultural Practice and District, 2019/20 Agricultural Season

Type Crop	Hectares Planted			Production (tonnes)			Yield (tonnes / hectare)		
	Overall	Ben	Non-Ben	Overall	Ben	Non-Ben	Overall	Ben	Non-Ben
Maize	332,329.4	213,851.6	118,477.9	691,463.6	449,050.6	242,413.0	2.2	2.3	2.1
Sunflower	56,172.7	37,622.9	18,549.8	26,409.2	17,578.4	8,830.8	0.6	0.6	0.6
Groundnuts	89,867.7	60,061.6	29,806.2	54,064.1	38,195.7	15,868.4	0.7	0.7	0.6
Soya-beans	98,043.6	62,417.9	35,625.7	95,803.1	63,877.1	31,926.0	1.1	1.1	1.1
Chadiza									
Maize	16,152.7	17,976.1	10,446.6	39,361.3	31,674.4	19,087.7	2.6	1.6	1.6
Sunflower	3,441.2	10,071.1	6,081.6	1,796.0	24,416.5	14,944.8	0.6	2.6	2.6
Groundnuts	2,280.4	2,279.4	1,161.8	2,200.9	1,079.7	716.2	1.0	0.5	0.7
Soya-beans	5,527.8	1,619.7	660.7	6,482.0	1,568.7	632.2	1.3	1.0	1.1
Mixed beans	128.5	3,427.8	2,100.1	64.1	4,145.9	2,336.2	0.4	1.3	1.4
Chasefu									
Maize	18,905.4	30,554.7	8,730.3	47,033.8	47,466.4	13,683.8	2.6	1.4	1.4
Sunflower	2,995.1	14,705.0	4,200.4	1,695.8	36,663.2	10,370.6	0.6	2.5	2.6
Groundnuts	8,859.0	2,392.8	602.2	5,383.5	1,380.7	315.2	0.6	0.6	0.6
Soya-beans	4,646.6	6,621.8	2,237.2	3,975.1	4,274.9	1,108.6	0.9	0.7	0.5
Mixed beans	60.1	3,548.3	1,098.3	11.0	2,796.2	1,178.8	0.2	0.9	0.7
Chipangali									
Maize	35,627.7	45,964.4	19,821.1	71,767.8	71,031.2	28,653.3	2.0	1.3	1.3
Sunflower	1,820.1	25,478.5	10,149.2	592.3	50,555.3	21,212.5	0.4	2.0	2.1
Groundnuts	11,170.9	1,116.5	703.6	6,018.7	337.8	254.5	0.6	0.4	0.4
Soya-beans	12,519.2	8,418.4	2,752.6	9,901.9	4,654.4	1,364.3	0.8	0.6	0.5
Mixed beans	20.7	7,576.4	4,942.8	5.5	5,683.8	4,218.2	0.3	0.8	0.7
Chipata									
Maize	11,892.5	16,274.2	4,300.7	24,084.9	22,032.1	5,548.7	2.1	1.2	1.2
Sunflower	1,801.8	9,708.4	2,184.1	448.4	19,271.7	4,813.2	0.3	2.1	2.2
Groundnuts	3,444.4	1,451.8	350.0	1,015.4	377.2	71.1	0.4	0.3	0.2
Soya-beans	2,930.0	2,639.0	805.4	1,828.1	747.2	268.2	0.7	0.4	0.4
Mixed beans	73.9	2,090.4	839.6	5.5	1,432.0	396.1	0.1	0.8	0.6
Kasenengwa									
Maize	26,561.1	26,641.6	27,354.7	54,115.1	35,519.5	33,346.1	2.2	1.3	1.2
Sunflower	4,425.9	12,942.6	13,618.5	1,582.5	28,503.5	25,611.7	0.5	2.4	2.1
Groundnuts	11,473.5	1,963.4	2,462.6	5,013.1	751.9	830.5	0.5	0.6	0.4
Soya-beans	8,509.5	5,650.5	5,823.0	7,147.0	2,759.7	2,253.4	1.2	0.6	0.4
Mixed beans	-	3,576.6	4,932.9	-	2,745.8	4,401.1	-	1.1	1.3
Katete									
Maize	32,160.5	38,250.6	16,481.2	62,845.9	58,142.9	22,511.1	2.1	1.3	1.2
Sorghum	398.0	21,093.0	11,067.6	4.7	43,339.1	19,506.8	0.0	2.2	1.8
Sunflower	4,578.2	3,197.1	1,381.1	2,108.6	1,427.8	680.9	0.5	0.5	0.6
Groundnuts	3,879.8	3,073.5	806.3	1,480.0	1,130.7	349.3	0.4	0.4	0.5
Soya-beans	12,978.1	10,449.2	2,528.9	13,351.6	11,621.5	1,730.0	1.0	1.0	0.9
Mixed beans	42.6	32.3	10.3	21.7	17.2	4.5	0.5	0.5	0.4

Type Crop	Hectares Planted			Production (tonnes)			Yield (tonnes / hectare)		
	Overall	Ben	Non-Ben	Overall	Ben	Non-Ben	Overall	Ben	Non-Ben
Lumezi									
Maize	27,119.7	12,475.1	14,644.6	61,512.5	28,644.0	32,868.5	2.3	2.6	2.0
Sunflower	5,427.0	2,763.0	-	2,089.9	1,116.8	-	0.5	0.5	-
Groundnuts	9,170.2	4,814.3	4,355.9	6,758.6	3,934.3	2,824.3	0.7	0.9	0.6
Soya-beans	13,896.5	8,288.6	5,608.0	10,351.3	5,535.8	4,815.5	1.0	0.8	1.2
Mixed beans	-	32.3	-	-	17.2	-	-	0.5	-
Lundazi									
Maize	25,045.7	12,071.8	12,973.9	67,922.9	33,676.6	34,246.2	2.7	2.9	2.5
Sunflower	5,815.6	3,105.7	2,709.8	2,269.6	1,365.6	904.0	0.6	0.6	0.5
Groundnuts	5,249.6	3,045.6	2,204.0	3,118.7	1,852.3	1,266.4	0.7	0.8	0.6
Soya-beans	12,350.2	6,787.7	5,562.5	10,651.0	5,916.8	4,734.3	1.0	1.0	1.1
Mixed beans	1,041.1	185.5	855.5	429.1	86.4	342.6	0.6	0.6	0.5
Mambwe									
Maize	12,637.8	8,425.3	4,212.5	15,272.0	11,767.3	3,504.7	1.4	1.7	0.8
Sunflower	673.7	574.5	99.1	400.0	338.3	61.7	0.6	0.6	0.5
Groundnuts	3,957.1	3,362.9	594.2	1,664.7	1,375.3	289.5	0.6	0.6	0.5
Soya-beans	636.8	579.0	57.9	629.5	581.8	47.7	0.9	1.0	0.9
Mixed beans	96.0	36.5	59.5	68.9	17.5	51.4	0.7	0.5	0.9
Lusangazi									
Maize	889.1	627.1	262.0	1,385.9	1,067.6	318.2	1.7	1.9	1.3
Sunflower	161.1	135.5	25.6	80.5	63.6	16.9	0.7	0.6	0.9
Groundnuts	150.8	93.5	57.4	71.7	52.5	19.2	0.7	0.8	0.5
Soya-beans	118.5	84.4	34.1	90.5	59.0	31.5	0.9	0.8	1.0
Mixed beans	0.6	0.6	-	1.5	1.5	-	2.6	2.6	-
Nyimba									
Maize	16,696.0	8,316.9	8,379.1	32,603.7	15,709.6	16,894.1	2.1	1.9	2.1
Sunflower	1,705.4	724.7	980.7	880.6	398.7	481.9	0.6	0.7	0.5
Groundnuts	3,888.7	1,997.0	1,891.7	3,812.5	1,951.4	1,861.1	1.0	1.2	0.9
Soya-beans	435.8	273.0	162.8	389.9	192.0	197.9	1.1	1.3	0.8
Mixed beans	-	-	-	-	-	-	-	-	-
Petauke									
Maize	57,184.6	39,096.4	18,088.2	116,759.0	81,824.0	34,935.0	2.3	2.3	2.0
Sunflower	11,146.4	8,503.9	2,642.5	5,296.7	3,672.8	1,623.9	0.5	0.5	0.6
Groundnuts	16,899.2	11,937.6	4,961.6	10,559.6	8,574.9	1,984.8	0.7	0.8	0.5
Soya-beans	1,233.7	1,057.1	176.6	730.4	687.6	42.8	0.5	0.5	0.2
Mixed beans	300.5	300.5	-	12.5	12.5	-	0.0	0.0	-
Sinda									
Maize	44,429.4	34,348.2	10,081.3	76,745.1	59,532.8	17,212.2	2.1	2.0	2.2
Sunflower	10,838.7	8,494.7	2,344.0	6,251.2	4,609.0	1,642.2	0.8	0.8	0.8
Groundnuts	7,522.3	5,394.1	2,128.2	4,627.5	3,587.8	1,039.7	0.8	0.8	0.6
Soya-beans	17,933.6	11,594.8	6,338.8	17,134.1	13,533.7	3,600.4	1.3	1.3	1.3
Mixed beans	95.7	-	95.7	102.1	-	102.1	1.1	-	1.1

Type Crop	Hectares Planted			Production (tonnes)			Yield (tonnes / hectare)		
	Overall	Ben	Non-Ben	Overall	Ben	Non-Ben	Overall	Ben	Non-Ben
Vubwi									
Maize	7,027.2	4,492.2	2,535.0	20,053.6	14,079.4	5,974.3	3.0	3.1	2.8
Sunflower	1,342.5	919.8	422.7	917.1	658.6	258.5	0.8	0.8	0.9
Groundnuts	1,921.8	1,393.6	528.3	2,339.1	1,731.6	607.5	1.3	1.3	1.1
Soya-beans	4,327.2	3,084.7	1,242.6	13,140.8	8,945.4	4,195.4	2.7	2.6	2.7
Mixed beans	-	-	-	-	-	-	-	-	-

5.8 Distance to the Main Markets

In the survey, households were asked to estimate the largest distance to the main market for the type of crop they grew relating to the largest transaction they did.

Table 5.12.1 shows the distance to the main market by type of crop (of the largest transaction) by district in the 2019/2020 Agricultural Season.

Overall, results show that the average distance to the main market for maize, sunflower, groundnuts and soybeans was 15.7km (maize); 22.2km (Sunflower); 33.4km (Groundnuts); and 45.8km (Soya beans), respectively.

Analysed by beneficiary status and crop type, the largest distance to the main market was recorded among beneficiary households that grew soya beans and groundnuts at 65.6 and 39.3 kilometres, respectively.

Analysed by district, households in Petauke and Lumezi reported the longest and second longest distances to the main maize markets at 81.6 and 18.9 kilometres, respectively. The shortest distance to the main maize market was recorded among the households in Chasefu at 3.0 kilometres.

Further, among the households that grew sunflower, the longest distance to the main market was reported by beneficiary households in Lumezi District at 20.0 kilometres while non-beneficiary households cited 5 kilometres.

For households growing groundnuts, the longest distance to the main market was recorded among both beneficiary (255.1 kilometres) and non-beneficiary (245.1 kilometres) households in Nyimba District. The shortest distance among beneficiary households growing groundnuts was 0.8 kilometres in Petauke while their non-beneficiary counterparts cited 0.3 kilometres in Chipata.

In case of households growing soya beans, the longest distance to the main market for beneficiary households was reported in Chasefu at 513.7 kilometres while for their non-beneficiary counterparts, the longest distance was reported in Kasenengwa at 24.8 kilometres.

Table 5.10.2: Average Distance to the Main Markets (Km) by Crop Type (i.e. of the Largest Transaction) by District, Rural Eastern Province in the 2019/2020 Agricultural Season.

District	Maize			Sunflower			Groundnuts			Soybeans		
	Overall	Ben	Non-Ben	Overall	Ben	Non-Ben	Overall	Ben	Non-Ben	Overall	Ben	Non-Ben
Maize	15.7	19.1	9.3	22.2	33.6	2.7	33.4	39.3	19.8	45.8	65.6	12.2
Chadiza	3.8	4.5	2.0	0.5	0.5		-	-	-	1.6	1.6	2.0
Chasefu	3.0	3.7	0.6	1.9	2.4	0.7	6.3	7.4	2.5	42.1	513.7	1.3
Chipangali	6.0	5.9	6.9	1.0		1.0	6.1	7.0	2.0	13.6	13.6	
Chipata	9.8	6.9	``	1.0	1.0		15.3	16.1	0.3	6.9	7.2	6.1
Kasenengwa	10.3	7.4	11.9	7.4	8.2	5.0	17.6	2.8	27.3	17.8	4.3	24.8
Katete	5.2	5.3	5.0	7.4	12.2	1.3	3.7	1.9	7.3	5.0	4.4	11.2
Lumezi	18.9	30.8	11.5	8.4	20.0	0.7	14.0	16.0	11.0	13.7	8.8	21.2
Lundazi	5.2	4.4	6.2	4.6	7.0	2.3	6.9	4.5	12.5	6.5	5.0	8.0
Mambwe	4.7	4.7					47.1	52.0	21.0	15.0	17.7	1.0
Lusangazi	3.2	4.6	0.9	0.8	0.7	1.0	142.9	196.5	1.0	1.0	1.1	1.0
Nyimba	14.0	2.8	21.5	8.0	8.0		250.3	255.1	245.1	1.0	1.0	
Petauke	81.6	89.1	9.2	99.5	135.1	3.6	0.7	0.8	0.5	10.0		10.0
Sinda	16.6	18.7	2.6	14.2	13.7	20.0	202.2	217.0	2.0	7.9	9.4	5.1
Vubwi	1.9	1.5	3.8	2.0		2.0	0.5		0.5	1.8	1.0	2.7

Table 5.10.3 shows the area under climate smart agriculture(CSA) and yield rates by crop type, beneficiary status and by district in rural Eastern Province in the 2019/2020 Agricultural Season.

Overall, results show that 143,508.4 hectares of land under climate smart agriculture in rural Eastern Province in the 2019/2020 Agricultural Season were planted to maize. Of that total, 95,612.1 hectares were under beneficiary households representing 67.3 percent. Results further show that the yield rate for maize per hectare in the 2019/2020 agricultural season was 2.2 tonnes.

Analysed by beneficiary status and crop, results show that the yield rate among beneficiary households who grew maize was 0.2 percentage points more than that of their non-beneficiary counterparts. The yield rate for beneficiary households was 2.3 tonnes of maize per hectare. Further, the yield rate for groundnuts of 0.7 tonnes per hectare among beneficiary households was marginally higher than that of non-beneficiary households whose yield rate for groundnuts was 0.6 tonnes per hectare.

However, there was hardly any difference in yield rates between beneficiary and non-beneficiary households for sunflower and soya beans both recording 1.1 metric tonnes per hectare.

Analysing the maize yield rates by crop and beneficiary status, results show that among beneficiaries, Vubwi and Lundazi districts had the highest and second highest maize yield rates of 3.1 and 2.9 tonnes per hectare, respectively while Mambwe District had the lowest yield rate at 1.7 metric tonnes of maize per hectare. Notably, the maize yield rate pattern was similar even for non-beneficiary households. Vubwi and Lundazi districts recorded 2.8 and 2.5 metric tonnes of maize per hectare, respectively, among non-beneficiary households.

Table 5.10.3: Area under Climate Smart Agriculture and Yield Rate (Metric Tonnes per Hectare), by Beneficiary Status and District in Rural Eastern Province in the 2019/2020 Agricultural Season.

Crop Type and District	Total Area under CSA			Yield (tonnes / hectare)		
	Overall	Ben	Non-Ben	Overall	Ben	Non-Ben
Maize	143,508.4	95,612.1	47,896.2	2.2	2.3	2.1
Sunflower	27,777.7	19,363.4	8,414.3	0.6	0.6	0.6
Groundnuts	41,559.7	27,910.0	13,649.7	0.7	0.7	0.6
Soya-beans	47,007.0	31,347.6	15,659.4	1.1	1.1	1.1
Chadiza	**16,196.3**	**12,026.0**	**4,170.4**			
Maize	8,896.9	6,686.3	2,210.6	0.6	2.6	2.6
Sunflower	2,274.7	1,620.3	654.4	1.0	0.5	0.7
Groundnuts	1,432.0	1,072.7	359.4	1.3	1.0	1.1
Soya-beans	3,087.4	2,218.9	868.5	0.4	1.3	1.4
Chasefu	**27,986.6**	**22,465.0**	**5,521.7**			
Maize	12,870.9	10,704.1	2,166.7	0.6	2.5	2.6
Sunflower	2,244.5	1,760.8	483.7	0.6	0.6	0.6
Groundnuts	6,178.5	4,808.0	1,370.5	0.9	0.7	0.5
Soya-beans	3,443.1	2,422.7	1,020.4	0.2	0.9	0.7
Chipangali	**26,337.3**	**16,670.9**	**9,666.4**			
Maize	14,614.0	8,799.2	5,814.8	0.4	2.0	2.1
Sunflower	530.3	331.7	198.6	0.6	0.4	0.4
Groundnuts	3,792.5	2,744.3	1,048.1	0.8	0.6	0.5
Soya-beans	4,701.6	2,862.9	1,838.7	0.3	0.8	0.7
Chipata	**6,031.3**	**5,074.0**	**957.3**			
Maize	3,016.7	2,515.9	500.8	0.3	2.1	2.2
Sunflower	694.0	603.0	91.1	0.4	0.3	0.2
Groundnuts	1,223.3	1,010.2	213.0	0.7	0.4	0.4
Soya-beans	994.2	841.9	152.3	0.1	0.8	0.6
Kasenengwa	**25,145.1**	**14,136.6**	**11,008.5**			
Maize	11,854.8	6,353.2	5,501.5	0.5	2.4	2.1
Sunflower	2,730.1	1,420.1	1,309.9	0.5	0.6	0.4
Groundnuts	5,491.3	3,146.9	2,344.5	1.2	0.6	0.4
Soya-beans	4,081.8	2,263.8	1,818.0	-	1.1	1.3

Crop Type and District	Total Area under CSA			Yield (tonnes / hectare)		
	Overall	Ben	Non-Ben	Overall	Ben	Non-Ben
Katete	**16,624.8**	**13,767.7**	**2,857.1**			
Maize	8,770.5	7,398.0	1,372.5	0.0	2.2	1.8
Sunflower	1,897.0	1,519.8	377.2	0.5	0.5	0.6
Groundnuts	1,742.0	1,535.9	206.1	0.4	0.4	0.5
Soya-beans	3,624.5	3,187.9	436.6	1.0	1.0	0.9
Lumezi	**41,975.2**	**19,377.5**	**22,597.6**			
Maize	18,081.2	7,636.3	10,444.9	2.3	2.6	2.0
Sunflower	4,411.7	2,251.6	2,160.1	0.5	0.5	-
Groundnuts	5,716.6	2,496.8	3,219.9	0.7	0.9	0.6
Soya-beans	10,233.1	5,471.8	4,761.3	1.0	0.8	1.2
Lundazi	**35,114.2**	**20,544.7**	**14,569.5**			
Maize	15,713.0	8,491.8	7,221.2	2.7	2.9	2.5
Sunflower	4,704.4	2,873.6	1,830.7	0.6	0.6	0.5
Groundnuts	3,342.4	2,254.8	1,087.6	0.7	0.8	0.6
Soya-beans	8,071.7	4,530.5	3,541.1	1.0	1.0	1.1
Mambwe	**9,392.2**	**7,712.6**	**1,679.6**			
Maize	4,696.3	3,661.5	1,034.8	1.4	1.7	0.8
Sunflower	406.1	326.8	79.3	0.6	0.6	0.5
Groundnuts	1,476.1	1,285.5	190.5	0.6	0.6	0.5
Soya-beans	515.8	515.8		0.9	1.0	0.9
Lusangazi	**520.8**	**395.5**	**125.3**			
Maize	302.5	226.7	75.8	1.7	1.9	1.3
Sunflower	68.8	63.3	5.5	0.7	0.6	0.9
Groundnuts	35.1	20.7	14.3	0.7	0.8	0.5
Soya-beans	52.6	48.3	4.4	0.9	0.8	1.0
Nyimba	**9,061.5**	**5,178.9**	**3,882.6**			
Maize	6,377.3	3,503.2	2,874.1	2.1	1.9	2.1
Sunflower	715.1	391.9	323.2	0.6	0.7	0.5
Groundnuts	1,614.6	947.1	667.5	1.0	1.2	0.9
Soya-beans	192.8	192.8		1.1	1.3	0.8
Petauke	**28,531.2**	**19,920.3**	**8,610.9**			
Maize	18,153.6	12,413.9	5,739.7	2.3	2.3	2.0
Sunflower	3,488.7	3,032.1	456.6	0.5	0.5	0.6
Groundnuts	5,218.7	3,274.0	1,944.7	0.7	0.8	0.5
Soya-beans	624.4	447.8	176.6	0.5	0.5	0.2
Sinda	**28,925.3**	**25,603.1**	**3,322.2**			
Maize	17,089.5	15,178.8	1,910.7	2.1	2.0	2.2
Sunflower	2,943.5	2,748.7	194.8	0.8	0.8	0.8
Groundnuts	3,306.2	2,661.0	645.2	0.8	0.8	0.6
Soya-beans	5,392.3	4,857.2	535.1	1.3	1.3	1.3
Vubwi	**6,738.3**	**4,602.0**	**2,136.2**			
Maize	3,071.4	2,043.3	1,028.1	3.0	3.1	2.8
Sunflower	668.7	419.6	249.1	0.8	0.8	0.9
Groundnuts	990.3	652.0	338.3	1.3	1.3	1.1
Soya-beans	1,991.6	1,485.2	506.4	2.7	2.6	2.7

Maize Stocks in Storage.

Table 5.15.1 shows the quantity of crop stocks in storage by district during the 2019/20 agricultural season. On survey day, there was a total of 254 million Kgs of maize grain in storage in rural Eastern Province. The average quantity of maize stocks held by each household was 1,121 Kgs. Male-headed beneficiary households in rural Eastern Province had 1,235 Kgs of maize stocks in storage compared to 1,177 Kgs among male-headed non-beneficiary households. Female-headed beneficiary households had 845 Kgs of maize stocks in storage compared to 616 Kgs among female-headed non-beneficiary households. At district level, households in Chipangali had the highest average quantity of maize stocks in storage with 1,603 Kgs per household. Male-headed beneficiary households had 1,773 Kgs of maize stocks in storage compared to 2,017 Kgs among male-headed non-beneficiary households. Female-headed beneficiary households had 683 Kgs of maize stocks in storage compared to 853 Kgs among female-headed non-beneficiary households.

Sunflower Stocks in Storage.

On survey day, there was a total of 8.5 million Kgs of sunflower in storage in rural Eastern Province. The average quantity of sunflower stocks held by each household was 133 Kgs. Male-headed beneficiary households in rural Eastern Province had 156 Kgs of sunflower stocks in storage compared to 110 Kgs among male-headed non-beneficiary households. Female-headed beneficiary households had 845 Kgs of sunflower stocks in storage compared to 616 Kgs among female-headed non-beneficiary households.

At district level, households in Vubwi had the highest average quantity of sunflower stocks in storage with 204 Kgs per household. Both Male-headed beneficiary and non-beneficiary households had 206 Kgs of sunflower stocks each in storage. Female-headed beneficiary households had less than 1 Kg of sunflower stocks in storage compared to 111 Kgs among female-headed non-beneficiary households.

Groundnuts Stocks in Storage.

On survey day, there was a total of 18 million Kgs of groundnuts in storage in rural Eastern Province. The average quantity of groundnuts stocks held by each household was 155 Kgs. Male-headed beneficiary households in rural Eastern Province had 173 Kgs of groundnuts stocks in storage compared to 157 Kgs among male-headed non-beneficiary households. Female-headed beneficiary households had 106 Kgs of groundnuts stocks in storage compared to 126 Kgs among female-headed non-beneficiary households.

At district level, households in Petauke had the highest average quantity of groundnuts stocks in storage with 284 Kgs per household. Male-headed beneficiary households had 305 Kgs of groundnuts stocks in storage compared 413 Kgs among male-headed non-beneficiary

households. Female-headed beneficiary households had 155 Kgs of groundnuts stocks in storage compared to 140 Kgs among female-headed non-beneficiary households.

Soya beans Stocks in Storage.

On survey day, there was a total of 8 million Kgs of soya beans in storage in rural Eastern Province. The average quantity of soya beans stocks held by each household was 115 Kgs. Male-headed beneficiary households in rural Eastern Province had 102 Kgs of soya beans stocks in storage compared to 161 Kgs among male-headed non-beneficiary households. Female-headed beneficiary households had 65 Kgs of soya beans stocks in storage compared to 72 Kgs among female-headed non-beneficiary households.

At district level, households in Mambwe had the highest average quantity of soya beans stocks in storage with 285 Kgs per household. Male-headed beneficiary households had 344 Kgs of soya beans stocks in storage compared less than 1 Kg among male-headed non-beneficiary households. Female-headed beneficiary households had 49 Kgs of soya beans stocks in storage compared to less than 1 Kg among female-headed non-beneficiary households.

Table 5.10.4: Quantity of Crop Stocks by District, 2019/2020 Agriculture Season.

District	Crop Type	Kilograms of crop in storage					
		Total		Average			
		Average	Sum	Male-headed households		Female-headed households	
				Beneficiary	Non-beneficiary	Beneficiary	Non-beneficiary
Total	Maize	1,121	253,986,577	1,235	1,177	845	616
	Sunflower	133	8,502,684	156	110	101	59
	Groundnuts	155	17,945,174	173	157	106	126
	Soya-beans	115	8,404,990	102	161	65	72
Chadiza	Maize	1,245	10,527,200	1,078	1,667	991	1,064
	Sunflower	140	589,110	126	178	104	28
	Groundnuts	189	623,823	189	164	275	75
	Soya-beans	135	723,377	146	126	119	49
Chasefu	Maize	1,090	19,782,367	1,324	666	859	601
	Sunflower	86	407,881	122	41	60	28
	Groundnuts	145	2,040,581	178	86	102	201
	Soya-beans	42	177,323	38	63	42	
Chipangali	Maize	1,603	32,696,974	1,773	2,017	683	853
	Sunflower	128	262,361	137	103		125
	Groundnuts	168	1,969,195	212	118	62	117
	Soya-beans	429	2,185,802	196	1,068	61	98
Chipata	Maize	657	10,890,126	708	612	499	724
	Sunflower	47	139,462	53	44	41	28
	Groundnuts	125	717,465	69	396	57	132
	Soya-beans	52	136,646	57	49	28	74

District	Crop Type	Kilograms of crop in storage					
		Total		Average			
		Average	Sum	Male-headed households		Female-headed households	
				Beneficiary	Non-beneficiary	Beneficiary	Non-beneficiary
Kasenengwa	Maize	1,026	18,650,297	1,049	865	2,799	556
	Sunflower	111	543,060	88	105	399	58
	Groundnuts	195	1,539,091	186	211	210	152
	Soya-beans	81	451,183	58	104	66	47
Katete	Maize	1,303	27,860,766	1,840	1,077	954	540
	Sunflower	141	1,020,306	221	90	44	72
	Groundnuts	100	643,801	128	87	73	40
	Soya-beans	70	665,632	84	53	51	49
Lumezi	Maize	1,086	20,086,838	989	1,258	877	549
	Sunflower	120	535,012	144	117		18
	Groundnuts	132	1,642,979	174	99	96	67
	Soya-beans	75	698,444	80	69	73	62
Lundazi	Maize	1,385	32,022,889	1,327	1,670	849	1,148
	Sunflower	88	541,948	100	72	72	83
	Groundnuts	91	967,956	101	60	100	172
	Soya-beans	78	899,130	63	83	116	104
Mambwe	Maize	718	6,657,917	759	609	861	454
	Sunflower	70	69,337	64		81	
	Groundnuts	104	581,596	108	38	135	143
	Soya-beans	285	221,995	344		49	
Lusangazi	Maize	1,015	434,639	1,182	820	668	655
	Sunflower	139	24,967	163	62	69	189
	Groundnuts	135	25,246	157	168	88	33
	Soya-beans	104	10,713	99	56	49	393
Nyimba	Maize	877	6,812,645	1,407	805	422	483
	Sunflower	91	139,645	94	131	83	31
	Groundnuts	161	595,787	163	186	108	122
	Soya-beans	175	41,320	147	200	147	
Petauke	Maize	1,051	31,236,610	1,140	1,241	827	344
	Sunflower	149	1,696,716	159	96	171	63
	Groundnuts	284	4,610,173	305	413	155	140
	Soya-beans	49	9,064			49	
Sinda	Maize	1,074	31,820,611	1,228	1,137	574	581
	Sunflower	191	2,280,983	221	146	92	
	Groundnuts	88	1,335,393	92	85	75	97
	Soya-beans	91	1,339,861	96	100	39	69
Vubwi	Maize	892	4,506,698	925	1,003	458	379
	Sunflower	204	251,897	206	206		111
	Groundnuts	279	652,087	256	453	32	53
	Soya-beans	214	844,499	209	280	99	74

Table 5.10.5 shows the proportion of households that adopted use of Improved storage facilities by type in rural Eastern Province.

Improved Storage facility

Overall, results show that 11.3 percent of the households in rural Eastern have adopted use of an improved storage facility. By type of household, 9.5 percent of the beneficiaries and 14.7 percent of the non-beneficiaries have adopted an improved storage facility. Soya beans farming households had the highest proportion of households that have adopted an improved storage facility at 11.1 and 20.1 percent among beneficiaries and non-beneficiaries, respectively.

Hematic bags

Among farming households, results generally show that 24.8 percent have adopted use of hematic bags. Further, 25.4 percent of beneficiary households compared to 23.7 percent non-beneficiaries have adopted hematics bags.

By crop type, overall, the proportion of households that have adopted hematic bags was higher than that of households that have adopted an improved storage facility second only to households still using traditional storage facilities in rural Eastern.

By household type and crop among those that have adopted hematic bags, beneficiary households had higher proportions than their non-beneficiary counterparts except for groundnuts where both recorded 24.4 percent. Overall, Soya beans farming households had the highest proportions by crop type generally, beneficiaries and non-beneficiaries at 33.1; 34.9 and 29.9 percent, respectively.

Traditional

Of all the different types of storage facilities adopted for use in rural Eastern in 2020, the traditional type had the highest proportions overall. Most of the farming households growing maize were still using traditional facilities representing the largest. Beneficiaries had relatively higher proportions regardless of crop grown ranging from 42.3 percent for Soya to 61.4 percent for maize.

Table 5.10.5: Proportion of Households that have adopted use of Improved Storage Facilities in Rural Eastern Province, 2020

	Total	Improved			Metal silo			Plastic silo			Hematic bags			Builtup silo			Traditional			Other		
	Number	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben
Rural Eastern	697,046	11.3	9.5	14.7	0.1	0.1	0.1	0.9	0.8	1.0	24.8	25.4	23.7	1.0	1.1	0.8	52.7	53.9	50.5	9.2	9.2	9.3
Maize	274,677	9.2	7.7	11.9	0.1	0.2	0.0	0.5	0.4	0.8	20.6	21.2	19.6	1.8	1.9	1.5	60.7	61.4	59.4	7.1	7.2	6.8
Sunflower	97,875	11.9	9.8	15.9	0.2	0.0	0.5	1.8	1.9	1.5	28.8	30.0	26.7	1.0	1.3	0.3	46.7	47.5	45.0	9.7	9.5	10.1
Groundnuts	159,590	11.3	9.3	15.1	0.1	0.1	0.0	0.7	0.9	0.3	24.4	24.4	24.4	0.4	0.3	0.5	55.9	57.7	52.4	7.3	7.2	7.4
Soya-beans	113,892	14.4	11.1	20.1	0.0	0.0	0.0	0.7	0.5	0.9	33.1	34.9	29.9	0.6	0.7	0.3	40.0	42.3	35.8	11.3	10.5	12.9

Table 5.11.1 shows average Income from sale of crops by beneficiary status, sex of head & by district in rural Eastern Province in the 2019/20 Agricultural Season. Overall, results show the average income earned from sale of crops in rural Eastern in the 2019/20 Agricultural season was ZMW414.43.

Analysed by beneficiary status, the average income earned by beneficiary households from sale of crops was ZMW389.49 while non-beneficiary households on average earned ZMW72.14 more than their counterparts at ZMW461.63.

Further, analysed by sex of head, male-head households, on average, earned more income than female-headed households at ZMW428.81 and ZMW342.00, respectively. Similarly, male-headed beneficiary households earned more than female-headed beneficiary households at ZMW392.87 and ZMW373.25, respectively.

However, male-headed non-beneficiary households notably earned ZMW102.46 more than male-headed beneficiary households.

Table 5.11.1: Average Income from sale of crops by Beneficiary Status, Sex of Head & District, Rural Eastern, 2019/20 Agricultural Season.

District	Sex of head								
	Total			Male			Female		
	Total	Beneficiary	Non-beneficiary	Total	Beneficiary	Non-beneficiary	Total	Beneficiary	Non-beneficiary
	Average	Average	Average	Average	Average	Average	Average	Average	Average
Rural	**414.43**	**389.49**	**461.63**	**428.81**	**392.87**	**495.33**	**342**	**373.25**	**275.66**
Chadiza	687.78	631.62	821.31	564.12	422.04	842.35	1,339.79	1,422.36	321.11
Chasefu	230.7	232.14	224.92	218.77	208.9	259.2	302.1	375.8	42.95
Chipangali	355.48	354.21	358.83	378.24	378.28	378.14	205.59	185.63	249.62
Chipata	221.64	251.2	141.93	137.93	149.94	103.75	398.34	474.66	213.62
Kasenengwa	701.97	833.74	597.03	771.86	1,001.03	583.75	426.58	115.59	646.07
Katete	355.02	399.93	255.02	354.31	408.82	255.07	356.94	380.86	254.79
Lumezi	366.39	346.34	385.92	382.06	359.04	404.81	191.6	190.15	192.78
Lundazi	402.36	384.82	421.9	442.79	430.17	455.89	155.59	162.02	144.49
Mambwe	373.47	338.65	463.77	306.07	218.82	473.77	631.97	651.31	67.69
Lusangazi	442.43	493.17	311.23	453.43	525.33	261.82	381.15	303.64	551.95
Nyimba	506.92	511.47	503.43	628.28	546.03	715.8	141.41	225.92	121.86
Petauke	769.33	613.17	1,220.87	867.11	647.1	1,567.47	387.72	463.46	231.79
Sinda	198.66	200.13	193.93	211.48	213.54	205.25	116.49	122.39	87.6
Vubwi	402.37	387.5	433.96	400.79	390.48	426.13	417.91	332	469.73

Table 5.11.2 shows average Income from sale of crops by type, beneficiary status and Sex of Head in rural Eastern Province, 2019/20 Agricultural Season. Overall, the average income earned from sale of maize, sunflower, groundnuts, soya beans and sweet potatoes was ZMW679.13; ZMW287.24; ZMW136.55; ZMW248.28 and ZMW2, 067.97, respectively. Sweet potatoes and maize were the two highest crops in the province. Further, beneficiary households only earned more than their non-beneficiary counterparts from sale of maize crop.

Analysed by sex of head, male-headed households earned more than female-headed households from sale of maize, groundnuts and sweet potatoes at ZMW702.10; ZMW152.10 and ZMW2, 279.82 relative to ZMW567.24; ZMW64.16 and ZMW549.71, respectively.

Table 5.11.2: Average Income from sale of crops by Type, Beneficiary Status and Sex of Head in rural Eastern Province, 2019/20 Agricultural Season.

Type of Crop	Sex of head								
	Total			Male			Female		
	Total	Beneficiary	Non-beneficiary	Total	Beneficiary	Non-beneficiary	Total	Beneficiary	Non-beneficiary
	Average	Average	Average	Average	Average	Average	Average	Average	Average
Rural	414.43	389.49	461.63	428.81	392.87	495.33	342.00	373.25	275.66
Maize	679.13	688.88	660.42	702.10	698.40	709.28	567.24	641.57	431.59
Sunflower	287.24	268.06	326.66	280.88	235.60	372.50	319.40	427.26	78.48
Groundnuts	136.55	89.66	236.36	152.10	93.72	272.74	64.16	71.73	45.55
Soya-beans	248.28	241.12	260.67	243.28	238.45	251.60	274.36	254.85	309.08
Sweet potato	2,067.97	1,784.07	2,650.13	2,279.82	2,059.01	2,650.13	549.71	549.71	

Table 5.11.3 shows the average Income from sale of crops by type, beneficiary status, sex of head and agriculture practice in rural Eastern Province in the 2019/20 Agricultural Season. Overall, results show that the average income earned by households practicing CSA in rural Eastern was ZMW65.97 more than that earned by households not practicing CSA whose average income was ZMW355.42. Households practicing CSA earned ZMW421.39.

Analysed by crop type, households practicing CSA on average earned more from sale of maize; groundnuts and sweet potatoes at ZMW800.56; ZMW111.70 and ZMW3, 369.73, respectively, compared to ZMW586.24; ZMW62.15 and ZMW736.68, respectively, earned by non-CSA practicing households.

Table 5.11.3: Average Income from sale of crops by Type, Beneficiary Status, Sex of Head and Agriculture Practice in rural Eastern Province in the 2019/20 Agricultural Season

Type of Crop	CSA Practice			Non-CSA Practice		
	Total	Male	Female	Total	Male	Female
	Yes	Yes	Yes	Yes	Yes	Yes
	Average	Average	Average	Average	Average	Average
Rural	**421.39**	**412.63**	**462.34**	**355.42**	**371.98**	**273.22**
Maize	800.56	784.35	877.95	586.24	620.45	409.47
Sunflower	180.32	78.48	590.51	376.77	415.42	124.38
Groundnuts	111.7	118.4	83.8	62.15	63.66	54.99
Soya-beans	229.12	237.3	182.51	253.09	239.64	316.32
Sweet potato	3,369.73	3,837.41	210	739.68	755.55	682.52

Table 5.12.1 shows the proportion of households that have adopted use of improved storage facilities by sex of head in rural Eastern Province, 2020

Improved Storage facility

Overall, results show that 12.2 percent of the maize growing households in rural Eastern have adopted use of an improved storage facility. By sex of head, 9.8 percent of the maize growing beneficiary male-headed households compared to 8.4 percent female-headed beneficiary households have adopted an improved storage facility. Soya beans farming households had the highest proportion of households among male-headed beneficiary households that have adopted an improved storage facility at 16.7percent compared to 5.5 percent among female-headed households growing maize.

Hematic bags

Among farming households, results generally show that 24.6 percent of the male-headed beneficiary households compared to 25.7 percent of the female-headed households have adopted use of hematic bags. Further, 25.8 percent of male-headed beneficiary households compared to 23.9 percent female-headed non-beneficiaries have adopted hematics bags. Additionally, 22.4 percent male-headed non-beneficiary households compared to 29.4 percent of their female-headed non-beneficiary counterparts have adopted use of hematic bags.

By crop type, overall, the proportion of households that have adopted hematic bags among male-headed households was higher than that of female heads that have adopted an improved storage facility second only to households still using traditional storage facilities in rural Eastern.

By household type and crop among those that have adopted hematic bags, generally, results show that 24.6 percent of male-headed beneficiary households compared to 25.7 percent have adopted used of hematic bags. By beneficiary status, 1.9 percentage point more male-headed beneficiary households have adopted hematic bags at 25.8 percent compared to 23.9 percent female-headed households have adopted hematic bags. However, 29.4 percent female-headed non-beneficiary households relative to 22.4 have adopted use of hematic bags as a storage facility.

In summary, Soya beans farming households had the highest proportions of households who have adopted use of hematic bags regardless crop under consideration.
Traditional

Of all the different types of storage facilities adopted for use in rural Eastern in 2020, households still using traditional type of storage facilities represents the highest proportions in rural Eastern in 2020

Generally, 51.5 percent male-headed households compared to 57.9 percent female-headed households are still using traditional storage facilities. By beneficiary status, 3.7 percentage point more non-beneficiary female-headed households than male-headed beneficiary households are still using traditional facilities at 56.8 percent relative to 53.1 percent.

Overall, maize growing non-beneficiary female-headed households had higher proportions still using traditional storage facilities compared to maize growing male-headed beneficiary households at 65.9 percent compared to 60.2 percent and 66.2 percent relative to 57.6 for female-headed compared to male-headed households.

Table 5.12.1: Proportion of Households that have adopted use of Improved Storage Facilities by Sex in Rural Eastern Province, 2020

	Total Number	Improved						Metal silo						Plastic silo					
		Male Headed			Female Headed			Male Headed			Female Headed			Male Headed			Female Headed		
		Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben
Rural Eastern	561,617	12.2	9.8	16.7	7.4	8.4	5.5	0.1	0.1	0.1	0	0	0	0.8	0.7	1	1.2	1.3	0.9
Maize	217,023	10.2	8.2	13.9	5.6	6.1	4.7	0.1	0.2	0	0	0	0	0.6	0.5	0.8	0.2	0	0.6
Sunflower	81,797	12.6	10.1	17.3	8.1	8.3	7.8	0.2	0	0.6	0	0	0	1.4	1.4	1.3	4	4.6	2.5
Ground-nuts	124,031	12.7	10	18.3	6.1	7.1	4.1	0.1	0.2	0	0	0	0	0.5	0.8	0	1.4	1.5	1.2
Soya-beans	95,123	15.5	11.7	22.1	8.7	8.5	9.2	0	0	0	0	0	0	0.8	0.6	1.1	0	0	0

Hematic bags						Builtup silo						Traditional					
Male Headed			Female Headed			Male Headed			Female Headed			Male Headed			Female Headed		
Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben
24.6	25.8	22.4	25.7	23.9	29.4	1.2	1.3	0.9	0.3	0.4	0.1	51.5	53.1	48.4	57.9	56.8	60.1
20.1	21.1	18.1	22.8	21.7	24.9	2.1	2.2	1.9	0.4	0.6	0	59.2	60.2	57.6	66	65.9	66.2
29.3	30.4	27.2	26.8	28	24.1	1	1.3	0.4	0.8	1.1	0	45.7	48	41.5	51.6	45.3	65.4
23.9	24.5	22.6	26.3	24.1	30.5	0.4	0.4	0.5	0.1	0	0.4	55.2	57.4	50.9	58.1	58.4	57.5
32.8	35.9	27.5	34.4	29.8	43.7	0.7	0.9	0.3	0	0	0	38.4	40.8	34.3	47.9	49.6	44.5

Other					
Male Headed			Female Headed		
Gen	Ben	Non-Ben	Gen	Ben	Non-Ben
9.6	9.2	10.5	7.5	9.2	4
7.7	7.6	7.7	4.9	5.7	3.6
9.8	8.8	11.8	8.8	12.7	0.1
7.1	6.8	7.7	8	8.9	6.3
11.8	10.1	14.7	9	12.1	2.6

Chapter 6: Conservation Farming Practices

Chapter 6: Conservation Farming Practices

6.1 Introduction

Conservation farming is one of the approaches currently being widely promoted to mitigate the negative effects of climate change. It is intended to increase crop yields while reducing production costs and maintaining sustainability of soil fertility. The basic principle behind conservation farming is to minimize disturbance of the soil, maintain soil cover as much as possible and rotate crops to enhance crop resilience. The survey covered mulching, intercropping, conservation agriculture, crop rotation, integrated crop-livestock management, agro-forestry, improved grazing and improved water management.

Table 9.1a and Table9.1b shows the share of households practicing conservation farming by type, beneficiary status and district in rural Eastern Province. Overall, regardless of the type of conservation farming practice considered, results show that project supported households commonly referred to as beneficiaries performed better than their non-beneficiary counterparts.

Further, beneficiary households adhering to Crop rotation and Conservation agriculture practices had the largest shares at 75.2 and 27.7 percent, respectively while households practicing Improved water management had the smallest share at 0.4 percent. Contrastingly, non-beneficiary households, though with smaller shares regardless of type farming practice, had the largest and second largest shares in Crop rotation and Intercropping at 70.0 and 22.7 percent, respectively.

Table 6.1a: Share of Households Practicing Conservation Farming by Type and District, Rural Eastern Province 2020

District	Mulching				Intercropping				Conservation Agriculture				Crop rotation			
	Total count	Yes			Total count	Yes			Total count	Yes			Total count	Yes		
		Gen	Ben	Non-Ben		Gen	Ben	Non-Ben		Gen	Ben	Non-Ben		Gen	Ben	Non-Ben
Rural Eastern	**310,005**	**4.3**	**4.5**	**4.0**	**314,452**	**24.0**	**24.8**	**22.7**	**314,288**	**23.2**	**27.7**	**15.3**	**338,361**	**73.3**	**75.2**	**70.0**
Chadiza	14,732	7.8	8.5	6.2	14,813	36.5	40.3	28.1	15,708	27.9	32.3	18.2	15,929	77.4	81.1	69.0
Chasefu	23,888	0.0	0.0	0.0	24,008	30.8	34.7	20.6	23,325	54.9	59.2	43.4	24,008	88.2	89.7	84.3
Chipangali	23,775	2.3	2.0	3.2	23,569	4.4	6.2	0.0	25,344	27.5	28.5	24.8	30,016	72.2	75.3	63.9
Chipata	28,947	6.1	7.3	3.0	28,700	7.0	7.4	6.1	29,180	17.0	21.6	5.1	29,220	40.0	43.2	31.7
Kasenengwa	26,121	3.1	2.6	3.5	25,660	25.1	28.8	22.3	25983.4	16.5	20.8	13.1	26,204	85.2	88.7	82.4
Katete	25,005	3.9	5.4	1.4	28,662	20.7	23.7	15.7	28,898	34.8	43.1	20.7	31,487	73.2	81.2	60.1
Lumezi	23,018	6.8	4.0	9.8	23,000	42.9	36.5	50.0	22,737	26.3	28.6	23.6	24,636	94.9	96.6	93.0
Lundazi	31,281	6.7	5.6	7.9	31,305	34.3	34.9	33.6	30,755	22.4	30.6	12.9	31,828	79.1	78.1	80.4
Mambwe	16,095	2.9	3.5	1.7	16,095	3.6	4.9	1.5	16,251	26.7	31.8	17.7	16,095	59.8	65.6	49.8
Lusangazi	581	4.9	7.2	0.0	581	3.9	4.6	2.5	581	27.2	28.5	24.4	576	47.8	43.6	57.4
Nyimba	16,363	7.4	14.5	1.9	16,163	23.4	25.4	21.9	15,306	3.1	4.9	1.7	16,363	58.3	66.2	52.3
Petauke	40,876	1.3	0.6	3.0	41,720	35.0	35.8	33.1	41,092	8.3	11.3	1.4	47,632	69.0	67.4	73.0
Sinda	32,048	6.5	8.1	2.1	32,833	13.5	15.9	7.1	31,848	20.9	22.5	16.7	36,734	82.2	84.1	77.0
Vubwi	7,275	3.1	2.1	5.9	7,344	45.3	44.8	46.3	7,279	21.0	23.5	13.9	7,632	64.3	68.7	51.7

Table 6.1b: Conservation Farming Practice by Type and District, Rural Eastern Province 2020

	Integrated crop-livestock management				Agro-forestry				Improved grazing				Improved water management			
	Total count	Yes			Total count	Yes			Total count	Yes			Total count	Yes		
		Gen	Ben	Non-Ben		Gen	Ben	Non-Ben		Gen	Ben	Non-Ben		Gen	Ben	Non-Ben
Rural Eastern	307,405	3.0	3.7	1.8	307,883	6.2	8.1	2.9	303,673	0.7	0.9	0.4	305,544	0.3	0.4	0.2
Chadiza	14,500	6.5	6.8	5.8	14,581	8.3	10.5	3.4	14,504	1.5	2.2	0.0	14,365	0.7	0.8	0.6
Chasefu	23,422	0.0	0.0	0.0	23,403	2.9	4.0	0.0	23,306	2.3	1.6	4.2	23,639	0.0	0.0	0.0
Chipangali	23,047	4.7	6.6	0.0	22,891	6.8	7.6	5.0	22,251	0.9	1.3	0.0	22,257	0.0	0.0	0.0
Chipata	28,461	0.0	0.0	0.0	28,459	0.9	1.3	0.0	28,822	0.0	0.0	0.0	28,640	0.0	0.0	0.0
Kasenengwa	25,658	6.3	5.7	6.7	25,983	12.4	18.2	7.8	25,775	0.0	0.0	0.0	25,879	0.0	0.0	0.0
Katete	26,345	9.3	13.6	1.7	25,842	7.5	12.0	0.0	25,045	0.8	1.3	0.0	24,934	0.8	1.3	0.0
Lumezi	22,806	3.1	4.6	1.5	23,231	6.3	12.2	0.0	22,676	0.0	0.0	0.0	22,814	1.6	1.8	1.3
Lundazi	31,091	1.3	1.2	1.4	31,091	5.2	7.1	3.2	30,376	1.1	2.1	0.0	30,954	0.0	0.0	0.0
Mambwe	16,095	4.7	7.4	0.0	16,095	16.0	22.7	4.4	15,759	1.1	1.7	0.0	16,009	1.0	1.5	0.0
Lusangazi	581	1.6	1.0	3.0	581	9.3	12.1	3.0	576	0.0	0.0	0.0	579	0.0	0.0	0.0
Nyimba	16,020	5.8	9.3	3.2	16,020	10.9	15.3	7.6	15,658	0.0	0.0	0.0	15,878	0.5	1.1	0.0
Petauke	40,922	0.6	0.9	0.0	41,135	2.6	3.7	0.0	40,684	0.0	0.0	0.0	41,480	0.0	0.0	0.0
Sinda	31,620	0.0	0.0	0.0	31,665	3.9	5.4	0.0	31,465	0.5	0.7	0.0	31,210	0.0	0.0	0.0
Vubwi	6,837	2.5	2.9	1.2	6,906	6.1	4.6	10.5	6,776	5.4	3.0	12.4	6,906	1.2	1.7	0.0

Figure 6.1 shows the percentage share of households that have adopted climate smart agriculture by type in rural Eastern Province in the 2019/2020 Agricultural Season.

Overall, about 33 out of every 100 agricultural households in rural Eastern have embraced climate smart agriculture. Analysed by beneficiary status, almost 36 out of 100 beneficiary agricultural households have adopted the concept of climate smart agriculture compared to almost 28 out of every 100 non-beneficiary agricultural households. This implies that 8 more beneficiary households have adopted CSA for every 28 out of 100 non-beneficiary households that have adopted CSA.

Figure 6.1: Percentage Share of Households Practicing Climate Smart Agriculture by Type, Rural Eastern Province 2020

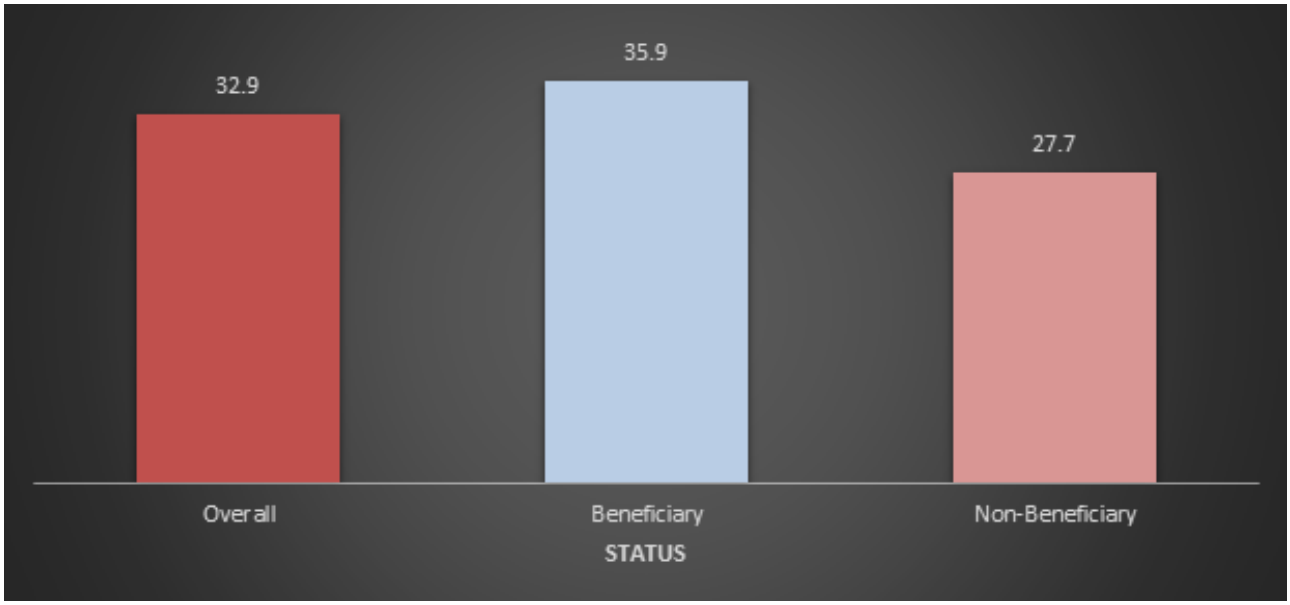


Table 6.6 shows the percentage share of households practicing smart agriculture by beneficiary status, by sex and district in rural Eastern Province.

Overall, 31.2 percent of the male-headed households practice CSA compared to 8 percent of their female counterparts.

Analysed by sex and beneficiary status, 5.1 percent more households among male-headed beneficiary households practice CSA than their non-beneficiary counterparts at 33.0 percent compared to 27.9 percent. Further, 9.5 percent of the female-headed households among beneficiaries practiced CSA compared to 5.5 percent of their female counterparts among the non-beneficiary households.

Analysed by district, except for Lumezi whose share of male-headed households among the non-beneficiary households was 0.7 percentage-point higher than that of their male-

headed beneficiary counterparts, results in the rest of the districts in rural Eastern show that the share of male-headed beneficiary households that practiced CSA was higher in every district. Chasefu and Lumezi districts had the two largest shares of households among male-headed beneficiaries that practice CSA at 56.1 and 52.2 percent, respectively while Chipata had the smallest share at 19.4 percent.

Further, comparison of shares of households that practiced CSA between beneficiary and non-beneficiary female-headed households, beneficiary households commanded larger shares than their non-beneficiary counterparts in all the districts except Kasenengwa (8.7 percent) and Lumezi (4.3 percent) districts. Chadiza and Mambwe had the two largest shares of 17.8 and 16.8 percent differing marginally by 1 percentage-point.

Table 6.6: Share of Households Practicing Smart Agriculture by Beneficiary Status and District, Rural Eastern Province 2020

District	Overall			Beneficiary			Non-beneficiary		
	HHDs	Male Share	Female Share	HHDs	Male Share	Female Share	HHDs	Male Share	Female Share
Rural Eastern	**285,824**	**31.2**	**8.0**	**183,970**	**33.0**	**9.5**	**101,854**	**27.9**	**5.5**
Chadiza	15,035	30.5	9.1	7,708	42.9	17.8	4,889	26.2	0.0
Chasefu	24,008	52.5	12.8	17,014	56.1	16.1	6,674	45.9	5.1
Chipangali	29,934	22.1	6.1	21,471	23.9	7.0	8,359	17.6	3.9
Chipata	26,676	12.0	5.1	15,204	19.4	5.7	8,117	3.0	5.9
Kasenengwa	26,100	29.8	8.1	10,284	40.7	8.2	14,684	24.5	8.7
Katete	30,198	18.5	6.0	14,734	27.8	12.3	12,329	12.2	0.0
Lumezi	24,303	51.6	3.6	12,114	52.2	3.0	11,784	52.9	4.3
Lundazi	30,565	38.9	8.8	14,519	44.8	12.2	14,914	36.0	6.2
Mambwe	14,954	21.4	10.5	8,837	26.8	16.8	5,917	14.2	1.5
Lusangazi	571	21.9	5.8	360	25.9	7.7	181	17.5	3.0
Nyimba	14,918	12.3	6.3	4,694	25.0	7.0	9,270	7.1	6.6
Petauke	44,272	19.4	6.5	27,262	24.0	8.1	13,386	15.2	4.9
Sinda	36,625	22.0	6.0	25,561	26.1	8.0	10,039	13.7	1.4
Vubwi	7,642	33.2	3.1	4,208	43.9	0.8	2,079	33.3	9.6

Chapter 7: Household Food Security

Chapter 7: Household Food Security

Household food security status is one of the useful indicators used to track livelihoods interventions. In this survey, unlike the traditional ways of assessing food security through determinants such as food availability or consequences such as poor-quality diets, anthropometric failures, and other signs of malnutrition, the food insecurity experience scale (FIES) was used to measure access to food at individual or household level. The FIES measures severity of food insecurity based on people's responses to questions about constraints on their ability to obtain adequate food. It is based on a well-grounded construct of the experience of food insecurity composed of three domains: uncertainty/anxiety (mild food insecurity), changes in food quality, and changes in food quantity (moderate food insecurity) and experiencing hunger (severe food insecurity).

Using 12 months' recall period, respondents were asked a set of "Yes or No" questions focusing on self-reported food-related behaviors and experiences associated with increasing difficulties in accessing food due to resource constraints.

Table 7.1 shows the percentage distribution of households by food insecurity, by month, by district, rural Eastern Province 2020 Overall May, July and September were the three months over the 12-month period in which households in rural Eastern Province were most food secure at 89.8, 88.1 and 89.6 percent, respectively while January, February and March represented the months with the lowest proportion of households reporting being food secure at 39.6, 32.6,49.1 percent, respectively.

Analyzed by moderate food insecurity over a 12-month period, the highest proportion of households experienced moderate food insecurity in the month of January 24.9 percent, followed by March and February at 24.6 and 20.6 percent, respectively. The lowest proportion of households experiencing moderate food insecurity occurred in the month of September at 3.9 percent.

Analyzed by severe food insecurity over a 12-month period, a minimum of 2.3 percent of the households in rural Eastern Province experienced severe food insecurity in September and the maximum in in February at 42.3 percent

Table 7.1 Parentage Distribution of Households by Food Insecurity by Month in rural Eastern Province 2020

Month	Percent	Food Secure	Mild Insecurity	Moderate Insecurity	Severe Insecurity
September 2019	100.0	89.6	3.7	3.9	2.7
October 2019	100.0	86.9	2.3	6.4	4.1
November 2019	100.0	78.1	3.5	11.4	6.7
December 2019	100.0	63.4	5.6	19.4	11.5
January 2020	100.0	39.6	4.6	24.9	30.8
February 2020	100.0	32.6	4.4	20.6	42.3
March 2020	100.0	49.1	5.7	24.7	20.5
April 2020	100.0	79.2	3.9	10.6	6.0
May 2020	100.0	89.8	2.6	5.2	2.3
June 2020	100.0	86.3	3.2	6.4	3.8
July 2020	100.0	88.1	2.1	6.0	3.6
August 2020	100.0	81.1	2.6	7.0	9.1

Table 7.1.1 Percentage Distribution of Households by Food Security by Month in Chadiza

Chadiza												
Months	Food Secure			Mild Insecurity			Moderate Insecurity			Severe Insecurity		
	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben
Sep-19	96.4	97.7	93.4	0.0	0.0	0.0	2.8	2.3	3.9	0.8	0.0	2.6
Oct-19	92.1	90.4	96.0	4.6	6.6	0.0	3.3	3.0	4.0	0.0	0.0	0.0
Nov-19	87.4	92.2	78.4	3.2	2.7	4.1	8.6	5.1	15.3	0.8	0.0	2.2
Dec-19	76.6	75.4	79.2	0.0	0.0	0.0	22.2	24.1	17.7	1.3	0.5	3.1
Jan-20	52.5	53.2	51.1	0.9	1.4	0.0	31.8	30.7	34.1	14.8	14.8	14.8
Feb-21	44.9	44.4	45.9	0.5	0.8	0.0	24.4	23.8	25.8	30.2	31.0	28.2
Mar-20	60.2	62.7	55.4	4.5	1.5	10.5	22.3	27.8	11.6	12.9	8.1	22.4
Apr-20	87.3	92.2	78.1	0.0	0.0	0.0	9.8	7.8	13.4	3.0	0.0	8.5
May-20	96.6	100.0	89.8	1.7	0.0	5.2	0.8	0.0	2.4	0.8	0.0	2.5
Jun-20	94.0	98.4	85.7	4.5	0.0	13.1	1.1	1.6	0.0	0.4	0.0	1.2
Jul-20	93.5	100.0	81.6	4.5	0.0	12.5	1.7	0.0	4.7	0.4	0.0	1.1
Aug-20	92.7	95.3	87.5	0.0	0.0	0.0	6.9	4.7	11.3	0.4	0.0	1.2

Table 7.1.2 Percentage Distribution of Households by Food Security by Month in Chasefu

Chasefu												
Months	Food Secure			Mild Insecurity			Moderate Insecurity			Severe Insecurity		
	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben
Sep-19	96.3	97.9	92.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7	2.1	8.0
Oct-19	91.4	93.4	86.5	2.4	3.3	0.0	1.7	0.0	6.1	4.5	3.3	7.5
Nov-19	77.8	78.0	77.3	2.2	3.0	0.0	14.0	13.2	16.1	6.0	5.7	6.7
Dec-19	64.7	64.1	66.3	0.0	0.0	0.0	25.4	28.5	16.3	10.0	7.4	17.3
Jan-20	46.1	46.9	44.1	3.3	3.0	4.0	24.3	26.8	17.4	26.3	23.2	34.5
Feb-21	41.1	41.8	39.3	3.1	2.7	4.0	19.7	19.6	20.0	36.1	35.9	36.7
Mar-20	66.1	72.3	53.2	4.3	0.0	13.2	18.8	15.2	26.3	10.8	12.5	7.3
Apr-20	90.2	94.3	80.4	0.0	0.0	0.0	1.7	0.0	5.6	8.1	5.7	13.9
May-20	94.3	95.7	90.7	2.6	0.0	9.3	1.6	2.3	0.0	1.5	2.0	0.0
Jun-20	94.5	95.9	90.7	4.0	2.1	9.3	0.0	0.0	0.0	1.5	2.0	0.0
Jul-20	95.9	97.9	90.7	2.6	0.0	9.3	1.5	2.1	0.0	0.0	0.0	0.0
Aug-20	88.2	88.9	86.4	3.8	1.9	8.9	1.3	0.0	4.7	6.8	9.2	0.0

Table 7.1.3 Percentage Distribution of Households by Food Security by Month in Chipangali

Chipangali												
Months	Food Secure			Mild Insecurity			Moderate Insecurity			Severe Insecurity		
	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben
Sep-19	89.0	88.3	91.3	5.4	7.3	0.0	2.2	0.0	8.7	1.5	2.0	0.0
Oct-19	87.5	88.8	83.8	4.8	5.0	4.1	6.0	3.7	12.1	0.0	0.0	0.0
Nov-19	77.4	79.9	71.2	7.7	4.7	15.0	9.4	9.1	10.3	3.9	4.1	3.5
Dec-19	59.5	60.4	57.2	5.6	5.5	5.6	25.3	21.9	34.4	8.4	10.5	2.8
Jan-20	41.4	42.8	37.8	7.7	9.2	3.7	29.5	23.9	43.5	20.6	22.9	14.9
Feb-21	33.8	34.8	31.2	5.9	6.7	3.7	29.8	28.9	31.9	29.9	28.6	33.3
Mar-20	47.7	50.0	42.1	3.2	3.8	1.8	33.7	31.4	39.0	14.4	13.4	17.0
Apr-20	62.8	63.3	61.4	8.3	8.1	8.9	19.2	18.3	21.9	8.4	8.6	7.9
May-20	82.9	86.9	73.2	2.0	2.8	0.0	8.6	5.5	16.3	4.8	2.4	10.5
Jun-20	87.7	88.9	84.2	0.0	0.0	0.0	7.8	4.8	15.8	2.7	3.7	0.0
Jul-20	88.4	88.7	87.3	.8	0.0	2.9	3.7	3.6	4.2	5.3	5.2	5.6
Aug-20	85.2	83.7	89.9	1.9	2.5	0.0	4.0	2.0	10.1	7.1	9.5	0.0

Table 7.1.4 Percentage Distribution of Households by Food Security by Month in Chipata

Chipata												
Months	Food Secure			Mild Insecurity			Moderate Insecurity			Severe Insecurity		
	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben
Sep-19	84.2	86.2	78.9	7.9	8.1	7.3	3.7	5.1	0.0	4.1	.7	13.8
Oct-19	80.9	86.1	68.4	5.5	4.3	8.3	10.0	5.3	21.5	3.6	4.3	1.8
Nov-19	60.4	68.1	44.9	8.9	7.1	12.4	16.0	9.6	28.7	14.7	15.1	14.0
Dec-19	47.2	52.5	36.0	11.3	12.2	9.5	24.0	20.7	31.0	17.5	14.5	23.5
Jan-20	36.0	36.4	34.8	13.3	13.6	12.5	25.8	27.6	20.6	24.9	22.4	32.0
Feb-21	34.3	33.7	36.5	11.9	11.2	14.3	27.7	31.2	16.2	26.1	24.0	33.0
Mar-20	44.2	45.4	40.9	10.8	11.6	8.7	26.6	27.0	25.6	18.3	15.9	24.8
Apr-20	68.0	72.5	57.1	8.2	10.6	2.4	17.1	11.6	30.4	6.6	5.2	10.0
May-20	77.5	87.1	58.1	4.8	2.5	9.5	15.8	8.3	30.9	1.9	2.0	1.5
Jun-20	73.5	77.3	63.9	10.2	9.7	11.3	10.9	10.8	11.2	5.5	2.2	13.6
Jul-20	77.2	82.7	64.2	6.8	6.1	8.6	10.4	8.7	14.3	5.6	2.6	12.8
Aug-20	72.2	79.7	56.2	6.1	3.6	11.4	11.4	11.7	10.8	10.3	4.9	21.7

Table 7.1.5 Percentage Distribution of Households by Food Security by Month in Kasenengwa

Kasenengwa												
Months	Food Secure			Mild Insecurity			Moderate Insecurity			Severe Insecurity		
	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben
Sep-19	87.5	82.0	94.5	6.3	11.4	0.0	3.6	6.6	0.0	2.5	0.0	5.5
Oct-19	90.9	87.8	94.5	0.0	0.0	0.0	6.6	12.2	0.0	2.6	0.0	5.5
Nov-19	87.3	92.0	82.6	0.0	0.0	0.0	10.3	8.0	12.5	2.5	0.0	4.9
Dec-19	68.5	73.0	64.2	1.0	2.0	0.0	25.1	20.7	29.3	5.4	4.3	6.5
Jan-20	30.2	38.3	24.6	2.4	2.3	2.5	36.7	26.4	43.9	30.6	32.9	29.0
Feb-21	23.6	27.3	20.6	6.5	11.8	2.2	17.6	9.5	24.1	52.3	51.3	53.1
Mar-20	49.5	61.5	40.8	9.9	10.2	9.7	16.9	2.2	27.5	23.7	26.1	22.0
Apr-20	81.1	85.1	77.1	6.7	6.8	6.6	6.8	3.1	10.5	5.4	5.0	5.8
May-20	96.9	94.3	100.0	0.0	0.0	0.0	3.1	5.7	0.0	0.0	0.0	0.0
Jun-20	86.4	86.5	86.2	0.0	0.0	0.0	11.2	13.5	8.7	2.4	0.0	5.1
Jul-20	95.4	100.0	90.8	0.0	0.0	0.0	0.0	0.0	0.0	4.6	0.0	9.2
Aug-20	79.7	79.5	79.9	1.5	2.9	0.0	9.7	11.2	8.0	9.1	6.4	12.1

Table 7.1.6 Percentage Distribution of Households by Food Security by Month in Katete

Katete												
Months	Food Secure			Mild Insecurity			Moderate Insecurity			Severe Insecurity		
	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben
Sep-19	90.0	96.4	79.6	1.3	0.0	3.4	5.5	3.6	8.7	2.5	0.0	6.5
Oct-19	88.8	89.9	86.6	1.3	0.0	3.7	5.4	4.1	7.8	4.0	6.0	0.0
Nov-19	83.2	83.0	83.7	1.2	0.0	3.6	9.8	10.7	8.1	5.1	6.3	2.7
Dec-19	76.0	74.5	79.3	4.2	6.2	0.0	12.3	13.7	9.4	6.9	5.7	9.6
Jan-20	49.8	52.4	45.5	2.5	2.1	3.2	24.0	22.2	27.0	23.3	23.4	23.2
Feb-21	36.2	37.9	33.1	9.2	11.3	5.6	16.3	15.8	17.2	38.0	34.9	43.4
Mar-20	52.3	55.4	47.2	2.5	1.5	4.2	23.9	22.3	26.5	20.9	20.7	21.2
Apr-20	85.4	86.9	82.5	2.5	1.9	3.6	6.4	3.4	12.2	5.1	7.8	0.0
May-20	91.6	93.9	87.5	3.0	4.6	0.0	3.4	1.6	6.7	1.4	0.0	4.0
Jun-20	78.9	83.1	71.7	2.1	0.0	5.7	12.6	12.9	12.2	5.9	4.0	8.9
Jul-20	85.6	87.6	81.7	0.0	0.0	0.0	11.8	11.3	12.9	2.0	1.1	3.7
Aug-20	82.0	83.0	80.1	2.3	3.5	0.0	6.2	6.5	5.6	8.9	6.9	12.7

Table 7.1.7 Percentage Distribution of Households by Food Security by Month in Lumezi

Lumezi												
Months	Food Secure			Mild Insecurity			Moderate Insecurity			Severe Insecurity		
	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben
Sep-19	69.8	78.3	57.1	4.3	7.2	0.0	11.5	0.0	28.6	14.4	14.5	14.3
Oct-19	82.8	85.9	77.1	0.0	0.0	0.0	8.0	6.1	11.4	9.2	7.9	11.4
Nov-19	63.5	79.3	45.2	8.0	0.0	17.3	22.8	15.9	30.8	5.7	4.8	6.7
Dec-19	41.1	49.5	30.6	8.8	5.7	12.8	31.6	23.7	41.7	18.4	21.2	14.9
Jan-20	23.0	34.4	13.7	1.1	2.5	0.0	40.6	34.4	45.6	35.3	28.7	40.7
Feb-21	15.9	21.1	10.6	0.0	0.0	0.0	41.0	41.0	41.0	43.0	37.8	48.3
Mar-20	24.6	31.9	16.7	6.5	0.0	13.5	49.5	50.1	48.8	19.4	18.0	20.9
Apr-20	54.7	54.1	56.2	2.8	4.1	0.0	29.0	30.7	25.3	13.5	11.2	18.5
May-20	87.8	82.9	100.0	0.0	0.0	0.0	12.2	17.1	0.0	0.0	0.0	0.0
Jun-20	84.1	91.5	72.2	0.0	0.0	0.0	15.9	8.5	27.8	0.0	0.0	0.0
Jul-20	64.9	67.8	59.6	11.3	7.8	17.8	21.1	20.3	22.6	2.7	4.1	0.0
Aug-20	55.7	58.7	50.4	0.0	0.0	0.0	26.4	25.6	27.8	17.9	15.7	21.8

Table 7.1.8 Percentage Distribution of Households by Food Security by Month in Lundazi

Lundazi												
Months	Food Secure			Mild Insecurity			Moderate Insecurity			Severe Insecurity		
	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben
Sep-19	95.9	98.1	93.6	2.7	1.9	3.6	.3	0.0	.6	1.1	0.0	2.3
Oct-19	88.9	92.7	84.9	2.5	1.8	3.2	3.9	0.0	7.8	4.8	5.5	4.1
Nov-19	84.4	89.3	79.5	4.5	6.0	3.0	4.8	0.0	9.7	6.2	4.7	7.7
Dec-19	75.4	71.8	80.0	5.0	5.9	3.9	7.8	12.0	2.5	11.7	10.2	13.7
Jan-20	49.9	46.8	54.0	4.4	7.7	0.0	21.7	19.6	24.3	24.1	25.8	21.7
Feb-21	40.2	40.9	39.4	2.6	4.1	1.1	19.0	18.4	19.7	38.1	36.6	39.8
Mar-20	54.3	58.8	49.9	2.6	1.8	3.4	22.4	21.3	23.4	20.7	18.1	23.2
Apr-20	89.3	91.0	87.4	1.6	0.0	3.2	3.5	4.8	2.2	5.6	4.2	7.2
May-20	96.1	100.0	92.1	0.0	0.0	0.0	2.2	0.0	4.5	1.7	0.0	3.4
Jun-20	91.1	94.8	87.2	1.6	0.0	3.2	2.4	2.7	2.1	4.9	2.4	7.5
Jul-20	93.7	95.1	92.1	1.6	0.0	3.4	2.3	2.4	2.2	2.3	2.4	2.2
Aug-20	83.6	83.2	84.0	4.8	5.4	4.1	2.7	4.5	.6	8.9	6.8	11.3

Table 7.1.9 Percentage Distribution of Households by Food Security by Month in Mambwe

Mambwe												
Months	Food Secure			Mild Insecurity			Moderate Insecurity			Severe Insecurity		
	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben
Sep-19	79.7	84.0	75.2	4.4	5.2	3.7	11.2	9.1	13.5	4.6	1.7	7.6
Oct-19	87.2	81.5	95.3	0.0	0.0	0.0	10.2	14.1	4.7	2.6	4.4	0.0
Nov-19	82.2	81.4	83.2	1.8	3.3	0.0	9.4	6.7	12.7	6.6	8.6	4.1
Dec-19	64.4	59.7	71.3	6.6	6.1	7.3	18.5	18.9	17.9	10.5	15.3	3.5
Jan-20	41.6	36.4	50.5	.8	0.0	2.1	20.9	21.0	20.7	36.7	42.6	26.7
Feb-21	38.4	32.9	48.0	2.6	2.0	3.6	13.1	11.7	15.5	46.0	53.4	32.8
Mar-20	67.3	58.2	82.8	2.9	4.5	0.0	11.0	11.7	9.7	18.9	25.6	7.5
Apr-20	85.4	78.2	96.0	0.0	0.0	0.0	8.2	13.8	0.0	6.4	8.0	4.0
May-20	90.2	88.1	93.0	0.0	0.0	0.0	5.7	10.1	0.0	4.1	1.8	7.0
Jun-20	80.6	80.0	81.4	4.3	4.6	4.0	7.6	13.8	0.0	7.5	1.6	14.6
Jul-20	87.2	92.8	81.2	1.1	0.0	2.3	2.7	5.3	0.0	9.0	1.9	16.4
Aug-20	72.4	68.6	77.5	0.0	0.0	0.0	9.6	14.2	3.2	18.1	17.2	19.3

Table 7.1.10 Percentage Distribution of Households by Food Security by Month in Lusangazi

Lusangazi												
Months	Food Secure			Mild Insecurity			Moderate Insecurity			Severe Insecurity		
	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben
Sep-19	76.5	78.7	71.0	4.8	3.2	8.6	13.6	10.8	20.4	5.1	7.2	0.0
Oct-19	82.1	82.2	81.9	3.5	3.4	3.7	6.0	8.2	0.0	8.4	6.1	14.4
Nov-19	80.9	85.6	70.4	3.2	4.6	0.0	9.8	6.6	17.2	6.0	3.2	12.4
Dec-19	55.1	55.9	53.0	12.3	9.9	18.7	24.4	25.5	21.2	8.2	8.6	7.1
Jan-20	36.9	38.6	32.9	8.1	9.8	4.0	24.5	21.2	32.1	30.6	30.4	31.1
Feb-21	28.7	30.6	24.5	3.2	1.3	7.6	22.5	22.9	21.5	45.6	45.2	46.5
Mar-20	56.7	60.2	48.9	3.6	2.2	6.5	21.2	22.9	17.4	18.5	14.7	27.1
Apr-20	100.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
May-20	100.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Jun-20	92.7	91.6	95.7	0.0	0.0	0.0	2.5	3.4	0.0	4.8	5.0	4.3
Jul-20	93.7	91.6	100.0	0.0	0.0	0.0	3.7	5.0	0.0	2.6	3.4	0.0
Aug-20	87.8	91.1	79.7	2.8	3.9	0.0	0.0	0.0	0.0	9.4	4.9	20.3

Table 7.1.11 Percentage Distribution of Households by Food Security by Month in Nyimba

Nyimba												
Months	Food Secure			Mild Insecurity			Moderate Insecurity			Severe Insecurity		
	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben
Sep-19	83.3	82.6	83.9	0.0	0.0	0.0	10.7	12.3	9.0	6.0	5.0	7.1
Oct-19	83.7	85.8	81.8	0.0	0.0	0.0	10.2	9.0	11.3	6.1	5.2	6.9
Nov-19	79.6	76.8	82.6	1.2	2.4	0.0	15.5	16.1	14.8	3.6	4.7	2.6
Dec-19	53.5	53.2	53.8	14.9	8.5	21.3	10.3	7.9	12.6	21.3	30.4	12.3
Jan-20	25.8	31.2	22.0	5.1	8.3	2.9	18.4	20.2	17.2	50.6	40.3	57.8
Feb-21	22.0	25.8	19.3	2.2	1.7	2.6	14.6	25.5	6.6	61.1	47.0	71.5
Mar-20	35.8	37.5	34.2	11.1	6.4	15.4	23.5	29.9	17.8	29.6	26.3	32.6
Apr-20	84.9	82.0	87.9	3.7	0.0	7.7	11.4	18.0	4.3	0.0	0.0	0.0
May-20	91.9	94.3	89.6	0.0	0.0	0.0	8.1	5.7	10.4	0.0	0.0	0.0
Jun-20	86.7	82.0	80.4	0.0	0.0	0.0	9.6	18.0	12.9	3.7	0.0	6.8
Jul-20	93.2	94.3	92.2	0.0	0.0	0.0	6.8	5.7	7.8	0.0	0.0	0.0
Aug-20	89.7	90.5	88.9	0.0	0.0	0.0	4.6	5.5	3.7	5.8	4.0	7.5

Table 7.1.12 Percentage Distribution of Households by Food Security by Month in Petauke

Petauke												
Months	Food Secure			Mild Insecurity			Moderate Insecurity			Severe Insecurity		
	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben
Sep-19	90.7	91.5	88.8	6.8	5.0	11.2	2.5	3.5	0.0	0.0	0.0	0.0
Oct-19	85.6	89.6	76.9	2.6	2.2	3.5	6.2	8.2	1.9	5.5	0.0	17.7
Nov-19	81.0	83.0	76.1	1.2	1.8	0.0	9.9	11.5	6.3	7.8	3.7	17.5
Dec-19	67.5	69.8	62.1	7.2	5.9	10.0	11.2	10.1	13.6	14.2	14.2	14.3
Jan-20	34.3	34.1	35.0	2.7	3.1	1.7	17.4	17.3	17.7	45.6	45.6	45.6
Feb-21	29.3	29.4	28.9	2.2	2.0	2.7	12.5	12.5	12.4	56.1	56.1	56.0
Mar-20	41.8	42.5	39.9	5.1	4.3	7.0	19.8	18.9	22.1	33.3	34.2	31.1
Apr-20	77.8	83.3	66.4	4.9	1.8	11.4	9.2	8.2	11.3	8.0	6.7	10.8
May-20	86.2	87.1	84.0	6.6	5.0	10.6	2.8	3.9	0.0	4.3	3.9	5.5
Jun-20	87.5	87.1	88.5	2.0	2.8	0.0	3.7	3.0	5.7	6.7	7.1	5.7
Jul-20	88.1	88.6	86.6	0.0	0.0	0.0	5.6	4.7	7.8	6.4	6.7	5.6
Aug-20	75.2	73.2	81.2	4.4	3.1	8.0	6.7	8.3	2.0	13.7	15.4	8.8

Table 7.1.13 Percentage Distribution of Households by Food Security by Month in Sinda

Sinda												
Months	Food Secure			Mild Insecurity			Moderate Insecurity			Severe Insecurity		
	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben
Sep-19	89.2	88.7	90.3	3.5	5.2	0.0	5.1	6.1	3.2	2.1	0.0	6.5
Oct-19	78.4	77.5	80.1	1.3	2.0	0.0	12.2	12.7	11.3	8.1	7.8	8.6
Nov-19	70.0	73.4	64.1	1.5	.9	2.5	16.9	15.2	19.8	11.6	10.5	13.6
Dec-19	56.5	53.0	65.0	5.6	7.9	0.0	23.8	26.7	16.4	14.1	12.3	18.6
Jan-20	35.6	34.3	38.4	7.2	9.2	2.8	20.8	15.9	31.8	36.4	40.6	27.1
Feb-21	28.5	26.5	33.8	5.0	6.5	1.1	17.6	16.4	20.9	48.9	50.6	44.2
Mar-20	47.1	46.3	48.8	8.9	10.2	6.2	25.9	25.7	26.4	18.1	17.8	18.6
Apr-20	80.9	80.1	82.6	4.9	3.9	7.2	12.6	13.8	10.2	1.5	2.2	0.0
May-20	88.1	86.4	91.7	3.7	3.1	5.1	5.1	5.9	3.2	3.1	4.6	0.0
Jun-20	86.3	85.0	89.1	7.2	6.9	7.8	5.0	5.8	3.1	1.6	2.3	0.0
Jul-20	85.9	83.3	91.7	1.6	0.0	5.1	8.2	10.4	3.2	4.4	6.3	0.0
Aug-20	86.5	82.3	96.6	1.0	1.3	0.0	7.4	9.1	3.4	5.1	7.3	0.0

Table 7.1.14 Percentage Distribution of Households by Food Security by Month in Vubwi

Vubwi												
Months	Food Secure			Mild Insecurity			Moderate Insecurity			Severe Insecurity		
	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben
Sep-19	100.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oct-19	99.5	100.0	98.5	0.0	0.0	0.0	.5	0.0	1.5	0.0	0.0	0.0
Nov-19	98.0	97.8	98.5	.8	1.1	0.0	1.2	1.1	1.5	0.0	0.0	0.0
Dec-19	78.7	73.2	94.8	0.0	0.0	0.0	16.8	20.8	5.2	4.5	6.0	0.0
Jan-20	66.8	64.1	74.0	2.5	1.8	4.4	20.5	21.6	17.6	10.2	12.5	3.9
Feb-21	55.8	53.0	63.2	0.0	0.0	0.0	18.7	18.4	19.8	25.5	28.6	17.0
Mar-20	85.7	81.0	98.5	0.0	0.0	0.0	10.7	14.6	0.0	3.6	4.3	1.5
Apr-20	100.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
May-20	100.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Jun-20	100.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Jul-20	100.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Aug-20	100.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

CHAPTER 8: HOUSEHOLD FOREST CLEARING

Chapter 8 Household Forest Clearing

The 2020 Zambia Integrated Forest Landscape Project Beneficiary Impact Assessment Survey (ZIFLP BIAS) collected information from households on Forest clearing. The survey targeted ZIFLP program beneficiary households and non-beneficiary households. Households were asked if any member of the household had cut down any trees in the 12 months. Results show that male headed households cut down more trees than female headed households. Results show that 47 percent of male headed households reported cutting down trees over the past 12 months' while 40 percent of female headed households reported cutting down trees. Further, results show that Nyimba had the highest percentage of male headed households cutting down trees at 69 percent followed by Sinda at 67 percent, Lumezi and Chadiza at 47 percent each. Female headed households in Nyimba like their male counterparts also cut down more trees at 27 percent followed by female households in Katete and Chipangali at 18 and 15 percent, respectively. Petauke had the lowest percentage share of male headed households cutting down trees at 28 percent while Vubwi had the lowest number of female headed households cutting down trees at 3 percent.

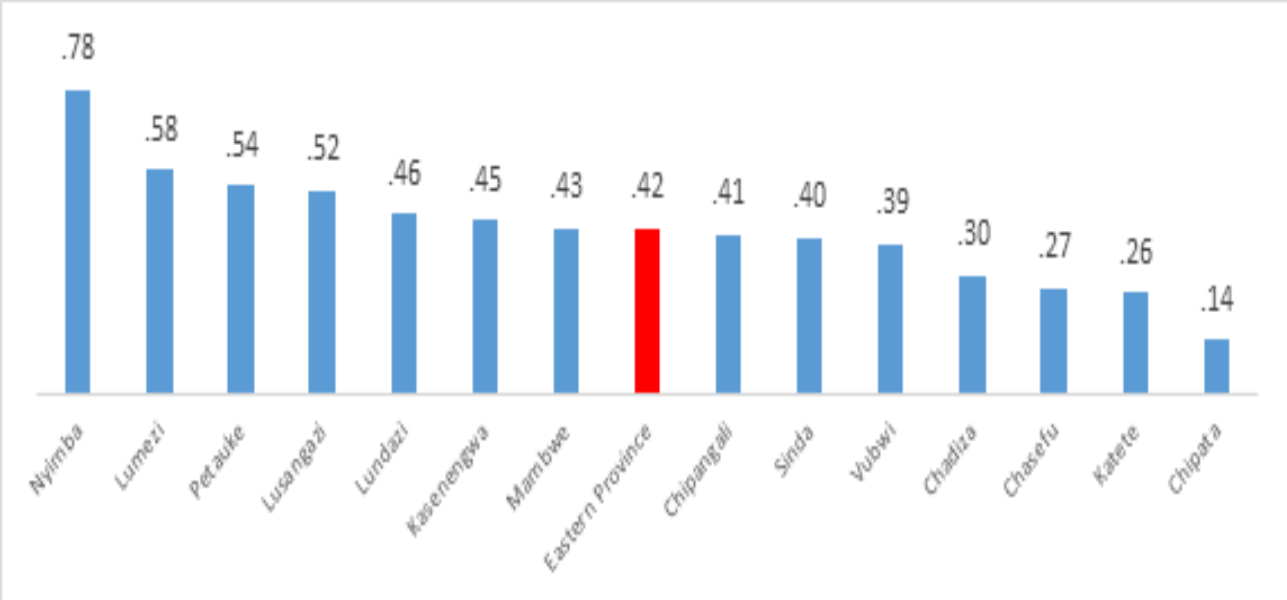
Table 8.1: Percentage distribution of household by Sex of Household Head Cutting down trees in the last 12 months, 2020

District	Total		Yes		No		Not Stated	
	Male	Female	Male	Female	Male	Female	Male	Female
Total	**265,954**	**74,392**	**47**	**40**	**53**	**60**	**0**	**0**
Chadiza	13,212	2,858	64	11	36	49	0	0
Chasefu	19,491	4,517	59	9	41	61	0	0
Chipangali	23,742	6,909	31	15	68	49	1	0
Chipata	21,939	7,364	30	9	70	73	0	0
Kasenengwa	21,107	5,098	39	9	61	63	0	0
Katete	22,971	9,087	43	18	56	56	1	0
Lumezi	22,283	2,353	64	7	36	35	0	0
Lundazi	25,750	6,124	50	11	50	53	0	0
Mambwe	11,987	4,264	39	8	61	79	0	0
Lusangazi	465	116	47	8	53	69	0	0
Nyimba	11,750	4,612	69	27	31	30	0	0
Petauke	35,213	12,566	28	8	72	77	0	0
Sinda	28,942	7,921	67	12	33	56	0	0
Vubwi	7100	603	60	3	40	62	0	0

Average Forest Area Cleared (h)

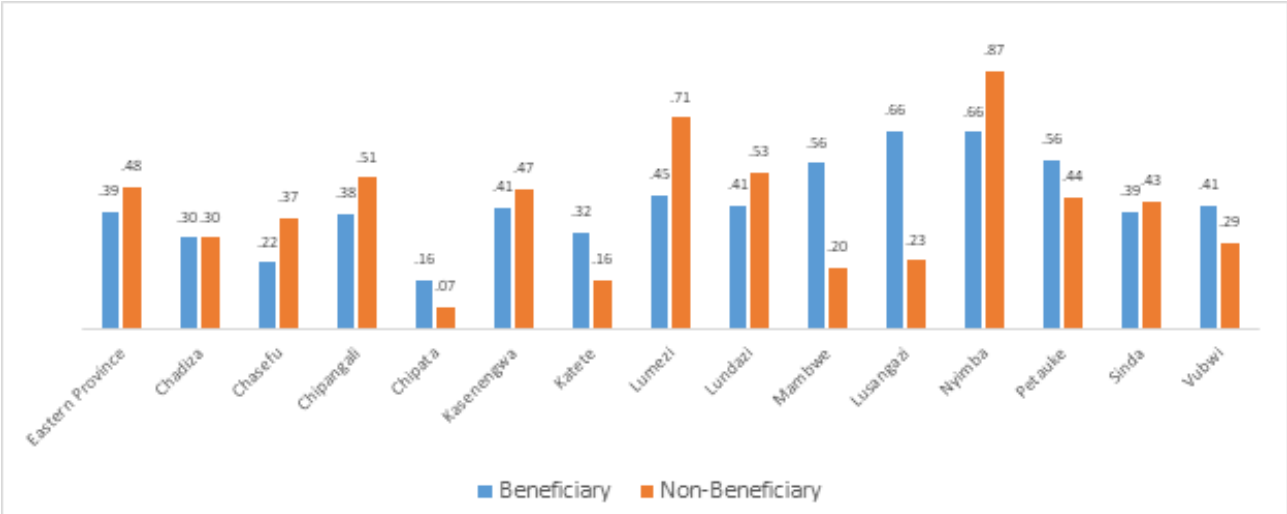
The survey also collected data from households on the Average Forest Area Cleared per household. Households were asked to give information to the best of their knowledge on how much forest area they cleared during the past 12 months. Results in figure 8.1 show that an average of 0.42 hectares was cleared in Eastern Province, with Nyimba, Lumezi and Petauke having higher averages than the provincial at 0.78, 0.58 and 0.54 hectares, respectively.

Figure 8.1: Average forest Area Cleared (h) by district and Provincial, 2020



Results in Figure 8.2 show that ZIFLP Beneficiary households cleared less land area than non-beneficiary households with 0.39 hectares compared 0.48 hectares. At district level, beneficiary households reported clearing less land area in nine districts except for Chipata, Katete, Mambwe, Lusangazi, Petauke and Vubwi where beneficiary households reported clearing more land area than non-beneficiary households.

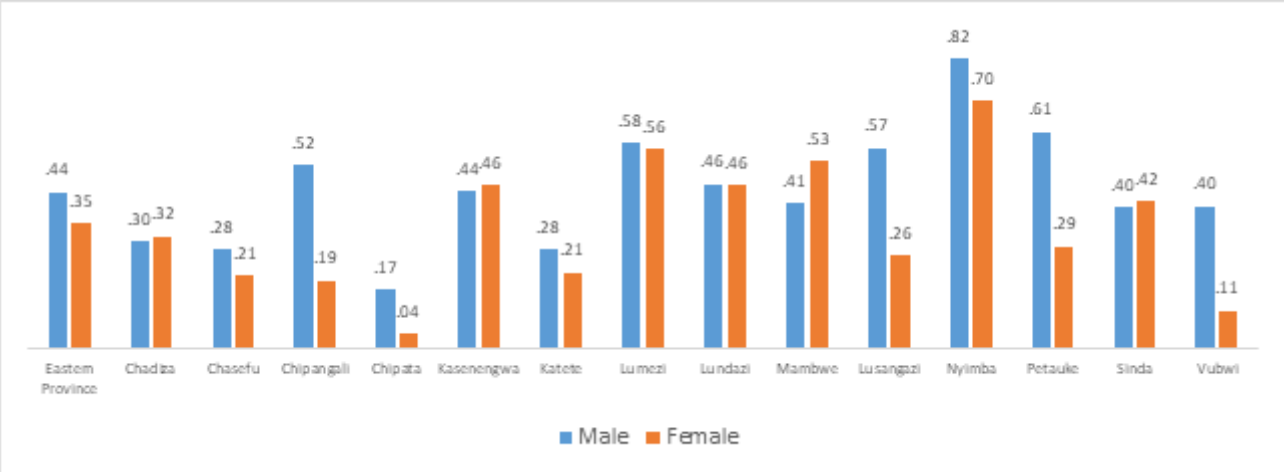
Figure 8.2: Average Forest Area Cleared Beneficiary vs Non-beneficiary households rural Eastern Province.



The survey also collected data on the average forest area cleared by sex of head of household by District, Eastern Province. Results in Figure 8.3 shows that Male headed households in Eastern Province cleared more land than female headed households with 0.44 hectares cleared compared to 0.35 hectares.

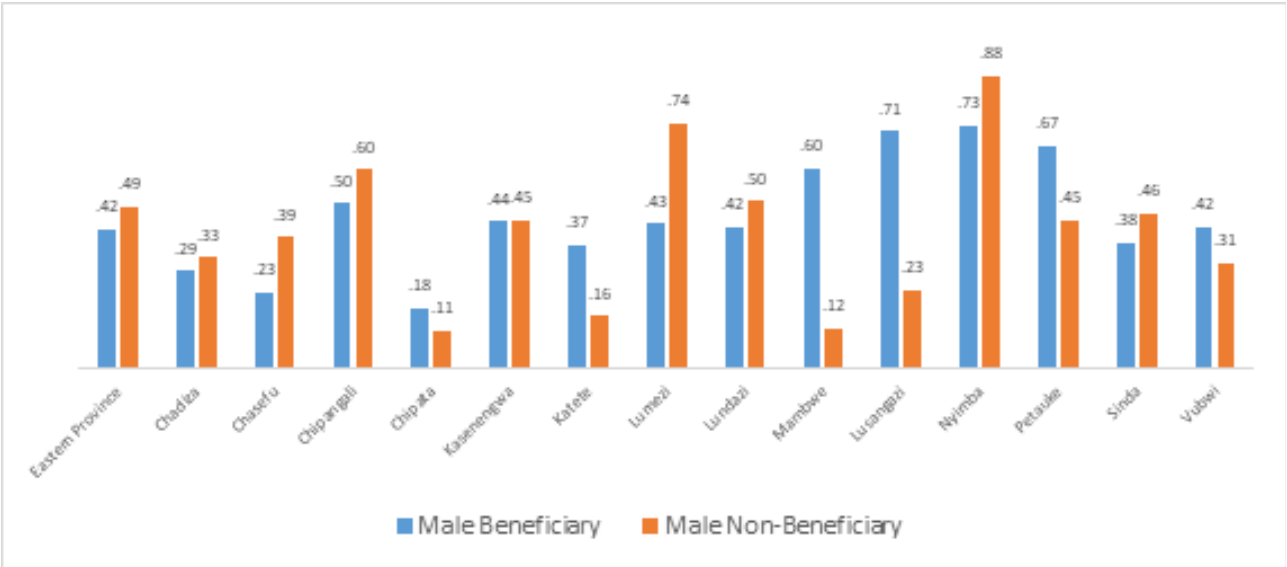
Both male and female headed households had the highest average forest area cleared in Nyimba with 0.82 and 0.70 hectares respectively. Male headed households had the lowest average forest area cleared in Chipata (0.17 hectares) and so did the female headed households with 0.4 hectares. Lundazi District results show that both Male and female headed households had the same average area cleared with 0.46 hectares cleared.

Figure 8.3: Average forest area cleared by sex of Household Head by district and Province 2020



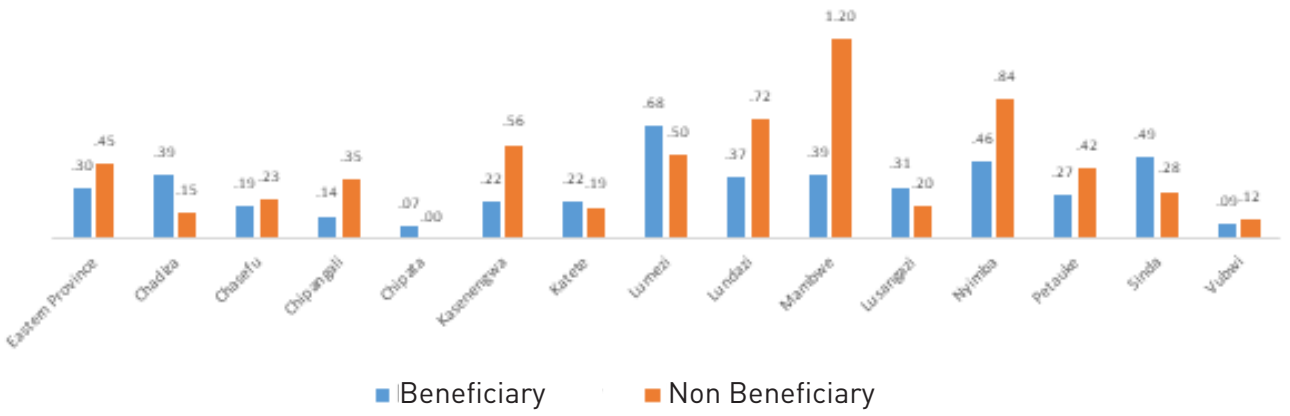
Results also show that at Provincial level, beneficiary male headed households at 0.42 percent cleared less land area than non-beneficiary male headed households with 0.49 hectares. At district level eight districts (Chadiza, Chasefu, Chipangali, Kasenengwa, Lumezi, Lundazi, Nyimba and Sinda) had Beneficiary Male Headed households with the least land area cleared compared to Five (Chipata, Katete, Mambwe, Lusangazi, Petauke and Vubwi) Non-beneficiary male headed households.

Figure 8.4: Average Area Cleared Beneficiary Male HH vs Non-beneficiary Male



Among female headed households, at provincial level, Results show that the Beneficiary households cleared less land area (0.30 hectares) compared to Non-beneficiary households who cleared an average 0.45 hectares per household. At district level, beneficiary female-headed households cleared less land area compared to households headed by their non-beneficiary counterparts in eigh districts namely; Chasefu, Chipangali, Kasenengwa, Lundazi, Mambwe, Nyimba, Petauke and Vubwi. It is worth noting that the female headed non-beneficiary households in Mambwe cleared more land area than all other categories in other districts at an average of 1.20 hectares per household.

Figure 8.5: Average Area Cleared by Female-Feaded Households by Type by District, rural Eastern Province, 2020



Reasons for Clearing Forest Area

The BIAS 2020 went further to ask households what their reasons for clearing land area was. Results in Table 8.2 show that out of all the households who reported clearing forest area, 47.2 percent of households said they cleared for the purpose of Cropping, followed by those who cleared for the purpose of firewood (23.7 percent) and Infrastructure/settlements (20.0 percent). Further, results show that 0.6 percent of the households cleared forest area to produce ash for fertilizer.

Additionally, results show that for those who reported Cropping as the major reason for clearing forest area, male headed households accounted for 73.7 percent while the female headed households accounted for 26.3 percent. Those who reported firewood as the main reason for clearing had male households accounting for 81.4 percent while the female headed households accounted for 18.6 percent. Male headed households accounted for 100 percent of all those who reported clearing land area for the purpose of producing Ash for fertilizer.

Table 8.2: Households Main Reason for Clearing Forest Area by Rural Eastern Province, 2020

Main Reason	TOTAL	Male	Female
Total	**1455**	**79.6**	**20.4**
Cropping	47.2	73.7	26.3
Tree plantation	0.0	0.0	0.0
Livestock fodder production	0.0	0.0	0.0
Infrastructure/settlements	20.0	93.1	6.9
To produce ash for fertilizer	0.6	100.0	0.0
Charcoal production	1.7	32.6	67.4
Firewood	23.7	81.4	18.6
Other	6.8	83.9	16.1

Analysed by beneficiary and non-beneficiary households, results show that all beneficiary households in Lumezi, Lundazi and Nyimba cleared the land for the purpose of cropping. While the Non-beneficiary households in Chipata, Kasenengwa, Katete and Lundazi only cleared land for cropping. Results also show that beneficiary households in Chadiza, Petauke and Chipangali had the highest share of households who reported clearing land for the purpose of firewood at 64, 60 and 40 percent, respectively. Among the Non-beneficiary households, Petauke, Chasefu and Vubwi at 39, 32 and 21percent had the highest proportion of households clearing a forest area for the purpose of firewood.

Table 8.3: Household Main Reason for Clearing Forest

District	Beneficiary	Main Reason	Overall	Beneficiary	Non-Beneficiary
Total Eastern Province	**What was the main reason for clearing the land?**	**Total count**	**14,555**	**8,208**	**6,347**
		Cropping	47	40	57
		Tree plantation	0	0	0
		Livestock fodder production	0	0	0
		Infrastructure/settlements	20	16	25
		To produce ash for fertilizer	1	1	0
		Charcoal production	2	2	1
		Firewood	24	33	11
		Other	7	7	6
Chadiza	What was the main reason for clearing the land?	Total count	867	546	320
		Cropping	53	36	81
		Tree plantation	0	0	0
		Livestock fodder production	0	0	0
		Infrastructure/settlements	0	0	0
		To produce ash for fertilizer	0	0	0
		Charcoal production	0	0	0
		Firewood	47	64	19
		Other	0	0	0

District	Beneficiary	Main Reason	Overall	Beneficiary	Non-Beneficiary
Chasefu	What was the main reason for clearing the land?	Total count	1,182	876	306
		Cropping	63	62	68
		Tree plantation	0	0	0
		Livestock fodder production	0	0	0
		Infrastructure/settlements	336	38	0
		To produce ash for fertilizer	0	0	0
		Charcoal production	0	0	0
		Firewood	97	0	32
		Other	0	0	0
Chipangali	What was the main reason for clearing the land?	Total count	1,150	894	257
		Cropping	31	31	33
		Tree plantation	0	0	0
		Livestock fodder production	0	0	0
		Infrastructure/settlements	24	11	67
		To produce ash for fertilizer	0	0	0
		Charcoal production	0	0	0
		Firewood	31	40	0
		Other	14	18	0
Chipata	What was the main reason for clearing the land?	Total count	361	0	361
		Cropping	100	0	100
		Tree plantation	0	0	0
		Livestock fodder production	0	0	0
		Infrastructure/settlements	0	0	0
		To produce ash for fertilizer	0	0	0
		Charcoal production	0	0	0
		Firewood	0	0	0
		Other	0	0	0
Kasenengwa	What was the main reason for clearing the land?	Total count	795	166	629
		Cropping	100	100	100
		Tree plantation	0	0	0
		Livestock fodder production	0	0	0
		Infrastructure/settlements	0	0	0
		To produce ash for fertilizer	0	0	0
		Charcoal production	0	0	0
		Firewood	0	0	0
		Other	0	0	0
Katete	What was the main reason for clearing the land?	Total count	545	279	266
		Cropping	0	0	0
		Tree plantation	0	0	0
		Livestock fodder production	0	0	0
		Infrastructure/settlements	71	43	100
		To produce ash for fertilizer	0	0	0
		Charcoal production	0	0	0
		Firewood	0	0	0
		Other	29	57	0

District	Beneficiary	Main Reason	Overall	Beneficiary	Non-Beneficiary
Lumezi	What was the main reason for clearing the land?	Total count	1,267	108	1,159
		Cropping	74	100	71
		Tree plantation	0	0	0
		Livestock fodder production	0	0	0
		Infrastructure/settlements	26	0	29
		To produce ash for fertilizer	0	0	0
		Charcoal production	0	0	0
		Firewood	0	0	0
		Other	0	0	0
Lundazi	What was the main reason for clearing the land?	Total count	422	285	137
		Cropping	68	100	0
		Tree plantation	0	0	0
		Livestock fodder production	0	0	0
		Infrastructure/settlements	32	0	100
		To produce ash for fertilizer	0	0	0
		Charcoal production	0	0	0
		Firewood	0	0	0
		Other	0	0	0
Mambwe	What was the main reason for clearing the land?	Total count	0	0	0
		Cropping	0	0	0
		Tree plantation	0	0	0
		Livestock fodder production	0	0	0
		Infrastructure/settlements	0	0	0
		To produce ash for fertilizer	0	0	0
		Charcoal production	0	0	0
		Firewood	0	0	0
		Other	0	0	0
Lusangazi	What was the main reason for clearing the land?	Total count	19	19	0
		Cropping	61	61	0
		Tree plantation	0	0	0
		Livestock fodder production	0	0	0
		Infrastructure/settlements	0	0	0
		To produce ash for fertilizer	0	0	0
		Charcoal production	39	39	0
		Firewood	0	0	0
		Other	0	0	0
Nyimba	What was the main reason for clearing the land?	Total count	1,097	222	874
		Cropping	93	100	92
		Tree plantation	0	0	0
		Livestock fodder production	0	0	0
		Infrastructure/settlements	0	0	0
		To produce ash for fertilizer	0	0	0
		Charcoal production	7	0	8
		Firewood	0	0	0
		Other	0	0	0

District	Beneficiary	Main Reason	Overall	Beneficiary	Non-Beneficiary
Petauke	What was the main reason for clearing the land?	Total count	4,154	2,950	1,204
		Cropping	26	32	12
		Tree plantation	0	0	0
		Livestock fodder production	0	0	0
		Infrastructure/settlements	9	0	30
		To produce ash for fertilizer	0	0	0
		Charcoal production	0	0	0
		Firewood	54	60	39
		Other	11	8	18
Sinda	What was the main reason for clearing the land?	Total count	1,536	1,070	465
		Cropping	0	0	0
		Tree plantation	0	0	0
		Livestock fodder production	0	0	0
		Infrastructure/settlements	70	74	61
		To produce ash for fertilizer	0	0	0
		Charcoal production	11	16	0
		Firewood	7	10	0
		Other	12	0	39
Vubwi	What was the main reason for clearing the land?	Total	1,161	792	369
		Cropping	71	67	79
		Tree plantation	0	0	0
		Livestock fodder production	0	0	0
		Infrastructure/settlements	0	0	0
		To produce ash for fertilizer	7	11	0
		Charcoal production	0	0	0
		Firewood	19	18	21
		Other	3	4	0

8.4 Type of Forest cleared

Figure 8.6 shows the percentage share of households by type of forest area cleared in rural Eastern Province. The general picture shows that 3.2 percent of households cleared a primary Natural Forest. Segregated by type of household, 2.6 percent of Beneficiary households cleared a primary Natural forest while 4.1 percent of Non-beneficiary households cleared a Primary Natural forest. Results also show that less than 1 percent of households in all categories cleared other types of forests.

Figure 8.4: Percentage Share of Beneficiary and Non-beneficiary households by type of forest area cleared in rural Eastern Province, 2020

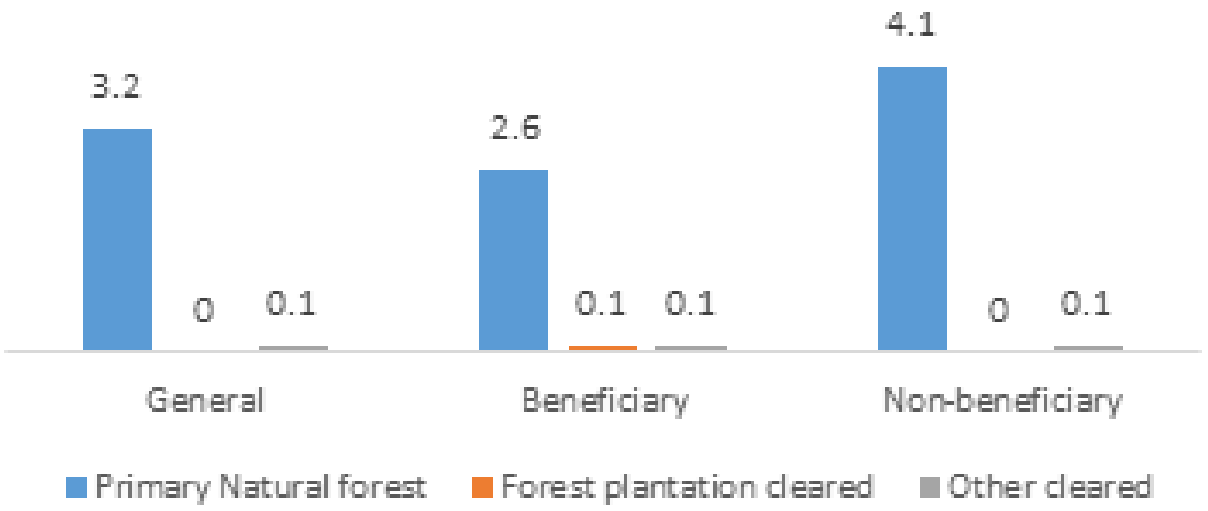


Table 8.4 shows the percentage share of households by type of forest area cleared by district in rural Eastern province. Results show that Vubwi had the largest share of households reporting to have cleared Primary natural forest in both beneficiary and non-beneficiary households with 14.1 and 17.8 percent respectively. This shows that more non-beneficiary households where clearing Primary natural forest than beneficiary households. The general picture shows that non-beneficiary households had a larger share of households reporting clearing Primary natural forest compared to ZIFLP beneficiary households.

Table 8.4: Percentage Share of Households by Type of Forest Area Cleared, Rural Eastern Province

TOTAL	Type of Clearing	Overall	Beneficiary	Non-beneficiary
Chadiza	Primary natural forest cleared	5.4	4.9	6.6
	Forest Plantation cleared	0.0	0.0	0.0
	Other cleared	0.0	0.0	0.0
Chasefu	Primary natural forest cleared	1.4	1.9	0.0
	Forest Plantation cleared	0.0	0.0	0.0
	Other cleared	0.7	0.9	0.0
Chipangali	Primary natural forest cleared	2.8	0.0	2.1
	Forest Plantation cleared	0.0	0.0	0.0
	Other cleared	0.0	0.0	1.0
Chipata	Primary natural forest cleared	1.0	0.0	3.7
	Forest Plantation cleared	0.0	0.0	0.0
	Other cleared	0.0	0.0	0.0
Kasenengwa	Primary natural forest cleared	3.0	1.4	4.3
	Forest Plantation cleared	0.0	0.0	0.0
	Other cleared	0.0	0.0	0.0
Katete	Primary natural forest cleared	1.2	1.4	1.0
	Forest Plantation cleared	0.0	0.0	0.0
	Other cleared	0.0	0.0	0.0
Lumezi	Primary natural forest cleared	4.0	0.8	7.4
	Forest Plantation cleared	0.0	0.0	0.0
	Other cleared	0.0	0.0	0.0
Lundazi	Primary natural forest cleared	0.4	0.0	0.9
	Forest Plantation cleared	0.0	0.0	0.0
	Other cleared	0.0	0.0	0.0
Mambwe	Primary natural forest cleared	0.0	0.0	0.0
	Forest Plantation cleared	0.0	0.0	0.0
	Other cleared	0.0	0.0	0.0
Lusangazi	Primary natural forest cleared	2.9	4.2	0.0
	Forest Plantation cleared	0.0	0.0	0.0
	Other cleared	0.0	0.0	0.0
Nyimba	Primary natural forest cleared	2.9	3.1	9.4
	Forest Plantation cleared	0.0	0.0	0.0
	Other cleared	0.0	0.0	0.0
Petauke	Primary natural forest cleared	5.9	5.9	6.0
	Forest Plantation cleared	0.3	0.4	0.0
	Other cleared	0.0	0.0	0.0
Sinda	Primary natural forest cleared	2.7	2.0	4.6
	Forest Plantation cleared	0.0	0.0	0.0
	Other cleared	0.0	0.0	0.0
Vubwi	Primary natural forest cleared	15.1	14.1	17.8
	Forest Plantation cleared	0.0	0.0	0.0
	Other cleared	0.0	0.0	0.0

Type of Cutting done by Households

The BIAS survey collected data from households on what type of Tree cutting the household was engaged in. Households practiced two types of tree cutting, i.e. clear felling which is a type of tree cutting were an entire forest is cleared regardless of tree species available and a type of tree cutting where only the desired trees are cut down.

Table 8.5 shows the percentage share of Households by type of forest clearing vs the type of land area cleared. Results show that 91.9 percent households did selective cutting compared to 8.1 percent of households who did clear felling. By type of household, 92.8 percent of Beneficiary households practiced selective cutting while 90.5 percent of non-beneficiary households practiced Selective cutting. Further, results show that in both beneficiary and non-beneficiary households, none did clear felling in Game management areas, unless those who did selective cutting.

Table 8.5: Percentage Share of Households by Type of Forest Clearing Done by Type of Land Cleared rural Eastern Province, 2020

Type of Land	OVERALL			BENEFICIARY			Non-beneficiary		
	TOTAL	Cleared forest Area(clear felling)	Only selective cutting	TOTAL	Cleared forest Area(clear felling)	Only selective cutting	TOTAL	Cleared forest Area(clear felling)	Only selective cutting
Total	**80,429**	**8.1**	**91.9**	**18,582**	**44.2**	**92.8**	**66,463**	**9.5**	**90.5**
On land to which HH already have rights	115,149	9.7	90.3	11,589	56.9	90.7	44,342	10.2	89.8
In a new area on customary land, not previously used or owned	30,704	7.6	92.4	3,032	45.8	93.1	10,665	9.0	91.0
In protected areas not previously used or owned by HH	4,201	4.8	95.2	440	16.8	97.0	1,742	7.3	92.7
In GMA not previously used or owned by HH	519	-	100.0	-	-	100.0	379	-	100.0
On other state land (not including protected area or GMA)	4,097	7.2	92.8	279	-	100.0	1,201	24.5	75.5
Outside HH land on land which is on lease	16,460	3.7	96.3	1,657	8.9	98.6	6,264	7.2	92.8
Other	9,300	-	100.0	1,585	-	100.0	1,871	-	100.0

Households Allowing Crop Land to Regrow by Educational Attainment

The survey collected information from households about the education attainment of household heads in relation to those household heads who allowed cropland to regrow. Results show that sampled households headed by persons with no Educational qualification did not allow any crop land to regrow. Results further show that those with tertiary education had the highest share of households re-growing cropland at 33 percent followed by those with senior secondary (27.6 percent) and those with junior secondary (27.0).

Table 8.6: Percentage Share of Households that Allowed Cropland to Regrow in the Last Five Years by Level of Education Attained.

Level of Education Attained		Count	Yes	No
Education Attainment	**Total**	**155,573**	**24.9**	**75.1**
	Never Attended	26,588	21.2	78.8
	None	122	0	100
	Lower Primary	29,800	20.8	79.2
	Upper Primary	52,679	26.7	73.3
	Junior Secondary	28,020	27	73
	Senior Secondary	14,906	27.6	72.4
	Tertiary	3,459	33	67
	Not Stated	0	0	0

Average Forest Area Replanted

The BIAS 2020 collected information from households on how much forest area they replanted. Results in Table 8.6 show that on average, 0.68 hectares was replanted. Beneficiary households planted an average of 0.77 hectares while non-beneficiary households planted an average of 0.53 hectares.

At district level, Chipata (5.27 hectares) had the highest average forest area replanted followed by Chadiza with 2.31 hectares. Beneficiary households in Chipata had a significantly higher average forest area replanted at 6.89 hectares compared to 0.41 hectares for non-beneficiary households.

Table 8.6: Average Area in Hectare of Replanted Forest by District and Sex of the Head of the Household, rural Eastern Province, 2020

District	Overall			Beneficiary			Non-beneficiary		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Total	**0.68**	**0.73**	**0.45**	**0.77**	**0.84**	**0.46**	**0.53**	**0.55**	**0.4**
Chadiza	2.31	2.66	0.67	3.57	4.27	0.75	0.52	0.52	0.5
Chasefu	0.45	0.49	0.29	0.45	0.47	0.37	0.44	0.52	0.13
Chipangali	0.67	0.67		0.5	0.5		0.96	0.96	
Chipata	5.27	6.89	0.41	6.89	10.13	0.41	0.41	0.41	
Kasenengwa	0.6	0.61	0.41	0.56	0.59	0.41	0.64	0.64	
Katete	0.32	0.34	0.26	0.34	0.36	0.26	0.3	0.3	
Lumezi	0.41	0.41		0.55	0.55		0.24	0.24	
Lundazi	0.38	0.39	0.34	0.38	0.39	0.35	0.38	0.4	0.25
Mambwe	0.48	0.44	0.75	0.54	0.58	0.25	0.41	0.27	1.25
Lusangazi	0.37	0.37	0.25	0.38	0.39	0.25	0.31	0.31	
Nyimba	0.7	0.75	0.6	0.59	0.47	0.87	0.82	1.02	0.33
Petauke	0.63	0.66	0.57	0.61	0.64	0.57	0.81	0.81	
Sinda	0.43	0.44	0.37	0.43	0.45	0.37	0.42	0.42	
Vubwi	0.65	0.65		0.42	0.42		1.04	1.04	

Method of Forest Regrowth

Table 8.7 shows the percenatge of households by type of forest regrowth by district in rural Eastern Province 2020 Results show that Lundazi had the highest percentage of households allowing forest to regrow from Sprouting stumps at 18.6 percent followed by Nyimba at 16.6 percent, while Lusangazi was the least at 0.1 percent. Further, Chasefu had the highest percentage of households allowing forests to regrow through Natural regeneration by seedlings at 20.6 percent followed by Katete at 18.2 percent.

Analysed by sex of head, Male headed households in Lundazi (18.4 percent) had a higher percentage of households allowing forests to regrow through Sprouting from stumps, while a higher percentage of female headed households in Nyimba allowed forest regrowth through sprouting from stumps. Katete had the highest percentage of male headed households allowing forests regrowth from Natural regeneration by seedlings at 1.9 percent , while Lundazi had the highest percentage of Female headed households at 18.6 percent

Table 8.7.1: Percentage Distribution of Households by Type of Forest Regrowth by Sex of Head of Household and District rural Eastern Province, 2020

District	GENERAL			MALE			FEMALE		
	Sprouting from stumps	Natural regeneration by seedlings	Planting	Sprouting from stumps	Natural regeneration by seedlings	Planting	Sprouting from stumps	Natural regeneration by seedlings	Planting
Total	**22,417**	**12,027**	**4,276**	**17,882**	**9,845**	**3,965**	**4,535**	**2,181**	**311**
Chadiza	1.9	8.2	12.0	1.6	1.0	10.9	3.1	0.0	26.1
Chasefu	13.7	20.6	0.0	13.3	2.3	0.0	15.6	11.0	0.0
Chipangali	3.8	0.0	6.5	4.8	0.0	7.0	0.0	0.0	0.0
Chipata	1.8	1.5	4.8	1.7	0.2	5.2	2.2	0.0	0.0
Kasenengwa	4.6	9.0	25.0	5.8	0.9	27.0	0.0	9.1	0.0
Katete	2.8	18.2	4.6	3.5	1.9	0.0	0.0	16.3	63.3
Lumezi	11.4	0.0	6.1	14.3	0.0	6.6	0.0	0.0	0.0
Lundazi	18.6	8.2	21.4	18.4	0.4	23.1	19.1	28.6	0.0
Mambwe	4.0	8.1	7.2	3.6	1.0	7.8	5.4	0.0	0.0
Lusangazi	0.1	0.7	0.0	0.1	0.1	0.0	0.0	0.3	0.0
Nyimba	16.6	2.9	4.5	12.5	0.4	4.0	32.6	0.0	10.7
Petauke	9.1	6.8	0.0	7.4	0.4	0.0	15.9	18.6	0.0
Sinda	9.9	13.9	6.9	10.8	1.3	7.5	6.1	16.1	0.0
Vubwi	1.8	1.8	0.8	2.3	0.2	0.8	0.0	0.0	0.0

Non-beneficiary male headed households at 19.5 percent had a higher percentage of households allowing forest regrowth through sprouting from stumps compared to 18.1 percent for male headed beneficiary households who had 18.1percent. Female headed non-beneficiary households in Nyimba had the highest percentage of households (43 percent) allowing forest regrowth through sprouting from stumps compared to beneficiary female headed households whose highest percentage of households allowing sprouting from stumps was 27.6 in Nyimba.

Table 8.7.2: Percentage Distribution of Beneficiary and Non-beneficiary Households by Type of Forest Regrowth by Sex of Head of Household, District and rural Eastern Province, 2020

District	GENERAL						MALE		MALE		MALE		FEMALE		FEMALE		FEMALE	
	Sprouting from Stumps		Natural re-generation by seedlings		Planting		Sprouting from Stumps		Natural re-generation by seedlings		Planting		Sprouting from Stumps		Natural re-generation by seedlings		Planting	
	Ben	Non-Ben	Ben	Non-Ben	Ben	Non-Ben	Ben	Non-Ben	Ben	Non-Ben	Ben	Non-Ben	Ben	Non-Ben	Ben	Non-Ben	Ben	Non-Ben
Total	**14,036**	**8,381**	**8,459**	**3,568**	**3,133**	**1,143**	**10,973**	**6,909**	**6,277**	**3,568**	**2,855**	**1,110**	**3,063**	**1,472**	**2,181**	**0**	**278**	**33**
Chadiza	1.3	2.9	4.7	16.5	16.4	0.0	1.0	2.6	6.3	16.5	15.2	0.0	2.6	4.1	0.0	0.0	29.2	0.0
Chasefu	16.2	9.6	18.5	25.5	0.0	0.0	18.1	5.5	21.1	25.5	0.0	0.0	9.4	28.4	11.0	0.0	0.0	0.0
Chipangali	3.5	4.5	0.0	0.0	8.9	0.0	4.4	5.4	0.0	0.0	9.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chipata	0.7	3.6	2.2	0.0	6.6	0.0	0.0	4.4	2.9	0.0	7.2	0.0	3.2	0.0	0.0	0.0	0.0	0.0
Kasenengwa	1.8	9.4	7.1	13.5	20.1	38.6	2.3	11.4	6.5	13.5	22.0	39.7	0.0	0.0	9.1	0.0	0.0	0.0
Katete	2.3	3.5	18.1	18.4	6.3	0.0	3.0	4.3	18.7	18.4	0.0	0.0	0.0	0.0	16.3	0.0	70.8	0.0
Lumezi	12.1	10.1	0.0	0.0	8.4	0.0	15.5	12.3	0.0	0.0	9.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lundazi	18.6	18.5	9.2	5.7	19.1	27.7	17.7	19.5	2.5	5.7	21.0	28.6	21.7	13.8	28.6	0.0	0.0	0.0
Mambwe	3.0	5.7	7.9	8.7	2.7	19.5	3.0	4.6	10.7	8.7	3.0	20.1	2.8	10.8	0.0	0.0	0.0	0.0
Lusangazi	0.1	0.0	0.8	0.5	0.0	0.0	0.1	0.0	1.0	0.5	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0
Nyimba	13.8	21.2	2.4	4.1	5.1	2.9	10.0	16.5	3.2	4.1	5.6	0.0	27.6	43.0	0.0	0.0	0.0	100.6
Petauke	13.7	1.4	9.6	0.0	0.0	0.0	11.0	1.6	6.5	0.0	0.0	0.0	23.5	0.0	18.6	0.0	0.0	0.0
Sinda	11.0	8.1	17.7	5.1	5.4	11.3	11.5	9.8	18.2	5.1	5.9	11.6	9.0	0.0	16.1	0.0	0.0	0.0
Vubwi	1.9	1.7	1.8	2.0	1.1	0.0	2.4	2.0	2.4	2.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Types of Trees Grown

The survey collected data on the types of tree species grown by households in rural Eastern Province. Table 8.9.1 shows the overall results at district and provincial level. Results show that 4.6 percent of households grew Faideherbia Albiada also locally known as Musangu, 1.3 percent of households grew Tephrosia Vogetii (Ububa), while the largest proportion grew Gilricidia Septum (Gilicidia) at 7.5 percent. Acacia Polycanta(Munungamunshi) had the lowest share with 1.0 percent.

Table 8.9.1: Percentage distribution of Households by Type of Tree Species Grown by District Rural Eastern Province, 2020

District	Total Households	Faideherbia Albiada (Musanga)	Tephrosia Vogetii (Ububa)	Gilricidia Septum (Gilicidia)	Acacia Polycanta (Mununga munshi)	Other
Total	**340,345.4**	**4.6**	**1.3**	**7.5**	**1.0**	**13.1**
Chadiza	16,069.8	10.9	1.5	18.0	2.6	18.0
Chasefu	24,007.9	0.4	1.4	3.2	0.5	15.7
Chipangali	30,651.2	7.5	4.6	12.5	1.5	2.6
Chipata	29,303.1	1.2	0.8	2.3	0.0	13.4
Kasenengwa	26,204.3	4.3	1.4	10.2	2.4	15.5
Katete	32,058.3	5.6	0.7	9.5	0.0	19.1
Lumezi	24,636.1	4.1	0.9	8.6	2.3	10.9
Lundazi	31,874.5	4.6	1.1	5.1	2.2	18.7
Mambwe	16,251.3	11.3	0.0	14.7	0.0	12.1
Lusangazi	580.9	9.2	0.8	12.7	1.0	3.0
Nyimba	16,362.8	6.0	2.1	6.3	0.8	3.8
Petauke	47,778.8	0.8	0.0	3.0	0.4	6.7
Sinda	36,863.3	6.4	1.7	6.3	0.2	20.9
Vubwi	7,702.9	4.3	0.0	8.3	0.0	10.3

Table 8.9.2 shows the percentage distribution of households (Beneficiary vs Non-beneficiary) by type of trees species grown by district, rural Eastern Province. Results show that 5.4 percent of beneficiary households grew Musangu, compared to 3.2 percent among non-beneficiary households. Tephrosia Vogetii (Ububa) was grown by 1.5 percent of beneficiary households while 0.8 percent was grown by Non-beneficiary households. Results also shows that 8.8 percent among beneficiaries grew Gilricidia Septum (Gilicidia) with 5.3 percent of non-beneficiaries growing it. Acacia Polycanta (Mununga munshi) was also grown by both beneficiary and Non-beneficiary households at 0.8 and 1.3 percent, respectively.

Table 8.9.2: Percentage distribution of Beneficiary and Non-beneficiary households by type of Tree Species Grown by District, 2020

Districts	Households		Faideherbia Albiada (Musangu)		Tephrosia Vogetii (Ububa)		Gilricidia Septum (Gilicidia)		Acacia Polycanta (Mununga munshi)		Other	
	Benefi-ciary	Non-Benefi-ciary	Benefi-ciary	Non-Benefi-ciary	Benefi-ciary	Non-Benefi-ciary	Benefi-ciary	Non-Benefi-ciary	Benefi-ciary	Non-Benefi-ciary	Benefi-ciary	Non-Benefi-ciary
Total	**217,723**	**122,622**	**5.4**	**3.2**	**1.5**	**0.8**	**8.8**	**5.3**	**0.8**	**1.3**	**13.9**	**11.5**
Chadiza	11,181	4,889	9.6	13.9	2.1	0.0	16.5	21.4	1.9	4.1	18.7	16.3
Chasefu	17,334	6,674	0.6	0.0	1.9	0.0	3.7	1.8	0.0	2.0	14.9	17.8
Chipangali	22,292	8,359	7.2	8.1	5.3	2.9	13.0	11.2	1.6	1.5	3.5	0.0
Chipata	21,186	8,117	1.6	0.0	0.5	1.5	2.7	1.5	0.0	0.0	14.3	11.1
Kasenengwa	11,520	14,684	5.6	3.3	0.7	1.9	10.1	10.3	5.5	0.0	23.0	9.6
Katete	19,729	12,329	7.5	2.5	1.1	0.0	13.4	3.3	0.0	0.0	20.5	16.9
Lumezi	12,852	11,784	7.4	0.5	1.7	0.0	14.4	2.2	1.3	3.4	10.8	11.0
Lundazi	16,960	14,914	4.0	5.4	2.0	0.0	8.0	1.9	0.8	3.7	21.3	15.8
Mambwe	10,335	5,917	16.8	1.7	0.0	0.0	19.6	6.2	0.0	0.0	9.1	17.2
Lusangazi	400	181	8.0	11.8	1.1	0.0	13.9	10.1	1.5	0.0	3.0	3.0
Nyimba	7,093	9,270	8.6	3.9	2.0	2.1	9.6	3.7	1.9	0.0	4.5	3.3
Petauke	34,392	13,386	1.1	0.0	0.0	0.0	3.2	2.5	0.0	1.3	6.8	6.5
Sinda	26,824	10,039	7.5	3.5	1.7	1.8	6.6	5.4	0.3	0.0	23.1	15.0
Vubwi	5,624	2,079	3.6	6.3	0.0	0.0	8.2	8.3	0.0	0.0	6.5	20.5

Use of Tree Species Grown

Table 8.10.1 shows the percentage distribution of households by use of each tree species grown in rural Eastern Province. Results show that 43.4 percent of households used Faideherbia Albiada (Musangu) to increase the value of their Land, while 36 percent of the households used Tephrosia Vogetii (Ububa) for wind protection. Further, results show that 9.7 percent of the households used Musangu for shade, while 42 percent of the households greww other types of species for production of edible tree products.

Table 8.10.1: Percentage Distribution of Households by Use of Each Tree Type Grown in Rural Eastern Province, 2020

	Faideherbia Albiada (Musangu)	Tephrosia Vogetii (Ububa)	Gilricidia Septum (Gilicidia)	Acacia Polycanta (Mununggamunshi)	Other
Total	**15,792**	**4,301**	**25,542**	**3,294**	**44,490**
Fuel wood for domestic use	6.8	3.7	4.6	0	1.4
Fuel wood for sale	1.4	0	2.2	0	0.4
Fodder for own use	0	0	0.2	0	0
Fodder for sale	0	0	0	0	0
Timber/poles for own use	2.4	16.8	2.1	10.2	3.4
Timber/poles for sale	0	0	0	0	2.1
For production of edible tree products (e.g. fruits) for own	2.2	5	6.7	5.2	42
For production of edible tree products (e.g. fruits) for sale	0	0	0	0	4.3
Other products for own use	6.7	0	3.4	0	11.6
Other products for sale	1.1	0	0.6	0	1.1
For shade	9.7	0	6	4	14.5
For wind protection	3.1	36	9.5	24.1	4.8
Carbon sequestration	5.2	2.3	9.7	0	0.3
Other environmental services	0.7	0	3.4	4.2	3.1
Land demarcation	2.9	0	4.2	5	0.9
To increase the value of my land	43.4	28.4	31.6	35.9	2.4
Agroforestry	6.3	2	6.9	5.7	2.4
To allow my children and/or grandchildren to see these trees	0.5	0	0.3	5.7	1.8
Don't know (e.g. planted the trees because another HH member	0.7	0	0.4	0	0.6
Person not available to answer	0	0	0	0	1.3
Other purpose	7	5.9	8.2	0.2	1.6

Table 8.10.2 shows the percentage distribution of Beneficiary and Non-beneficiary households by use of each tree species grown in rural Eastern Province. Results show that 44 percent of the beneficiary households grew Faideherbia Albiada (Musangu) for the purpose of increasing the value of their land compared to 41.6 percent of non-beneficiary households. Further, 29.5 percent of Beneficiary households also grew Tephrosia Vogetii (Ububa) for the wind protection while Beneficiary households who grew it for the same purpose were 57.2 percent. Further 33.6 percent of Beneficiary households grew Gilricidia Septum(Gilicidia) to increase the value of their land while 25.6 percent of the Non-beneficiary households grew Gilricidia Septum for purpose of increasing the value of their land.

Table 8.10.2: Percentage Distribution of Beneficiary and Non-beneficiary Households by Use of Each Tree Species Grown in Rural Eastern Province, 2020

Type of Use of Species Grown	Faideherbia Albiada (Musangu)		Tephrosia Vogetii (Ububa)		Gilricidia Septum (Gilicidia)		Acacia Polycanta (Mununga-munshi)		Other	
	Beneficiary	Non-Beneficiary	Beneficiary	Non-Beneficiary	Beneficiary	Non-Beneficiary	Beneficiary	Non-Beneficiary	Beneficiary	Non-Beneficiary
Total	**11,815**	**3,977**	**3,282**	**1,018**	**19,075**	**6,467**	**1,721**	**1,573**	**30,348**	**14,148**
Fuel wood for domestic use	6.3	8.3	4.9	0	4.8	4	0	0	0.3	3.9
Fuel wood for sale	1.9	0	0	0	0.8	6.4	0	0	0.6	0
Fodder for own use	0	0	0	0	0.3	0	0	0	0	0
Fodder for sale	0	0	0	0	0	0	0	0	0	0
Timber/poles for own use	1.7	4.5	18.5	11.4	1.3	4.6	7.8	12.8	4.6	0.9
Timber/poles for sale	0	0	0	0	0	0	0	0	1.7	2.9
For production of edible tree products (e.g. fruits) for own	1.7	3.5	6.5	0	7	5.8	0	10.8	40.7	44.9
For production of edible tree products (e.g. fruits) for sal	0	0	0	0	0	0	0	0	3.3	6.5
Other products for own use	7.2	5.2	0	0	1.6	8.6	0	0	11.1	12.8
Other products for sale	0	4.3	0	0	0.8	0	0	0	1.4	0.6
For shade	9.7	9.8	0	0	7.4	1.9	0	8.3	16.8	9.4
For wind protection	2.4	5.1	29.5	57.2	9.8	8.5	20.3	28.2	4.2	6.2
Carbon sequestration	5.2	5.2	3	0	11.5	4.3	0	0	0	0.8
Other environmental services	0.9	0	0	0	3.7	2.3	8	0	2.6	4.1
Land demarcation	3.4	1.5	0	0	3.3	7	9.5	0	1.4	0
To increase the value of my land	44	41.6	27.4	31.3	33.6	25.6	32.2	39.9	2.8	1.6
Agroforestry	7.5	2.9	2.6	0	7.1	6.4	10.9	0	3.5	0
To allow my children and/or grandchildren to see these trees	0	1.9	0	0	0.4	0	10.9	0	1.9	1.6
Don't know (e.g. planted the trees because another HH member	0	2.9	0	0	0	1.8	0	0	0.8	0
Person not available to answer	0	0	0	0	0	0	0	0	0.6	2.8
Other purpose	8.3	3.3	7.7	0	6.6	12.9	0.3	0	1.8	1

Average Cropland Allowed to Regrow by Sex and Education Level

Table 8.11 shows the average crop land in hectares (ha) allowed to regrow by Sex and Educational Level of the Head of Household, Beneficiary and Non-beneficiary status in rural Eastern Province. Results show that, overall, the average crop land allowed to regrow was 0.68 percent. The upper Primary level of education household heads had the highest average cropland land regrown at 1 hectare, followed by those with tertiary education who regrew 0.82 hectares. Beneficiary household with heads with upper primary education regrew an average of 1.36 hectares while heads with the same level of education for non-beneficiary households regrew an average of 0.40 hectares. Beneficiary male-headed households had a higher average land area regrown with 0.77 hectares compared to their non-beneficiary male counter parts with 0.53 hectares. Female beneficiary household heads had an average of 0.46 hectares while non-beneficiary female heads had 0.40 hectares.

Table 8.11: Average Crop land (ha) Allowed to Regrow by Sex and Educational Level of the Head of the Household in Beneficiary and Non-beneficiary Rural Eastern Province

Educational Level	overall			Beneficiary			Nin-Beneficiary		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Total	**0.68**	**0.73**	**0.45**	**0.77**	**0.84**	**0.46**	**0.53**	**0.55**	**0.4**
Never Attended	0.51	0.54	0.44	0.44	0.45	0.44	0.67	0.67	
None									
Lower Primary	0.5	0.51	0.49	0.41	0.39	0.45	0.74	0.76	0.69
Upper Primary	1	1.07	0.48	1.36	1.5	0.55	0.4	0.41	0.31
Junior Secondary	0.53	0.56	0.3	0.52	0.53	0.35	0.55	0.62	0.25
Senior Secondary	0.46	0.46	0.5	0.38	0.38		0.53	0.54	0.5
Tertiary	0.82	0.82		0.89	0.89		0.5	0.5	
Not Stated									

Chapter 9: Wood and Non-wood Forest Products

Chapter 9: Wood and Non-wood Forest Products

Forests constitute an integral part of the social and cultural wellbeing of those living around and within it. Forests play a very important role in complimenting other sources of subsistence inputs and income. In addition, ease of access to forests, low capital and skill thresholds of entry, and proximity to widely dispersed rural markets for the products enable large numbers of people to generate some income from forest products (FAO, 1987). Income from forest products seldom seem to account for a large share of a household's total income but often comes in handy to fill in the void left due to seasonal or other cash flow gaps. It helps people cope with particular expenses or respond to unusual welfare challenges.

The careful management and conservation of biodiversity are fundamental for sustaining ecosystems and livelihoods but are increasingly difficult to achieve in contexts of persistent poverty, a growing international demand for timber and non-timber forest products (NTFP), and climate change (www. forestreesagroforestry.org). In rural Eastern Province, households collect a number of wood and non-wood forest products which are meant for both home and commercial use.

Household Wood and Non-Wood Forest Products Collection

The survey collected data from households on Wood and Non-wood forest products by type, various sources and type of Harvesting Used in rural Eastern Province. Table 10.1 shows the percentage distribution of beneficiary and non-beneficiary households that regularly collected Wood and non-wood Forest products. Results show 76.9 percent of households in Eastern Province regularly collected Wood and Non-Wood forest products, with Lumezi (94.2 percent) having the highest proportion of households, followed by Lusangazi (93.2 percent) and Sinda (89.7 percent).

Analysed by sex of head, male beneficiary regularly collected Wood and Non-Wood forest products compared to 23 percent of female headed households. Table 10.1 also shows that male non-beneficiary households had a higher percentage regularly collecting wood and non-wood forest products than female headed households at 76.8 percent compared to 23.2 percent.

Table 9.1: Percentage Distribution of Households that Regularly Collected Wood and Non-Wood Forest Products by District, Rural Eastern Province 2020

District	Overall			Beneficiary			Non-beneficiary		
	Total Count	Collect regularly	Do not collect	Count	Collect regularly	Do not collect	Count	Collect regularly	Do not collect
Total	**340,345**	**76.9**	**23.1**	**217,723**	**77**	**23**	**122,622**	**76.8**	**23.2**
Chadiza	16,070	82.1	17.9	11,181	80.3	19.7	4,889	86.1	13.9
Chasefu	24,008	87.7	12.3	17,334	85.9	14.1	6,674	92.3	7.7
Chipangali	30,651	74.9	25.1	22,292	77.2	22.8	8,359	68.8	31.2
Chipata	29,303	48	52	21,186	47.9	52.1	8,117	48.1	51.9
Kasenengwa	26,204	63.9	36.1	11,520	61.1	38.9	14,684	66.2	33.8
Katete	32,058	71.7	28.3	19,729	74.3	25.7	12,329	67.4	32.6
Lumezi	24,636	94.2	5.8	12,852	91.0	9.0	11,784	97.7	2.3
Lundazi	31,874	83.0	17.0	16,960	83.8	16.2	14,914	82.1	17.9
Mambwe	16,251	77.0	23.0	10,335	77.7	22.3	5,917	75.7	24.3
Lusangazi	581	93.2	6.8	400	91.3	8.7	181	97.5	2.5
Nyimba	16,363	77.4	22.6	7,093	78.2	21.8	9,270	76.8	23.2
Petauke	47,779	74.8	25.2	34,392	76.2	23.8	13,386	71.1	28.9
Sinda	36,863	89.7	10.3	26,824	88.5	11.5	10,039	92.8	7.2
Vubwi	7,703	87.0	13.0	5,624	87.7	12.3	2,079	85.0	15.0

Methods of Collection/Harvesting Forest Products

The survey collected data from households on methods that they mainly used to collect/ harvest forest products. Table 9.2 shows the percentage distribution of households by Method used to Collect/Harvest forest products in rural Eastern Province in 2020 Results show that, overall, 89.6 percent of the households that collected wood and non-wood products by hand collected Industrial wood, 89.4 percent fuel wood and 94.9 percent collected mushrooms. Those who collected by cutting down trees, the highest percentage were those who collected wood for poles at 70.8 percent followed by those who collected wood for wood carvings. Households that reported collecting wood and non-wood forest products for dying and tanning cut down branches at 100 percent. Shaking the tree to make fruits drop was mostly used to collect fruits, nuts, seeds, roots, berries at 42.2 percent.

Analysed by beneficiaries status, results show that among beneficiary households, 94 percent reported collecting mushrooms by hand, wood for poles was done by cutting down trees by 70 percent of the households, collection of fodder (68.2 percent of households) was done by cutting down branch, friuts, nuts, berries e.t.c were mostly collected by shaking the tree to make them fall by 41.8 percent of households, while rattan was collected by uprooting the entire plant and charcoal was collected by fire and smoke at 5.9 percent.

Table 9.2: Percentage Distribution of Methods used in Collecting/ Harvesting Forest Products by district, Rural Eastern Province 2020

Forest Products	Collecting by hand			Cutting down tree			Cutting down branch			Shaking the tree to make fruits drop			up-rooting the entire pant/tree			Fire and smoking			Other		
	Overall	Ben	No-Ben	Overall	Ben	No-Ben	Overall	Ben	No-Ben	Overall	Ben	No-Ben	Overall	Ben	No-Ben	Overall	Ben	Non-Ben	Overall	Ben	Non-Ben
Industrial wood	89.6	92.4	84.6	13.5	11.4	17.0	4.5	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel wood	89.4	88.9	90.4	28.7	26.5	33.0	20.7	20.8	20.6	0.1	0.2	0.0	0.5	0.4	0.6	0.3	0.1	0.7	0.7	0.6	0.8
Charcoal	44.9	40.6	52.5	45.1	48.3	39.4	12.7	11.3	15.3	0.8	0.0	2.3	0.5	0.7	0.0	7.0	5.9	8.9	17.1	14.1	22.6
Wood for wood carvings	49.1	45.5	53.3	50.7	51.2	50.1	32.6	24.4	41.7	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	1.0	0.0	0.0	0.0
Wood for poles	37.2	37.3	36.9	70.8	70.8	70.9	15.8	13.9	19.6	0.0	0.0	0.0	1.1	0.5	2.1	0.5	0.6	0.4	0.5	0.0	1.5
Fruits, nuts, seeds, roots, berries, etc	89.0	88.6	89.9	2.8	3.9	0.0	2.4	3.1	0.6	42.2	41.8	43.4	0.8	0.7	1.2	0.0	0.0	0.0	0.7	1.0	0.0
Mushrooms	94.9	94.9	94.8	0.9	0.6	1.3	0.0	0.0	0.0	0.3	0.0	0.8	14.8	14.7	15.0	0.0	0.0	0.0	0.0	0.0	0.0
Fodder	30.7	22.8	100.0	8.1	9.0	0.0	61.2	68.2	0.0	10.2	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rattan	38.0	35.7	42.9	32.7	27.7	43.4	4.3	0.0	13.7	0.0	0.0	0.0	32.9	48.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Plant medicines	69.2	66.8	73.2	21.3	17.1	28.5	19.8	14.3	29.2	0.0	0.0	0.0	17.6	19.5	14.3	0.0	0.0	0.0	5.9	3.1	10.7
Herbs and spices	64.8	63.5	67.7	19.6	21.7	15.0	3.4	0.0	10.8	4.7	0.0	15.0	32.5	39.4	17.3	0.0	0.0	0.0	0.0	0.0	0.0
Dying / tanning	100.0		100.0	0.0		0.0	100.0		100.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Seeds (for regeneration purposes)	68.2	27.2	100.0	0.0	0.0	0.0	0.0	0.0	0.0	8.9	20.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.8	72.8	0.0
Fibres (for rope etc.)	54.4	56.7	48.9	31.1	31.6	29.8	34.3	31.1	41.6	0.5	0.8	0.0	2.4	1.9	3.7	0.0	0.0	0.0	0.8	0.6	1.3
Wildlife (including Mice, bush meat)	28.4	34.5	21.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.7	27.1	41.4	46.2	49.0	42.9
Beekeeping activities /honey collection	77.2	74.2	80.5	0.3	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.1	36.7	27.1	0.9	0.1	1.7
Caterpillar	92.1	91.9	92.5	0.0	0.0	0.0	1.0	0.0	2.4	6.0	6.6	5.1	0.9	1.5	0.0	2.2	0.0	5.2	0.0	0.0	0.0
Other	`	50.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.6	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Households were also asked where they collect Wood and Non-wood forest products from for their various uses/activities. Table 9.3 shows the percentage distribution of beneficiary and non-beneficiary households by place of collection of Wood and Non-wood Forest products in rural Eastern Province in 2020 Results show that more non-beneficiary (96.5 percent) households collected industrial wood from primary forest than beneficiary households (92.2 percent). On average, 40.2 percent of the households collected plant medicines from secondary forests with beneficiary households having a higher percentage than non-beneficiary households at 44.3 percent compared to 33 percent, respectively.

Table 9.3: Percentage Distribution of Households by Place of collection of Wood and Non-Wood Forest Products, Rural Eastern Province 2020

Forest Products	Primary Forest			Secondary Forest			Forest plantation			Grassland			Bare land			Cultivated land			Village, built-up area			Other		
	Overall	Ben	Non-Ben	Overall	Ben	Non-Ben	Overall	Ben	Non-Ben	Overall	Ben	Non-Ben	Overall	Ben	Non-Ben	Overall	Ben	Non-Ben	Overall	Ben	Non-Ben	Overall	Ben	Non-Ben
Industrial wood	93.7	92.2	96.5	3.7	3.0	5.0	0.6	1.0	0.0	0.0	0.0	0.0	0.8	1.3	0.0	6.9	10.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel wood	66.7	64.5	70.9	24.4	24.5	24.2	1.4	1.8	0.7	5.3	6.9	2.3	3.8	2.9	5.6	17.1	17.8	15.8	11.1	11.1	11.0	0.9	0.8	1.2
Charcoal	67.5	70.1	63.0	14.6	15.0	13.8	1.3	1.0	2.0	0.6	1.0	0.0	1.0	1.6	0.0	7.2	6.6	8.3	9.4	9.3	9.7	13.3	12.2	15.2
Wood for wood carvings	89.5	84.7	94.9	22.9	22.4	23.5	1.5	2.8	0.0	4.5	6.5	2.1	0.0	0.0	0.0	1.4	2.6	0.0	1.3	2.5	0.0	0.4	0.0	1.0
Wood for poles	91.0	91.1	90.8	28.9	31.0	24.9	0.6	0.9	0.0	0.4	0.6	0.0	1.4	1.0	2.3	3.0	2.4	4.3	0.6	0.8	0.0	1.0	1.4	0.4
Fruits, nuts, seeds, roots, berries, etc	83.4	79.6	93.2	22.2	25.5	13.9	1.3	1.3	1.4	5.7	5.6	5.8	1.3	1.3	1.3	18.0	19.7	13.6	15.6	18.7	7.7	1.1	1.2	0.9
Mushrooms	72.1	72.5	71.3	25.4	25.9	24.3	1.6	1.9	0.9	6.3	6.7	5.6	3.1	2.7	4.0	24.2	26.5	19.3	10.6	11.6	8.4	0.8	0.2	2.0
Fodder	86.7	85.2	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.3	14.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rattan	32.7	27.7	43.4	0.0	0.0	0.0	0.0	0.0	0.0	37.2	48.1	13.7	13.4	12.5	15.3	0.0	0.0	0.0	16.7	11.7	27.5	0.0	0.0	0.0
Plant medicines	77.8	72.3	87.3	40.2	44.3	33.0	4.4	7.0	0.0	5.9	6.9	4.2	1.8	2.8	0.0	7.5	11.0	1.4	4.2	5.7	1.4	0.7	1.1	0.0
Herbs and spices	69.4	64.7	79.6	43.5	45.4	39.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.1	12.0	12.3	8.9	8.0	10.8	0.0	0.0	0.0
Dying / tanning	100.0		100.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Seeds (for regeneration purposes)	56.0	72.8	43.0	8.9	20.4	0.0	11.9	27.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.1	0.0	57.0	0.0	0.0	0.0	0.0	0.0	0.0
Fibres (for rope etc.)	74.0	70.5	82.3	28.2	28.2	28.2	0.7	0.9	0.0	8.5	8.5	8.3	2.0	1.4	3.5	12.6	14.1	9.1	6.4	6.7	5.6	0.8	1.1	0.0
Wildlife (including Mice, bush meat)	67.4	73.4	60.3	27.0	26.3	27.8	0.0	0.0	0.0	3.4	6.3	0.0	0.0	0.0	0.0	19.5	20.7	18.0	7.3	8.9	5.4	5.6	0.0	12.2
Beekeeping activities / honey collection	54.8	51.0	59.0	43.4	36.1	51.5	0.8	0.0	1.7	16.1	19.6	12.2	4.5	0.0	9.4	7.9	10.7	4.9	6.4	12.2	0.0	0.8	0.0	1.7
Caterpillar	71.3	78.9	61.0	17.9	10.9	27.4	1.2	2.1	0.0	0.0	0.0	0.0	0.3	0.0	0.6	10.8	4.9	18.9	18.6	18.2	19.1	1.5	2.7	0.0
Other	28.6	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.6	50.0	0.0	42.8	0.0	100.0	28.6	50.0	0.0	0.0	0.0	0.0

Table 4.4 shows ths percentage distribution of households by use of the forest products in rural Eastern Province in 2020

Overall, results show that all households that collected industrial wood, fuel wood and herbs and spices collected them for domestic uses, 24.5 percent collected charcoal for sale while those who did bee keeping activities and/or honey collection for sale were mostly beneficiary households at 40.3 percent compared to 8.3 percent of non-beneficiary households. Households that collected wildlife (Mice, Bush meat) for the purpose of selling at provincial level were 13.1 percent with beneficiary households having a higher average at 18 percent while non-beneficiary households were at 7.3 percent.

Those who collected mushrooms for domestic purposes where 99.1 percent, while those who collected for sale purposes where 4.2 percent. Non-beneficiaries had a higher average of households collecting mushrooms for sale at 6 percent compared to 3.3 percent of the beneficiary households.

Table 9.4: Percentage Distribution of Households by Use of Forest Products, Rural Eastern Province 2020

Forest Products	Domestic			Sale			Bartering			Other		
	Over-all	Ben	Non-Ben	Over-all	Ben	Non-Ben	Over-all	Ben	Non-Ben	Over-all	Ben	Non-Ben
Industrial wood	100.0	100.0	100.0	5.1	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel wood	100.0	100.0	100.0	0.5	0.4	0.6	0.1	0.1	0.0	0.2	0.4	0.0
Charcoal	90.3	89.7	91.3	24.5	25.7	22.5	1.4	0.0	3.8	0.0	0.0	0.0
Wood for wood carvings	98.6	97.4	100.0	1.7	0.0	3.6	1.0	0.0	2.1	1.4	2.6	0.0
Wood for poles	97.8	96.6	100.0	2.8	3.0	2.5	0.0	0.0	0.0	0.5	0.7	0.0
Fruits, nuts, seeds, roots, berries, etc	99.9	100.0	99.5	2.9	2.3	4.4	0.5	0.8	0.0	0.0	0.0	0.0
Mushrooms	99.1	98.6	100.0	4.2	3.3	6.0	0.3	0.2	0.6	0.0	0.0	0.0
Fodder	89.8	100.0	0.0	0.0	0.0	0.0	10.2	0.0	100.0	0.0	0.0	0.0
Rattan	87.8	88.5	86.3	22.3	26.3	13.7	0.0	0.0	0.0	0.0	0.0	0.0
Plant medicines	98.2	99.1	96.6	1.4	2.2	0.0	1.2	0.0	3.4	0.0	0.0	0.0
Herbs and spices	100.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dying / tanning	100.0		100.0	0.0		0.0	0.0		0.0	0.0		0.0
Seeds (for regeneration purposes)	100.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fibres (for rope etc.)	99.4	100.0	98.0	0.0	0.0	0.0	1.2	0.9	2.0	0.0	0.0	0.0
Wildlife (including Mice, bush meat)	92.4	87.6	98.1	13.1	18.0	7.3	0.0	0.0	0.0	0.0	0.0	0.0
Beekeeping activities /honey collection	95.5	92.9	98.3	25.0	40.3	8.3	0.0	0.0	0.0	0.0	0.0	0.0
Caterpillar	100.0	100.0	100.0	8.3	9.9	6.2	0.0	0.0	0.0	0.0	0.0	0.0
Other	57.2	100.0	0.0	42.8	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0

The survey also collected data from household on how long it took them to take a round trip to collect forest products. Results in table 9.5 show that it took households an average of 53.7 minutes to collect charcoal, 45.5 minutes to collect fruits, nuts, berries, seeds etc, 46.3 minutes for mushrooms and 57.3 minutes for caterpillars.

Notably, dying and tanning was only done by non-beneficiary households took the shortest round trip of only 5minutes while the longest round trip was taken by those who collected Wood for carvings at 65.1 minutes.

Table 9.5: Taken in minutes by Households collecting Forest Products by Type, Rural Eastern Province 2020

Forest Products	Time it takes to go the site in which product is usually collected (Average minutes)		
	Overall	Ben	Non-Ben
Industrial wood	47.0	49.6	42.5
Fuel wood	53.7	54.4	52.3
Charcoal	43.1	45.5	38.9
Wood for wood carvings	65.1	64.5	65.8
Wood for poles	57.0	56.8	57.3
Fruits, nuts, seeds, roots, berries, etc	45.5	44.6	47.6
Mushrooms	46.3	43.8	51.5
Fodder	20.9	17.7	50.0
Rattan	53.8	39.6	84.7
Plant medicines	39.6	43.0	33.8
Herbs and spices	42.5	42.3	43.0
Dying / tanning	5.0		5.0
Seeds (for regeneration purposes)	50.1	46.1	53.3
Fibres (for rope etc.)	43.8	41.7	48.8
Wildlife (including Mice, bush meat)	64.8	71.8	56.7
Beekeeping activities /honey collection	48.5	55.9	40.3
Caterpillar	57.3	48.5	70.5
Other	77.2	120.0	20.0

Table 9.6 shows the distance covered by households from the homestead to access forest products by type and distance. Results show that the farthest distance households travelled was 9.2 kilometers to collect fuel wood followed by households who collected Plant medicines at 6.1 kilometers. Households that collected rattan covered the shortest distance of 1.2 kilometres.

Beneficiary households covered the farthest distance to collect fuel wood (9.6 kilometres) while non-beneficiary households covered an average of 8.2 kilometres to collect fuel wood.

Table 9.6 Distance (KMs) Covered from the Homestead to Access Forest Products by Type and District in Rural Eastern Province, 2020

Forest Products	Distance to the site in which product is usually collected (Average kilometers)		
	Overall	Ben	Non-ben
Industrial wood	3.3	3.3	3.4
Fuel wood	9.2	9.6	8.2
Charcoal	3.8	3.6	4.1
Wood for wood carvings	2.7	2.7	2.8
Wood for poles	4.6	4.4	5.0
Fruits, nuts, seeds, roots, berries, etc	3.2	3.5	2.5
Mushrooms	2.9	2.9	3.0
Fodder	2.0	2.1	1.0
Rattan	1.2	1.1	1.5
Plant medicines	6.1	6.6	5.3
Herbs and spices	1.4	1.4	1.4
Dying / tanning			
Seeds (for regeneration purposes)	1.7	1.4	1.9
Fibres (for rope etc.)	5.2	3.1	10.2
Wildlife (including Mice, bush meat)	3.6	5.0	1.9
Beekeeping activities /honey collection	2.0	2.7	1.4
Caterpillar	4.8	5.9	3.2
Other	2.7	4.0	1.0

The survey collected information from households on the availability of forest products by type of forest product. Overall, households that reported collecting seeds (for regeneration purposes) had the highest proportion at 41 percent, followed by those who reported an increase in fodder at 19.7 percent and the least increase was households who collected Caterpillars at 1.5 percent.

Households that collected Herbs and Spices, Dying and Tanning and Wildlife (including Mice, bush meat) did not report any increase in availabilities of the said items.

Table 9.7: Proportion of Households Reporting Increase in Availability of Forest Products, Rural Eastern Province 2020

Forest Products	TOTAL COUNT			Increased		
	Overall	Ben	Non-ben	Overall	Ben	Non-ben
Industrial wood	10,396	6,635	3,761	2.5	3.9	0.0
Fuel wood	173,463	113,659	59,804	6.8	7.9	4.6
Charcoal	25,379	16,194	9,185	6.6	7.9	4.3
Wood for wood carvings	11,860	6,256	5,603	7.6	10.1	4.9
Wood for poles	39,876	26,353	13,523	8.2	10.0	4.7
Fruits, nuts, seeds, roots, berries, etc	43,014	30,891	12,123	12.5	13.5	9.8
Mushrooms	72,168	48,953	23,214	7.6	7.4	8.1
Fodder	1,391	1,250	142	19.7	22.0	0.0
Rattan	1,823	1,247	576	4.8	0.0	15.3
Plant medicines	14,532	9,207	5,325	7.2	8.0	5.8
Herbs and spices	4,429	3,039	1,390	0.0	0.0	0.0
Dying / tanning	60	-	60	0.0	0.0	0.0
Seeds (for regeneration purposes)	680	297	383	41.0	20.4	57.0
Fibres (for rope etc.)	29,972	20,994	8,978	4.9	6.3	1.6
Wildlife (including Mice, bush meat)	6,058	3,274	2,784	0.0	0.0	0.0
Beekeeping activities /honey collection	6,423	3,359	3,064	5.0	4.9	5.1
Caterpillar	13,003	7,494	5,509	1.5	2.6	0.0
Other	510	292	218	0.0	0.0	0.0

The 2020 BIAS collected data from households on the decrease in availability of forest products in rural Eastern Province in 2020. Table 9.8 shows the proportion of beneficiary and non-beneficiary households reporting a decrease in availability of forest products by type of forest product in rural Eastern Province. Overall, results show that 83.8 percent of the households who collected Industrial wood reported a decrease in its availability. By beneficiary status, 79.2 percent of the beneficiary households reported a decrease compared to 91.9 percent decrease in industrial wood. The least decrease in availability in forect products was reported among those collecting seed for regeneration at 11.9 percent.

Dying and tanning was the only item reported not have a reduction in availability among both the sampled beneficiary and non-beneficiary households.

Table 9.8: Proportion of Households reporting a Decrease in availability of Forest Products, Eastern Province 2020

Forest Products	TOTAL COUNT			Decline		
	Overall	Ben	Non-ben	Overall	Ben	Non-ben
Industrial wood	10,396	6,635	3,761	83.8	79.2	91.9
Fuel wood	173,463	113,659	59,804	62.0	61.7	62.7
Charcoal	25,379	16,194	9,185	62.7	62.9	62.4
Wood for wood carvings	11,860	6,256	5,603	73.6	67.5	80.4
Wood for poles	39,876	26,353	13,523	69.4	66.6	74.9
Fruits, nuts, seeds, roots, berries, etc	43,014	30,891	12,123	40.5	39.7	42.5
Mushrooms	72,168	48,953	23,214	40.2	36.7	47.7
Fodder	1,391	1,250	142	30.7	34.2	0.0
Rattan	1,823	1,247	576	78.7	76.0	84.7
Plant medicines	14,532	9,207	5,325	48.9	47.9	50.7
Herbs and spices	4,429	3,039	1,390	62.7	76.5	32.7
Dying / tanning	60	-	60	0.0	0.0	0.0
Seeds (for regeneration purposes)	680	297	383	11.9	27.2	0.0
Fibres (for rope etc.)	29,972	20,994	8,978	42.5	41.6	44.7
Wildlife (including Mice, bush meat)	6,058	3,274	2,784	26.2	33.1	18.1
Beekeeping activities /honey collection	6,423	3,359	3,064	30.7	15.3	47.6
Caterpillar	13,003	7,494	5,509	59.4	52.5	68.8
Other	510	292	218	28.6	50.0	0.0

Over time, pressure has increase on forest products due to increased demand from growing population. Households have had to find ways of coping with the changing situation. The BIAS asked households what they did in response to the decrease in availability of Forest products that they use for domestic and commercial purposes. Table 10.9 shows the percentage distribution of beneficiary and non-beneficiary household's response to the decrease in forest products in rural Eastern Province. Results show that 50.3 percent of all households who collected industrial wood reported that the decrease did not influence the households harvest of the items, 16.8 percent of all households who collected charcoal also reported that the decrease of the availability did not influence their harvest of it.

Further, results also show that 1.9 percent of the households that reported having stopped harvesting Industrial wood, 38 percent reported having stopped harvesting herbs and spices, and 56.8 percent of the households that collected fodder cited increased collection time.

Results also show that 8 percent of households that reported collecting fuel wood decided to preserve the standing trees.

Table 9.9: Percentage distribution of household's response to the Decrease in Forest Products Availability, Eastern Prov

	It did not influence the HH harvest of forest products			Increase collection time (incl. travelling to areas further away)			Buy the product from other suppliers			Reduce harvesting of the product			Stop harvesting of the product			Sul typ
	Overall	Ben	Non-ben	Overall	Ben	Non-ben	Overall	Ben	Non-ben	Overall	Ben	Non-ben	Overall	Ben	Non-ben	Over
Industrial wood	50.3	46.3	56.4	4.2	4.4	3.8	8.6	8.7	8.3	22.1	26.8	14.9	1.9	0	4.7	0
Fuel wood	30.3	32.1	27	22.1	19.8	26.5	5.3	5.9	4.1	24.8	24.2	26	6.4	7.2	4.8	6.2
Charcoal	16.8	15.4	19.1	10.4	12.1	7.4	15.8	14.5	18	39.5	41.6	35.7	8	5.4	12.7	4.7
Wood for wood carvings	24.3	37.9	11.5	1.4	0	2.6	1.6	0	3	37.3	21	52.5	6.8	7.4	6.2	8
Wood for poles	19.2	17.3	22.6	10.1	11	8.5	9.2	7.9	11.4	29.5	29.9	28.8	12	13.4	9.6	9.7
Fruits, nuts, seeds, roots, berries, etc	25.7	25.3	26.6	15.5	17.7	10.5	24	19.8	34.1	17.3	22.2	5.8	0.9	0	2.9	10
Mushrooms	29.9	28.8	31.8	16.2	16.9	15	21.7	21	22.9	10.3	9.3	11.9	5.5	4.8	6.5	9.9
Fodder	43.2	43.2		56.8	56.8		0	0		0	0		0	0		0
Rattan	28.7	17.1	51.3	21.2	15.4	32.5	23.4	35.5	0	44.6	67.5	0	0	0	0	22.
Plant medicines	11.9	9.8	15.2	13.4	15.4	10.3	19.8	14	29.1	26.8	27.9	25	6.1	8	2.9	3.7
Herbs and spices	0	0	0	16.6	19.9	0	8.9	0	54.3	24.8	20.7	45.7	38	45.5	0	0
Dying / tanning																
Seeds (for regeneration purposes)	0	0		0	0		0	0		0	0		0	0		0
Fibres (for rope etc.)	25.6	20.7	36.4	1.5	1.9	0.8	5.7	8.4	0	24.6	26.1	21.4	12.2	15.2	5.7	8
Wildlife (including Mice, bush meat)	37.9	22.8	70.4	0	0	0	9.4	0	29.6	47.6	69.7	0	5.1	7.5	0	0
Beekeeping activities /honey collection	66.8	54.7	71.1	17.8	45.3	8.1	0	0	0	7	0	9.5	0	0	0	0
Caterpillar	43.4	24.9	62.7	7.2	14	0	18.3	15.4	21.2	14.6	16.5	12.7	6.4	9.3	3.4	7.4
Other	0	0		0	0		0	0		0	0		0	0		0

vince 2020

bstitute with other e of forest product			Substitute with agricultural products			Conserving standing trees			Planting Trees			Restrivting access/use			Other		
all	Ben	Non-ben	Overall	Ben	Non-ben	Overall	Ben	Non-ben	Overall	Ben	Non-ben	Overall	Ben	Non-ben	Overall	Ben	Non-ben
	0	0	0	0	0	0	0	0	7	7.2	6.8	8.6	11	4.9	0	0	0
2	6.7	5.2	1.9	2.1	1.7	8.3	8.2	8.4	14.1	13.6	15.1	3.5	3.1	4.2	4.1	4.9	2.7
7	0.6	12	2.5	3.9	0	2.9	3.1	2.6	4.7	4.8	4.6	5.4	4.7	6.5	2.7	4.2	0.2
	8.7	7.3	0	0	0	3.5	3.3	3.8	22.5	22.2	22.9	12	11.2	12.7	0	0	0
7	10.4	8.6	4.2	4.1	4.4	10.7	13.4	5.8	17.1	20.8	10.7	7.3	5.7	10	4	4.9	2.6
	9.3	11.7	12.5	13.1	11.1	11.3	14.4	4.1	26.4	25.8	27.9	3.4	3.7	2.7	1.1	1.5	0.1
9	12.2	6.2	10.1	13.6	4.3	4.7	6.4	1.9	7.7	9.8	4.4	5	3.9	6.7	2	3.3	0
	0		0	0		0	0		0	0		0	0		0	0	
9	0	67.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	4.2	2.9	1.1	1.8	0	8.4	11.8	2.9	31.7	35.2	26	7.2	8.2	5.5	0	0	0
	0	0	0	0	0	12.1	14.5	0	44	46.9	29.2	11.7	14	0	0	0	0
	0		0	0		0	0		0	0		100	100		0	0	
	5.3	14	3.9	3.7	4.2	18	14.5	25.4	37	39.6	31.3	3.3	4.8	0	1.9	2.1	1.5
	0	0	0	0	0	0	0	0	0	0	0	16.2	9.9	29.6	0	0	0
	0	0	0	0	0	14.4	0	19.4	6.7	0	9.1	0	0	0	0	0	0
4	14.6	0	1	2	0	4.6	9	0	5	9.9	0	3.1	6.1	0	0	0	0
	0		0	0		0	0		0	0		0	0		100	100	

Chapter 10: Contribution to Household Income of Wood and Non-wood Forest Products

Chapter 10: Contribution to Household Income of Wood and Non-wood Forest Products

The BIAS 2020 asked households to rank the contribution of Wood and Non-wood forest products to their income. Forest products have for a very long time been the source of livelihood for many communities living in and around forests. This has played a part in ensuring that households are able to generate income from the sale of various products derived from the forests. There are many products that are at the disposal of households for the purpose of generating income. The baseline survey collected information from households on the income they generate from various forest products.

The survey asked households to rank from 1 to 5, what they perceived to be the highest contributor to their income from forest products. The lowest ranked score was "1" and the highest ranking score was assigned a "5"

Table 10.1 shows ranking of contribution of wood and Non-wood forest products towards household income

Results shows that among all the households that said 'yes' to generating income from forest products for own consumption, those that ranked it 'fith' had the highest proportion at 32.5 percent followed by those who ranked it 'third' at 25.5 percent with the least being those who ranked it '1st' at 4.7 percent.

Table 10.1 Ranking of the Contribution towards Household Income of Wood and Non-Wood Forest Products by Type, Rural Eastern Province, 2020

Forest Product	Ranking (Importance towards HH Income)					
	1	2	3	4	5	Do not know
For Own Consumption	4.7	12.5	25.5	24	32.5	0.7
Industrial wood	3.2	5.2	33.3	34.2	21.5	2.5
Fuel wood	4.3	8.3	11.9	23.3	52.2	0
Charcoal	3.3	13.8	25.1	29.5	28.3	0
Wood for wood carvings	0	8.6	22.7	30.8	37.8	0
Wood for poles	0	6.2	27.1	42.3	22.1	2.4
Fruits, nuts, seeds, roots, berries, etc	4.7	18.8	28	22.5	24.5	1.6
Mushrooms	9.4	14.2	50.1	19.3	6	0.9
Fodder	0	79.2	0	0	20.8	0
Rattan	0	18.7	1.1	35.2	44.9	0
Plant medicines	9.8	22.5	35.9	10.7	21.1	0
Herbs and spices	0	45.6	31	23.4	0	0
Dying / tanning	0	0	0	0	0	0
Seeds (for regeneration purposes)	0	40.2	0	23.3	36.4	0
Fibres (for rope etc.)	2.4	3.5	23.2	11.9	59.1	0
Other plant products	1.9	9.7	31.3	27.7	29.4	0
Wildlife (including bush meat)	8.8	9.9	52.4	14.2	7.2	7.5
Beekeeping activities / honey collection	19.4	23.8	20.2	20.2	16.4	0
Caterpillar	9.3	30.8	32.2	24.2	3.5	0
Other	0.8	4.5	8.5	17.6	67.5	1.1

Results in Table 10.2 shows the average Income from wood and non-wood forest products by sex of head and district, rural Eastern Province 2020. Industrial wood contributed the largest average income in rural Eastern Province at 537.7 kwacha, followed by bee keeping activities at 503.6 kwacha with the least being level fibres for rope with an average of 39.5 kwacha.

Male headed households earned a higher average income from wood and non-wood forest products at 296.9 kwacha to that of female headed households at 286.0 kwacha.

Table 10.2: Average Income from Wood and Non-Wood Forest Products by Sex of Head and District, Rural Eastern Province 2020

Forest Product	Male	Female	Total
	Total income from ...	Total income from ...	Total income from ...
Industrial wood	624.4	222.7	537.7
Fuel wood	127.9	116.9	125.6
Charcoal	432.3	363.4	421.4
Wood for wood carvings	170.9	275.9	178.5
Wood for poles	155.8	279.3	173.5
Fruits, nuts, seeds, roots, berries, etc	79.6	48.8	72.4
Mushrooms	47.9	78.4	54.0
Fodder	102.3	400.0	164.4
Rattan	419.5	.	419.5
Plant medicines	78.8	31.1	68.9
Herbs and spices	480.0	.	480.0
Dying / tanning	.	.	.
Seeds (for regeneration purposes)	103.6	450.0	176.4
Fibres (for rope etc.)	39.5	25.8	37.0
Other plant products	511.5	604.1	539.5
Wildlife (including bush meat)	137.3	91.1	131.0
Beekeeping activities / honey collection	477.0	561.5	503.6
Caterpillar	200.6	6.1	175.5
Other	1,774.4	645.9	1,412.2
Total	**296.9**	**242.2**	**286.0**

Table 10.3: Average Income from Main Economic Activity by Sex and District Rural Eastern Province 2020

Disegregation	Mean Total Income from Main Economic Activity last 12 Months	
Sex	Total	4,248
	Male	4,694
	Female	2,535
Region	Rural	3,884
	Urban	9,463
District	Chadiza	6,247
	Chasefu	1,946
	Chipangali	3,486
	Chipata	7,889
	Kasenengwa	2,358
	Katete	5,120
	Lumezi	4,317
	Lundazi	3,755
	Mambwe	7,026
	Lusangazi	5,010
	Nyimba	2,773
	Petauke	3,400
	Sinda	3,477
	Vubwi	5,670

Chapter 11: Household Income from Non-Agriculture and Forest Activities

Chapter 11: Household income from Non-agriculture and Forest activities

The survey collected information from households on Incomes from non-agriculture and forest activities in the last 12 months prior to the survey. These incomes reflect combined total earnings from non-agriculture and forest activities. Table12.1 shows the average monthly household earnings from non-agriculture and forest activities by sex of head, beneficiary status and district in rural Eastern Province in 2020

Overall, results show that the average income earned per month by households in rural Eastern was ZMW3, 955.47. Analysed further by beneficiary status, beneficiary households earned ZMW431.31 more than non-beneficiary households whose monthly average earning was ZMW 4,113.35 compared to ZMW 3,682.04 earned by their non-beneficiary counterparts. Further, analysis by sex of head at provincial level, results show that male-headed beneficiary households on average earned ZMW 422.49 more than their non-beneficiary counterparts at ZMW 4,422.60 and ZMW4, 000.11, respectively. Similar to male-headed households, female beneficiary households earned ZMW305.11 more non-beneficiary households whose earning was ZMW2, 590.65.

Analysed by district and beneficiary status, Chipata had the highest average earning among both beneficiary and non-beneficiary households at ZMW7, 759.74 and ZMW6, 966.53, respectively. Chasefu had the lowest average monthly earnings for both beneficiary and non-beneficiary households at ZMW1, 945.80 and ZMW 1,338.94, respectively.

By sex of head, results show that Chipata had the highest average earnings among both beneficiary and non-beneficiary households while Mambwe District had the highest average earnings for both beneficiary and non-beneficiary female-headed households at ZMW6, 852.69 and ZMW7, 697.72, respectively. Chasefu District recorded the lowest average earnings for beneficiary and non-beneficiary female-headed households at ZMW1, 273.17 and ZMW868.92, respectively.

Table 11.1: Average Monthly Household Earnings from Non-agriculture and Forest Activities, by Sex of Head, Beneficiary Status and District, rural Eastern Province 2020

District	Average household income from Non-Agriculture and Forest Activities (ZMK)								
	Monthly average			Male headed			Female headed		
	Overall	Ben	Non-Ben	Overall	Ben	Non-Ben	Overall	Ben	Non-Ben
Rural Eastern	**3,955.47**	**4,113.35**	**3,682.04**	**4,270.82**	**4,422.60**	**4,000.11**	**2,776.32**	**2,895.76**	**2,590.65**
Chadiza	5,364.26	5,044.49	6,089.51	5,744.15	5,409.38	6,468.50	3,575.05	3,459.44	3,906.71
Chasefu	1,770.53	1,945.80	1,338.94	1,941.45	2,098.26	1,511.26	1,123.23	1,273.17	868.92
Chipangali	2,858.48	2,516.22	3,858.64	3,174.65	2,629.01	4,875.23	2,022.00	2,199.47	1,580.69
Chipata	7,537.44	7,759.74	6,966.53	8,335.81	8,164.19	8,903.70	4,923.93	5,950.68	3,606.43
Kasenengwa	2,370.50	2,228.32	2,488.54	2,578.31	2,365.45	2,769.90	1,461.18	1,450.96	1,467.08
Katete	5,206.10	5,359.60	4,966.03	6,330.78	6,671.54	5,809.69	2,617.79	2,426.30	2,933.34
Lumezi	2,551.92	2,633.48	2,474.08	2,623.05	2,700.28	2,549.69	1,742.40	1,894.25	1,589.97
Lundazi	3,065.58	3,330.51	2,754.50	3,155.99	3,491.34	2,785.73	2,634.66	2,674.44	2,571.60
Mambwe	6,511.33	7,372.80	5,080.51	6,287.43	7,524.79	4,103.12	7,207.54	6,852.69	7,697.72
Lusangazi	5,339.91	6,374.36	2,582.65	5,861.94	7,030.68	2,512.69	2,408.11	2,156.35	2,871.22
Nyimba	2,873.41	3,046.15	2,730.23	3,198.63	3,419.22	2,996.71	1,943.51	1,714.05	2,085.77
Petauke	3,266.32	3,030.14	3,838.09	3,497.85	3,229.37	4,142.03	2,516.76	2,392.27	2,827.09
Sinda	3,829.36	3,968.23	3,443.29	4,302.45	4,310.50	4,278.72	1,995.93	2,537.68	777.14
Vubwi	5,803.97	5,673.15	6,143.19	5,885.09	5,783.23	6,176.27	4,880.28	3,829.30	5,946.56

Table 11.2 depicts the percentage share of households who reported Buying or Bartering Forest and Non-forest Products by Type in the Last 12 Months in Rural Eastern Province in 2020

The details in Table 11.2 covers industrial wood, firewood, wood for charcoal, wood for carvings, wood for poles, fruits, nuts, seed, roots, berries, tubers, mushrooms, caterpillars, bush meat and honey at provincial level.

Overall, results show that 6.1 percent of the total households (340,345) in rural Eastern Province either bought or bartered forest or non-forest products reflecting the largest share. Another 3.9 percent of the households either bought or bartered wood for charcoal representing the second largest share. Further, households that bought or bartered mushrooms and fruits (berries, nuts, seed, roots, berries, tubers) at 1.9 and 1.1 percent, respectively represented the third and fourth largest shares. Households that bought or bartered wood for carvings and plants medicines represented the least shares at 0.1 percent.

Analysed by beneficiary status, households that bought or bartered firewood represented the largest shares among both beneficiary and non-beneficiary households at 6.1 percent. Further, 0.5 percentage more non-beneficiary households reported having either bought or bartered wood for charcoal at 4.9 percent compared to their beneficiary counterparts at 3.4 percent. Furthermore, 0.8 percentage-point more non-beneficiary households than beneficiary households reported either buying or having bartered mushrooms at 1.7 and 2.5 percent, respectively. The least shares was recorded among households who either bought or bartered wood for carvings at 0.1 and 0.2 percent, respectively.

Table 11.2 Percentage Share of Households who Reported Buying or Bartering Forest and Non-forest Products by Type in the Last 12 Months in rural Eastern Province in 2020

Forest and Non Forest Product	Overall	Beneficiary	Non-beneficiary
Household	340,345	217,723	122,622
Industrial wood	0.4	0.4	0.4
Fire wood	6.1	6.1	6.1
Wood for charcoal	3.9	3.4	4.9
Wood for carvings	0.1	0.1	0.2
Wood for poles	0.6	0.7	0.5
Fruits, nuts, seed, roots, berries, tubers	1.1	0.9	1.3
Mushroom	1.9	1.7	2.5
Plant medicines	0.1	0.3	0.3
Herbs and spices	0.2	0.3	0.0
Fibers	0.3	1.3	1.9
Bush meat	0.4	0.3	0.6
Honey	1.5	1.3	1.9
Caterpillar	0.6	0.8	0.2

11.3 Total Value (ZMW) of Forest and Non-forest Food Products bought by Type, District and Province.

The survey collected information from households on total expenditure on Forest and Non-forest products in cash or kind in the last 12 months.

Table 11.3 shows the average amounts in Zambian Kwacha (ZMW) spent by households on various forest products by type and beneficiary status in rural Eastern Province in 2020

Overall, results show that, on average households spent ZMW 856.87 on industrial wood representing the largest amount. The second and third largest expenditures were on wood for carvings and firewood at ZMW 413.24 and ZMW220.53, respectively. Fibres represented the forest product on which households, on average, spent the least amount at ZMW34.44.

Analysed by beneficiary status, Non-beneficiary households spent 3 times more on industrial wood than beneficiary households at ZMW1, 444.22 compared to beneficiary households who spent an average of ZMW476.54 over the last 12-month period. Similar to the overall picture, household expenditure on wood for carvings and firewood represented the second and third largest items among both beneficiary and non-beneficiary households. Beneficiary households spent ZMW320.54; ZMW250.64 and ZMW205.72 on wood for carvings, firewood and wood for charcoal, respectively. Non-beneficiary households spent ZMW181.88 more on wood for carvings than their beneficiary counterparts at ZMW502.42. Additionally, these same non-beneficiary households spent ZMW167.33 and ZMW107.11 on firewood and wood for charcoal, respectively.

Table 11.3: Total value in ZMW of Forest and Non-forest Food Products bought by Type, Rural Eastern Province over Last 12 Months.

Forest and Non Forest Product	Total amount spent on forest food product (ZMK)		
Rural Eastern	Overall Average	Beneficiary Average	Non-beneficiary Average
Industrial wood	856.87	476.54	1444.22
Fire wood	220.53	250.64	167.33
Wood for charcoal	160.36	205.72	107.11
Wood for carvings	413.24	320.54	502.42
Wood for poles	56.49	56.68	56.10
Fruits, nuts, seed, roots, berries, tubers	58.85	68.77	46.48
Mushroom	36.47	37.66	35.02
Caterpillars	45.64	38.77	64.30
Plant medicines	63.66	20.00	77.36
Herbs and spices	60.28	67.20	5.00
Fibers	34.44	29.60	42.20
Bush meat	68.83	102.36	39.32
Honey	34.81	42.36	25.05
Caterpillar	52.76	55.78	32.76

11.4 Average Distance to the Markets where most of the products are bought by Type and Location in Rural Eastern Province, 2020

The survey collected information regarding the average distance from the homestead to various points of sale of forest and non-forest products. The points of sale included a homestead, roadside within the community, and other places within the community, Boma, within the district and within the province.

Table 11.4 shows average distance to the markets where most of the products are bought by type and location, rural Eastern Province, 2020. Overall, results show that households in pursuit of herbs and spices covered the largest distance to the nearest market of 14.016 kilometres followed by those in pursuit of caterpillars and industrial wood at 9.152 and 6.554 kilometres in second and third place, respectively. Generally, households in pursuit of bush meat covered the shortest distance from their homestead at 0.604 kilometres.

Disaggregated by beneficiary status, beneficiary households in pursuit of herbs and spices covered the largest distance to the nearest market, on average, 15.269 kilometres from their homestead followed by those in pursuit of caterpillars at 10.820 kilometres. Further, households in pursuit of honey and industrial wood covered the third and fourth largest distances at 6.298 and 4.540 kilometres, respectively. The shortest distance to the nearest market covered among beneficiary households was 0.604 kilometres by those in pursuit of bush meat.

Further, non-beneficiary households, households in pursuit of mushrooms covered the largest distance to the nearest market of 10.843 kilometres. Furthermore, households in pursuit of industrial wood and wood for poles covered the second and third largest distances to the nearest market at 9.663 and 7.259 kilometres, respectively. The shortest distance being covered by those in pursuit of bush meat like the case for their beneficiary counterparts at 0.553 kilometres.

Table 11.4 Average Distance to the Markets where most of the Products are bought by Type and Location, Rural Eastern Province, 2020

Rural Eastern	Distance to location where household buys the most product (km)		
	Overall Average	Beneficiary Average	Non-beneficiary Average
Herbs and spices	14.016	15.269	4.000
Caterpillars	9.152	10.820	2.056
Industrial wood	6.554	4.540	9.663
Mushroom	5.479	1.602	10.843
Honey	4.281	6.298	2.223
Wood for poles	3.987	2.845	7.259
Wood for charcoal	3.269	2.858	3.747
Wood for carvings	3.118	2.402	4.643
Fire wood	3.110	2.566	4.304
Plant medicines	2.881	0.000	2.881
Fruits, nuts, seed, roots, berries, tubers	2.687	2.569	2.817
Fibers	1.194	1.315	1.000
Bush meat	0.604	0.664	0.553

11.5 Average time taken by Households to get to the Location where products are bought by Mode of Transport in Rural Eastern Province in 2020

The survey collected data based on the best knowledge of the respondent regarding the amount of time in minutes' households took to travel to the nearest main market where they purchased or bartered Forest and Non-forest products using various mode of transport. The modes of transport covered were oxcart, bicycle, truck, car, boat, motorcycle and other (bicycle, footing, etc). Table 11.5 shows the average time taken by households in Minutes to get to the Location where the products are bought by Mode of Transport by District, Rural Eastern Province, 2020

Among households that used a motorcycle, results show that on average, it took 30.5 minutes to reach the nearest location where they could buy a forest or non-forest product. Further, beneficiary's households took 21 minutes less than non-beneficiary households at 23.6 and 44.7 minutes, respectively.

By car, the overall time required to reach the nearest location where a household could buy a forest or non-forest product was 69.8 minutes which was higher than the time required for both beneficiary and non-beneficiary households to reach at 43.4 and 45 minutes, respectively.

Using a truck as a mode of transportation, a household generally required a quarter of an hour to reach the nearest location where they could buy a forest or non-forest product while beneficiary households reportedly took 47.5 minutes relative to 36.2 minutes taken by non-beneficiary households.

By ox-cart, the overall time required to reach the nearest location where a household could buy a forest or non-forest product was 66.8 minutes. However, beneficiary households required more time than their non-beneficiary counterparts at 68.9 minutes relative to 61.1 minutes.

Analysed by bicycle, overall results show that households took 39.6 minutes to reach the desired location where they could buy either a forest or non-forest product. Beneficiaries took less time compared to their non-beneficiary counterparts who required 40.3 minutes to reach the location where they could buy forest or non-forest products.

Further analysed by households who walked to reach the nearest location where they could but either a forest or non-forest products, results show that it took 17.4 minutes while beneficiary households took slightly more time at 18.4 minutes compared to 16 minutes taken by non-beneficiary households.

Table 11.5: Average time taken by Households in Minutes to get to the Location where the products are bought by Mode of Transport by District, Rural Eastern Province, 2020

District	Motorcycle			Car			Truck			Boat/Canoe			Ox-cart			Bicycle			On foot			Other		
	Over-all	Ben	Non-Ben	Over-all	Ben	Non-Ben	Over-all	Ben	Non-Ben	Over-all	Ben	Non-Ben	Over-all	Ben	Non-Ben	Over-all	Ben	Non-Ben	Over-all	Ben	Non-Ben	Over-all	Ben	Non-Ben
Rural Eastern	**30.5**	**23.6**	**44.7**	**69.8**	**43.4**	**45**	**45.3**	**47.5**	**36.2**	**52.8**	**180**	**0**	**66.8**	**68.9**	**61.1**	**39.6**	**38.8**	**40.3**	**17.4**	**18.4**	**16**	**3.6**	**1.9**	**5.6**
Chadiza	45	45		56.3		56.3	93	120	65				103.2	120.2	51	76.6	76.6		21.3	25.3	8.9	0	0	
Chasefu	4.9	4.9		201.3	201.3								46.2	46.2		60	60		19.1	24	5	8.7	0	30
Chipangali							4	4					60	60		2	2		11.4	20	5			
Chipata				13.5	9.2	18.6							1	1					6.9	9.6	2.5	0		0
Kasenengwa													10	10		15	15		8.3	5	9.4			
Katete				45.5	60	15	25	25					69.6	69.6		6.3	5	15	7.6	2.9	15.1			
Lumezi	43.8	43.4	45	136.7	136.7								80	92.6	51.9	43.4	44.6	40.9	17.7	20.3	14.3			
Lundazi	42.1	37.4	44.7	14.2	16.3	10	47	60	30	0		0	62.8	49.8	67.4	45.5	30	48.5	23	21.4	25	2.6	5.7	0
Mambwe				108.3	60	120							32.4	47.6	0	24.6	0	37.1	15.5	24.9	2.5			
Lusangazi																			15		15			
Nyimba	40	40		5.5	5.5								15	15		33.1		33.1	31	47.5	23.6			
Petauke	30	30		120	120								42.2	42.2		48.7	65.5	37.7	39.9	40.7	30			
Sinda	3.5	3.5											140.4	186	83.1	28.5	27.2	30	8.7	3.4	17.3			
Vubwi							85	85		180	180		72.8	71.7	75.7	80		80	24.9	42.6	0	0	0	

11.6 Percentage Distribution of Main Sellers of Forest Food Products by Type, Rural Eastern Province, 2020

The survey collected information regarding the main sellers of forest and non-forest products in rural Eastern Province in 2020 The main types of sellers included Private sellers /(individuals), Marketeers, Traders, Associations or Organizations and wholesalers.

Table 11.6 shows the percentage distribution of Main Sellers of Forest Product by type in rural Eastern Province in 2020 Overall, results show that private sellers accounted for more than 50 percent of the main sellers in industrial wood, firewood, wood for charcoal, wood for poles, mushrooms, plant medicines, fibers, bush meat and honey. However, main sellers of caterpillars accounted for the smallest percentage at 24.8 percent.

Analysed by beneficiary status, except for the main sellers of plant medicines, caterpillars and honey, beneficiary households accounted for more than 50 percent of the private sellers in each of the following products i.e. industrial wood, fire wood, wood for charcoal, wood for poles, fruits, mushrooms, caterpillars, fibres and bush meat. However, non-beneficiary households had higher percentage shares of individuals/private sellers of plant medicines, bush meat and honey at 83, 100 and 63.6 percent, respectively.

Among marketeers, the percentage shares of beneficiry households mainly selling fruits, mushrooms, caterpillars, bush meat and honey was higher than that of their non-beneficiary households with the largest share being recorded at 65.6 percent. Non-beneficiary households had larger shares of marketeers in industrial wood, firewood, wood for charcoal, wood for carvings, caterpillars, plant medicines and herbs and spices. Main sellers of herbs and spices among marketeers represented the largest share for non-beneficiaries.

Amongst traders, non-beneficiaries had higher shares than their beneficiary counterparts except for wood for carving, bush meat and honey at 100, 15.1 and 29.5 percent, respectively.

Among wholesalers, beneficiary households only had larger shares for main sellers of wood poles, firewood and herbs and spices at 34.4, 5.3 and 10.4 percent, respectively.

Table11.6: Percentage Distribution of Main Sellers of Food and Non-food Products by Type, rural Eastern Province, 2020

Forest Products	Main seller	Individual / Private seller			Marketeer			Traders			Associations / Organisations			Wholesalers			Other		
Forest Products	Total Number	Overall	Ben	Non-Ben	Overall	Ben	Non-Ben	Overall	Ben	Non-Ben	Overall	Ben	Non-Ben	Overall	Ben	Non-Ben	Overall	Ben	Non-Ben
Industrial wood	1,336	61.6	92	14.6	25	0	63.5	13.4	8	21.9	0	0	0	0	0	0	0	0	0
Fire wood	20,776	73.3	77.1	66.5	6.6	4.4	10.5	8.5	7.9	9.6	0	0	0	4	5.3	1.7	7.5	5.2	11.6
Wood for charcoal	13,439	73	78.8	65.9	14.3	10.4	19.2	6.1	5.7	6.6	0	0	0	0	0	0	6.6	5.2	8.3
Wood for carvings	491	0	0	0	12.2	0	23.9	87.8	100	76.1	0	0	0	0	0	0	0	0	0
Wood for poles	2,134	80	84.5	68.8	0	0	0	8.9	0	31.2	0	0	0	7.4	10.4	0	3.6	5.1	0
Fruits, nuts, seed, roots, berries, tubers	3,665	49.1	59.6	36.1	32.9	33.5	32.2	18	6.9	31.6	0	0	0	0	0	0	0	0	0
Mushroom	6,615	51.3	59.2	41.8	36.3	37.8	34.6	12.4	3	23.6	0	0	0	0	0	0	0	0	0
Caterpillars	6,211	24.8	29.9	7	56.2	58.9	47.1	14.9	8	38.9	0	0	0	0	0	0	4.1	3.2	7
Plant medicines	451	63.2	0	83	12.9	0	17	0	0	0	0	0	0	0	0	0	23.9	100	0
Herbs and spices	524	0	0	0	69.4	65.6	100	0	0	0	0	0	0	30.6	34.4	0	0	0	0
Fibers	887	67.6	85.5	39	0	0	0	23.4	0	61	0	0	0	0	0	0	9	14.5	0
Bush meat	1,436	79.5	56.2	100	13.5	28.8	0	7	15.1	0	0	0	0	0	0	0	0	0	0
Honey	5,209	51	41.3	63.6	22.7	29.2	14.4	24.8	29.5	18.7	0	0	0	1.5	0	3.4	0	0	0

11.7 Percentage Distribution of Main Seller's Location in Rural Eastern Province in 2020

The survey collected information regarding the main sellers of forest and non-forest products by location in rural Eastern Province in 2020

Overall, results show that more than half the main sellers of various forest and non-forest products in rural Eastern were located with the communities for products such as industrial wood, firewood, wood for charcoal, wood for poles, mushrooms, plant medicine, herbs and spices, bush meat, caterpillars and honey. Main sellers of wood for poles and firewood accounted for the two largest shares of at 89.4 and 85.3 percent, respectively,

Further, the pattern is not different among beneficiary and non-beneficiary households as the majority of the main sellers were located within the community. Notably, a significant share of main sellers were also located within the boma for products such as plant medicine, herbs and spices, bush meat, honey and catapillars.

Table 11.7 Percentage Distribution of Main Sellers of Forest and Non-Forest Products by their Location in Rural Eatsern Province, 2020

Rural Eastern	Total Number	Within community			From boma town			From within the district			From within province			Outside the province			Outside the country			Travelers / Passersby			Other		
		Overall	Ben	Non-Ben	Overall	Ben	Non-Ben	Overall	Ben	Non-Ben	Overall	Ben	Non-Ben	Overall	Ben	Non-Ben	Overall	Ben	Non-Ben	Overall	Ben	Non-Ben	Overall	Ben	Non-Ben
Industrial wood	1,336	78.0	92.0	56.2	0.0	0.0	0.0	17.2	0.0	43.8	0.0	0.0	0.0	4.8	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fire wood	20,776	85.3	81.9	91.4	0.8	1.2	0.0	10.1	11.5	7.4	1.7	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.9	1.8	1.6	0.0	1.2
Wood for charcoal	13,439	72.7	68.1	78.4	7.0	6.7	7.4	17.5	22.2	11.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	3.0	0.0	0.0	2.5	0.0
Wood for carvings	491	58.5	40.2	76.1	0.0	0.0	0.0	41.5	59.8	23.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wood for poles	2,134	89.4	88.6	91.3	0.0	0.0	0.0	8.1	11.4	0.0	0.0	0.0	0.0	2.5	0.0	8.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fruits, nuts, seed, roots, berries, tubers	3,665	73.5	69.6	78.3	17.6	24.5	9.1	5.7	0.0	12.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.3	5.9	0.0	0.0	0.0	0.0
Mushroom	6,615	83.7	88.7	77.7	5.4	8.3	1.9	5.8	3.0	9.1	3.2	0.0	7.1	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	4.2	0.0
Caterpillars	4,168	66.6	64.9	71.2	13.9	13.9	13.8	7.1	5.8	10.4	9.7	13.3	0.0	2.7	2.0	4.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Plant medicines	451	87.1	100.0	83.0	12.9	0.0	17.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Herbs and spices	524	58.3	65.6	0.0	41.7	34.4	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fibers	887	85.0	100.0	61.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	0.0	39.0
Bush meat	1,436	84.6	67.1	100.0	8.4	17.9	0.0	0.0	0.0	0.0	7.0	15.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Honey	5,209	79.0	81.8	75.5	9.9	6.1	14.9	8.2	12.2	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.0	0.0	0.0	6.6	0.0
Caterpillar	2,043	41.0	32.1	100.0	27.6	31.8	0.0	31.4	36.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Chapter 12 Energy Utilization

Chapter 12: Energy Utilization Fuelwood Utilisation

The Zambia Integrated Forest Landscape Project Beneficiary Impact Assessment survey collected information from households on Energy utilisation from different sources of energy and adoption of improved cook stove. Table 13.1 shows the percentage distribution of households that utilised fuelwood by sex of head and district in rural Eastern Province. Results show that 86.6 percent of households used fuel wood as a source of energy for cooking and heating. At district level, the districts with the highest percentage of households using fuelwood were Chasefu with 99.5 percent followed by Sinda at 97.2 percent. The least being Mambwe at 78.3 percent.

Further, results show that male headed households, used 1.4 percent more fuel wood at 86.9 percent compared to 85.5 percent used by female headed households.

Table 12.1: Percentage Distribution of Households that Utilised Fuel wood as a Source of Energy by Sex of Head and District in Rural Eastern Province,2020

District	General			Male		Female	
	Count	YES	NO	YES	NO	YES	NO
Total	**340,042**	**86.6**	**13.4**	**86.9**	**13.1**	**85.5**	**14.5**
Chadiza	16,070	94.6	5.4	95.3	4.7	91.3	8.7
Chasefu	24,008	99.5	.5	100.0	0.0	97.3	2.7
Chipangali	30,651	91.9	8.1	93.3	6.7	86.9	13.1
Chipata	29,303	58.0	42.0	54.6	45.4	68.2	31.8
Kasenengwa	26,204	91.3	8.7	91.0	9.0	92.2	7.8
Katete	31,901	87.4	12.6	87.1	12.9	88.2	11.8
Lumezi	24,636	86.7	13.3	87.0	13.0	83.5	16.5
Lundazi	31,874	84.0	16.0	85.5	14.5	77.5	22.5
Mambwe	16,251	78.3	21.7	79.2	20.8	75.7	24.3
Lusangazi	581	90.8	9.2	89.6	10.4	95.3	4.7
Nyimba	16,363	83.2	16.8	81.0	19.0	88.7	11.3
Petauke	47,632	84.2	15.8	84.8	15.2	82.5	17.5
Sinda	36,863	97.2	2.8	97.1	2.9	97.7	2.3
Vubwi	7,703	95.7	4.3	95.3	4.7	100.0	0.0

Table 12.2 show the percentage distribution of beneficiary and non-beneficiary households that utilized fuel wood by sex of head and district in rural Eastern Province. Results show that among male beneficiary households at 86.2 percent used 1 percent less fuelwood than 87.2 percent used by non-beneficiary households. Among female headed household, beneficiary households used fuelwood amounting to 86.2 percent while non-beneficiary households used 84.4 percent.

Results also show that in Chasefu, all the sampled male beneficiary households used fuelwood relative to 98.6 percent of their non-beneficiary counterparts. All the sampled female beneficiary households in Chasefu and Vubwi reported using fuelwood while all the sampled non-beneficiary of female households in Sinda and Vubwi reported using fuelwood.

Table 12.2: Percentage Distribution of Beneficiary and Non-beneficiary households that Utilised Fuelwood by Sex of Head and District in Rural Eastern Province.2020

District	House-holds	total				MALE HH				FEMALE			
		YES		NO		YES		NO		YES		NO	
		BEN	Non-Ben	Ben	Non-Ben	Ben	Non-Ben	Ben	Non-Ben	Ben	Non-Ben	Ben	Non-Ben
Total	**217,577**	**86.2**	**87.2**	**13.8**	**12.8**	**86.2**	**87.2**	**13.8**	**11.9**	**86.2**	**84.4**	**13.8**	**15.6**
Chadiza	11,181	93.7	96.6	6.3	3.4	94.2	96.6	5.8	2.1	91.7	90.4	8.3	9.6
Chasefu	17,334	100.0	98.2	0.0	1.8	100.0	98.2	0.0	0.0	100.0	91.8	0.0	8.2
Chipangali	22,292	93.0	88.9	7.0	11.1	94.3	88.9	5.7	9.5	88.2	84.2	11.8	15.8
Chipata	21,186	57.5	59.6	42.5	40.4	53.1	59.6	46.9	40.1	74.6	59.2	25.4	40.8
Kasenengwa	11,520	87.6	94.1	12.4	5.9	88.2	94.1	11.8	6.6	84.9	96.7	15.1	3.3
Katete	19,729	90.5	82.5	9.5	17.5	88.9	82.5	11.1	15.8	94.3	78.0	5.7	22.0
Lumezi	12,852	87.4	85.9	12.6	14.1	88.0	85.9	12.0	14.1	79.9	85.4	20.1	14.6
Lundazi	16,960	79.6	88.9	20.4	11.1	83.4	88.9	16.6	12.3	66.8	95.7	33.2	4.3
Mambwe	10,335	76.4	81.7	23.6	18.3	74.8	81.7	25.2	12.1	81.6	68.1	18.4	31.9
Lusangazi	400	89.3	94.0	10.7	6.0	87.2	94.0	12.8	4.2	100.0	89.5	0.0	10.5
Nyimba	7,093	77.4	87.6	22.6	12.4	73.6	87.6	26.4	12.6	90.0	88.1	10.0	11.9
Petauke	34,246	84.2	84.1	15.8	15.9	84.8	84.1	15.2	15.4	82.4	82.7	17.6	17.3
Sinda	26,824	97.4	96.8	2.6	3.2	97.6	96.8	2.4	4.2	96.7	100.0	3.3	0.0
Vubwi	5,624	96.3	94.0	3.7	6.0	96.1	94.0	3.9	7.0	100.0	100.0	0.0	0.0

Charcoal Utilisation

Table 12.3 shows the beneficiary and non-beneficiary households' average Monthly expenditure on charcoal in rural Eastern Province in 2020. Results show that, on average households in rural Eastern spent ZMW63.24 on charcoal per month. Households in Chipata had the highest average expenditure on charcoal at 97 kwacha per month with Chipangali being the least at 23 kwacha.

By household type, beneficiary households spent an average of ZMW64.13 per month while non-beneficiary households spent an average of ZMW60.90 per month.

Table 12.3: Beneficiary and Non-beneficiary households Average Monthly Expenditure on Charcoal by District in rural Eastern Province, 2020

District	Overall			Beneficiary			Non-beneficiary		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Total	**63.249**	**63.979**	**60.592**	**64.588**	**67.134**	**54.175**	**60.904**	**58.068**	**69.471**
Chadiza	58.410	64.147	45.374	55.277	62.681	36.967	65.804	67.919	61.829
Chasefu	60.086	63.156	46.186	72.322	80.732	46.186	24.675	24.675	
Chipangali	23.673	25.642	11.209	17.806	19.141	11.209	48.817	48.817	
Chipata	97.001	99.690	88.306	102.239	102.205	102.414	85.275	91.701	75.936
Kasenengwa	22.834	22.227	30.000	19.756	19.756		26.230	25.489	30.000
Katete	58.719	71.566	33.188	70.031	90.054	30.292	48.110	54.241	35.909
Lumezi	40.385	39.613	47.998	41.316	40.529	100.000	39.067	38.007	43.212
Lundazi	62.047	67.646	46.487	59.279	60.994	54.526	65.958	77.021	35.069
Mambwe	85.675	66.992	179.945	77.074	72.973	125.171	99.607	54.129	202.725
Lusangazi	46.377	47.222	40.332	55.173	55.389	50.000	29.332	26.032	37.689
Nyimba	59.680	44.188	110.089	38.275	40.470	34.274	79.794	46.761	315.000
Petauke	54.095	57.149	45.034	54.584	54.941	53.477	52.941	62.554	27.063
Sinda	49.801	50.745	38.655	52.865	54.670	38.655	42.904	42.904	
Vubwi	57.833	60.124	38.510	55.432	56.444	35.000	62.695	69.290	40.000

Cook Stove Utilization

Fuel-efficient cook stoves improve indoor air quality and save money or time that would otherwise be spent on purchasing or collecting fuelwood. Part of ZIFLP mandate is to:

- assess the potential benefits of using an improved cook stove based on current use,
- identify gaps that need to be addressed in the design of the stoves,
- design and/or recommend appropriate models,
- identify areas for implementation,
- design incentive mechanisms for prospective users, produce, distribute and install in selected households and
- Monitor and report on use and performance

The survey collected information from households on whether they owned an improved cook stove. Results in Table 12.4.1 show that 19.1 percent of households in Eastern Province owned an improved cook stove, while none of the 2.8 percent reported having owned one. Further, 78.1 percent had never heard of it. Analysed by district, results show that 56.3 percent of the households in Kasenengwa owned an improved cook stove representing the highest proportion followed by Chipata at 40.8 percent. Nyimba had the least share of households that reported owning an improved cook stove at 2.8 percent.

Analysed by sex, female headed households had a higher proportion of households owning an improved cook stove at 21.5 percent compared 18.4 percent of the male headed households.

Table 12.4.1: Percentage distribution of household ownership of Improved cook stove by sex and District Rural Eastern Province

District	GENERAL				Male			Female		
	House-hold	Yes	No	Never Heard	Yes	No	Never Heard	Yes	No	Never Heard
Total	**340,345**	**19.1**	**2.8**	**78.1**	**18.4**	**2.8**	**78.8**	**21.5**	**2.7**	**75.8**
Chadiza	16,070	26.6	5.7	67.7	27.1	5.4	67.5	24.4	7.1	68.5
Chasefu	24,008	3.4	1.9	94.7	2.7	2.3	95.0	6.4	0.0	93.6
Chipangali	30,651	37.2	1.2	61.5	34.5	1.3	64.3	46.6	1.1	52.3
Chipata	29,303	40.8	1.6	57.6	39.1	1.5	59.3	45.7	2.0	52.3
Kasenengwa	26,204	56.3	3.5	40.2	54.5	4.3	41.2	63.9	0.0	36.1
Katete	32,058	19.2	5.4	75.4	17.0	6.1	76.9	24.5	3.6	71.9
Lumezi	24,636	9.4	0.0	90.6	8.2	0.0	91.8	20.1	0.0	79.9
Lundazi	31,874	5.2	0.0	94.8	5.2	0.0	94.8	5.2	0.0	94.8
Mambwe	16,251	4.9	2.2	92.9	6.7	2.9	90.4	0.0	0.0	100.0
Lusangazi	581	3.4	.8	95.8	4.3	0.0	95.7	0.0	3.9	96.1
Nyimba	16,363	2.8	3.3	94.0	3.8	3.0	93.1	0.0	3.9	96.1
Petauke	47,779	5.4	1.2	93.4	5.4	1.1	93.5	5.5	1.4	93.1
Sinda	36,863	16.4	7.9	75.7	16.3	7.1	76.6	16.7	10.8	72.4
Vubwi	7703	22.5	3.4	74.1	22.5	3.7	73.8	21.6	0.0	78.4

Table 12.4.2 shows the percentage distribution of beneficiary household's ownership of Improved cook stove by sex of head and district in rural Eastern Province in 2020. Results show that 20.5 percent of the beneficiary households owned an improved cook stove.

By sex of head, a higher proportion of female headed beneficiary households (24.9 percent) owned an improved cook stove than male headed households (19.3 percent).

At district level, households in Chipata had a higher percentage share of owning an improved cook stove at 49.1 percent, followed by Kasenengwa at 46.0 percent and Chipangali 43.2 percent.

Table 12.4.2: Percentage distribution of Beneficiary Household Ownership of an Improved Cook Stove by Sex of Head and District by rural Eastern Province, 2020

District	Beneficiary				Male HH			Female HH		
	House-hold	Yes	No	Never Heard	Yes	No	Never Heard	Yes	No	Never Heard
Total	**217,723**	**20.5**	**2.7**	**76.9**	**19.3**	**2.6**	**78.1**	**24.9**	**2.7**	**72.4**
Chadiza	11,181	25.1	6.4	68.5	24.3	6.5	69.2	28.5	6.0	65.4
Chasefu	17,334	4.7	1.8	93.5	3.7	2.2	94.1	9.5	0.0	90.5
Chipangali	22,292	43.2	1.4	55.4	40.9	1.7	57.3	51.8	0.0	48.2
Chipata	21,186	49.1	1.1	49.8	45.4	.6	54.1	63.6	3.4	33.0
Kasenengwa	11,520	46.0	6.7	47.4	43.4	8.0	48.6	58.9	0.0	41.1
Katete	19,729	25.5	3.1	71.3	23.1	3.0	73.9	31.5	3.5	65.0
Lumezi	12,852	5.6	0.0	94.4	3.5	0.0	96.5	36.0	0.0	64.0
Lundazi	16,960	5.7	0.0	94.3	6.0	0.0	94.0	4.7	0.0	95.3
Mambwe	10,335	6.8	1.4	91.8	8.8	1.8	89.3	0.0	0.0	100.0
Lusangazi	400	5.0	1.1	93.9	5.9	0.0	94.1	0.0	7.0	93.0
Nyimba	7,093	3.4	0.0	96.6	4.4	0.0	95.6	0.0	0.0	100.0
Petauke	34,392	5.9	1.7	92.4	5.2	1.6	93.2	7.9	2.0	90.1
Sinda	26,824	17.0	7.2	75.7	16.4	6.4	77.2	19.6	10.3	70.1
Vubwi	5,624	22.9	2.5	74.6	24.2	2.6	73.1	0.0	0.0	100.0

Table 12.4.3 shows the percentage distribution of non-beneficiary household by ownership of an improved cook stove by sex of head and district by rural Eastern Province in 2020. Results show that 16.6 percent of non-beneficiary households reported owning an improved cook stove.

By sex of head, male headed Non-beneficiary households (16.7 percent) had a higher percentage owning an improved cook stove than female headed households (16.3 percent).

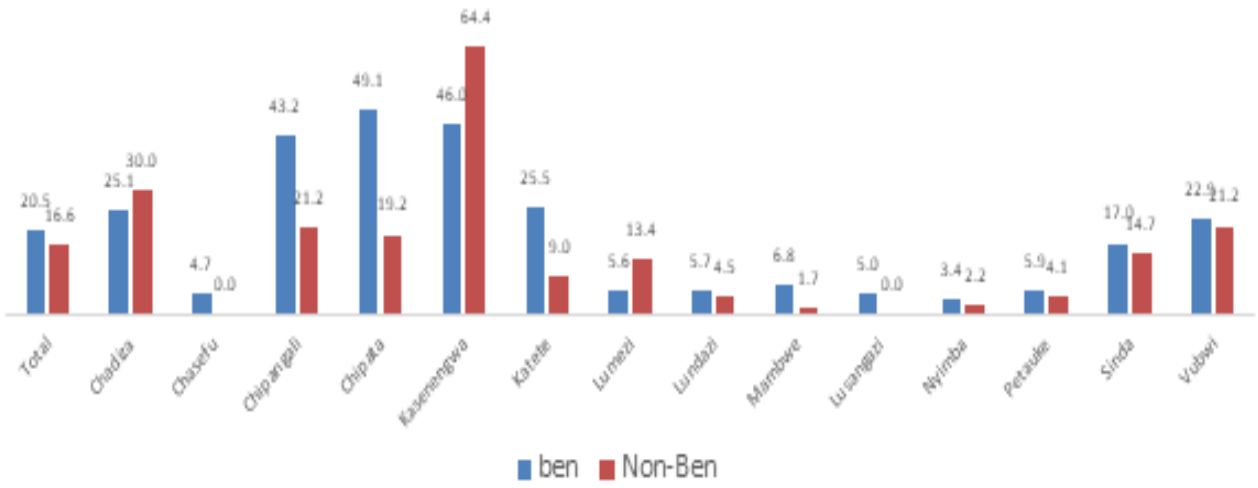
At district level, households in Kasenengwa owned a higher percentage of improved cooked stoves at 64.4 percent, followed by Chadiza at 30.0 percent and Chipangali and Vubwi both at 21.2 percent ownership.

Table 12.4.3: Percentage Distribution of Non-beneficiary Household by Ownership of an Improved Cook Stove by Sex of Head and District, rural Eastern Province, 2020

District	Beneficiary				Male HH			Female HH		
	House-hold	Yes	No	Never Heard	Yes	No	Never Heard	Yes	No	Never Heard
Total	**122,622**	**16.6**	**3.0**	**80.3**	**16.7**	**3.2**	**80.1**	**16.3**	**2.6**	**81.1**
Chadiza	4,889	30.0	4.2	65.9	33.2	3.0	63.8	14.6	9.6	75.9
Chasefu	6,674	0.0	2.0	98.0	0.0	2.6	97.4	0.0	0.0	100.0
Chipangali	8,359	21.2	.9	77.9	15.9	0.0	84.1	35.7	3.5	60.8
Chipata	8,117	19.2	2.9	77.9	18.4	4.6	77.0	20.5	0.0	79.5
Kasenengwa	14,684	64.4	.9	34.6	63.7	1.2	35.1	67.0	0.0	33.0
Katete	12,329	9.0	9.0	82.0	7.5	10.9	81.6	12.8	3.9	83.3
Lumezi	11,784	13.4	0.0	86.6	13.8	0.0	86.2	11.2	0.0	88.8
Lundazi	14,914	4.5	0.0	95.5	4.3	0.0	95.7	6.1	0.0	93.9
Mambwe	5,917	1.7	3.5	94.8	2.6	5.1	92.3	0.0	0.0	100.0
Lusangazi	181	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	100.0
Nyimba	9,270	2.2	5.8	92.0	3.3	5.7	91.0	0.0	6.1	93.9
Petauke	13,386	4.1	0.0	95.9	5.7	0.0	94.3	0.0	0.0	100.0
Sinda	10,039	14.7	9.6	75.8	16.1	8.8	75.1	10.1	12.1	77.8
Vubwi	2,079	21.2	5.8	72.9	17.5	6.8	75.7	43.5	0.0	56.5

Figure 12.1 shows the percentage distribution of beneficiary and non-beneficiary households by use of improved cook stove by district in rural Eastern Province in 2020. Results show that Chipata had the highest percentage of beneficiary households who reported using an Improved cook stove. However, Nyimba had the lowest percentage of beneficiary households using an Improved cook stove.

Figure 12.1: Percentage Distribution of Beneficiary and Non-beneficiary Household that use an improved cook stove by district, rural Eastern Province, 2020



Chapter 13 Forest Extension Services

Chapter 13 Forest Extension Services

13.1 Access to Forest Extension Services in the last 12 months

Table 13.1 shows the percentage share of households that Accessed Forest Extension services by Sex of Head and District, rural Eastern Province 2020 The study revealed that out of the 340, 345 households interviewed, 59.9 percent accessed forest extension services in rural Eastern Province. A closer analysis of the data revealed that of the male headed households, 47.4 percent accessed forest extension services, compared to 12.6 percent observed among female headed households.

Analysis by district, Lumezi had the largest percenatge of male headed households that repoorted having access to forest extension services at 65.7 percent followed by Lusangazi at 64.5 percent. Among female headed households, Nyimba had the largest share accesing forest extension services at 19.9 percent followed by Katete at 16.6 percent.

Table 13.1: Percentage share of households that accessed forest extension services by Sex of Head and District, rural Eastern Province, 2020

District	Forest_Extension_Services			
	Total		Male	Female
	Count	Row N percent	Row N percent	Row N percent
Total	**340,345**	**59.9**	**47.4**	**12.6**
Chadiza	16,070	61.6	49.3	12.3
Chasefu	24,008	65.8	53.4	12.4
Chipangali	30,651	60.7	46.7	13.9
Chipata	29,303	47.0	35.9	11.2
Kasenengwa	26,204	68.5	57.1	11.4
Katete	32,058	65.3	48.7	16.6
Lumezi	24,636	71.1	65.7	5.3
Lundazi	31,874	60.7	47.6	13.1
Mambwe	16,251	62.2	47.3	14.9
Lusangazi	581	79.0	64.5	14.6
Nyimba	16,363	55.3	35.4	19.9
Petauke	47,779	39.7	29.0	10.7
Sinda	36,863	73.8	59.6	14.2
Vubwi	7,703	57.2	52.2	4.9

Table 13.2 shows the percenatge share of households by tyepe that accessed forest extension services by district in rural Eastern Province

Of the total 217,723 households interviewed, 50.4 percent of the male headed households among the beneficiary households had access to forest extension services while 42 percent of the non-beneficiary households had similar access. Further, 13.6 percent female Beneficiary head of households reported to have had access to forest extension services as compared to their counterparts from the non-beneficiary households at 10.8 percent.

Table 13.2: Percentage Share of Households that Accessed Forest Extension Services by Sex of Head and District, rural Eastern Province, 2020

District	Forest_Extension_Services			
	Male	Male	Female	Female
	Ben	Non-Ben	Ben	Non-Ben
Total	**50.4**	**42.0**	**13.6**	**10.8**
Chadiza	47.6	53.2	13.6	9.2
Chasefu	57.8	42.0	14.1	8.1
Chipangali	53.6	28.4	15.2	10.6
Chipata	40.1	24.8	13.4	5.3
Kasenengwa	56.2	57.8	11.2	11.4
Katete	53.2	41.6	21.0	9.5
Lumezi	72.6	58.2	5.5	5.2
Lundazi	55.5	38.6	16.1	9.6
Mambwe	50.8	41.1	14.3	16.0
Lusangazi	70.1	52.0	12.9	18.2
Nyimba	41.5	30.8	19.0	20.6
Petauke	30.0	26.5	10.4	11.5
Sinda	62.3	52.2	14.6	13.1
Vubwi	47.8	64.2	2.6	11.0

Table 13.3 shows the percentage distribution of the households by type of forest extension services advice received by district in rural Eastern Province in 2020

Overall, results show that 40.9 percent of the households received advice on planting trees to be used as nitrogen fixers and improving fallow. By type, 13.6 percent more beneficiary households than non-beneficiary households received this type of advice at 45.8 percent relative to 32.2 percent among non-beneficiaries.

Further, households that received advise on the importance of conserving forests through Community Forest Management groups represented the second largest share proportionally. Overall, results show that 30.3 percent received advice on conservation of forest with beneficiary households having almost twice the percenatge of non-beneficiaries receiving this type of advice at 24.3 percent compared to 13.2 percent.

Better still, the share of households that received advice on the pest management and fire management and prevantion represent the third and fourth largest groups proportionally. In either case, beneficiary households performed better than non-beneficiary households in terms of size of share receiving these two tpes of advice.

Table 13.3: Percentage share of households that Accessed Forest Extension Services by Type of Advice and District, Rural Eastern Province 2020

	Planting tree species to be used as nitrogen fixers & improved fallows			Sustainable woodlots establishment			Human wildlife conflict			Fire management and prevention			Pest management			Establishment of tree nurseries for increased planting materials			The importance of conserving forests/CFM			Assisted natural regeneration			Support with seedlings			Support with development of a sub-project proposal		
District	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben
Total	**40.9**	**45.8**	**32.2**	**5.6**	**6.8**	**3.4**	**8.5**	**9.7**	**6.5**	**11.7**	**13.8**	**8.1**	**17.9**	**18.1**	**17.6**	**5.2**	**6.2**	**3.4**	**20.3**	**24.3**	**13.2**	**5.8**	**6.2**	**5.1**	**4.8**	**5.7**	**3.4**	**0.8**	**0.8**	**0.8**
Chadiza	30.3	32	26.3	0.7	0.7	0.6	5.1	4.1	7.4	24	24.6	22.7	16.2	15	18.7	15.5	14.9	17	25.6	23.5	30.4	17.6	17.3	18.3	1.1	1	1.3	1.4	1.5	1.2
Chasefu	49.1	53.9	36.9	2.2	3	0	2.1	2.9	0	8	8.1	7.8	28.3	30.7	22	0.7	1	0	15.1	17.9	7.6	6.1	6.4	5.2	3.1	4.2	0	0	0	0
Chipangali	54.6	61.2	37.5	18.3	20.6	12.6	8.6	10.6	3.5	7.4	8.1	5.4	7.6	9.9	1.6	10.6	12.2	6.6	37.7	44.8	18.8	2.8	2.7	3.1	9.6	12.6	1.6	0.4	0	1.6
Chipata	32.6	39.6	14.1	12.2	15.8	3.1	6.7	8	3.3	12.4	16.7	1.5	10.6	13.9	2.1	8.1	10.8	1.3	21.2	24.5	12.9	4.8	6.2	1.2	2.8	3.9	0	1.4	1.9	0
Kasenengwa	45.1	46.4	44	8.9	11.5	6.9	9.4	16.1	3.8	12.8	16.5	9.8	24.5	21.4	26.8	5.5	6.7	4.6	23.4	30.4	17.9	14.2	16.7	12.2	13.7	18.1	10.1	4	4.4	3.7
Katete	46.1	53	34.6	7.3	8.2	5.9	3.4	4.5	1.4	13.8	16.1	9.9	16.4	16	16.9	1.5	2.3	0	19.2	25.8	7.9	1.7	2.3	0.8	2.6	1.5	4.5	0	0	0
Lumezi	45.1	57.1	32.6	6.6	9.7	3.7	31	37.9	24.3	18.9	29.7	8.5	24.4	30	19	5	6.5	3.6	21.7	24.7	18.9	11.5	12.6	10.5	6.1	7.2	5.1	1	2	0
Lundazi	39.6	53.6	23.7	1.6	1.1	2.2	7.5	7.3	7.8	5	7.2	2.4	21	19.5	22.7	3	4.3	1.5	13.9	17.3	10.1	3.3	5.4	0.9	1.7	2.4	0.9	1	1.1	1
Mambwe	46.4	49.4	41.1	1.4	0	3.7	17.8	20.2	13.9	20.7	24.2	14.8	18.7	22.3	13	5.6	7.9	1.8	11.7	15.1	6	7.1	10.4	1.5	2.1	3.4	0	0	0	0
Lusangazi	66.6	67.5	64.4	2.1	3	0	17.4	20.6	10	22.1	22.4	21.4	11.6	16.5	0	2.8	4	0	12.6	15	7.3	4.8	4.2	6	3	3	3.1	0	0	0
Nyimba	37.5	42.2	33.8	0.3	0.8	0	3.4	1.6	4.8	13.6	19.1	9.3	37.8	40.3	35.9	3.1	1.9	4.1	9	13.4	5.5	7.3	8.1	6.7	3.6	4.9	2.5	1.3	1.7	1
Petauke	22.3	22	22.9	1.4	2	0	0	0	0	4.9	5.7	3	4.7	4.3	5.7	3.6	4.2	1.9	14	15.3	10.5	0.4	0.6	0	7	7	6.9	0	0	0
Sinda	51.4	55.7	40	2.6	3.5	0	15	18.8	4.3	7.7	9.4	2.8	20	22.5	13.3	1.4	1.9	0	29	34.2	14.8	0.8	1.1	0	2.8	3.9	0	0.3	0.4	0
Vubwi	28.5	27.5	31.1	5.7	4.8	8.1	9.8	7.7	15.3	37.4	31.6	51.5	25	24.6	26	17.5	14.7	24.3	23.3	24.1	21.3	20.4	19.8	21.9	1.2	1.7	0	0	0	0

CHAPTER 14: Household Assets

CHAPTER 14: Household Assets

The **Zambia Integrated Forest Landscape Beneficiary Impact Assessment Survey** collected data on household ownership of assets. Household ownership of assets is an important indicator reflecting its productive capacity and as a measure of welfare. During lean periods, some of the assets owned by the household can be used to smoothen consumption. Further, ownership of productive assets such as farming implements can determine a household's ability to further generate income.

Table 14.1 shows the proportional distribution of households owning various assets by type in rural Eastern Province in 2020

Overall, a hoe, bicycle, cell phone, radio, solar panel & equipment, plough, sprayer, television, scotch cart, storage facility, cow shed, poultry house, motorcycle, ripper and pigsty represent the top 15 most common assets owned by the households in rural Eastern. Notably, 86.5 out of every 100 households in rural Eastern own a hoe reflecting the highest owned assets. However, included among the least owned assets is a sheller, harrow, rump press/oil expeller, truck/lorry, tractor, castration equipment and sprinklers. At least 1 out of every 1,000 households own one of these assets.

Table 14.1: Proportional Distribution of Households Owning Various Assets by Type, Rural Eastern Province in 2020

Asset Type	All HH	Gen	Ben	Non-Ben	Gen	Ben	Non-Ben
		Male			Female		
Tractor	0.2	0.2	0.2	0.2	0.0	0.0	0.0
Hand Driven Tractor	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ploughs	23.4	25.6	28.2	28.2	15.6	17.6	12.5
Harrows	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cultivators	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sheller	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Rippers	5.3	5.9	6.9	6.9	3.4	4.6	1.4
Hammer mills	0.5	0.6	0.4	0.4	0.3	0.0	0.7
Hand Hammer Mills	0.6	0.7	0.7	0.7	0.4	0.2	0.7
Rump press/Oil expeller	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sprayers	13.4	15.5	16.2	16.2	5.6	7.6	2.5
Hoes	86.5	86.8	86.3	86.3	85.7	85.0	86.9
Water Pump	0.2	0.2	0.2	0.2	0.3	0.0	0.7
Treadle Pump	0.1	0.1	0.1	0.1	0.1	0.1	0.0

Sprinklers	0.1	0.0	0.0	0.0	0.3	0.4	0.0
Borehole	0.2	0.2	0.2	0.2	0.3	0.0	0.7
Feed mixer	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Milking Equipment	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Castration Equipment	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Branding Equipment	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vet. Related tools and Equipment	0.1	0.2	0.3	0.3	0.0	0.0	0.0
Radio	44.1	48.9	49.9	49.9	26.9	25.9	28.4
Television	14.6	15.5	17.0	17.0	11.2	10.5	12.4
Bicycles	49.3	55.0	54.6	54.6	28.8	31.1	25.4
Motorcycles	4.5	5.6	6.0	6.0	0.6	0.4	0.9
Trucks/Lorries	0.2	0.2	0.2	0.2	0.0	0.0	0.0
Pick-up/Vans/Cars	0.9	1.2	0.9	0.9	0.0	0.1	0.0
Solar Panel and Equipment	23.4	26.9	26.7	26.7	10.9	9.5	13.1
Scotch-cart	12.4	13.6	15.1	15.1	7.9	9.6	5.2
Mobile phone	52.6	53.8	55.2	55.2	48.1	52.3	41.6
Sewing Machine	0.9	1.0	0.9	0.9	0.6	0.4	1.0
Generator	0.3	0.3	0.5	0.5	0.4	0.0	1.0
Improved cook stove	8.4	7.8	8.6	8.6	10.5	12.1	8.1
Storage facilities (warehouses, granaries, etc.)	1.3	1.3	1.3	1.3	1.3	1.5	1.0
Poultry Houses	1.6	1.8	1.8	1.8	1.0	1.2	0.6
Cow-shed	2.4	2.4	2.4	2.4	2.4	3.2	1.2
Pig sty	0.8	1.0	1.2	1.2	0.4	0.5	0.3
Cattle	34.3	36.8	38.0	38.0	25.3	25.8	24.7
Goats	20.9	22.3	23.3	23.3	15.6	17.5	12.6
Pigs	10.1	11.0	12.1	12.1	7.1	8.7	4.7
Sheep	1.8	2.0	2.3	2.3	1.1	1.2	0.9
Donkeys	0.3	0.3	0.5	0.5	0.2	0.0	0.6
Chickens	57.9	59.4	60.0	60.0	52.5	53.1	51.7
Guinea fowls	1.6	1.9	2.2	2.2	0.8	0.6	1.1
Ducks	5.9	6.4	7.3	7.3	3.9	4.5	3.0
Pigeons	1.3	1.6	1.7	1.7	0.3	0.5	0.0
Other	0.3	0.3	0.4	0.4	0.0	0.0	0.0

Table 14.2 shows the percentage distribution of households owning various household assets/equipment in each district of rural Eastern Province in 2020 Among the 15 top most common assets owned by households in each district were hoes, bicycles, mobile phones, radios, solar equipment, ploughs, sprayers, television sets, scotch carts, storage facilities, cowshed, poultry houses, motor cycles, rippers and pigsties.

Analysis by type of asset owned by household in a district, results show that 294081 households owned a hoe. Of the total number of households that reported owning a hoe, the largest proportion lived in Petauke at 11.8 percent followed by Sinda district at 11.5 percent Lusangazi district had the smallest proportion of households that reported owning a hoe at 0.2 percent

Mobile phones were the second most popular household asset in rural Eastern. About 178,648 households reported owning a mobile phone. Of these households, 17.1 percent lived in Petauke accounting for the largest share. Sinda District was second with 13.3 percent Vubwi and Lusangazi districts accounted for the least percentage shares of households owning a mobile phone at 0.2 and 1.4 percent, respectively.

Further, 167,437 households reported owning a bicycle, the third highest most common owned asset in the province.

Of these households, 13.2 percent of them lived in Petauke representing the largest percentage share, followed by another 12.1 percent that lived in Sinda. Lusangazi had the smallest proportion of households who reported owning a bicycle at 0.2 percent.

A pigsty and a ripper were least owned among the 15 top most owned household assets. Of the 2,879 households that reported owning a pigsty, 37.5 percent lived in Sinda District followed by 30.8 percent in Petauke District. The least proportions of households that reported owning a pigsty lived in Lusangazi District where 0.2 percent of the households reported owning a pigsty. The rest of the details patterning to ownership of various assets by district can be checked in 14.2.

Table 14.2: Percentage Distribution of Households Owning Various Household Assets/Equipment in each District by Beneficiary and Non-beneficiary households of the Rural Part of Eastern Province, 2020

Household Assets/ Equipmen	Count	Chadiza	Chasefu	Chi-pangali	Chipata	Kasenengwa	Katete	Lumezi	Lundazi	Mambwe	Lusangazi	Nyimba	Petauke	Sinda	Vubwi
Tractor	631.9	-	-	19.4	-	-	-	23.6	-	-	-	-	32.5	24.5	-
Hand Driven Tractor	-														
Ploughs	79,478.30	6.9	4.1	4.1	3	6.3	13.2	3.2	4.5	1.2	0.2	4.5	22.2	23.4	3.2
Harrows	52.5	-	-	-	-	-	-	-	-	-	-	100	-	-	-
Cultivators	14.5	-	-	-	-	-	-	-	-	-	100	-	-	-	-
Sheller	154.6	-	-	-	-	-	-	96.5	-	-	3.5	-	-	-	-
Rippers	18,078.60	3.8	5.6	12.2	-	8.2	29.5	3.6	11.1	2.6	0.3	1	1.4	17.4	3.2
Hammer mills	1,718.10	-	13.8	30	-	-	-	37.4	18.8	-	-	-	-	-	-
Hand Hammer Mills	2,094.40	-	88.5	-	-	-	-	-	-	-	-	-	11.5	-	-
Rump press/Oil expeller	-														
Sprayers	45,420.50	2.6	3.8	5.4	5.7	9.6	17	8.5	11.8	4	0.2	5.6	9.2	16.1	0.4
Hoes	294,080.50	4.7	7.4	9.3	7.3	8.3	10.1	8.2	9	5.3	0.2	4.6	11.8	11.5	2.3
Water Pump	694.9	4.1	-	14.9	12.1	-	27.5	-	29.2	-	-	-	-	12.1	-
Treadle Pump	230.2	-	-	-	-	-	-	-	-	-	-	25.4	-	74.6	-
Sprinklers	257.3	-	-	-	-	-	76.4	-	-	-	-	-	-	-	23.6
Borehole	685.9	-	-	-	-	-	-	55.2	29.6	7.6	-	7.6	-	-	-
Feed mixer	28.8	100	-	-	-	-	-	-	-	-	-	-	-	-	-
Milking Equipment	-														
Castration Equipment	-														
Branding Equipment	-														
Vet. Related tools and Equipment	488.5	16.6	-	-	-	-	-	-	-	-	-	-	66.2	17.2	-
Radio	149,767.40	5.6	6.6	8.0	8.1	7.5	6.2	9.6	10.4	5.2	0.2	6.1	12.2	10.3	4.1
Television	49,605.80	5.3	4.9	5.8	17.6	4.8	6.5	5.3	13.0	7.9	0.2	5.5	11.7	9.8	1.6
Bicycles	167,436.70	5.1	7.7	6.9	6.8	6.8	8.1	8.9	11.4	5.2	0.2	5.1	13.2	12.1	2.5
Motorcycles	15,339.40	4.2	1.0	10.7	1.0	6.9	12.5	8.8	2.9	3.1	0.3	8.4	14.9	22.1	3.2
Trucks/Lorries	534.7	-	-	19.4	-	-	36.8	-	-	-	-	-	31.8	-	12.1
Pick-up/Vans/Cars	3,158.60	9.0	-	16.3	23.5	5.1	9.9	6.7	15.9	1.6	-	1.6	2.9	7.5	-

Table 14.2: Percentage Distribution of Households Owning Various Household Assets/Equipment in each District by Beneficiary and Non-beneficiary households of the Rural Part of Eastern Province, 2020

Household Assets/ Equipmen	Count	Chadiza	Chasefu	Chi-pangali	Chipata	Kasenengwa	Katete	Lumezi	Lundazi	Mambwe	Lusangazi	Nyimba	Petauke	Sinda	Vubwi
Solar Panel and Equipment	79,559.90	3.8	7.6	8.6	5.5	7.2	6.7	12.3	12.5	3.6	0.3	4.6	9.5	14.6	3.4
Scotch-cart	42,064.30	10.4	4.4	4.9	1.6	7.6	10.3	7.7	7.8	0.6	0.2	3.9	16.8	18.3	5.7
Mobile phone	178,647.90	5.3	6.2	6.1	10.3	5.8	6.6	5.3	10.4	5.8	0.2	6.4	17.1	13.3	1.4
Sewing Machine	3,115.70	8.4	7.6	-	5.8	10.4	2.9	10.9	16.8	-	0.5	6.8	19.3	10.7	-
Generator	1,177.20	6.6	-	8.8	7.0	-	16.7	-	17.2	-	-	19.8	16.7	7.1	-
Improved cook stove	28,592.10	5.3	0.5	19.0	17.7	25.1	6.0	0.5	1.1	1.1	0.0	2.3	7.8	10.2	3.2
Storage facilities (warehouses, granaries, etc.)	4,353.70	29.7	-	2.7	17.0	4.2	8.6	-	-	-	-	3.0	9.7	5.9	19.3
Poultry Houses	5,564.00	7.9	11.3	6.5	12.5	16.7	13.5	1.9	7.6	-	0.2	-	12.3	9.5	-
Cow-shed	8,067.70	10.5	11.7	4.6	2.3	7.1	12.0	-	6.8	1.9	-	-	27.6	8.9	6.7
Pig sty	2,878.60	10.2	4.2	5.9	-	8.3	-	-	-	-	0.2	-	30.8	37.5	2.9
Cattle	116,491.50	7.0	5.1	6.0	2.9	9.3	14.7	7.1	8.6	1.1	0.2	3.2	11.9	19.6	3.5
Goats	70,899.40	7.0	9.6	11.4	3.8	9.2	10.9	3.7	6.2	2.7	0.3	4.9	10.7	16.1	3.5
Pigs	34,399.50	7.6	6.9	13.5	0.9	6.5	4.8	12.7	14.4	5.8	0.3	3.4	7.6	11.4	4.0
Sheep	6,077.00	-	13.7	14.8	-	10.0	11.1	10.8	12.1	5.1	0.8	-	7.2	11.2	3.3
Donkeys	997.5	-	-	-	-	-	19.7	-	-	-	0.4	-	79.9	-	-
Chickens	196,789.00	4.8	8.5	10.2	5.0	7.3	8.2	10.1	10.6	4.0	0.2	4.8	11.1	12.9	2.3
Guinea fowls	5,541.20	6.4	-	3.3	-	-	8.9	2.5	2.5	13.2	1.0	5.4	13.3	43.4	-
Ducks	19,981.40	5.2	9.8	8.0	2.7	12.8	3.3	1.6	8.3	7.7	0.4	2.1	19.2	18.0	1.0
Pigeons	4,393.10	7.7	-	-	1.9	3.7	8.0	12.9	13.7	18.0	0.8	-	8.3	25.0	-
Other	888.4	-	-	-	-	-	13.4	-	-	-	-	5.9	-	80.8	-

Chapter15: Grievance Redress Mechanisms

Chapter15: Grievance Redress Mechanisms

The Survey sought to find out knowledge and attitudes of the households towards the Zambia Integrated Forest Landscape Project in rural Eastern Province. This feedback is very important to the designers of the project, implementing agency, target rural communities, government and other stakeholders for proper realignment of project objectives and outcomes as well as enhancing the responsiveness of the project to user needs.

Table15.1 shows the percentage share of households ever aggrieved with the ZIFLP activity by sex of head and district in rural Eastern Province in 2020

Regardless of sex of head, overall results show that almost 30 out of every 100 households had had a grievance with a ZIFLP activity.

By sex of household head, results indicate that 30 out of 100 male-headed households had had a grievance with a ZIFLP activity compared to almost 28 out of every 100 female-headed households.

Analysed by district, results show that Chadiza and Vubwi had the largest and second largest shares of households who had ever had a grievance with a ZIFLP activity. Almost 59 out of every 100 households in Chadiza and almost 48 out of every 100 households in Vubwi cited having been aggrieved. However, Lusangazi had the smallest share of households who had ever had a grievance with a ZIFLP activity reflecting 11 out of every 100 households.

Analysed by sex of head at district level, Chadiza and Vubwi had the two largest shares of male-headed households ever aggrieved with a ZIFLP activity i.e. 57 out of every 100 and 50 out of every 100 households, respectively. Among female-headed households, Chadiza and Sinda districts had the largest and second largest shares of households ever aggrieved with a ZIFLP activity at almost 66 out of every 100 households and 45 out of every 100 households, respectively. Lusangazi District had the smallest share of households ever aggrieved with a ZIFLP activity regardless of the sex of head.

Table15.1: Share of Households Ever Aggrieved with the ZIFLP activity by Sex of Head and District, Rural Eastern Province 2020

District	Ever been aggrieved with ZIFLP activity					
	Overall		Male headed		Female headed	
	Total	Yes	Total	Yes	Total	Yes
	Count	Percent	Count	Percent	Count	Percent
Rural Eastern	**340,345**	**29.5**	**265,954**	**30.0**	**7492**	**27.6**
Chadiza	16,070	58.8	13,212	57.3	258	65.8
Chasefu	24,008	30.0	19,491	29.8	417	31.1
Chipangali	30,651	32.3	23,742	34.1	609	26.2
Chipata	29,303	18.1	21,939	19.7	764	13.5
Kasenengwa	26,204	30.0	21,107	30.7	598	27.3
Katete	32,058	26.0	22,971	28.3	987	20.3
Lumezi	24,636	29.2	22,283	30.5	253	16.4
Lundazi	31,874	22.6	25,750	20.8	624	30.2
Mambwe	16,251	11.6	11,987	12.5	464	9.0
Lusangazi	581	11.0	465	11.8	116	7.7
Nyimba	16,363	40.1	11,750	41.4	412	36.6
Petauke	47,779	20.4	35,213	18.5	1266	25.6
Sinda	36,863	43.5	28,942	43.0	721	45.4
Vubwi	7,703	47.6	7,100	50.3	603	15.6

Table15.2 shows the percentage share of households who were aware of the ZIFLP conflict resolution mechanisms by sex of head and district in rural Eastern Province in 2020

Overall results show that 15 percent of the households were aware of the ZIFLP conflict resolution mechanisms.

By sex of household head, results show that 15.9 percent of the male-headed households were aware of the ZIFLP conflict resolution mechanisms compared to 13.9 percent among female-headed households.

Analysed by district, results show that Vubwi and Chipangali districts had the largest and second largest shares of households who were aware of the ZIFLP conflict resolution mechanisms at 43.8 and 32.3 percent, respectively. However, Petauke District had the smallest share at 3.5 percent.

Analysed by sex of head at district level, Vubwi had the largest shares of male-headed households who were aware of the ZIFLP conflict resolution mechanisms at 46.6 percent while Petauke had the smallest share at 3.2 percent. Among female-headed households Lusangazi District had the largest percentage share of households who were aware of the ZIFLP conflict resolution mechanism at 31.5 percent compared to Chipata District with the smallest share at 4.0 percent.

Table15.2: Percentage Share of Households Aware of the ZIFLP Conflict Resolution Mechanisms by Sex of Head and District, Rural Eastern Province 2020

District	Is your household aware of ZIFLP conflict resolution mechanism					
	Total		Male headed		Female headed	
	Total	Yes	Total	Yes	Total	Yes
	Count	Percent	Count	Percent	Count	Percent
Rural Eastern	**340,345**	**15.4**	**265,954**	**15.9**	**74392**	**13.9**
Chadiza	16,070	27.4	13,212	26.6	2858	31.0
Chasefu	24,008	10.2	19,491	7.9	4517	20.2
Chipangali	30,651	32.3	23,742	35.8	6909	20.4
Chipata	29,303	7.5	21,939	8.7	7364	4.0
Kasenengwa	26,204	16.0	21,107	16.2	5098	15.1
Katete	32,058	15.0	22,971	15.3	9087	14.2
Lumezi	24,636	8.5	22,283	8.9	2353	4.6
Lundazi	31,874	7.7	25,750	6.2	6124	14.0
Mambwe	16,251	13.6	11,987	11.1	4264	20.4
Lusangazi	581	23.3	465	21.2	116	31.5
Nyimba	16,363	19.3	11,750	19.9	4612	17.7
Petauke	47,779	3.5	35,213	3.2	12566	4.3
Sinda	36,863	25.8	28,942	27.6	7921	19.2
Vubwi	7,703	43.8	7,100	46.6	603	10.1

Table15.3 shows the percentage share of households who had ever used the ZIFLP grievance redress mechanism by sex of head and district in rural Eastern Province in 2020

Overall, results show that 65.2 percent of the households had ever used the ZIFLP grievance redress mechanism.

By sex of household head, results show that 64.9 percent of the male-headed households had ever used the ZIFLP grievance redress mechanism compared to 66.5 percent among female-headed households. This implies that 1.6 percentage point more female-headed households had ever used the ZIFLP grievance redress mechanism than their male counterparts.

Analysed by district, results show that everyone interviewed in Lusangazi had used the ZIFLP grievance redress mechanism while only 31.8 percent of the household in Katete had ever used the ZIFLP grievance redress mechanism.

Analysed by sex of head at district level, all the male-headed households interviewed in Lusangazi had ever used the redress mechanism followed by 87.4 percent of the male-headed households in Mambwe. Katete District had the smallest percentage share of male-headed households that had ever used the ZIFLP grievance redress mechanism at 15.9

percent. Among female-headed households, Lusangazi District had the largest percentage share of households who had ever used the redress mechanism while none of the female-headed households interviewed in Vubwi had ever used the redress mechanism.

Table15.3: Percentage Share of Households Ever Used the ZIFLP Grievance Redress Mechanism by Sex of Head and District, Rural Eastern Province 2020

District	Have you or any member of your household ever used that mechanism					
	Total		Male headed		Female headed	
	Total	Yes	Total	Yes	Total	Yes
	Count	percent	Count	percent	Count	percent
Total	**52,536**	**65.2**	**42,164**	**64.9**	**10,371**	**66.5**
Chadiza	4,403	64.5	3,5178	71.6	885	35.9
Chasefu	2,448	88.0	1,536	80.8	912	100.0
Chipangali	9,906	56.9	8,494	56.8	1,412	57.6
Chipata	2,203	48.7	1,910	51.1	293	33.3
Kasenengwa	4,197	87.5	3,428	84.7	770	100.0
Katete	4,802	31.8	3,511	15.9	1,292	74.9
Lumezi	2,088	72.8	1,981	71.4	108	100.0
Lundazi	2,447	55.6	1,590	70.5	857	28.1
Mambwe	2,204	76.2	1,334	87.4	870	59.0
Lusangazi	135	100.0	99	100.0	37	100.0
Nyimba	3,162	73.9	2,344	76.9	818	65.1
Petauke	1,660	39.3	1,121	42.2	539	33.3
Sinda	9,508	73.4	7,990	69.7	1,518	92.8
Vubwi	3,372	80.1	3,311	81.6	61	0.0

Table15.4 depicts the percentage share of households who had a suggestion on how to improve the ZIFLP implementation process by sex of head and district in rural Eastern Province in 2020,

Overall, results show that 24.2 percent of the households had a suggestion on how to improve the ZIFLP implementation process.

By sex of household head, results show that 2.1 percentage-point more female-headed households indicated having a suggestion on how to improve the ZIFLP implementation process than male-headed households at 25.8 percent relative to male-headed households whose percentage share was 23.7 percent.

Analysed by district, results show that Petauke and Chasefu districts had the two largest percentage shares among male-headed households with suggestions on how to improve the implementation process at 51.2 and 35.9 percent, respectively. Lumezi had the smallest share at 5.9 percent.

Analysis by sex of head at district level, 51.7 percent of the male-headed household in Petauke indicated having a suggestion on how to improve the ZIFLP implementation process representing the largest share while Lumezi at 5.9 percent had the smallest share. The pattern was similar among female-headed households where 49.6 percent of female-headed households indicated having suggestions with Lundazi having had the lowest share at 3.9 percent

Table15.4: Percentage Share of Households Who had a Suggestion on How to Improve the ZIFLP Implementation Process by Sex of Head and District, Rural Eastern Province, 2020

District	Have a suggestion on how the implementation process can be improved					
	Total		Male-Headed		Female headed	
	Total	Yes	Total	Yes	Total	Yes
	Count	Percent	Count	Percent	Count	Percent
Rural Eastern	**340,345**	**24.2**	**265,954**	**23.7**	**74,392**	**25.8**
Chadiza	16,070	35.9	13,212	35.2	2,858	39.3
Chasefu	24,008	6.8	19,491	6.2	4,517	9.6
Chipangali	30,651	15.1	23,742	14.6	6,909	17.0
Chipata	29,303	25.3	21,939	26.0	7,364	22.9
Kasenengwa	26,204	20.5	21,107	20.3	5,098	21.4
Katete	32,058	17.6	22,971	14.3	9,087	25.8
Lumezi	24,636	5.9	22,283	5.9	2,353	5.9
Lundazi	31,874	7.3	25,750	8.1	6,124	3.9
Mambwe	16,251	17.4	11,987	17.9	4,264	16.0
Lusangazi	581	24.1	465	23.8	116	25.1
Nyimba	16,363	22.7	11,750	23.9	4,612	19.7
Petauke	47,779	51.2	35,213	51.7	12,566	49.6
Sinda	36,863	37.3	28,942	37.0	7,921	38.5
Vubwi	7,703	40.8	7,100	43.4	603	10.1

Table15.5 shows the percentage share of households that reported indicated being satisfied with the way their issue was resolved by the ZIFLP conflict redress mechanism by sex of head and district in rural Eastern Province in 2020

By and large, results show that 88.3 percent of the households were satisfied with the way their issue was resolved through the ZIFLP conflict redress mechanism.

By sex of household head, results show that 5.1 percentage-point more female-headed households indicated having been satisfied with the way their issue was resolved than male-headed households. At least 87.2 percent of the male-headed households were satisfied with the way their issue was resolved through the ZIFLP redress mechanism.

Analysed by district, results show that all the male-headed households interviewed in Chasefu, Katete, Lumezi and Lusangazi districts were satisfied with the way their issue was resolved through the ZIFLP redress mechanism. The least satisfied were households from Chadiza at 55.0 percent.

Analysis by sex of head at district level, both sexes had large percentage shares of households satisfied with the way their issues were resolved through the ZIFLP redress mechanism.

Notably, Chadiza had the lowest percentage share of households satisfied with the way their issues were being resolved through the ZLP redress mechanism regardless of sex of head.

Table15.5 : Percentage Share of Households Satisfied with the way their Issue was Resolved by the ZIFLP Conflict Redress Mechanism by Sex of Head and District, Rural Eastern Province, 2020

District	Were you satisfied with the way the issue was handled					
	Total		Male-Headed		Female headed	
	Total	Yes	Total	Yes	Total	Yes
	Count	Percent	Count	Percent	Count	Percent
Rural Eastern	**34,265**	**88.3**	**27,366**	**87.2**	**6898**	**92.3**
Chadiza	2,838	55.0	2,520	58.7	318	25.5
Chasefu	2,154	100.0	1,241	100.0	912	100.0
Chipangali	5,636	96.7	4,823	96.2	813	100.0
Chipata	1,073	60.2	975	56.3	98	100.0
Kasenengwa	3,674	82.5	2,905	77.9	769	100.0
Katete	1,526	80.9	559	100.0	968	69.8
Lumezi	1,521	100.0	1,413	100.0	108	100.0
Lundazi	1,361	74.4	1,120	68.9	240	100.0
Mambwe	1,679	93.8	1,165	91.1	513	100.0
Lusangazi	135	100.0	99	100.0	37	100.0
Nyimba	2,336	95.6	1,803	94.3	533	100.0
Petauke	653	77.6	473	69.0	180	100.0
Sinda	6,976	98.1	5,567	97.7	1409	100.0
Vubwi	2,702	86.5	2,702	86.5	0	0.0

Table15.6 shows the percentage distribution of households by reason of dissatisfaction with the way their issue was resolved by the ZIFLP conflict redress mechanism.in rural Eastern Province in 2020

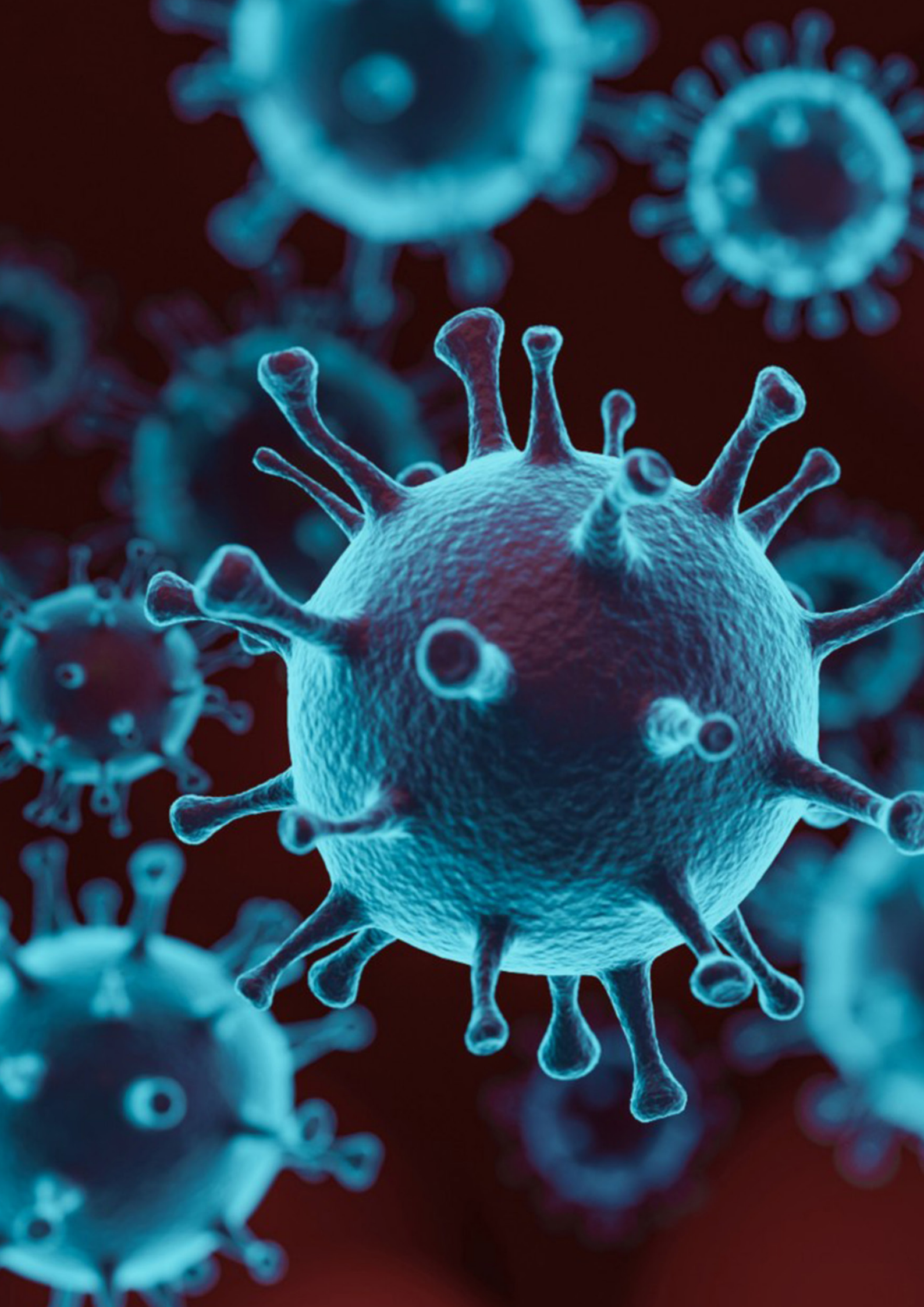
Overall, results show that almost 31 out of every 100 households cited inaction even if one reported while 13 out of every 100 .households were not comfortable with the process. Further, almost 6 out of every 100 households thought that the process was cumbersome. Notably, a significant proportion of households could not specify their reasons for their dissatisfaction at 43 out of 100 households.

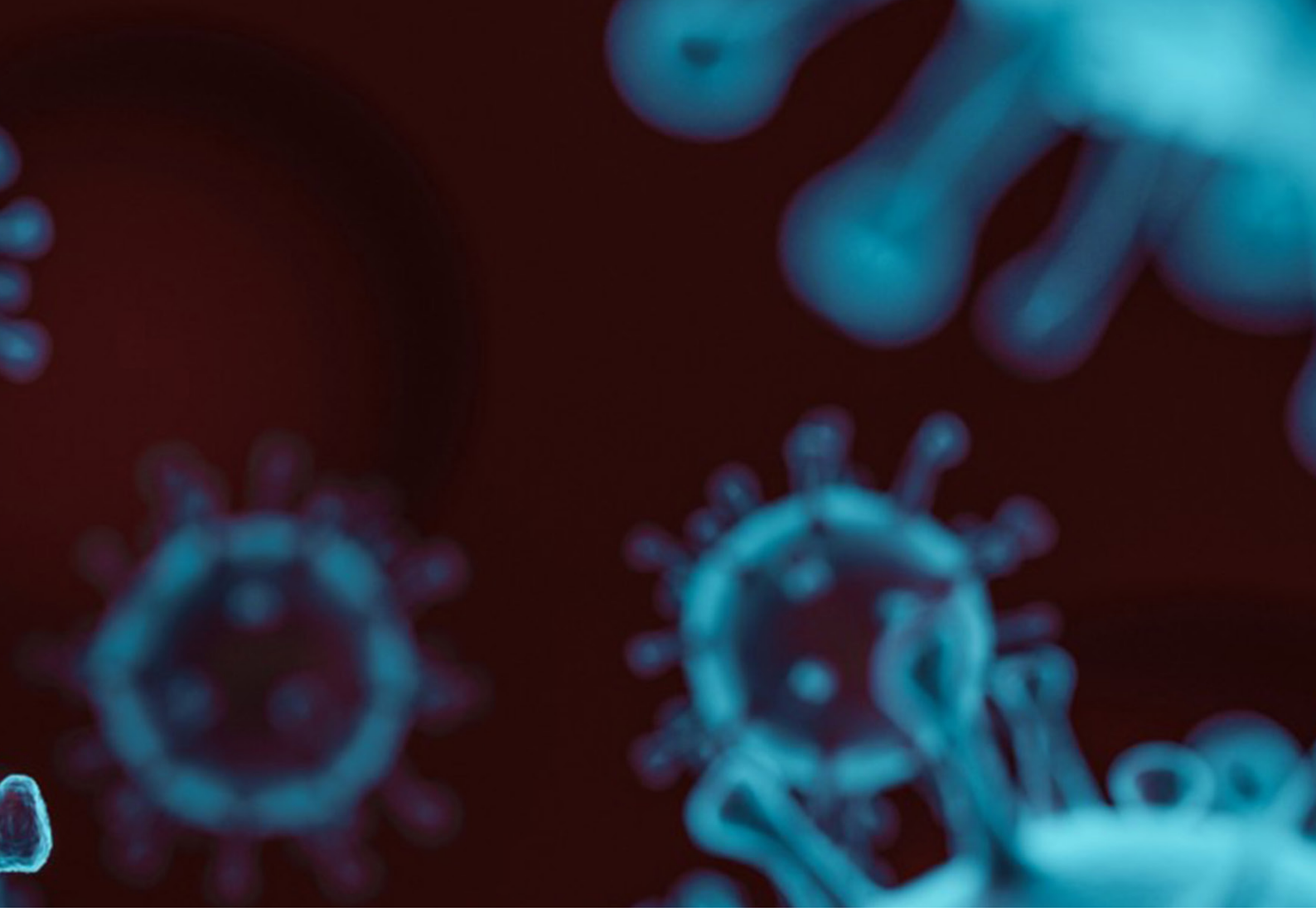
Analysed by sex, both male and female-headed households cited inaction even if one reported as a reason for their dissatisfaction representing a minimum of 30 out of 100 households.

By sex of household head by district, results indicate that everyone interviewed among male-headed households in Chasefu cited inaction as a reason for their dissatisfaction while every male-headed household interviewed in Lundazi cited discomfort with the process while every female-headed households interviewed in Nyimba, Petauke, Sinda and Vubwi cited inaction even if one reported.

Table15.6: Percentage Share of Households by Reason cited for Dissatisfaction of the way the Issue was resolved by the ZIFLP Conflict Redress Mechanism by Sex of Head and District, Rural Eastern Province 2020

District	Overall						Male-Headed						Female-Headed					
	Total	Not Comfortable	Even if you report nothing gets done	The reporting process is cumbersome	It's for educated people	Other specify	Total	Not Comfortable	Even if you report nothing gets done	The reporting process is cumbersome	It's for educated people	Other specify	Total	Not Comfortable	Even if you report nothing gets done	The reporting process is cumbersome	It's for educated people	Other specify
	Count	Percent					Count	Percent					Count	Percent				
Total	18,271	13.2	30.5	5.8	6.9	43.6	14,798	14.31	30	5	7	43.8	3,473	8.2	32.9	9.5	6.7	42.7
Chadiza	1,565	11.1	10.7	10	6.9	61.3	997	14.5	13.9	0	7.8	63.8	567	5.1	5.2	27.5	5.2	57
Chasefu	294	0	100	0	0	0	294	0	100	0	0	0	0	0	0	0	0	0
Chipangali	4,270	0	0	0	12.3	87.7	3,671	0	0	0	11.2	88.8	599	0	0	0	18.9	81.1
Chipata	1,130	77.4	5.3	8.6	8.6	0	935	83.1	6.4	0	10.4	0	195	50	0	50	0	0
Kasenengwa	523	0	0	84.1	15.9	0	523	0	0	84.1	15.9	0	0	0	0	0	0	0
Katete	3,276	10.7	43.8	7.1	6.8	31.6	2,952	11.9	48.6	5.3	4.5	29.7	324	0	0	23.6	27.9	48.5
Lumezi	567	38	37.4	0	0	24.6	567	38	37.4	0	0	24.6	0	0	0	0	0	0
Lundazi	1,086	43.2	27.5	0	0	29.2	469	100	0	0	0	0	616	0	48.5	0	0	51.5
Mambwe	525	30.2	0	0	0	69.8	168	0	0	0	0	100	357	44.5	0	0	0	55.5
Lusangazi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nyimba	826	0	34.5	6.4	27.6	12.2	541	29.5	0	9.7	42.1	18.7	285	0	100	0	0	0
Petauke	1007	19.3	67.9	0	0	32.1	647	0	50	0	0	50	360	0	100	0	0	0
Sinda	2532	0	78.8	0	0	21.2	2423	0	77.9	0	0	22.1	109	0	100	0	0	0
Vubwi	670	0	21.7	12.6	0	65.8	609	0	13.8	13.8	0	72.3	61	0	100	0	0	0





CHAPTER 16: COVID-19 Knowledge and Behaviours

Chapter 16: COVID-19 Knowledge and Behaviours

The Ministry of Health is primarilly responsible for designing, managing and implementing all Zambian government interventions in the health sector. The Ministry pursues a variety of health objectives, including essential drug provision, mainstreaming service delivery, achieving national and international development goals, and the development of legal and policy frameworks for effective coordination and monitoring of health services. The Government of Zambia has set up the Zambia Covid -19 Emergency Response and Health systems preparedness project to help with matters related to Covid-19 as specified in the project document.

As of November 2020, Zambia had recorded a total of 17, 857 confirmed cases of Covid-19, 17,145 recoveries, with 364 Covid 19 related cases (moh.gov.zm).

Awareness of Covid-19

The BIA Survey in Eastern Province sought knowledge and attitudes of the households towards the Covid-19 Pandemic. Table 16.1 shows the percentage distribution of households that were aware or not aware of the existence of Covid-19. Results show that 98.2 percent of the household in Eastern Province were aware of the existence of Covid-19. Further, results show that all the districts in Eastern Province had above 95 percent awareness of the existence of Covid-19, with Katete having the lowest awareness rate of 96.2 percent.

Table 16.1: Percentage distribution of Households Aware/Not Aware of the existence of Covid-19 by district, Eastern Province 2020

District	Total Count	YES	NO
Total	**339,841**	**98.2**	**1.8**
Chadiza	16,070	100.0	0.0
Chasefu	24,008	96.4	3.6
Chipangali	30,450	97.9	2.1
Chipata	29,303	98.3	1.7
Kasenengwa	26,204	99.2	.8
Katete	31,901	96.2	3.8
Lumezi	24,636	97.0	3.0
Lundazi	31,874	97.7	2.3
Mambwe	16,251	98.6	1.4
Lusangazi	581	98.4	1.6
Nyimba	16,363	99.3	.7
Petauke	47,632	100.0	0.0
Sinda	36,863	98.0	2.0
Vubwi	7,703	100.0	0.0

Attitudes Towards Covid-19 Pandemic

The survey also collected data from households related to their attitudes towards Covid-19. Results show that 92.7 percent of the households were afraid of Covid-19, 2.6 percent did not care and 4.7 percent considered it just a common illness.

By District, Vubwi had the highest percentage share of households that reported being afraid of Civid-19, followed by Lumezi (96.1 percent) with Nyimba (82.4 percent) having the lowest percentage share ofhHouseholds that reported being afraid of Covid-19. Nyimba also had the highest percentage of households that reported not caring about Covid-19, closely followed by Kasenengwa at 5.2 percent.

Results further show that households in Nyimba, Chasefu, Chipata and Kasenengwa districts had the highest percentage of households that considered Covid-19 just a common illness at 11; 8.6 and 6.7 percent, respectively. Chipata and Kasenengwa districts both recorded the same percentage.

Table 16.2: Percentage distribution of Households attitudes towards Covid-19 by District, Eastern Province 2020

District	Total Count	Afraid	Don't care	Just a common Illness
Total	**339,841**	**92.7**	**2.6**	**4.7**
Chadiza	16,070	93.8	2.1	4.2
Chasefu	24,008	87.9	3.6	8.6
Chipangali	30,450	96.1	2.5	1.4
Chipata	29,303	91.3	2.0	6.7
Kasenengwa	26,204	88.1	5.2	6.7
Katete	31,901	93.7	1.9	4.4
Lumezi	24,636	96.7	1.3	2.0
Lundazi	31,874	94.9	2.2	2.8
Mambwe	16,251	93.8	.4	5.8
Lusangazi	581	97.0	.4	2.6
Nyimba	16,363	82.4	6.6	11.0
Petauke	47,632	92.3	3.7	4.0
Sinda	36,863	95.4	1.5	3.1
Vubwi	7703	94.4	0.0	5.6

Knowledge of Covid-19 Transmission Channel

Table 16.3 shows the percentage distribution of household by knowledge of Covid-19 transmission channel by district in rural Eastern Province in 2020. Results show that 83.1 percent of the households in Eastern Province were aware of how Covid-19 is transmitted. However, 16.9 percent of the households did not know the transmission channel.

At district level, Vubwi (95.9 percent) had the highest percentage share of households that reported having knowledge of how Covid-19 is transmitted followed by Chipangali and Lusangazi at 95.7 and 93 percent, respectively. The districts with the highest proportion of households that reported not having knowledge of how Covid -19 is spread were Sinda (36.3percent), Nyimba (20.8 percent) and Petauke (20.2 percent), respectiovely.

Table 16.3: Percentage Distribution of Households by knowledge of Covid-19 Transmission Channel by District, Eastern Province, 2020

District	Total Count	YES	NO
Total	**339,841**	**83.1**	**16.9**
Chadiza	16,070	76.1	23.9
Chasefu	24,008	83.4	16.6
Chipangali	30,450	95.7	4.3
Chipata	29,303	83.5	16.5
Kasenengwa	26,204	87.5	12.5
Katete	31,901	84.4	15.6
Lumezi	24,636	89.7	10.3
Lundazi	31,874	88.4	11.6
Mambwe	16,251	86.7	13.3
Lusangazi	581	93.0	7.0
Nyimba	16,363	79.2	20.8
Petauke	47,632	79.8	20.2
Sinda	36,863	63.7	36.3
Vubwi	7,703	95.9	4.1

Do you believe that Covid-19 really exists in Zambia?

Table 16.4 shows the percenatge distribution of households by belief in existence of Covid-19 in Zambia by district in rural Eastern Province in 2020. Results show that 91.3 percent of the households in Eastern Province believe that Covid-19 really exists. However, 8.7 percent do not believe it exists. Of those that do not believe, highest proportions are found in Chadiza (13.5 percent), Sinda (12.percent) and Chasefu at 11.8 percent, respectively.

Table 16.4: Percentage Distribution of Household's belief in whether Covid-19 Exists in Zambia by District, Eastern Province, 2020

District	Total Count	Yes	No
Total	**339,486**	**91.3**	**8.7**
Chadiza	16,070	86.5	13.5
Chasefu	24,008	88.2	11.8
Chipangali	30,450	96.3	3.7
Chipata	29,303	90.1	9.9
Kasenengwa	26,204	95.8	4.2
Katete	31,828	88.5	11.5
Lumezi	24,355	93.0	7.0
Lundazi	31,874	91.8	8.2
Mambwe	16,251	96.4	3.6
Lusangazi	581	97.6	2.4
Nyimba	16,363	89.0	11.0
Petauke	47,632	90.5	9.5
Sinda	36,863	88.0	12.0
Vubwi	7703	98.7	1.3

Households Observance of Health Recommendations

The Ministry of Health (MoH) in Zambia has issued health guidelines on how citizens can avoid getting infected with Covid-19. The survey asked questions to households to establish if they were observing health guidelines as recommended by the MoH. Results in Table 16.5 show that 87.5 percent of the households were following health guidelines while 12.5 percent of the households were not.

By district, Vubwi and Chipata had the highest percentage of households following health guidelines at 98.7 and 98.6 percent, respectively. However, Lundazi and Nyimba districts had the highest proportion of households not observing recommended health guidelines at 24.4 and 24.0 percent, respectively.

Table 16.5: Percentage Distribution of Households observing the Health Recommendation given by MoH by District, Eastern Province, 2020

District	Total Count	Yes	No
Total	**339,841**	**87.5**	**12.5**
Chadiza	16,070	85.6	14.4
Chasefu	24,008	77.2	22.8
Chipangali	30,450	95.2	4.8
Chipata	29,303	98.6	1.4
Kasenengwa	26,204	89.8	10.2
Katete	31,901	89.1	10.9
Lumezi	24,636	78.1	21.9
Lundazi	31,874	75.6	24.4
Mambwe	16,251	97.0	3.0
Lusangazi	581	95.9	4.1
Nyimba	16,363	76.0	24.0
Petauke	47,632	86.7	13.3
Sinda	36,863	93.0	7.0
Vubwi	7,703	98.7	1.3

Reasons for not observing Health Recommendations

Table 16.6 shows the percenatge distribution of households by reason cited for not oberving MOH Covid-19 health recommendations by districts in rural Eastern Province in 2020.

Results show that the most common reason cited was that PPEs were too expensive at 45.4 percent followed by those who cited recommended protection uncomfortable at 16.2 percent with the least percenatge of households being those who said it mainly affects the aged at 3.0 percent.

Table 16.6: Percentage Distribution of Households by Reason Cited for Not Observing MOH Health Recommendations by District in rural Eastern Province, 2020

District	Total Count	PPE too expensive	My natural immunity is enough	No underly-ing medical conditipon	Mainly affects the aged	Recommend-ed protection uncomfortable	Survuval reasons	Other
Total	**42,447**	**45.4**	**5.5**	**4.3**	**3.0**	**16.2**	**9.3**	**16.4**
Chadiza	2,318	34.3	16.5	0.0	0.0	5.2	5.2	38.8
Chasefu	5,480	41.9	2.6	18.8	2.4	9.2	10.8	14.2
Chipangali	1,476	76.8	0.0	0.0	11.6	11.6	0.0	0.0
Chipata	405	0.0	0.0	0.0	0.0	14.8	0.0	85.2
Kasenengwa	2,675	33.9	3.0	19.1	0.0	27.3	16.7	0.0
Katete	3,469	0.0	25.7	8.5	16.1	28.4	0.0	21.2
Lumezi	5,386	83.9	6.7	0.0	3.2	3.1	3.0	0.0
Lundazi	7,783	68.8	1.7	0.0	0.0	1.7	10.0	17.8
Mambwe	488	49.9	0.0	0.0	0.0	37.6	0.0	12.4
Lusangazi	24	100.0	0.0	0.0	0.0	0.0	0.0	0.0
Nyimba	3,927	58.9	3.4	0.0	0.0	5.7	27.7	4.3
Petauke	6,338	26.6	2.8	0.0	3.7	21.2	10.4	35.2
Sinda	2,577	0.0	0.0	0.0	0.0	86.6	0.0	13.4
Vubwi	99	0.0	20.6	0.0	0.0	0.0	79.4	0.0

Households whose Livelihood is Affected by Covid-19

Table 16.7 shows the percenatge distribution of households that reported Covid-19 having affected their livelihood in some way by district in rural Eastern Province in 2020. Results show that 62.2 percent of the households were affected by Covid-19.

By District, Vubwi (97.6 percent) had the highest percentage of households that reported having been affected by Covid-19, followed by Chipangali (77.5 percent) and Lusangazi (76.9 percent), respectively. Nyimba District households were the least affected at 58.6 percent

Table 16.7: Percentage Distribution of Households that Reported Covid-19 having Affected their Livelihood in Some Way by District in rural Eastern Province, 2020

District	Total Count	Yes	No
Total	**339,841**	**62.2**	**37.8**
Chadiza	16,070	59.7	40.3
Chasefu	24,008	68.2	31.8
Chipangali	30,450	77.5	22.5
Chipata	29,303	63.7	36.3
Kasenengwa	26,204	65.7	34.3
Katete	31,901	68.7	31.3
Lumezi	24,636	49.5	50.5
Lundazi	31,874	60.9	39.1
Mambwe	16,251	65.9	34.1
Lusangazi	581	76.9	23.1
Nyimba	16,363	41.4	58.6
Petauke	47,632	45.9	54.1
Sinda	36,863	67.7	32.3
Vubwi	7703	97.6	2.4


Questionnare

SURVEY QUESTIONNAIRE

Generated by venandra, Oct 15, 2020 16:46
Questionnaire created by tabo, Aug 13, 2020 21:34
Last modified by tabo, Sep 08, 2020 09:34

Shared with:
venandra last edited 9/8/2020 6:47:23 AM
sergiy (never edited)

Sections: 19, Sub-sections: 0,
Questions: 323.
Questions with enabling conditions: 180
Questions with validation conditions:40
Rosters: 16
Variables: 0

Survey Solutions

2020 Beneficiary Survey

SURVEY IDENTIFICATION INFORMATION
QUESTIONNAIRE DESCRIPTION

HOUSEHOLD IDENTIFICATION PARTICULARS
No sub-sections, No rosters, Questions: 25, Static texts: 1.

SECTION 1: HOUSEHOLD ROSTER
No sub-sections, Rosters: 1, Questions: 12, Static texts: 2.

SECTION 2: ACCESS TO AGRICULTURAL AND FOREST LAND USER RIGHTS
No sub-sections, Rosters: 1, Questions: 32, Static texts: 3.

SECTION 3: CROP PRODUCTION AND MANAGEMENT
No sub-sections, Rosters: 3, Questions: 38.

SECTION 4: CROP STOCKS AND SALES (2018/2019)
No sub-sections, Rosters: 1, Questions: 17, Static texts: 1.

SECTION 5: ACCESS TO AGRICULTURAL EXTENSION SERVICES
No sub-sections, Rosters: 1, Questions: 3, Static texts: 1.

SECTION 6: HOUSEHOLD EXPENDITURE AND CONSUMPTION
No sub-sections, Rosters: 1, Questions: 4, Static texts: 1.

SECTION 7: FOOD PURCHASES AND FOOD AID/RELIEF FOR HOME CONSUMPTION
No sub-sections, Rosters: 1, Questions: 16.

SECTION 8: HOUSEHOLD FOOD INSECURITY
No sub-sections, No rosters, Questions: 16.

SECTION 9: HOUSEHOLD FOREST CLEARING, PLANTING AND REGENERATION
No sub-sections, Rosters: 1, Questions: 50, Static texts: 4.

SECTION 10: COLLECTION OF WOOD AND NON-WOOD FOREST PRODUCTS IN THE LAST 12 MONTHS
No sub-sections, Rosters: 1, Questions: 31, Static texts: 1.

SECTION 11: FORESTRY INCOME ACTIVITIES CONTRIBUTING TO HH INCOME AND HH CONSUMPTION
No sub-sections, Rosters: 1, Questions: 3.

SECTION 12: INCOME FROM NON-AGRICULTURE AND FORESTRY ACTIVITIES
No sub-sections, Rosters: 1, Questions: 6.

SECTION 13: BUYING AND BARTERING OF WOOD AND NON-WOOD FOREST PRODUCTS
No sub-sections, Rosters: 1, Questions: 18.

SURVEY QUESTIONNAIRE

SURVEY QUESTIONNAIRE

SURVEY IDENTIFICATION INFORMATION QUESTIONNAIRE DESCRIPTION

Basic information

Title 2020 Beneficiary Survey

SURVEY QUESTIONNAIRE

HOUSEHOLD IDENTIFICATION PARTICULARS

Identification

STATIC TEXT

REPUBLIC OF ZAMBIA
MINISTRY OF NATIONAL DEVELOPMENT PLANNING
ZAMBIA INTEGRATED FOREST LANDSCAPE PROJECT

BENEFICIARY IMPACT ASSESSMENT SURVEY

Cluster	NUMERIC: INTEGER SCOPE: IDENTIFYING CLUSTER _
CSA	NUMERIC: INTEGER SCOPE: IDENTIFYING CSA _
SEA	NUMERIC: INTEGER SCOPE: IDENTIFYING SEA _
Province	SINGLE-SELECT SCOPE: IDENTIFYING PROV 03 ○ Eastern 05 ○ Lusaka
District Code	NUMERIC: INTEGER SCOPE: IDENTIFYING DIST _
Constituency Code	NUMERIC: INTEGER SCOPE: IDENTIFYING CONS _
Ward Code	NUMERIC: INTEGER SCOPE: IDENTIFYING WARD _
Region	SINGLE-SELECT SCOPE: IDENTIFYING REG 01 ○ Rural 02 ○ Urban

SURVEY QUESTIONNAIRE

Question	Specification
Enumerator Code of Lister	NUMERIC: INTEGER SCOPE: IDENTIFYING LISTER
GPS Latitude	NUMERIC: DECIMAL SCOPE: HIDDEN LAT
GPS Longitude	NUMERIC: DECIMAL SCOPE: HIDDEN LON
GPS Accuracy	NUMERIC: INTEGER SCOPE: HIDDEN ACC
7a. Structure Number	NUMERIC: INTEGER SCOPE: IDENTIFYING STR
7b. Household Number	NUMERIC: INTEGER SCOPE: IDENTIFYING HHN
8a. Village or locality name	TEXT Village
8b. Residential or physical address V1 residental_address.Length > 2 M1 Address is too short	TEXT residental_address
9. Chief's/Chieftainess' area name V1 Chief.Length > 2 M1 Area named is too short	TEXT Chief
10. Household contact number	TEXT HHContact
11. Location (GPS Coordinates) E LAT == null || LON == null || ACC > 30	GPS GPS N W A
12. Name of household head	TEXT SCOPE: IDENTIFYING head_name
13. Name of main respondent V1 RESPONDENT_NAME.Length > 2 M1 Main respondent name is too short	TEXT RESPONDENT_NAME
13b. Sampling Serial Number	NUMERIC: INTEGER SCOPE: HIDDEN SAMPLING_SERIAL_NUMBER

14. Total Number of Persons who live in this household (Include usual members) V1 `self > 0` M1 At least one household member is expected for this interview. W2 `self <= 40` M2 The number of household members seems too high. Please verify.	NUMERIC: INTEGER HHSIZE
15. ZIFLP Beneficiary Household	SINGLE-SELECT Beneficiary SCOPE: IDENTIFYING 01 ○ Yes 02 ○ No
16. Main language spoken by the household	SINGLE-SELECT: COMBO BOX LANGUAGE 13 ○ Ambo 01 ○ Bemba 04 ○ Bisa 17 ○ Bwile 48 ○ Chewa 53 ○ Chikunda 06 ○ Chishinga 32 ○ Chokwe 62 ○ English 25 ○ Gowa 22 ○ Ila 41 ○ Imilangu 09 ○ Kabende 33 ○ Kaonde 37 ○ Koma 52 ○ Kunda And 55 other symbols [1]

SURVEY QUESTIONNAIRE

SECTION 1: HOUSEHOLD ROSTER

Section01

STATIC TEXT

INTRODUCTION: I would like to start the interview by asking you questions about yourself and other usual members of the household

STATIC TEXT

Please LIST the names of all persons who usually live with this household. Start with the head of the household and include visitors who have lived with the household for six months or more. Include usual members, who are away visiting, in hospital, at boarding schools or college or university, etc.

1.2 Please LIST all the members of the household

LIST S1Q2

V1 `(HHSIZE == 1) || S1Q2.Length == HHSIZE`

M1 This error will clear when you have listed (%HHSIZE%) household members.

V2 `!(HHSIZE == 1) || S1Q2.Length == HHSIZE`

M2 This error will clear when you have listed (%HHSIZE%) household member.

SECTION 1: HOUSEHOLD ROSTER

Roster: HOUSEHOLD ROSTER

generated by list question S1Q2

householdroster

1.3 How old is %rostertitle% now?

NUMERIC: INTEGER S1Q3

I RECORD EXACT AGE IN COMPLETED YEARS.

V1 `S1Q3 < 100`

M1 Age seems too great

1.4 What is the relationship of %rostertitle% to the head of the household?

SINGLE-SELECT S1Q4

V1 `(householdroster.Count(x=>x.S1Q4==1) == 1) && (householdroster.Count(x=>x.S1Q4==1 && x.S1Q3 < S1Q3 + 13 && S1Q4==3) == 0) && (householdroster.Count(x=>x.S1Q4==1 && x.S1Q3 < S1Q3 + 26 && S1Q4==6) == 0)` And 246 other symbols [1]

M1 Ensure that there is only one household head or age difference between household head and spouse, own child, grand child and parent is not more than 40,13,26 and 13 respectively.

- 01 ○ Head
- 02 ○ Spouse
- 03 ○ Own child
- 04 ○ Step child
- 05 ○ Adopted
- 06 ○ Grand child
- 07 ○ Brother/Sister
- 08 ○ Cousin
- 09 ○ Nephew/Niece
- 10 ○ Brother/Sister in law
- 11 ○ Parent
- 12 ○ Parent in law
- 13 ○ Other relatives
- 14 ○ Maid/Nanny/House-servant
- 15 ○ Non-relative

1.5 Is %rostertitle% male or female?

SINGLE-SELECT S1Q5

V1 `(S1Q4==1 && householdroster.Count(x=>x.S1Q4==2 && x.S1Q5==S1Q5)==0) || (S1Q4==2 && (householdroster.Count(x=>x.S1Q4==1 && x.S1Q5==S1Q5)==0) || (S1Q4!=1 && S1Q4!=2))`

M1 Same sex marriage is not allowed in Zambia

- 01 ○ Male
- 02 ○ Female

1.6 Has %rostertitle% been sick for at least 3 months in the last 12 months?

SINGLE-SELECT S1Q6

- 01 ○ Yes
- 02 ○ No

SURVEY QUESTIONNAIRE

1.7 Does %rostertitle% have difficulty with the following?

MULTI-SELECT: YES/NO S1Q7

01 ☐ / ☐ Seeing even when wearing glasses
02 ☐ / ☐ Hearing even when using a hearing aid
03 ☐ / ☐ Walking or climbing steps
04 ☐ / ☐ Remembering or concentrating
05 ☐ / ☐ With self-care, such as washing (bathing) all over or dressing
06 ☐ / ☐ Having difficulty communicating e.g understanding or being understood using usual language

1.8 What is the marital status of %rostertitle%?

I Only for those aged 12 years and above
E `S1Q3 >= 12`
V1 `!(S1Q4==1 && householdroster.Count(x=>x.S1Q4==2 && x.S1Q8!=S1Q8)>0) && !(S1Q4==2 && householdroster.Count(x=>x.S1Q4==1 && x.S1Q8!=S1Q8)>0)`
M1 The marital status of the household head and the spouse should be the same

SINGLE-SELECT S1Q8

01 ○ Never Married
02 ○ Married
03 ○ Separated
04 ○ Divorced
05 ○ Widowed
06 ○ Co-habiting

1.9 Is %rostertitle% able to read & write in any language?

I Only for those aged 5 years and above
E `S1Q3 >= 5`

SINGLE-SELECT S1Q9

01 ○ Yes
02 ○ No

1.10 Has %rostertitle% ever attended school?

E `S1Q3 >= 5`

SINGLE-SELECT S1Q10

01 ○ Yes
02 ○ No

1.11 What was the highest grade/ level %rostertitle% attained?

E `S1Q10 == 1 && S1Q3 >= 5`

SINGLE-SELECT S1Q11

00 ○ Pre-school
01 ○ Grade 1
02 ○ Grade 2
03 ○ Grade 3
04 ○ Grade 4
05 ○ Grade 5
06 ○ Grade 6
07 ○ Grade 7
08 ○ Grade 8
09 ○ Grade 9
10 ○ Grade 10
11 ○ Grade 11
12 ○ Grade 12 GCE (O-level)
13 ○ Grade 12 GCE (A-level)
14 ○ College certificate/Diploma
15 ○ University Degree

And 3 other symbols [2]

SURVEY QUESTIONNAIRE

1.12 Why has %rostertitle% never attended school?

E S1Q10 == 2 && S1Q3 >= 5

SINGLE-SELECT S1Q12

- 01 ○ Under-age
- 02 ○ Was never enrolled
- 03 ○ Couldn't get a place
- 04 ○ Expensive
- 05 ○ No financial support
- 06 ○ School too far
- 07 ○ Illness/injury
- 08 ○ School not important
- 09 ○ Unsafe to travel to school
- 10 ○ Other specify

1.12s Specify why %rostertitle% never attended school.

E S1Q12 == 10

TEXT S1Q12S

.....

SURVEY QUESTIONNAIRE

SECTION 2: ACCESS TO AGRICULTURAL AND FOREST LAND USER RIGHTS

Section02

STATIC TEXT

This section refers to the period 1st October 2019 to 31st September 2020.

2.1 Does your household own any piece of land?	SINGLE-SELECT S2Q1 01 ○ Yes 02 ○ No
2.2_qty How much land does your household own in total? Qty S2Q1 == 1 self > 0 Response in 2.1 is Yes, therefore quantity of land must be greater than zero. (S2Q3AU == null || S2Q3BU == null) || ((S2Q2Q * ha_conv[(int)S2Q2U].has) >= (S2Q3AQ * ha_conv[(int)S2Q3AU].has + S2Q3BQ * ha_conv[(int)S2Q3BU].has)) Total land owned in total must be equal or greater than the combined t otal for male and female owned land.	NUMERIC: DECIMAL S2Q2Q -
2.2_unt How much land does your household own in total? Unit S2Q2Q > 0	SINGLE-SELECT S2Q2U 01 ○ Lima 02 ○ Acre 03 ○ Hectare 04 ○ Square metre
2.3a_qty Of the land in 2.1, how much of it is owned by Male members of the household? S2Q2Q > 0	NUMERIC: DECIMAL S2Q3AQ -
2.3a_unt Specify the unit for the land that is owned by Male members of the household? Unit S2Q3AQ > 0	SINGLE-SELECT S2Q3AU 01 ○ Lima 02 ○ Acre 03 ○ Hectare 04 ○ Square metre
2.3b_qty Of the land in 2.1, how much of it is owned by Female members of the household? S2Q2Q > 0	NUMERIC: DECIMAL S2Q3BQ -
2.3b_unt Specify the unit for the land that is owned by Female members of the household. S2Q3BQ > 0	SINGLE-SELECT S2Q3BU 01 ○ Lima 02 ○ Acre 03 ○ Hectare 04 ○ Square metre
2.3c_qty Of the land in 2.1, how much of it is jointly owned by members of the household? S2Q2Q > 0	NUMERIC: DECIMAL S2Q3CQ -

SURVEY QUESTIONNAIRE

2.3c_unt Specify the unit for the land that is jointly owned by members of the household.

E S2Q3CQ > 0

SINGLE-SELECT S2Q3CU

01 ○ Lima
02 ○ Acre
03 ○ Hectare
04 ○ Square metre

2.4a_qty How much of that land is in fallow? (Not currently used for cultivation)

E S2Q2Q > 0

NUMERIC: DECIMAL S2Q4AQ

2.4a_unt Specify the unit for the land that is in fallow.

E S2Q4AQ > 0

SINGLE-SELECT S2Q4AU

01 ○ Lima
02 ○ Acre
03 ○ Hectare
04 ○ Square metre

2.4b_qty How much of that land is allocated to Agro-Forestry?

E S2Q2Q > 0

NUMERIC: DECIMAL S2Q4BQ

2.4b_unt Specify the unit for the land allocated to Agro-Forestry.

E S2Q4BQ > 0

SINGLE-SELECT S2Q4BU

01 ○ Lima
02 ○ Acre
03 ○ Hectare
04 ○ Square metre

2.5_qty Of the total land owned (2.1) how much of it is used specifically for growing trees (planted or natural forest or nursery)?

I Excluding fallow area and areas used for fruit trees and agroforestry
E S2Q2Q > 0

NUMERIC: DECIMAL S2Q5Q

2.5_unt Specify the unit for the land used specifically for growing trees.

E S2Q5Q > 0

SINGLE-SELECT S2Q5U

01 ○ Lima
02 ○ Acres
03 ○ Hectares
04 ○ Square meters

2.6_qty Of the total land owned (2.1) how much of it is used for agricultural cultivation?

I Not including fallow
E S2Q2Q > 0

NUMERIC: DECIMAL S2Q6Q

2.6_unt Specify the unit for the land used for agricultural cultivation.

E S2Q6Q > 0

SINGLE-SELECT S2Q6U

01 ○ Lima
02 ○ Acre
03 ○ Hectare
04 ○ Square metre

2.7_qty Apart from fallow, forest/nursery and cultivated agricultural land, how much land does your household have for other land uses? (e.g. built-up areas and pastures)

I specify land use
E S2Q2Q > 0

NUMERIC: DECIMAL S2Q7Q

SURVEY QUESTIONNAIRE

2.7_unt Specify unit for the land your household has for other land uses.

E S2Q7Q > 0

SINGLE-SELECT S2Q7U

01 ○ Lima
02 ○ Acre
03 ○ Hectare
04 ○ Square metre

STATIC TEXT

E S2Q7U != null && !((S2Q2Q * ha_conv[(int)S2Q2U].has) >= ((S2Q3AQ * ha_conv[(int)S2Q3AU].has) + (S2Q3BQ * ha_conv[(int)S2Q3BU].has) + (S2Q3CQ * ha_conv[(int)S2Q3CU].has) + (S2Q4AQ * ha_co And 142 other symbols [1]

V1 !((S2Q2Q * ha_conv[(int)S2Q2U].has) < ((S2Q3AQ * ha_conv[(int)S2Q3AU].has) + (S2Q3BQ * ha_conv[(int)S2Q3BU].has) + (S2Q3CQ * ha_conv[(int)S2Q3CU].has) + (S2Q4AQ * ha_conv[(int)S2Q4AU]. And 126 other symbols [4]

M1 Please verify the areas from 2.3 to 2.7 and ensure that the sum is equals or less than the total (2.2).

The total area in 2.2 is expected to be equal or greater than the sum of areas from 2.3 to 2.7.

STATIC TEXT

Land Rights

SECTION 2: ACCESS TO AGRICULTURAL AND FOREST LAND USER RIGHTS

Roster: LAND
generated by fixed list

land

01 Customary land
02 State land

E S2Q1==1

2.8_qty How much of your household's total cultivated land (Q 2.4) is on %rostertitle%?

NUMERIC: DECIMAL S2Q8Q

2.8_unt How much of your household's total cultivated land (Q 2.4) is on %rostertitle%? Unit

E S2Q8Q > 0

SINGLE-SELECT S2Q8U

01 ○ Lima
02 ○ Acres
03 ○ Hectares
04 ○ Square meters

2.9 Is the %rostertitle% holding officially recognized by state or customary law?

E S2Q8Q > 0

SINGLE-SELECT S2Q9

01 ○ Yes, recognised by the state with Title Deed
02 ○ Yes, recognised by the state with no Title Deed
03 ○ Yes, recognised by customary law with Paper
04 ○ Yes, recognised by customary law without Paper
05 ○ Not recognised

2.10 Who holds the rights? *Whose name is on the document

E S2Q9.InList(1,3)

SINGLE-SELECT: LINKED S2Q10

2.11a How much of your household's cultivated land (Q 2.6) is in a Protected area?

E S2Q6Q > 0 && S2Q6U != null

V1 self <= S2Q6Q

M1 Area cannot exceed area captured in 2.6

V2 self >= 0

M2 Area should be zero or more.

NUMERIC: DECIMAL S2Q11A

SURVEY QUESTIONNAIRE

2.11b How much of your household's cultivated land (Q 2.6) is in a Game Management area?

NUMERIC: DECIMAL S2Q11B

E S2Q6Q > 0 && S2Q6U != null
V1 self <= S2Q6Q
M1 Area cannot exceed the area captured in 2.5.
V2 self >= 0
M2 Area is expected to be zero or greater.

2.12 Does your household rent out any land?

SINGLE-SELECT S2Q12

E S2Q1 == 1

01 ○ Yes
02 ○ No

2.13_qty What size of land is rented out?

NUMERIC: DECIMAL S2Q13Q

E S2Q12 == 1

2.13_unt Specify the unit for the land rented out.

SINGLE-SELECT S2Q13U

E S2Q13Q > 0

01 ○ Lima
02 ○ Acres
03 ○ Hectares
04 ○ Square meters

2.14 Has the total land used by your household for cultivation increased or decreased? ?

SINGLE-SELECT S2Q14

E S2Q1 == 1

01 ○ Increase
02 ○ No change
03 ○ Decrease
04 ○ Do not know

2.15 Did your household rent any land for cultivation in the last 5 years?

SINGLE-SELECT S2Q15

01 ○ Yes
02 ○ No

2.16_qty What size of land was rented?

NUMERIC: DECIMAL S2Q16Q

E S2Q15 == 1

2.16_unt Specify the unit for the land rented.

SINGLE-SELECT S2Q16U

E S2Q16Q > 0

01 ○ Lima
02 ○ Acres
03 ○ Hectares
04 ○ Square meters

SURVEY QUESTIONNAIRE

SECTION 3: CROP PRODUCTION AND MANAGEMENT

Section03

3.1 Did any member of this household plant any crop last Agricultural Season (2019/2020)? (Include perennial crops planted outside this season)	SINGLE-SELECT 01 ○ Yes 02 ○ No	S3Q1
3.2 Did you grow the following in the 2019/2020 agricultural season? E S3Q1==1	MULTI-SELECT 01 ☐ Maize 02 ☐ Sorghum 03 ☐ Rice 04 ☐ Millet 05 ☐ Sunflower 06 ☐ Groundnuts 07 ☐ Soya-beans 08 ☐ Seed Cotton 09 ☐ Irish potato 10 ☐ Virginia tobacco 11 ☐ Burley tobacco 12 ☐ Mixed beans 13 ☐ Bambara nuts 14 ☐ Cowpeas 15 ☐ Velvet beans 16 ☐ Coffee And 9 other symbols [3]	S3Q2

SECTION 3: CROP PRODUCTION AND MANAGEMENT

Roster: CROPS

generated by multi-select question S3Q2

crops

E S3Q2.Count() > 0

3.3_qty What was the area under %rostertitle%	NUMERIC: DECIMAL _ .	S3Q3Q
3.3_unt What was the unit for the area under %rostertitle%	SINGLE-SELECT 01 ○ Lima 02 ○ Acre 03 ○ Hectare 04 ○ Square meter	S3Q2U
3.4 What was the main tillage method used for %rostertitle%?	SINGLE-SELECT 01 ○ Conventional Hand Hoeing 02 ○ Planting Basins (potholes) 03 ○ Zero Tillage 04 ○ Ploughing 05 ○ Ripping 06 ○ Ridging 07 ○ Bunding	S3Q4

SURVEY QUESTIONNAIRE

3.5 What was the main source of power used for this tillage of %rostertitle%?

E S3Q4 == 1 || S3Q4 == 2 || S3Q4 == 7

SINGLE-SELECT S3Q5

01 ○ Own animals
02 ○ Hired/borrowed animals
03 ○ Own mechanical
04 ○ Hired/borrowed mechanical
05 ○ Household labour
06 ○ Hired labour

3.6 When was tillage for %rostertitle% done?

SINGLE-SELECT S3Q6

01 ○ Before the rains
02 ○ During the rainy season

3.7 When was the first weeding done for %rostertitle%?

E @rowcode != 17

SINGLE-SELECT S3Q7

01 ○ Within one week
02 ○ After two weeks
03 ○ After three weeks
04 ○ After four weeks
05 ○ Didn't weed

3.8 How many complete weedings did you do for %rostertitle%?

E S3Q7 < 5
V1 self >= 0 && self <= 4
M1 Number of weedings should normally be between 0 and 4.

NUMERIC: INTEGER S3Q8

3.9a Did you apply animal manure to the %rostertitle%?

SINGLE-SELECT S3Q9A

01 ○ Yes
02 ○ No

3.10a Did you apply lime to this %rostertitle%?

SINGLE-SELECT S3Q10A

01 ○ Yes
02 ○ No

3.10_qty What quantity of lime did you apply to this %rostertitle%?

E S3Q10A == 1
V1 (S3Q10Q > 0 && S3Q10A == 1)||(S3Q10Q == null && S3Q10A == 2)
M1 Amount should be greater than 0 if lime was applied.

NUMERIC: DECIMAL S3Q10Q

3.10_unt What was the unit of lime did you apply to this %rostertitle%?

E S3Q10Q > 0

SINGLE-SELECT S3Q10U

01 ○ kilograms
02 ○ litres

3.9b Did you apply plant manure to the %rostertitle%?

SINGLE-SELECT S3Q9B

01 ○ Yes
02 ○ No

3.11 What did you do to most of the crop residues from the %rostertitle% of 2018/2019?

SINGLE-SELECT S3Q11

01 ○ Burned them
02 ○ Left them in the fields
03 ○ Collected for animal feed
04 ○ Fed to animals in field
05 ○ Threw them away
06 ○ Gave away

3.12 What main crop or use did you put in this %rostertitle% field in 2017/2018?	SINGLE-SELECT S3Q12 01 ○ Maize 02 ○ Sorghum 03 ○ Rice 04 ○ Millet 05 ○ Sunflower 06 ○ Groundnuts 07 ○ Soya-beans 08 ○ Seed Cotton 09 ○ Irish potato 10 ○ Virginia tobacco 11 ○ Burley tobacco 12 ○ Mixed beans 13 ○ Bambara nuts 14 ○ Cowpeas 15 ○ Velvet beans 16 ○ Coffee And 10 other symbols [4]
3.13 What main crop or use did you put in this %rostertitle% field in 2018/2019 (the previous season)?	SINGLE-SELECT S3Q13 01 ○ Maize 02 ○ Sorghum 03 ○ Rice 04 ○ Millet 05 ○ Sunflower 06 ○ Groundnuts 07 ○ Soya-beans 08 ○ Seed Cotton 09 ○ Irish potato 10 ○ Virginia tobacco 11 ○ Burley tobacco 12 ○ Mixed beans 13 ○ Bambara nuts 14 ○ Cowpeas 15 ○ Velvet beans 16 ○ Coffee And 10 other symbols [5]
3.14 What main %rostertitle% seed type did you use?	SINGLE-SELECT S3Q14 01 ○ Local 02 ○ Improved 03 ○ Hybrid
3.15 What was the source of most of the %rostertitle% seed?	SINGLE-SELECT S3Q15 01 ○ Private retailer 02 ○ Seed company 03 ○ NGOs 04 ○ Govt food security pack 05 ○ Govt fertilizer support program 06 ○ Own harvest 07 ○ Other households / farmers

3.16 What main transaction did you use to get the %rostertitle% seed?

SINGLE-SELECT S3Q16

01 ○ Cash purchase
02 ○ Loan
03 ○ Barter
04 ○ Grant/gift/free
05 ○ Own harvest
06 ○ Other

3.16s Specify the transaction used

E S3Q16 == 6

TEXT S3Q16S

.....

3.17_qty What quantity of %rostertitle% seed did you plant?

E @rowcode != 17

NUMERIC: DECIMAL S3Q17Q

- -

3.17_unt Specify the unit for the quantity of seed for %rostertitle%.

SINGLE-SELECT S3Q17U

01 ○ 90kg Bag
02 ○ 50kg Bag
03 ○ 25kg Bag
04 ○ 10kg Pocket/Bag
05 ○ 20ltr Tin
11 ○ 5ltr/ Gallon
12 ○ MEDA
13 ○ Bunches
14 ○ Muchumbu
15 ○ Ka B.P
16 ○ Crates
17 ○ Tonnes
18 ○ Boxes
19 ○ Number
20 ○ Kilogram (kg)

3.18_mth When did you finish planting this %rostertitle%? - Month

SINGLE-SELECT S3Q18M

01 ○ January
02 ○ February
03 ○ March
04 ○ April
05 ○ May
06 ○ June
07 ○ July
08 ○ August
09 ○ September
10 ○ October
11 ○ November
12 ○ December

3.18_wk When did you finish planting this %rostertitle%? - Week

SINGLE-SELECT S3Q18W

01 ○ 1st week
02 ○ 2nd week
03 ○ 3rd week
04 ○ 4th week

SURVEY QUESTIONNAIRE

3.19_qty How many kilograms of basal dressing fertilizer did you apply to %rostertitle%?

I Enter 0 for none

NUMERIC: DECIMAL S3Q19Q

3.19_unt How many kilograms of top dressing fertilizer did you apply to %rostertitle%?

I Enter 0 for none

NUMERIC: DECIMAL S3Q19U

3.20_qty How much of this %rostertitle% did you harvest?

I Enter 0 for none
V1 self > 0
M1 Some quantity must have been harvested.

NUMERIC: DECIMAL S3Q20Q

3.20_unt How much of this %rostertitle% did you harvest? - Unit

E S3Q20Q > 0
V1 (@rowcode==1 && self.InList(1,2,3,4,5,11,12,14,17,20)) || (@rowcode==2 && self.InList(1,2,3,4,5,11,12,14,17,20)) || (@rowcode==3 && self.InList(1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,17,20))|| (@rowcode= And 1061 other symbols [2]
M1 The Unit May NOT be appropriate for this crop

SINGLE-SELECT S3Q20U

01 ○ 90kg Bag
02 ○ 50kg Bag
03 ○ 25kg Bag
04 ○ 10kg Pocket/Bag
05 ○ 20ltr Tin
06 ○ 90kg bag unshelled/unpolished
07 ○ 50kg Bag Unshelled/Unpolished
08 ○ 25kg Bag Unshelled/Unpolished
09 ○ 10kg Bag Unshelled
10 ○ 20lt Tin Unshelled/Unpolished
11 ○ 5ltr/ Gallon
12 ○ MEDA
13 ○ Bunches
14 ○ Muchumbu
15 ○ Ka B.P.
16 ○ Crates

And 4 other symbols [6]

3.21 Does your household practice ...

MULTI-SELECT: YES/NO S3Q21

01 ☐ / ☐ (a) Mulching
02 ☐ / ☐ (b) Intercropping
03 ☐ / ☐ (c) Conservation agriculture
04 ☐ / ☐ (d) Crop rotation
05 ☐ / ☐ (e) Integrated crop-livestock management
06 ☐ / ☐ (f) Agro-forestry
07 ☐ / ☐ (g) Improved grazing
08 ☐ / ☐ (h) Improved water management

SECTION 3: CROP PRODUCTION AND MANAGEMENT

Roster: LAND USED

generated by multi-select question S3Q21

E S3Q21.Yes.Count() > 0

landused

3.22_qty How much of the household's total land is used for %rostertitle%?

NUMERIC: DECIMAL S3Q22Q

3.22_unt How much of the household's total land is used for %rostertitle%? Unit

E S3Q22Q > 0

V1 (S3Q22Q * ha_conv[(int)S3Q22U].has <= S2Q2Q * ha_conv[(int)S2Q2U].has)

M1 The area used for %rostertitle% must be less than or equal to the total area in question 2.2.

SINGLE-SELECT S3Q22U

01 ○ Lima
02 ○ Acre
03 ○ Hectare
04 ○ Square meter

3.23 For how many years have you been practicing %rostertitle%?

I If less than a year, enter 0.

E S3Q22Q > 0

V1 self >= 0

M1 Enter number of years, if less than a year, enter 0.

V2 self < 100

M2 Number of years seems too high.

NUMERIC: INTEGER S3Q23

_ _

3.24 Did the household use any of the following?

MULTI-SELECT: YES/NO S3Q24

01 ☐ / ☐ Fungcide
02 ☐ / ☐ Insecticide
03 ☐ / ☐ Pesticide
04 ☐ / ☐ Herbicide
05 ☐ / ☐ Nematicide
06 ☐ / ☐ Other

3.24s Specify other chemical used

E S3Q24.Yes.Contains(6)

TEXT S3Q24S

.....

SECTION 3: CROP PRODUCTION AND MANAGEMENT

Roster: CHEMICALS USED

generated by multi-select question S3Q24

chemused

E S3Q24.Yes.Count() > 0

3.25_qty How much %rostertitle% was used?

NUMERIC: DECIMAL S3Q25Q

_ _

3.25_unt How much %rostertitle% was used? Unit

E S3Q25Q > 0

SINGLE-SELECT S3Q25U

01 ○ kilograms
02 ○ Litres

3.26 How did you dispose of the empty %rostertitle% container(s)?

E S3Q25Q > 0

SINGLE-SELECT S3Q26

01 ○ Buried
02 ○ Burnt
03 ○ Threwin the field
04 ○ Other

SECTION 4: CROP STOCKS AND SALES (2018/2019)

Section04

E crops.Sum(x=>x.S3Q20Q) > 0

STATIC TEXT

Ask the following questions for all crops the household harvested in 2019/2020 marketing season excluding cassava

SECTION 4: CROP STOCKS AND SALES (2018/2019)

Roster: STOCKS

generated by multi-select question S3Q2

stocks

4.1 Since May 2019, has the household sold or exchanged any of this %rostertitle%?	SINGLE-SELECT S4Q1 01 ○ Yes 02 ○ No
4.2a What is the total quantity of this %rostertitle% that the household sold for cash and/or barter for goods and/or through casual labour since May 2019? Qty E S4Q1 == 1	NUMERIC: DECIMAL S4Q2A _
4.2b What is the total quantity of this %rostertitle% that the household sold for cash and/or barter for goods and/or labour since May 2019? - Unit E S4Q2A > 0 V1 (@rowcode==1 && self.InList(1,2,3,4,5,11,12,14,17,20)) || (@rowcode==2 && self.InList(1,2,3,4,5,11,12,14,17,20)) || (@rowcode==3 && self.InList(1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,17,20))|| (@rowcode= And 1061 other symbols [3] M1 The Unit May NOT be appropriate for this crop	SINGLE-SELECT S4Q2B 01 ○ 90kg Bag 02 ○ 50kg Bag 03 ○ 25kg Bag 04 ○ 10kg Pocket/Bag 05 ○ 20ltr Tin 06 ○ 90kg bag unshelled/unpolished 07 ○ 50kg Bag Unshelled/Unpolished 08 ○ 25kg Bag Unshelled/Unpolished 09 ○ 10kg Bag Unshelled 10 ○ 20lt Tin Unshelled/Unpolished 11 ○ 5ltr/ Gallon 12 ○ MEDA 13 ○ Bunches 14 ○ Muchumbu 15 ○ Ka B.P. 16 ○ Crates And 4 other symbols [7]

4.3 When did the household sell/barter %rostertitle%? I ASK FOR THE LARGEST CASH/BARTER TRANSACTION FOR 5.3 -5.7 E S4Q1 == 1	SINGLE-SELECT S4Q3 01 ○ January 02 ○ February 03 ○ March 04 ○ April 05 ○ May 06 ○ June 07 ○ July 08 ○ August 09 ○ September 10 ○ October 11 ○ November 12 ○ December
4.4 To whom did you sell/barter this %rostertitle%? E S4Q1 == 1	SINGLE-SELECT S4Q4 01 ○ Private trader/Marketeer 02 ○ Other households 03 ○ Direct sale to FRA 04 ○ FRA through a cooperative 05 ○ NGO 06 ○ Cooperative 07 ○ Miller 08 ○ Out grower
4.5 Where did you sell/barter this %rostertitle% E S4Q1 == 1	SINGLE-SELECT S4Q5 00 ○ At household 01 ○ Within village 02 ○ Within district (rural) 03 ○ Within district (urban) 04 ○ Other district (rural) 05 ○ Other district (urban) 06 ○ Another country
4.6 What is the distance from your homestead to this location in km for %rostertitle%? I Enter 0 if at homestead E S4Q1 == 1	NUMERIC: DECIMAL S4Q6 -
4.7a What was the price per unit of %rostertitle% for the largest cash transaction? (Record in Zambian Kwacha - ZMW) E S4Q1 == 1	NUMERIC: DECIMAL S4Q7A -

Question	Response
4.7b What was the unit of %rostertitle% for the largest cash transaction? E S4Q7A > 0	SINGLE-SELECT S4Q7B 01 ○ 90kg Bag 02 ○ 50kg Bag 03 ○ 25kg Bag 04 ○ 10kg Pocket/Bag 05 ○ 20ltr Tin 06 ○ 90kg bag unshelled/unpolished 07 ○ 50kg Bag Unshelled/Unpolished 08 ○ 25kg Bag Unshelled/Unpolished 09 ○ 10kg Bag Unshelled 10 ○ 20lt Tin Unshelled/Unpolished 11 ○ 5ltr/ Gallon 12 ○ MEDA 13 ○ Bunches 14 ○ Muchumbu 15 ○ Ka B.P 16 ○ Crates And 4 other symbols [8]
4.8 Does this household still have any of this %rostertitle% in storage now?	SINGLE-SELECT S4Q8 01 ○ Yes 02 ○ No
4.9a How much %rostertitle% does the household have in storage? Qty E S4Q8 == 1	NUMERIC: DECIMAL S4Q9A _ .
4.9b How much %rostertitle% does the household have in storage? Unit E S4Q9A > 0	SINGLE-SELECT S4Q9B 01 ○ 90kg Bag 02 ○ 50kg Bag 03 ○ 25kg Bag 04 ○ 10kg Pocket/Bag 05 ○ 20ltr Tin 06 ○ 90kg bag unshelled/unpolished 07 ○ 50kg Bag Unshelled/Unpolished 08 ○ 25kg Bag Unshelled/Unpolished 09 ○ 10kg Bag Unshelled 10 ○ 20lt Tin Unshelled/Unpolished 11 ○ 5ltr/ Gallon 12 ○ MEDA 13 ○ Bunches 14 ○ Muchumbu 15 ○ Ka B.P 16 ○ Crates And 4 other symbols [9]

SURVEY QUESTIONNAIRE

4.10 What kind of storage facility does your household use for %rostertitle%?

SINGLE-SELECT S4Q10

01 ○ Improved
02 ○ Metal silo
03 ○ Plastic silo
04 ○ Hematic bags
05 ○ Builtup silo
06 ○ Traditional
07 ○ Other

4.10s Specify main reason for clearing the land

E S4Q10 == 7

TEXT S4Q10s

.....

4.11_yr When did/will the household run out of %rostertitle% stocks from own production from 2019/2020 season? (Year)

SINGLE-SELECT S4Q11Y

01 ○ 2019
02 ○ 2020
03 ○ 2021

4.11_mth Specify the month when the household did/will run out of %rostertitle% stocks from own production from 2019/2020 season? (Month)

E S4Q11Y > 1

SINGLE-SELECT S4Q11M1

01 ○ January
02 ○ February
03 ○ March
04 ○ April
05 ○ May
06 ○ June
07 ○ July
08 ○ August
09 ○ September
10 ○ October
11 ○ November
12 ○ December

4.11_mth Specify the month when the household did run out of %rostertitle% stocks from own production from 2019/2020 season? (Year)

E S4Q11Y == 1

SINGLE-SELECT S4Q11M2

08 ○ August
09 ○ September
10 ○ October
11 ○ November
12 ○ December

SURVEY QUESTIONNAIRE

SECTION 5: ACCESS TO AGRICULTURAL EXTENSION SERVICES

Section05

STATIC TEXT

Please tell us about the advice listed below.

5.1 Have you ever received advice on ...?

MULTI-SELECT S5Q1

V1 `(S5Q1.Count() > 1 && !S5Q1.Contains(18)) || S5Q1.Count() ==1`

M1 None should be selected as the only option and not with any other option.

- 01 ☐ Pot-holing
- 02 ☐ Ripping
- 03 ☐ Zero tillage
- 04 ☐ Managing crop residues in the field
- 05 ☐ Crop rotation
- 06 ☐ Intercropping
- 07 ☐ Irrigation management
- 08 ☐ Fish farming
- 09 ☐ Construction of improved storage bins
- 10 ☐ Record keeping
- 11 ☐ Dipping/spraying
- 12 ☐ Artificial insemination (AI)
- 13 ☐ Livestock vaccination
- 14 ☐ Bee keeping
- 15 ☐ Sustainable woodlots establishment
- 16 ☐ Tree planting

And 2 other symbols [10]

SECTION 5: ACCESS TO AGRICULTURAL EXTENSION SERVICES

Roster: ACCESS TO AGRICULTURE EXTENSION SERVICES

generated by multi-select question S5Q1

extension

E `!S5Q1.Contains(18)`

5.2 From whom did you receive the most valuable advice on %rostertitle%?

SINGLE-SELECT S5Q2

- 01 ○ Ministry of Agriculture
- 02 ○ Zambia Agriculture research Institute & Other Private Research institutions
- 03 ○ Conservation Farming Unit (CFU)
- 04 ○ Livestock Dev. Agency
- 05 ○ Community Market for conservation
- 06 ○ Out grower operators
- 07 ○ Farmer co-operative
- 08 ○ Lead farmers
- 09 ○ NGO (SNV, MUSIKA, World Vision, Bio-Carbon, Caritas) & Faith based organisations
- 10 ○ Departments of National Parks & Wildlife
- 11 ○ Ministry Livestock and Fisheries
- 12 ○ Department Of Forestry
- 13 ○ Other

SURVEY QUESTIONNAIRE

5.3 Through which channel did the household receive that advice on %rostertitle%?

SINGLE-SELECT S5Q3

01 ○ Informal conversation
02 ○ Radio Program
03 ○ Pamphlets/newspapers
04 ○ Workshops
05 ○ Field day
06 ○ Demonstration plots
08 ○ Training and Workshops
09 ○ Farmer-to-Farmer
10 ○ Exposure visits/ study visits
11 ○ Field days
12 ○ Agriculture shows
13 ○ Booklets & Pamphlets
14 ○ Other

SECTION 6: HOUSEHOLD EXPENDITURE AND CONSUMPTION

Section06

STATIC TEXT

I would like to ask you questions about your household expenditures and consumption (include estimates on direct purchases, consumption from bulk purchases, consumption from own produce and gifts/in-kind)

SECTION 6: HOUSEHOLD EXPENDITURE AND CONSUMPTION

Roster: EXPENDITURE

generated by fixed list

expenditure

01 Oil and Fats (include Vegetable Oil, etc)
02 Cereals (including Maize Grains, Maize and Wheat Flour, Beans, Rice)
03 Livestock/Poultry Produce e.g. Milk and Eggs
04 Fish
05 Meat including (Liver, Matumbo, Chicken, Pork etc)
06 Sugar and Beverage (Tea, Coffee, etc)
07 Bread
08 Spices (e.g Curry powder)
09 Vegetables, Carrots
10 Fruits
11 Roots (Sweet Potatoes, Yams, Arrow Roots etc)
12 Soft Drinks (Coke, Juice, etc)
13 Alcoholic Bevarages (includes Vines, Beers, Spirits)
14 Meals (Kiosk, Restaurant, Road Side Vendors)

6.1 Did your household spend on %rostertitle% in the last 7 days?

SINGLE-SELECT S6Q1

01 ○ Yes
02 ○ No

6.2 How much did your household spend on %rostertitle% in the last 7 days?

E S6Q1 == 1
V1 self > 0
M1 Amount is expected to be greater than zero if household spent on %ro stertitle%.

NUMERIC: DECIMAL S6Q2

6.3 Did your household spend on %rostertitle% in the last 30 days?

SINGLE-SELECT S6Q3

01 ○ Yes
02 ○ No

6.4 How much did your household spend on %rostertitle% in the last 30 days?

E S6Q3 == 1
V1 self > 0
M1 Amount is expected to be greater than zero if household spent on %ro stertitle%.

NUMERIC: DECIMAL S6Q4

SECTION 7: FOOD PURCHASES AND FOOD AID/RELIEF FOR HOME CONSUMPTION

Section07

7.1 Between 1st October 2018 and 30th September 2019, did you purchase/ barter any of the following for home use?

MULTI-SELECT: YES/NO — S7Q1

- 01 ☐ / ☐ Maize grain
- 02 ☐ / ☐ Packaged roller meal
- 03 ☐ / ☐ Packaged breakfast meal
- 04 ☐ / ☐ Maize meal from grinding mill
- 05 ☐ / ☐ Millet
- 06 ☐ / ☐ Sorghum
- 07 ☐ / ☐ Rice
- 08 ☐ / ☐ Sweet potatoes
- 09 ☐ / ☐ Cassava chips
- 10 ☐ / ☐ Cassava flour

SECTION 7: FOOD PURCHASES AND FOOD AID/RELIEF FOR HOME CONSUMPTION

Roster: HOME CONSUMPTION

generated by multi-select question S7Q1

consumption

7.2a Counting both cash purchases and barter, how much %rostertitle% did you buy between October 2018 and September 2019?

NUMERIC: DECIMAL — S7Q2A

_ .

7.2b Counting both cash purchases and barter, how much %rostertitle% did you buy between October 2018 and September 2019? Unit

E S7Q2A > 0

SINGLE-SELECT — S7Q2B

- 01 ○ 90kg Bag
- 02 ○ 50kg Bag
- 03 ○ 25kg Bag
- 04 ○ 10kg Pocket/Bag
- 05 ○ 20ltr Tin
- 06 ○ 90kg bag unshelled/unpolished
- 07 ○ 50kg Bag Unshelled/Unpolished
- 08 ○ 25kg Bag Unshelled/Unpolished
- 09 ○ 10kg Bag Unshelled
- 10 ○ 20lt Tin Unshelled/Unpolished
- 11 ○ 5ltr/ Gallon
- 12 ○ MEDA
- 13 ○ Bunches
- 14 ○ Muchumbu
- 15 ○ Ka B.P
- 16 ○ Crates

And 4 other symbols [11]

7.3 In which month did your household last buy the %rostertitle% for cash?

E S7Q2A > 0

SINGLE-SELECT S7Q3

01 ○ January
02 ○ February
03 ○ March
04 ○ April
05 ○ May
06 ○ June
07 ○ July
08 ○ August
09 ○ September
10 ○ October
11 ○ November
12 ○ December

7.4a What was the price per unit the last time the household purchased the %rostertitle% for cash?

E S7Q2A > 0

NUMERIC: DECIMAL S7Q4a

7.4b What was the quantity per unit the last time the household purchased the %rostertitle% for cash? Unit

E S7Q4a > 0

SINGLE-SELECT S7Q4B

01 ○ 90kg Bag
02 ○ 50kg Bag
03 ○ 25kg Bag
04 ○ 10kg Pocket/Bag
05 ○ 20ltr Tin
06 ○ 90kg bag unshelled/unpolished
07 ○ 50kg Bag Unshelled/Unpolished
08 ○ 25kg Bag Unshelled/Unpolished
09 ○ 10kg Bag Unshelled
10 ○ 20lt Tin Unshelled/Unpolished
11 ○ 5ltr/ Gallon
12 ○ MEDA
13 ○ Bunches
14 ○ Muchumbu
15 ○ Ka B.P
16 ○ Crates

And 4 other symbols [12]

7.5a What quantity of the %rostertitle% did household obtain between October 2018 and September 2019 from casual labour? - Qty

NUMERIC: DECIMAL S7Q5A

7.5b What quantity of the %rostertitle% did household obtain between October 2018 and September 2019 from casual labour? - Unit

E S7Q5A > 0

SINGLE-SELECT S7Q5B

01 ○ 90kg Bag
02 ○ 50kg Bag
03 ○ 25kg Bag
04 ○ 10kg Pocket/Bag
05 ○ 20ltr Tin
06 ○ 90kg bag unshelled/unpolished
07 ○ 50kg Bag Unshelled/Unpolished
08 ○ 25kg Bag Unshelled/Unpolished
09 ○ 10kg Bag Unshelled
10 ○ 20lt Tin Unshelled/Unpolished
11 ○ 5ltr/ Gallon
12 ○ MEDA
13 ○ Bunches
14 ○ Muchumbu
15 ○ Ka B.P
16 ○ Crates

And 4 other symbols [13]

7.6a Counting all gifts, grants, aid and relief assistance,(including food for work) how much of the %rostertitle% did you RECEIVE between October 2018 & September 2019? - Qty

I Enter "0" if no product was RECEIVED

NUMERIC: DECIMAL S7Q6A

- -

7.6b Specify the unit for the %rostertitle% you RECEIVED between October 2017 & September? - Unit

E S7Q6A > 0

SINGLE-SELECT S7Q6B

01 ○ 90kg Bag
02 ○ 50kg Bag
03 ○ 25kg Bag
04 ○ 10kg Pocket/Bag
05 ○ 20ltr Tin
06 ○ 90kg bag unshelled/unpolished
07 ○ 50kg Bag Unshelled/Unpolished
08 ○ 25kg Bag Unshelled/Unpolished
09 ○ 10kg Bag Unshelled
10 ○ 20lt Tin Unshelled/Unpolished
11 ○ 5ltr/ Gallon
12 ○ MEDA
13 ○ Bunches
14 ○ Muchumbu
15 ○ Ka B.P
16 ○ Crates

And 4 other symbols [14]

7.6c Who was the main donor of %rostertitle% you recived? - giver of the gifts you received

E S7Q6A > 0

SINGLE-SELECT S7Q6C

01 ○ Household in the village
02 ○ Household outside the village
03 ○ Church
04 ○ NGO
05 ○ Other

SURVEY QUESTIONNAIRE

7.6cs Specify main donor

E S7Q6C == 5

TEXT S7Q6CS

.....

7.7a Counting both cash purchases and barter, how much of the %rostertitle% did you GIVE OUT between October 2017 & September? - Qty

I Enter "0" if no product was GIFT OUT

NUMERIC: DECIMAL S7Q7A

- -

7.7b Specify the unit for the %rostertitle% you GAVE OUT between October 2017 & September? - Unit

E S7Q7A > 0

SINGLE-SELECT S8Q7B

01 ○ 90kg Bag
02 ○ 50kg Bag
03 ○ 25kg Bag
04 ○ 10kg Pocket/Bag
05 ○ 20ltr Tin
06 ○ 90kg bag unshelled/unpolished
07 ○ 50kg Bag Unshelled/Unpolished
08 ○ 25kg Bag Unshelled/Unpolished
09 ○ 10kg Bag Unshelled
10 ○ 20lt Tin Unshelled/Unpolished
11 ○ 5ltr/ Gallon
12 ○ MEDA
13 ○ Bunches
14 ○ Muchumbu
15 ○ Ka B.P
16 ○ Crates

And 4 other symbols [15]

7.7c Who was the main recipient of %rostertitle% you gave out? - receiver of your gifts

E S7Q7A > 0

SINGLE-SELECT S7Q7C

01 ○ Household in the village
02 ○ Household outside the village
03 ○ Church
04 ○ NGO
05 ○ Other

7.7cs Specify main recipient

E S7Q7C == 5

TEXT S7Q7CS

.....

SURVEY QUESTIONNAIRE

SECTION 8: HOUSEHOLD FOOD INSECURITY

Section08

8.1 During the last 12 months, was there a time when, because of lack of money or other resources your household was worried you would not have enough food to eat?

SINGLE-SELECT S8Q1

01 ○ Yes
02 ○ No

8.1_mth In which months did your household have this lack of money or other resources?

I Tick all the months that apply.
E S8Q1 == 1

MULTI-SELECT S8Q1_mth

01 ☐ September 2019
02 ☐ October 2019
03 ☐ November 2019
04 ☐ December 2019
05 ☐ January 2020
06 ☐ February 2020
07 ☐ March 2020
08 ☐ April 2020
09 ☐ May 2020
10 ☐ June 2020
11 ☐ July 2020
12 ☐ August 2020
13 ☐ None

8.2 During the last 12 months, was there a time when, because of lack of money or other resources your household was unable to eat healthy and nutritious food?

SINGLE-SELECT S8Q2

01 ○ Yes
02 ○ No

8.2_mth In which months did your household have this lack of money or other resources?

I Tick all the months that apply.
E S8Q2 == 1

MULTI-SELECT S8Q2_mth

01 ☐ September 2019
02 ☐ October 2019
03 ☐ November 2019
04 ☐ December 2019
05 ☐ January 2020
06 ☐ February 2020
07 ☐ March 2020
08 ☐ April 2020
09 ☐ May 2020
10 ☐ June 2020
11 ☐ July 2020
12 ☐ August 2020
13 ☐ None

8.3 During the last 12 months, was there a time when, because of lack of money or other resources your household ate only a few kinds of foods?

SINGLE-SELECT S8Q3

01 ○ Yes
02 ○ No

SURVEY QUESTIONNAIRE

8.3_mth In which months did your household have this lack of money or other resources?

I Tick all the months that apply.
E S8Q3 == 1

MULTI-SELECT S8Q3_mth

- 01 ☐ September 2019
- 02 ☐ October 2019
- 03 ☐ November 2019
- 04 ☐ December 2019
- 05 ☐ January 2020
- 06 ☐ February 2020
- 07 ☐ March 2020
- 08 ☐ April 2020
- 09 ☐ May 2020
- 10 ☐ June 2020
- 11 ☐ July 2020
- 12 ☐ August 2020
- 13 ☐ None

8.4 During the last 12 months, was there a time when, because of lack of money or other resources your household had to skip a meal?

SINGLE-SELECT S8Q4

- 01 ○ Yes
- 02 ○ No

8.4_mth In which months did your household have this lack of money or other resources?

I Tick all the months that apply.
E S8Q4 == 1

MULTI-SELECT S8Q4_mth

- 01 ☐ September 2019
- 02 ☐ October 2019
- 03 ☐ November 2019
- 04 ☐ December 2019
- 05 ☐ January 2020
- 06 ☐ February 2020
- 07 ☐ March 2020
- 08 ☐ April 2020
- 09 ☐ May 2020
- 10 ☐ June 2020
- 11 ☐ July 2020
- 12 ☐ August 2020
- 13 ☐ None

8.5 During the last 12 months, was there a time when, because of lack of money or other resources your household ate less than you thought you should?

SINGLE-SELECT S8Q5

- 01 ○ Yes
- 02 ○ No

8.5_mth In which months did your household have this lack of money or other resources?

I Tick all the months that apply.
E S8Q5 == 1

MULTI-SELECT S8Q5_mth

- 01 ☐ September 2019
- 02 ☐ October 2019
- 03 ☐ November 2019
- 04 ☐ December 2019
- 05 ☐ January 2020
- 06 ☐ February 2020
- 07 ☐ March 2020
- 08 ☐ April 2020
- 09 ☐ May 2020
- 10 ☐ June 2020
- 11 ☐ July 2020
- 12 ☐ August 2020
- 13 ☐ None

SURVEY QUESTIONNAIRE

8.6 During the last 12 months, was there a time when, because of lack of money or other resources your household ran out of food?

SINGLE-SELECT S8Q6

01 ○ Yes
02 ○ No

8.6_mth In which months did your household have this lack of money or other resources?

I Tick all the months that apply.
E S8Q6 == 1

MULTI-SELECT S8Q6_mth

01 ☐ September 2019
02 ☐ October 2019
03 ☐ November 2019
04 ☐ December 2019
05 ☐ January 2020
06 ☐ February 2020
07 ☐ March 2020
08 ☐ April 2020
09 ☐ May 2020
10 ☐ June 2020
11 ☐ July 2020
12 ☐ August 2020
13 ☐ None

8.7 During the last 12 months, was there a time when, because of lack of money or other resources your household was hungry but did not eat??

SINGLE-SELECT S8Q7

01 ○ Yes
02 ○ No

8.7_mth In which months did your household have this lack of money or other resources?

I Tick all the months that apply.
E S8Q7 == 1

MULTI-SELECT S8Q7_mth

01 ☐ September 2019
02 ☐ October 2019
03 ☐ November 2019
04 ☐ December 2019
05 ☐ January 2020
06 ☐ February 2020
07 ☐ March 2020
08 ☐ April 2020
09 ☐ May 2020
10 ☐ June 2020
11 ☐ July 2020
12 ☐ August 2020
13 ☐ None

8.8 During the last 12 months, was there a time when, because of lack of money or other resources your household went without eating for a whole day?

SINGLE-SELECT S8Q8

01 ○ Yes
02 ○ No

SURVEY QUESTIONNAIRE

8.8_mth In which months did your household have this lack of money or other resources?

I Tick all the months that apply.
E s8q8 == 1

MULTI-SELECT s8q8_mth

- 01 ☐ September 2019
- 02 ☐ October 2019
- 03 ☐ November 2019
- 04 ☐ December 2019
- 05 ☐ January 2020
- 06 ☐ February 2020
- 07 ☐ March 2020
- 08 ☐ April 2020
- 09 ☐ May 2020
- 10 ☐ June 2020
- 11 ☐ July 2020
- 12 ☐ August 2020
- 13 ☐ None

SURVEY QUESTIONNAIRE

SECTION 9: HOUSEHOLD FOREST CLEARING, PLANTING AND REGENERATION

Section09

9.1 Did any member of the household cut any tree during the last 12 months?

SINGLE-SELECT S10Q1
01 ○ Yes
02 ○ No

9.2 What kind of cutting did your household do?

E S10Q1 == 1

SINGLE-SELECT S10Q2
01 ○ Cleared forest area (clear felling)
02 ○ Only selective cutting

9.3a How much forest area was cleared? Qty

E S10Q2 == 1
'1 self > 0
I1 response to 10.1 is yes, therefore an area greater than 0 is expected.

NUMERIC: DECIMAL S10Q3A

_ _

9.3b How much forest area was cleared? Unit

E S10Q3A > 0

SINGLE-SELECT S10Q3B
01 ○ Lima
02 ○ Acre
03 ○ Hectare
04 ○ Square meter

9.4 What was the main reason for clearing the land?

E S10Q2 == 1

SINGLE-SELECT S10Q4
01 ○ Cropping
02 ○ Tree plantation
03 ○ Livestock fodder production
04 ○ Infrastructure/settlements
05 ○ To produce ash for fertilizer
06 ○ Charcoal production
07 ○ Firewood
08 ○ Other

9.4s Specify main reason for clearing the land

E S10Q4 == 8

TEXT S10Q4s

.....

9.5 What type of forest did your household clear?

E S10Q2 == 1

MULTI-SELECT S10Q5
01 ☐ Primary natural forest
02 ☐ Secondary forest
03 ☐ Forest plantation
04 ☐ Other

9.5s Specify type of forest cleared

E S10Q5.Contains(4)

TEXT S10Q5s

.....

9.6 Does your household clear young forest stands for Agriculture expansion?

SINGLE-SELECT S10Q6
01 ○ Yes
02 ○ No

9.7 Is your household aware that we need to maintain a young forest stand (1-20years) to regenerate?

SINGLE-SELECT S10Q7
01 ○ Yes
02 ○ No

SURVEY QUESTIONNAIRE

9.8 How did your household come to know about that?

E S10Q7 == 1

SINGLE-SELECT S10Q8

01 ○ Forest department
02 ○ NGO
03 ○ Village discussions
04 ○ Community forest management group
05 ○ Other

9.8s Specify how your household came to know about that

E S10Q8 == 5

TEXT S10Q8s

.....

9.9 How many years since the area was previously cleared?

E S10Q5.ContainsAny(2,4)

SINGLE-SELECT S10Q9

01 ○ 1-5 years
02 ○ 6-10 years
03 ○ 11-20 years
04 ○ More than 20 years
05 ○ Do not know

9.10 Where did your household cut the trees?

E S10Q1 == 1

SINGLE-SELECT S10Q11

01 ○ On land to which HH already have rights
02 ○ In a new area on customary land, not previously used or owned by HH
03 ○ In protected areas not previously used or owned by HH
04 ○ In GMA not previously used or owned by HH
05 ○ On other state land (not including protected area or GMA)
06 ○ Outside HH land on land which is on lease
07 ○ Other

9.10s Specify where trees were cut

E S10Q4 == 7

TEXT S10Q11s

.....

STATIC TEXT

Does any member of this household have access to any of the following forest user rights in your area:

STATIC TEXT

Wood Products

9.12.1 Industrial wood?

E S10Q1 == 1

SINGLE-SELECT S10Q12_1

01 ○ Yes
02 ○ No

9.12.2 Fire wood?

E S10Q1 == 1

SINGLE-SELECT S10Q12_2

01 ○ Yes
02 ○ No

9.12.3 Wood for charcoal?

E S10Q1 == 1

SINGLE-SELECT S10Q12_3

01 ○ Yes
02 ○ No

9.12.4 Wood for carvings? E S10Q1 == 1	SINGLE-SELECT 01 ○ Yes 02 ○ No	S10Q12_4
9.12.5 Wood for poles? E S10Q1 == 1	SINGLE-SELECT 01 ○ Yes 02 ○ No	S10Q12_5

STATIC TEXT

Non-wood forest products (Plants)

9.12.6 Fruits, nuts, seed, roots, berries, tubers?	SINGLE-SELECT 01 ○ Yes 02 ○ No	S10Q12_6
9.12.7 Mushroom?	SINGLE-SELECT 01 ○ Yes 02 ○ No	S10Q12_7
9.12.8 Caterpilars?	SINGLE-SELECT 01 ○ Yes 02 ○ No	S10Q12_8
9.12.9 Fodder	SINGLE-SELECT 01 ○ Yes 02 ○ No	S10Q12_9
9.12.10 Rattan, reeds? E S10Q1 == 1	SINGLE-SELECT 01 ○ Yes 02 ○ No	S10Q12_10
9.12.11 Plant medicines? E S10Q1 == 1	SINGLE-SELECT 01 ○ Yes 02 ○ No	S10Q12_11
9.12.12 Herbs and spices? E S10Q1 == 1	SINGLE-SELECT 01 ○ Yes 02 ○ No	S10Q12_12
9.12.13 Raisins (Dying & Tanning)? E S10Q1 == 1	SINGLE-SELECT 01 ○ Yes 02 ○ No	S10Q12_13
9.12.14 Fibres? E S10Q1 == 1	SINGLE-SELECT 01 ○ Yes 02 ○ No	S10Q12_14

STATIC TEXT

Non-wood forest products (Animal products)

9.12.15 Bush meat? E S10Q1 == 1	SINGLE-SELECT 01 ○ Yes 02 ○ No	S10Q12_15

9.12.16 Honey? E S10Q1 == 1	SINGLE-SELECT S10Q12_16 01 ○ Yes 02 ○ No
9.12.17 Bees wax? E S10Q1 == 1	SINGLE-SELECT S10Q12_17 01 ○ Yes 02 ○ No
9.12.18 Caterpilar?	SINGLE-SELECT S10Q12_18 01 ○ Yes 02 ○ No
9.13 In last 5 years, did the household cut any tree?	SINGLE-SELECT S10Q13 01 ○ Yes 02 ○ No
9.14 What kind of cutting did your household do? E S10Q13 == 1	SINGLE-SELECT S10Q14 01 ○ Clear felling 02 ○ Only selective cutting
9.15a How large an area did the household clear? Qty E S10Q13 == 1 V1 self > 0 M1 An area greater than 0 is expected.	NUMERIC: DECIMAL S10Q15A _
9.15b How large an area did the household clear? Unit E S10Q15A > 0	SINGLE-SELECT S10Q15B 01 ○ Lima 02 ○ Acre 04 ○ Hectare 05 ○ Square Meter
9.16 Did the household during the last 5 years allow any cropland to re-grow into forest (including fallow)? E S10Q13 == 1	SINGLE-SELECT S10Q16 01 ○ Yes 02 ○ No
9.17a During the last 5 years, how much cropland did the household allow to re-grow into forest? Qty E S10Q16 == 1 V1 self > 0 M1 an area greater than 0 is expected.	NUMERIC: DECIMAL S10Q17A _
9.17b During the last 5 years, how much cropland did the household allow to re-grow into forest? Unit E S10Q17A > 0	SINGLE-SELECT S10Q17B 01 ○ Lima 02 ○ Acre 03 ○ Hectare 04 ○ Square Meter
9.18 How did the forest grow back? E S10Q16 == 1	SINGLE-SELECT S10Q18 01 ○ Sprouting from stumps 02 ○ Natural regeneration by seedlings 03 ○ Planting 04 ○ Other

9.18s Specify how the forest grew back

E S10Q18 == 4

TEXT S10Q18s

.....

9.19 Did your household plant any tree during the last 5 years?

SINGLE-SELECT S10Q19

01 ○ Yes
02 ○ No

9.20 How many trees did your household plant? (including all trees, e.g. also fruit trees)

E S10Q19 == 1
V1 self > 0
M1 Trees planted are expected to be greater than 0 since 10.14 is Yes.

NUMERIC: INTEGER S10Q20

9.21a How large an area did your household plant? Qty

E S10Q19 == 1
V1 self > 0
M1 area is expected to be greater than 0.

NUMERIC: DECIMAL S10Q21A

9.21b How large an area did your household plant? Unit

E S10Q21A > 0

SINGLE-SELECT S10Q21B

01 ○ Lima
02 ○ Acre
03 ○ Hectare
04 ○ Square meter

9.22 What species of trees were planted?

E S10Q19 == 1

MULTI-SELECT S10Q22

01 ☐ Faideherbia Albiada (Musanga)
02 ☐ Tephrosia Vogetii (Ububa)
03 ☐ Gilricidia Septum (Gilicidia)
04 ☐ Acacia Polycanta (Mununganmunshi)
05 ☐ Other

9.22s Specify what species of trees were planted.

E S10Q22.Contains(5)

TEXT S10Q22s

.....

SECTION 9: HOUSEHOLD FOREST CLEARING, PLANTING AND REGENERATION

Roster: MAIN PURPOSE

generated by multi-select question S10Q22

purpose

9.23 What was the main purpose for which %rostertitle% was planted.

SINGLE-SELECT S10Q23

- 01 ○ Fuel wood for domestic use
- 02 ○ Fuel wood for sale
- 03 ○ Fodder for own use
- 04 ○ Fodder for sale
- 05 ○ Timber/poles for own use
- 06 ○ Timber/poles for sale
- 07 ○ For production of edible tree products (e.g. fruits) for own use
- 08 ○ For production of edible tree products (e.g. fruits) for sale
- 09 ○ Other products for own use
- 10 ○ Other products for sale
- 11 ○ For shade
- 12 ○ For wind protection
- 13 ○ Carbon sequestration
- 14 ○ Other environmental services
- 15 ○ Land demarcation
- 16 ○ To increase the value of my land

And 5 other symbols [16]

9.23s Specify other purpose

E S10Q23 == 21

TEXT S10Q23s

.....

SURVEY QUESTIONNAIRE

SECTION 10: COLLECTION OF WOOD AND NON-WOOD FOREST PRODUCTS IN THE LAST 12 MONTHS

Section10

10.1 Please specify all the wood and non-wood forest products collected regularly during the last 12 months by household members

MULTI-SELECT: YES/NO S11Q1

- 01 ☐ / ☐ Industrial wood
- 02 ☐ / ☐ Fuel wood
- 03 ☐ / ☐ Charcoal
- 04 ☐ / ☐ Wood for wood carvings
- 05 ☐ / ☐ Wood for poles
- 06 ☐ / ☐ Fruits, nuts, seeds, roots, berries, etc
- 07 ☐ / ☐ Mushrooms
- 08 ☐ / ☐ Fodder
- 09 ☐ / ☐ Rattan
- 10 ☐ / ☐ Plant medicines
- 11 ☐ / ☐ Herbs and spices
- 12 ☐ / ☐ Dying / tanning
- 13 ☐ / ☐ Seeds (for regeneration purposes)
- 14 ☐ / ☐ Fibres (for rope etc.)
- 15 ☐ / ☐ Wildlife (including Mice, bush meat)
- 16 ☐ / ☐ Beekeeping activities /honey collection

And 2 other symbols [17]

10.1s Please specify the other wood and non-wood forest product collected regularly during the last 12 months by household members

TEXT S11Q1S

.....

E S11Q1.Yes.Contains(18)

SECTION 10: COLLECTION OF WOOD AND NON-WOOD FOREST PRODUCTS IN THE LAST 12 MONTHS

Roster: COLLECTION

generated by multi-select question S11Q1

collection

E S3Q21.Yes.Count() > 0

10.2 Which household members including hired labour primarily collect the %rostertitle%?

MULTI-SELECT S11Q2

- 01 ☐ Men
- 02 ☐ Women
- 03 ☐ Boys
- 04 ☐ Girls
- 05 ☐ Hired labour
- 06 ☐ Do not know

10.3 What methods are mainly used in collecting /harvesting the %rostertitle%?

MULTI-SELECT S11Q3

- 01 ☐ Collecting by hand
- 02 ☐ Cutting down tree
- 03 ☐ Cutting down branch
- 04 ☐ Shaking the tree to make fruits drop
- 05 ☐ Up-rooting the entire plant/tree
- 06 ☐ Fire & smoking
- 07 ☐ Other

SURVEY QUESTIONNAIRE

10.3s Specify method used to collect %rostertitle%.

E S11Q3.Contains(7)

TEXT S11Q3S

.....

10.4 Where does your household collect the %rostertitle% from (land use category)?

MULTI-SELECT S11Q4

01 ☐ Primary forest (i.e. older forest)
02 ☐ Secondary forest (i.e. regenerated forest)
03 ☐ Forest plantation
04 ☐ Grassland (dambos, wetland, swamp)
05 ☐ Bare land
06 ☐ Cultivated land
07 ☐ Village, built-up area
08 ☐ Other

10.4s Specify where your household collects %rostertitle%.

E S11Q4.Contains(8)

TEXT S11Q4S

.....

10.5 What quantities of %rostertitle% has the household collected in total during the last 12 months?

V1 self > 0
M1 A quantity greater than 0 is expected.

NUMERIC: INTEGER S11Q5

- -

10.6 Specify unit

SINGLE-SELECT S11Q6

01 ○ 90kg Bag
02 ○ 50kg Bag
03 ○ 25kg Bag
04 ○ 10kg Pocket/Bag
05 ○ 20ltr Tin
06 ○ 90kg bag unshelled/unpolished
07 ○ 50kg Bag Unshelled/Unpolished
08 ○ 25kg Bag Unshelled/Unpolished
09 ○ 10kg Bag Unshelled
10 ○ 20lt Tin Unshelled/Unpolished
11 ○ 5ltr/ Gallon
12 ○ MEDA
13 ○ Bunches
14 ○ Muchumbu
15 ○ Ka B.P
16 ○ Crates

And 4 other symbols [18]

10.7 What is the %rostertitle% used for?

MULTI-SELECT S11Q7

01 ☐ Home Use (Domestic)
02 ☐ Sale
03 ☐ Bartering
04 ☐ Other

SURVEY QUESTIONNAIRE

10.7s Specify use of the %rostertitle%.

E S11Q7.Contains(4)

TEXT S11Q7S

.....

10.8 What is the usual mode of transport used when visiting the area in which collection of the %rostertitle% usually takes place?

SINGLE-SELECT S11Q8

01 ○ Motorcycle
02 ○ Car
03 ○ Truck
04 ○ Boat/Canoe
05 ○ Bicycle
06 ○ Scotch cart
07 ○ On foot
09 ○ Other

10.8s Specify that other mode of transport ...

E S11Q8 == 9

TEXT S11Q8S

.....

10.9 With the mode of transport in 7.8, how long does it take to go to the site in which you usually collect the %rostertitle%? Time (minutes)

NUMERIC: INTEGER S11Q9

- -

10.10 How far is it to the site in which you usually collect the %rostertitle%? Distance (km)

NUMERIC: DECIMAL S11Q10

- -

10.11 Who usually transports the %rostertitle% away from site?

MULTI-SELECT S11Q11

01 ☐ HH members
02 ☐ Buyers
03 ☐ Others

10.11s Specify who was transporting the %rostertitle%.

E S11Q11.Contains(3)

TEXT S11Q11S

.....

10.12 What is the mode of transporting the %rostertitle% away from the collection site?

MULTI-SELECT S11Q12

01 ☐ Motorcycle
02 ☐ Car
03 ☐ Truck
04 ☐ Boat/Canoe
05 ☐ Bicycle
06 ☐ On foot
07 ☐ Other

10.12s Specify that other mode of transport ...

E S11Q12.Contains(7)

TEXT S11Q12S

.....

10.13 Has the distance to the area in which your household is collecting the %rostertitle% changed during the last 5 years?

SINGLE-SELECT S11Q13

01 ○ Increase
02 ○ No change
03 ○ Decrease
04 ○ Do not know

10.14 How has the availability of the %rostertitle% changed during the last 5 years?	SINGLE-SELECT S11Q14 01 ○ Increased 02 ○ No change 03 ○ Decline 04 ○ Do not know
10.15 What has your household done in response?	MULTI-SELECT S11Q15 01 ☐ It did not influence the HH harvest of forest products 02 ☐ Increase collection time (incl. travelling to areas further away) 03 ☐ Buy the product from other suppliers 04 ☐ Reduce harvesting of the product 05 ☐ Stop harvesting of the product 06 ☐ Substitute with other type of forest product 07 ☐ Substitute with agricultural products 08 ☐ Conserving standing trees 09 ☐ Planting trees 10 ☐ Restricting access/use of forest 11 ☐ Other
10.15s Specify what your household has done in response. E S11Q15.Contains(11)	TEXT S11Q15S .....

STATIC TEXT

10.16 On a scale of 0 to 5, where the least 0 is No Impact and 5 the most is Very High Impact, how much impact do fruit trees and vegetable gardens have on women in the following areas:

a) Income?	SINGLE-SELECT S11Q16A 01 ○ No impact 02 ○ Very little impact 03 ○ Little impact 04 ○ Moderate impact 05 ○ High impact 06 ○ Very high impact
b) Consumption?	SINGLE-SELECT S11Q16B 01 ○ No impact 02 ○ Very little impact 03 ○ Little impact 04 ○ Moderate impact 05 ○ High impact 06 ○ Very high impact
c) Nutrition & Diversified Meals?	SINGLE-SELECT S11Q16C 01 ○ No impact 02 ○ Very little impact 03 ○ Little impact 04 ○ Moderate impact 05 ○ High impact 06 ○ Very high impact

SURVEY QUESTIONNAIRE

d) Ease of Access & Affordability?	SINGLE-SELECT S11Q16D 01 ○ No impact 02 ○ Very little impact 03 ○ Little impact 04 ○ Moderate impact 05 ○ High impact 06 ○ Very high impact
e) Enabling Savings?	SINGLE-SELECT S11Q16E 01 ○ No impact 02 ○ Very little impact 03 ○ Little impact 04 ○ Moderate impact 05 ○ High impact 06 ○ Very high impact
f) Is there any other impact that fruit trees and vegetable gardens have on women?	SINGLE-SELECT S11Q16FA 01 ○ Yes 02 ○ No
f_s) Specify the other impact that fruit trees and vegetable gardens have on women. E S11Q16FA == 1	TEXT S11Q16FS .....
f_r) Rate this other impact that fruit trees and vegetable gardens have on women. E S11Q16FA == 1	SINGLE-SELECT S11Q16FR 01 ○ No impact 02 ○ Very little impact 03 ○ Little impact 04 ○ Moderate impact 05 ○ High impact 06 ○ Very high impact

SURVEY QUESTIONNAIRE

SECTION 11: FORESTRY INCOME ACTIVITIES CONTRIBUTING TO HH INCOME AND HH CONSUMPTION

Section11

SECTION 11: FORESTRY INCOME ACTIVITIES CONTRIBUTING TO HH INCOME AND HH CONSUMPTION

Roster: CONSUMPTION

generated by fixed list

forestry

01 Industrial wood
02 Fuel wood
03 Charcoal
04 Wood for wood carvings
05 Wood for poles
06 Fruits, nuts, seeds, roots, berries, etc
07 Mushrooms
08 Fodder
09 Rattan
10 Plant medicines
11 Herbs and spices
12 Dying / tanning
13 Seeds (for regeneration purposes)
14 Fibres (for rope etc.)
15 Other plant products
16 Wildlife (including bush meat)
17 Beekeeping activities / honey collection
18 Caterpillar
19 Other

11.1 During the last 12 months did %rostertitle% contribute to household income?

SINGLE-SELECT S12Q1

01 ○ Yes
02 ○ No
03 ○ Do not know

11.2 On a scale of 1-5, where 1 is the least important and 5 is the most important, how do you rank %rostertitle%'s importance to household income?

E S12Q1 == 1

SINGLE-SELECT S12Q2

01 ○ 1
02 ○ 2
03 ○ 3
04 ○ 4
05 ○ 5
09 ○ Do not know

11.3 Total income from %rostertitle%. (ZMW)

I Enter -9 if there is no response or respondent does not know.
E S12Q1 == 1
V1 self== -9 || self > 0
M1 11.1 indicates Yes, therefore an amount greater than 0 is expected.

NUMERIC: DECIMAL S12Q3

SECTION 12: INCOME FROM NON-AGRICULTURE AND FORESTRY ACTIVITIES

Section12

SECTION 12: INCOME FROM NON-AGRICULTURE AND FORESTRY ACTIVITIES

Roster: INCOME

generated by list question S1Q2

income

E S1Q3 >= 12

12.0 Did %rostertitle% contribute to household income in the last 12 months?	SINGLE-SELECT S12Q0 01 ○ Yes 02 ○ No
12.1 How much income in total did %rostertitle% earn from his/her MAIN economic activity (excluding farm income) during the last 12 months? E S12Q0 == 1 V1 self >= 0 M1 Amount is expected to be zero or greater.	NUMERIC: DECIMAL S12Q1x
12.2 Did %rostertitle% receive any remittance in the last 12 months E S12Q0 == 1	SINGLE-SELECT S12Q2x 01 ○ Yes 02 ○ No
12.3 How much in total did %rostertitle% receive in ZMW? I Enter -9 for don't know E S12Q2x == 1 V1 self == -9 || self > 0 M1 Amount is expected to be greater than 0.	NUMERIC: DECIMAL S12Q3x
12.4 Did %rostertitle% receive income from any other sources (excluding remittances)? E S12Q0 == 1	SINGLE-SELECT S12Q4 01 ○ Yes 02 ○ No
12.5 How much income in total did %rostertitle% receive in ZMW? I Enter -9 for don't know. E S12Q4 == 1 V1 self == -9 || self > 0 M1 Amount is expected to be greater than zero.	NUMERIC: DECIMAL S12Q5

SECTION 13: BUYING AND BARTERING OF WOOD AND NON-WOOD FOREST PRODUCTS

13.1 Did the household buy/barter any wood or non-wood forest products during the last 12 months?

SINGLE-SELECT S13Q1

01 ○ Yes
02 ○ No

13.2 Which products were bought?

E S13Q1 == 1

MULTI-SELECT S13Q2

01 ☐ Industrial wood
02 ☐ Fire wood
03 ☐ Wood for charcoal
04 ☐ Wood for carvings
05 ☐ Wood for poles
07 ☐ Fruits, nuts, seed, roots, berries, tubers
08 ☐ Mushroom
09 ☐ Caterpillars
10 ☐ Fodder
11 ☐ Rattan, reeds
12 ☐ Plant medicines
13 ☐ Herbs and spices
14 ☐ Raisings (Dying & Tanning)
15 ☐ Fibers
16 ☐ Bush meat
17 ☐ Honey

And 2 other symbols [19]

SECTION 13: BUYING AND BARTERING OF WOOD AND NON-WOOD FOREST PRODUCTS

Roster: BUYING AND BATTERING OF FOREST PRODUCTS

generated by multi-select question S13Q2 trading

13.3 What was the total amount spent on %rostertitle%? (ZMW)

I Enter -9 for don't know.
V1 self == -9 || self > 0
M1 An amount greater than zero is expected.

NUMERIC: DECIMAL S13Q3

13.4 What was the total quantity of %rostertitle% bought during the past 12 months?

I Enter -9 for don't know
V1 self == -9 || self > 0
M1 An amount greater than zero is expected.

NUMERIC: DECIMAL S13Q4

SURVEY QUESTIONNAIRE

13.5 What was the Unit? E S13Q4 > 0	SINGLE-SELECT S13Q5 01 ○ 90kg Bag 02 ○ 50kg Bag 03 ○ 25kg Bag 04 ○ 10kg Pocket/Bag 05 ○ 20ltr Tin 06 ○ 90kg bag unshelled/unpolished 07 ○ 50kg Bag Unshelled/Unpolished 08 ○ 25kg Bag Unshelled/Unpolished 09 ○ 10kg Bag Unshelled 10 ○ 20lt Tin Unshelled/Unpolished 11 ○ 5ltr/ Gallon 12 ○ MEDA 13 ○ Bunches 14 ○ Muchumbu 15 ○ Ka B.P 16 ○ Crates And 4 other symbols [20]
13.6 In what form does your household buy the %rostertitle%? E S13Q1 == 1	SINGLE-SELECT S13Q6 01 ○ Raw 02 ○ Semi-Processed 03 ○ Processed
13.7 During the last 12 months, who generally made the decision to buy the %rostertitle%?	SINGLE-SELECT: LINKED S13Q7
13.8 Who is primarily involved in buying the %rostertitle%?	SINGLE-SELECT: LINKED S13Q8
13.9 Mostly, where did your household buy the %rostertitle% (location)?	SINGLE-SELECT S13Q9 01 ○ Homestead 02 ○ Roadside within the community 03 ○ Other place within the community 04 ○ Boma/Township 05 ○ Within district 06 ○ Within Province 07 ○ Outside Province 08 ○ Outside the country 09 ○ Other
13.9s Specify the province ... E S13Q9==7	TEXT S13Q9s .....
13.10 What is the usual mode of transport used to the location where the household usually buys the %rostertitle%?	SINGLE-SELECT S13Q10 01 ○ Motorcycle 02 ○ Car 03 ○ Truck 04 ○ Boat/Canoe 05 ○ Other

Question	Response
13.10s Specify that other mode of transport ... E S13Q10==5	TEXT S13Q10s ....
13.11 How long does it take to get to the location where the household mostly buys the %rostertitle%? (time in minutes)	NUMERIC: DECIMAL S13Q11 _ .
13.12 How far is it to the location where the household mostly buys the %rostertitle%? (distance in kilometres)	NUMERIC: DECIMAL S13Q12 _ .
13.13 Who are the main sellers of the %rostertitle%?	SINGLE-SELECT S13Q13 01 ○ Individual / Private seller 02 ○ Marketeer 03 ○ Traders 04 ○ Associations / Organisations 05 ○ Wholesalers 06 ○ Other
13.13s Specify other sellers ... E S13Q13==6	TEXT S13Q13s ....
13.14 Where do the sellers of the %rostertitle% usually come from (locations)	SINGLE-SELECT S13Q14 01 ○ Within community 02 ○ From boma town 03 ○ From within the district 04 ○ From within province 05 ○ Outside the province 06 ○ Outside the country 07 ○ Travelers / Passersby 08 ○ Other
13.14s Specify that other location ... E S13Q14==8	TEXT S13Q14s ....

SECTION 14: ACCESS TO FORESTRY EXTENSION SERVICES

Section14

STATIC TEXT

Please tell us about the advice listed below.

14.1 Have you ever received any advice on ...

MULTI-SELECT: YES/NO S14Q1

- 01 ☐ / ☐ Planting tree species to be used as nitrogen fixers & improved fallows
- 02 ☐ / ☐ Bee keeping
- 03 ☐ / ☐ Sustainable woodlots establishment
- 04 ☐ / ☐ Human wildlife conflict
- 05 ☐ / ☐ Fire management and prevention
- 06 ☐ / ☐ Pest management
- 07 ☐ / ☐ Establishment of tree nurseries for increased planting materials
- 08 ☐ / ☐ the importance of conserving forests/CFM
- 09 ☐ / ☐ assisted natural regeneration
- 10 ☐ / ☐ support with seedlings
- 11 ☐ / ☐ support with development of a sub-project proposal

SECTION 14: ACCESS TO FORESTRY EXTENSION SERVICES

Roster: ADVICE/SERVICE

generated by multi-select question S14Q1

advise

E S14Q1.Yes.Count() > 0

14.2 From whom did you receive the most valuable advice on %rostertitle%?

SINGLE-SELECT S14Q2

- 04 ○ Livestock Dev. Agency
- 05 ○ Community Market for conservation
- 06 ○ Out grower operators
- 07 ○ Farmer co-operative
- 08 ○ Lead farmers
- 09 ○ NGO (SNV, MUSIKA, World Vision, Bio-Carbon, Caritas) & Faith based organisations
- 10 ○ Departments of National Parks & Wildlife
- 11 ○ Ministry Livestock and Fisheries
- 12 ○ Department Of Forestry
- 13 ○ Other

14.2s Specify from whom you received the most valuable advice on %rostertitle%.

E S14Q2 == 13

TEXT S14Q2S

.....

14.3 How did the household receive that advice on %rostertitle%?	SINGLE-SELECT S14Q3 01 ○ Informal conversation 02 ○ Radio Program 03 ○ Pamphlets/newspapers 04 ○ Workshops 05 ○ Field day 06 ○ Demonstration plots 07 ○ Other
14.3s Specify how the household received that advice on %rostertitle%. E S14Q3 == 7	TEXT S14Q3S .....

SECTION 15: HOUSEHOLD ENERGY UTILISATION & ADOPTION OF IMPROVED COOK STOVE

Section15

STATIC TEXT

Am now going to ask you questions about your households Energy Utilisation and Adoption of Improved Cook Stove

15.1 Does your household use charcoal as a source of energy?

SINGLE-SELECT S15Q1

01 ○ Yes
02 ○ No

15.2 What is the household's main source of charcoal?

E S15Q1 == 1

MULTI-SELECT S15Q2

01 ☐ Self produce
02 ☐ Buy it
03 ☐ Receive it as gift
04 ☐ Other

15.2s Specify your source of the charcoal.

E S15Q2.Contains(4)

TEXT S15Q2S

.....

15.3 How much on average does your household spend on charcoal in a month?

I If own produce or gift, ask for the value if the charcoal were to be sold. Enter -9 for don't know.
E S15Q1 == 1
V1 !(S15Q2.Contains(2) && self == 0)
M1 Buy it was selected as an option in 15.2 therefore a value greater than zero is expected.
V2 self == -9 || self >= 0
M2 A value greater or equal to zero is expected.

NUMERIC: DECIMAL S15Q3

- -

15.4_qty On average, what quantity of charcoal did your household use in a month?

E S15Q1 == 1
V1 self == -9 || self > 0
M1 A valid quantity should be greater than 0 per month since the household reported using charcoal

NUMERIC: DECIMAL S15Q4Q

- -

SURVEY QUESTIONNAIRE

15.4_unt Specify the unit for the quantity of charcoal used. E S15Q4Q > 0	SINGLE-SELECT S17Q4U 01 ○ 90kg Bag 02 ○ 50kg Bag 03 ○ 25kg Bag 04 ○ 10kg Pocket/Bag 05 ○ 20ltr Tin 06 ○ 90kg bag unshelled/unpolished 07 ○ 50kg Bag Unshelled/Unpolished 08 ○ 25kg Bag Unshelled/Unpolished 09 ○ 10kg Bag Unshelled 10 ○ 20lt Tin Unshelled/Unpolished 11 ○ 5ltr/ Gallon 12 ○ MEDA 13 ○ Bunches 14 ○ Muchumbu 15 ○ Ka B.P 16 ○ Crates And 4 other symbols [21]
15.5 Does your household use firewood as a source of energy?	SINGLE-SELECT S15Q5 01 ○ Yes 02 ○ No
15.6 What is the household's main source of firewood? E S15Q5 == 1	MULTI-SELECT S15Q6 01 ☐ Self produce/collect 02 ☐ Buy it 03 ☐ Receive it as gift 04 ☐ Other
15.6s Specify how you obtained fuel wood E S15Q6.Contains(4)	TEXT S15Q6S .....
15.7 How much on average does your household spend on firewood in a month? E S15Q5 == 1	NUMERIC: INTEGER S15Q7 -
15.8 On average, what quantity of firewood did your household use in a month? E S15Q5 == 1	SINGLE-SELECT S15Q8 01 ○ One cord (equivalent to 1000kg) 02 ○ One head lot (equivalent to 9kg bundles) 03 ○ Man lot (equivalent to 12 kg bundles)
15.9 How long does it take a household member to make a round trip to collect firewood? (including both travel and actual collection) (hours) I It is important that this question is asked from the person doing the col lection E S15Q6.Contains(1)	NUMERIC: INTEGER S15Q9 -

15.10 Which other alternative energy sources do you use?

MULTI-SELECT: YES/NO S15Q10

01 ☐ / ☐ Electricity
02 ☐ / ☐ Gas
03 ☐ / ☐ Kerosene
04 ☐ / ☐ Solar
05 ☐ / ☐ Coal
06 ☐ / ☐ Diesel
07 ☐ / ☐ Petrol
08 ☐ / ☐ Pellets
09 ☐ / ☐ Bio Fuel
10 ☐ / ☐ Dung
11 ☐ / ☐ Grass / Straw / Shrubs
12 ☐ / ☐ Crop Residues
13 ☐ / ☐ Other

15.10s Specify alternative energy sources used.

E S15Q10.Yes.Contains(13)

TEXT S15Q10S

.....

STATIC TEXT

ENERGY EFFICIENCY

15.11 Does your household know about an improved cook stove?

SINGLE-SELECT S15Q11

01 ○ Yes
02 ○ No

15.12 How did your household come to know about the improved cook stoves for the first time?

E S15Q11==1

SINGLE-SELECT S15Q12

01 ○ Media (Radio, Tv..etc)
02 ○ Public meeting or training or field day
03 ○ Marketing group
04 ○ Neighbours /family friends
05 ○ Producers or installers
06 ○ Traditional leadership
09 ○ School
10 ○ Other

15.12s Specify how household came to know about improved cook stoves

E S15Q12 == 10

TEXT S15Q12S

.....

15.13 Does your household own an improved cook stove?

E S15Q11==1

SINGLE-SELECT S15Q13

01 ○ Yes
02 ○ No

15.14 What type of improved cook stove does your household own?

E S15Q13==1

SINGLE-SELECT S15Q14

01 ○ Fixed mud stove (Eco zoom)
02 ○ Supa moto
03 ○ Pot jie
04 ○ Wood serving
05 ○ Rocket traditional stove

15.15 Does your household use an improved cook stove?

E S15Q13==1

SINGLE-SELECT S15Q15

01 ○ Yes
02 ○ No

SURVEY QUESTIONNAIRE

15.16 What kind of fuel do you use for your improved cook stove?

E S15Q15==1

SINGLE-SELECT S15Q16

01 ○ Twigs
02 ○ Charcoal
03 ○ Maize stalks
04 ○ Other specify

15.16s Specify fuel used.

E S15Q16==4

TEXT S15Q16S

.....

15.17 How much does your household spend on average in a month using your improved cook stove?

E S15Q15==1

NUMERIC: INTEGER S15Q17

- -

15.18 How did the household acquire the improved stove?

E S15Q13==1

SINGLE-SELECT S15Q18

01 ○ We bought
02 ○ It was given by Govt (ZIFLP/ENERGY DEPT)
03 ○ We made
04 ○ Inherited

15.19 What do you see as the benefits of using an improved cook stove?

E S15Q13==1

MULTI-SELECT: YES/NO S15Q19

01 ☐ / ☐ Fuel saving
02 ☐ / ☐ Cooks fast
03 ☐ / ☐ Reduced smoke
04 ☐ / ☐ Saves money
05 ☐ / ☐ Clean kitchen
06 ☐ / ☐ Less burns, accidents
07 ☐ / ☐ Less respiratory diseases
08 ☐ / ☐ Less eye disease
09 ☐ / ☐ More comfort
10 ☐ / ☐ Better taste of food
11 ☐ / ☐ Other (specify)
12 ☐ / ☐ Non

15.19s Specify benefits of using an improved cook stove.

E S15Q19.Yes.Contains(11)

TEXT S15Q19S

.....

15.20 Why doesn't your household use an improved stove?

E S15Q15==2

SINGLE-SELECT S15Q20

01 ○ Too expensive
02 ○ Not safe
03 ○ Don't know how to use it
04 ○ More time consuming
05 ○ Different preferences
06 ○ Cultural reasons
07 ○ Other specify

15.20s Specify the reason your household doesn't use an improved stove.

E S15Q20==7

TEXT S15Q20S

.....

SURVEY QUESTIONNAIRE

SECTION 16: FARM ASSETS/IMPLEMENTS, BUILDINGS AND INFRASTRUCTURE

Section16

STATIC TEXT

Please tell us about the type and number of assets or implements, farm buildings and infrastructures in working condition owned by the household.

16.1 Does this household own any of the following items?
(Read out items and tick all that apply)

V1 `(S18Q1.Count() > 1 && !S18Q1.Contains(88)) || S18Q1.Count()==1`

M1 Select 'None' only if none of the listed item are not owned by household.

MULTI-SELECT S18Q1

- 01 ☐ Tractor
- 02 ☐ Hand Driven Tractor
- 03 ☐ Ploughs
- 04 ☐ Harrows
- 05 ☐ Cultivators
- 06 ☐ Sheller
- 07 ☐ Rippers
- 08 ☐ Hammer mills
- 09 ☐ Hand Hammer Mills
- 10 ☐ Rump press/Oil expeller
- 11 ☐ Sprayers
- 12 ☐ Hoes
- 14 ☐ Water Pump
- 15 ☐ Treadle Pump
- 16 ☐ Sprinklers
- 17 ☐ Borehole

And 32 other symbols [22]

SECTION 16: FARM ASSETS/IMPLEMENTS, BUILDINGS AND INFRASTRUCTURE

Roster: ASSETS

generated by multi-select question S18Q1

assets

E `!S18Q1.Contains(88)`

16.2 How many %rostertitle%(s) did the household have in working condition now? (Enter 0 if none)

V1 `self >= 0`

M1 Number is expected to be 0 or more.

NUMERIC: INTEGER S18Q2

16.3 How long have you had the %rostertitle% in years?

I MOST RECENT ONE-IF LESS THAN ONE YEAR ENTER 0

E `!(@rowcode.InList(43,44,45,46,47,48,49,50,51,52))`

V1 `self >= 0`

M1 Years must be zero or more.

NUMERIC: INTEGER S18Q3

16.4 At the time the %rostertitle% Was acquired, how much was it? (Enter the value in ZMK)

I MOST RECENT ONE-IF LESS THAN ONE YEAR ENTER 0

E `!(@rowcode.InList(43,44,45,46,47,48,49,50,51,52))`

NUMERIC: DECIMAL S18Q4

	16.5 If you were to sell the %rostertitle% how much would you sell it for? (Enter the value in ZMW) I MOST RECENT ONE-IF LESS THAN ONE YEAR ENTER 0 V1 `self > 0` M1 This cannot be equal to "0"	NUMERIC: DECIMAL S18Q5

SECTION 17: COVID-19 MODULE

Section17

17.1 Is your household aware of the existence of Covid-19?	SINGLE-SELECT 01 ○ Yes 02 ○ No	S19Q01
17.2 What is your attitude towards Covid-19?	SINGLE-SELECT 01 ○ Afraid 02 ○ Don't care 03 ○ Just a common illness	S19Q02
17.3 Do you know how Covid-19 is transmitted?	SINGLE-SELECT 01 ○ Yes 02 ○ No 03 ○ Don't know	S19Q03
17.4 Do you believe that Covid-19 really exists in Zambia?	SINGLE-SELECT 01 ○ Yes 02 ○ No	S19Q04
17.5 Does your household observe the health recommendation given by Ministry of Health on Covid-19?	SINGLE-SELECT 01 ○ Yes 02 ○ No	S19Q05
17.6 Why not? E S19Q05 == 2	SINGLE-SELECT 01 ○ PPE too expensive 02 ○ My natural immunity is enough 03 ○ No underlying medical condition 04 ○ mainly affects the aged 05 ○ recommended protection uncomfortable 06 ○ Survival reasons 07 ○ Other	S19Q06
17.6s Specify why not E S19Q06 == 7	TEXT	S19Q06S
17.7 Has Covid-19 affected your households' livelihood in any way?	SINGLE-SELECT 01 ○ Yes 02 ○ No	S19Q07

SECTION 18: ZIFLP GRIEVANCE REDRESS MECHANISM

Section18

18.1 Have you or any member of your household ever been aggrieved with anything related to implementation of ZIFLP activity?	SINGLE-SELECT 01 ○ Yes 02 ○ No	S18Q01
18.2 Is your household aware of ZIFLP conflict resolution mechanism?	SINGLE-SELECT 01 ○ Yes 02 ○ No	S18Q02
18.3 Have you or any member of your household ever used that mechanism? E S18Q02 == 1	SINGLE-SELECT 01 ○ Yes 02 ○ No	S18Q03
18.4 Were you satisfied with the way the issue was handled? E S18Q03 == 1	SINGLE-SELECT 01 ○ Yes 02 ○ No	S18Q04
18.5 Why not? E S18Q03 == 2	SINGLE-SELECT 01 ○ Not Comfortable 02 ○ Even if you report nothing gets done 03 ○ The reporting process is cumbersome 04 ○ It's for educated people 05 ○ Other specify	S18Q05
18.6 Does your household have a suggestion on how the implementation process can be improved?	SINGLE-SELECT 01 ○ Yes 02 ○ No	S18Q06

APPENDIX A — ENABLING CONDITIONS

[1] : The total area in 2.2 is expected to be equal or greater than the sum of areas from 2.3 to 2.7.
Enablement Condition:

```
S2Q7U != null && !((S2Q2Q * ha_conv[(int)S2Q2U].has) >= (
    (S2Q3AQ * ha_conv[(int)S2Q3AU].has) +
    (S2Q3BQ * ha_conv[(int)S2Q3BU].has) +
    (S2Q3CQ * ha_conv[(int)S2Q3CU].has) +
    (S2Q4AQ  * ha_conv[(int)S2Q4AU].has) +
    (S2Q5Q  * ha_conv[(int)S2Q5U].has) +
    (S2Q6Q  * ha_conv[(int)S2Q6U].has) +
    (S2Q7Q  * ha_conv[(int)S2Q7U].has)))
```

APPENDIX B — VALIDATION CONDITIONS AND MESSAGES

[1] S1Q4: 1.4 What is the relationship of %rostertitle% to the head of the household?
Validation Condition:

```
(householdroster.Count(x=>x.S1Q4==1) == 1) && (householdroster.Count(x=>x.S1Q4==1 && x.S1Q3 < S1Q3 + 13 &&
S1Q4==3) == 0) && (householdroster.Count(x=>x.S1Q4==1 && x.S1Q3 < S1Q3 + 26 && S1Q4==6) == 0) &&
(householdroster.Count(x=>x.S1Q4==1 && x.S1Q3 + 13 > S1Q3  && S1Q4==11 ) == 0) &&
(householdroster.Count(x=>x.S1Q4==1 && (x.S1Q3 - S1Q3 > 40 || S1Q3 - x.S1Q3 > 40) && S1Q4==2 ) == 0) &&
!((S1Q4 == 1 || S1Q4 == 2 || S1Q4 == 11) && (S1Q3 < 12))
```

Validation Message: Ensure that there is only one household head or age difference between household head and spouse, own child, grand chil d and parent is not more than 40,13,26 and 13 respectively.

[2] S3Q20U: 3.20_unt How much of this %rostertitle% did you harvest? - Unit
Validation Condition:

```
(@rowcode==1 && self.InList(1,2,3,4,5,11,12,14,17,20)) ||
(@rowcode==2 && self.InList(1,2,3,4,5,11,12,14,17,20)) ||
(@rowcode==3 && self.InList(1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,17,20))||
(@rowcode==4 && self.InList(1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,17,20))||
(@rowcode==5 && self.InList(1,2,3,4,5,11,12,13,14,15,17,20))||
(@rowcode==6 && self.InList(1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,17,20))||
(@rowcode==7 && self.InList(1,2,3,4,5,11,12,13,14,15,17,20))||
(@rowcode==8 && self.InList(17, 20)) ||
(@rowcode==9 && self.InList(1,2,3,4,5,11,12,13,14,15,17,20))||
(@rowcode==10 && self.InList(17, 20)) ||
(@rowcode==11 && self.InList(17, 20)) ||
(@rowcode==12 && self.InList(1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,17,20))||
(@rowcode==13 && self.InList(1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,17,20))||
(@rowcode==14 && self.InList(1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,17,20))||
(@rowcode==15 && self.InList(1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,17,20))||
(@rowcode==16 && self.InList(20)) ||
(@rowcode==17 && self.InList(1,2,3,4,5,11,12,14)) ||
(@rowcode==18 && self.InList(1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,17,20))||
(@rowcode==19 && self.InList(20)) ||
(@rowcode==20 && self.InList()) ||
(@rowcode==21 && self.InList(20)) ||
(@rowcode==22 && self.InList(2,3,20))
```

Validation Message: The Unit May NOT be appropriate for this crop

[3] S4Q2B: 4.2b What is the total quantity of this %rostertitle% that the household sold for cash and/or barter for goods and/or labour since May 2019? - Unit
Validation Condition:

```
(@rowcode==1 && self.InList(1,2,3,4,5,11,12,14,17,20)) ||
(@rowcode==2 && self.InList(1,2,3,4,5,11,12,14,17,20)) ||
(@rowcode==3 && self.InList(1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,17,20))||
(@rowcode==4 && self.InList(1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,17,20))||
(@rowcode==5 && self.InList(1,2,3,4,5,11,12,13,14,15,17,20))||
(@rowcode==6 && self.InList(1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,17,20))||
(@rowcode==7 && self.InList(1,2,3,4,5,11,12,13,14,15,17,20))||
(@rowcode==8 && self.InList(17, 20)) ||
(@rowcode==9 && self.InList(1,2,3,4,5,11,12,13,14,15,17,20))||
(@rowcode==10 && self.InList(17, 20)) ||
(@rowcode==11 && self.InList(17, 20)) ||
(@rowcode==12 && self.InList(1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,17,20))||
(@rowcode==13 && self.InList(1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,17,20))||
(@rowcode==14 && self.InList(1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,17,20))||
(@rowcode==15 && self.InList(1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,17,20))||
(@rowcode==16 && self.InList(20)) ||
(@rowcode==17 && self.InList(1,2,3,4,5,11,12,14)) ||
(@rowcode==18 && self.InList(1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,17,20))||
(@rowcode==19 && self.InList(20)) ||
(@rowcode==20 && self.InList()) ||
(@rowcode==21 && self.InList(20)) ||
(@rowcode==22 && self.InList(2,3,20))
```

Validation Message: The Unit May NOT be appropriate for this crop

[4] : The total area in 2.2 is expected to be equal or greater than the sum of areas from 2.3 to 2.7.
Validation Condition:

```
!((S2Q2Q * ha_conv[(int)S2Q2U].has) < (
   (S2Q3AQ * ha_conv[(int)S2Q3AU].has) +
   (S2Q3BQ * ha_conv[(int)S2Q3BU].has) +
   (S2Q3CQ * ha_conv[(int)S2Q3CU].has) +
   (S2Q4AQ  * ha_conv[(int)S2Q4AU].has) +
   (S2Q5Q  * ha_conv[(int)S2Q5U].has) +
   (S2Q6Q  * ha_conv[(int)S2Q6U].has) +
   (S2Q7Q  * ha_conv[(int)S2Q7U].has)))
```

Validation Message: Please verify the areas from 2.3 to 2.7 and ensure that the sum is equals or less than the total (2.2).

APPENDIX C — CATEGORIES

[1] LANGUAGE: 16. Main language spoken by the household
Categories: 13:Ambo, 1:Bemba, 4:Bisa, 17:Bwile, 48:Chewa, 53:Chikunda, 6:Chishinga, 32:Chokwe, 62:English, 25:Gowa, 22:Ila, 41:Imilangu, 9:Kabende, 33:Kaonde, 37:Koma, 52:Kunda, 36:Kwandi, 35:Kwangwa, 3:Lala, 8:Lamba, 20:Lenje, 14:Lima, 43:Lozi, 18:Luano, 29:Luchazi, 2:Lunda (Luapula), 27:Lunda (North-Western), 54:Lungu, 26:Luvale, 34:Luyana Sub-Group, 55:Mambwe, 47:Mashasha, 42:Mashi, 31:Mbowe, 28:Mbunda, 12:Mukulu, 40:Mwenyi, 56:Namwanga, 30:Ndembu, 50:Ngoni, 7:Ngumbo, 46:Nkoya, 49:Nsenga, 51:Nyanja, 38:Nyengo, 24:Sala, 60:Senga, 15:Shila, 39:Simaa, 21:Soli, 45:Subiya, 11:Swaka, 10:Tabwa, 58:Tambo, 23:Toka-Leya, 19:Tonga, 44:Totela, 59:Tumbuka, 16:Unga, 5:Ushi, 57:Wina, 61:Yombe, 64:Other African, 65:American, 63:Mandarin, 69:Indian, 66:Asian, 67:European, 68:Oceanian, 73:Sign Language, 88:Other Language

[2] S1Q11: 1.11 What was the highest grade/ level %rostertitle% attained?
Categories: 0:Pre-school, 1:Grade 1, 2:Grade 2, 3:Grade 3, 4:Grade 4, 5:Grade 5, 6:Grade 6, 7:Grade 7, 8:Grade 8, 9:Grade 9, 10:Grade 10, 11:Grade 11, 12:Grade 12 GCE (O-level), 13:Grade 12 GCE (A-level), 14:College certificate/Diploma, 15:University Degree, 16:Post-graduate Certificate/Diploma, 17:Master's Degree, 18:Doctorate Degree and above

[3] S3Q2: 3.2 Did you grow the following in the 2019/2020 agricultural season?
Categories: 1:Maize, 2:Sorghum, 3:Rice, 4:Millet, 5:Sunflower, 6:Groundnuts, 7:Soya-beans, 8:Seed Cotton, 9:Irish potato, 10:Virginia tobacco, 11:Burley tobacco, 12:Mixed beans, 13:Bambara nuts, 14:Cowpeas, 15:Velvet beans, 16:Coffee, 17:Sweet potato, 18:Cassava, 19:Kenaf, 20:Cashew nuts, 21:Other crops, 22:Paprika, 25:Pineapples, 60:Popcorn, 61:Sugarcane (plantation)

[4] S3Q12: 3.12 What main crop or use did you put in this %rostertitle% field in 2017/2018?
Categories: 1:Maize, 2:Sorghum, 3:Rice, 4:Millet, 5:Sunflower, 6:Groundnuts, 7:Soya-beans, 8:Seed Cotton, 9:Irish potato, 10:Virginia tobacco, 11:Burley tobacco, 12:Mixed beans, 13:Bambara nuts, 14:Cowpeas, 15:Velvet beans, 16:Coffee, 17:Sweet potato, 18:Cassava, 19:Kenaf, 20:Cashew nuts, 21:Other crops, 22:Paprika, 25:Pineapples, 60:Popcorn, 61:Sugarcane (plantation), 88:None

[5] S3Q13: 3.13 What main crop or use did you put in this %rostertitle% field in 2018/2019 (the previous season)?
Categories: 1:Maize, 2:Sorghum, 3:Rice, 4:Millet, 5:Sunflower, 6:Groundnuts, 7:Soya-beans, 8:Seed Cotton, 9:Irish potato, 10:Virginia tobacco, 11:Burley tobacco, 12:Mixed beans, 13:Bambara nuts, 14:Cowpeas, 15:Velvet beans, 16:Coffee, 17:Sweet potato, 18:Cassava, 19:Kenaf, 20:Cashew nuts, 21:Other crops, 22:Paprika, 25:Pineapples, 60:Popcorn, 61:Sugarcane (plantation), 88:None

[6] S3Q20U: 3.20_unt How much of this %rostertitle% did you harvest? - Unit
Categories: 1:90kg Bag, 2:50kg Bag, 3:25kg Bag, 4:10kg Pocket/Bag, 5:20ltr Tin, 6:90kg bag unshelled/unpolished, 7:50kg Bag Unshelled/Unpolished, 8:25kg Bag Unshelled/Unpolished, 9:10kg Bag Unshelled, 10:20lt Tin Unshelled/Unpolished, 11:5ltr/ Gallon, 12:MEDA, 13:Bunches, 14:Muchumbu, 15:Ka B.P., 16:Crates, 17:Tonnes, 18:Boxes, 19:Number, 20:Kilogram (kg)

[7] S4Q2B: 4.2b What is the total quantity of this %rostertitle% that the household sold for cash and/or barter for goods and/or labour since May 2019? - Unit
Categories: 1:90kg Bag, 2:50kg Bag, 3:25kg Bag, 4:10kg Pocket/Bag, 5:20ltr Tin, 6:90kg bag unshelled/unpolished, 7:50kg Bag Unshelled/Unpolished, 8:25kg Bag Unshelled/Unpolished, 9:10kg Bag Unshelled, 10:20lt Tin Unshelled/Unpolished, 11:5ltr/ Gallon, 12:MEDA, 13:Bunches, 14:Muchumbu, 15:Ka B.P., 16:Crates, 17:Tonnes, 18:Boxes, 19:Number, 20:Kilogram (kg)

[8] S4Q7B: 4.7b What was the unit of %rostertitle% for the largest cash transaction?
Categories: 1:90kg Bag, 2:50kg Bag, 3:25kg Bag, 4:10kg Pocket/Bag, 5:20ltr Tin, 6:90kg bag unshelled/unpolished, 7:50kg Bag Unshelled/Unpolished, 8:25kg Bag Unshelled/Unpolished, 9:10kg Bag Unshelled, 10:20lt Tin Unshelled/Unpolished, 11:5ltr/ Gallon, 12:MEDA, 13:Bunches, 14:Muchumbu, 15:Ka B.P, 16:Crates, 17:Tonnes, 18:Boxes, 19:Number, 20:Kilogram (kg)

[9] S4Q9B: 4.9b How much %rostertitle% does the household have in storage? Unit
Categories: 1:90kg Bag, 2:50kg Bag, 3:25kg Bag, 4:10kg Pocket/Bag, 5:20ltr Tin, 6:90kg bag unshelled/unpolished, 7:50kg Bag Unshelled/Unpolished, 8:25kg Bag Unshelled/Unpolished, 9:10kg Bag Unshelled, 10:20lt Tin Unshelled/Unpolished, 11:5ltr/ Gallon, 12:MEDA, 13:Bunches, 14:Muchumbu, 15:Ka B.P, 16:Crates, 17:Tonnes, 18:Boxes, 19:Number, 20:Kilogram (kg)

[10] S5Q1: 5.1 Have you ever received advice on ...?
Categories: 1:Pot-holing, 2:Ripping, 3:Zero tillage, 4:Managing crop residues in the field, 5:Crop rotation, 6:Intercropping, 7:Irrigation management, 8:Fish farming, 9:Construction of improved storage bins, 10:Record keeping, 11:Dipping/spraying, 12:Artificial insemination (AI), 13:Livestock vaccination, 14:Bee keeping, 15:Sustainable woodlots establishment, 16:Tree planting, 17:Agro - forestry, 18:None

[11] S7Q2B: 7.2b Counting both cash purchases and barter, how much %rostertitle% did you buy between October 2018 and September 2019? Unit
Categories: 1:90kg Bag, 2:50kg Bag, 3:25kg Bag, 4:10kg Pocket/Bag, 5:20ltr Tin, 6:90kg bag unshelled/unpolished, 7:50kg Bag Unshelled/Unpolished, 8:25kg Bag Unshelled/Unpolished, 9:10kg Bag Unshelled, 10:20lt Tin Unshelled/Unpolished, 11:5ltr/ Gallon, 12:MEDA, 13:Bunches, 14:Muchumbu, 15:Ka B.P, 16:Crates, 17:Tonnes, 18:Boxes, 19:Number, 20:Kilogram (kg)

[12] S7Q4B: 7.4b What was the quantity per unit the last time the household purchased the %rostertitle% for cash? Unit
Categories: 1:90kg Bag, 2:50kg Bag, 3:25kg Bag, 4:10kg Pocket/Bag, 5:20ltr Tin, 6:90kg bag unshelled/unpolished, 7:50kg Bag Unshelled/Unpolished, 8:25kg Bag Unshelled/Unpolished, 9:10kg Bag Unshelled, 10:20lt Tin Unshelled/Unpolished, 11:5ltr/ Gallon, 12:MEDA, 13:Bunches, 14:Muchumbu, 15:Ka B.P, 16:Crates, 17:Tonnes, 18:Boxes, 19:Number, 20:Kilogram (kg)

[13] S7Q5B: 7.5b What quantity of the %rostertitle% did household obtain between October 2018 and September 2019 from casual labour? - Unit
Categories: 1:90kg Bag, 2:50kg Bag, 3:25kg Bag, 4:10kg Pocket/Bag, 5:20ltr Tin, 6:90kg bag unshelled/unpolished, 7:50kg Bag Unshelled/Unpolished, 8:25kg Bag Unshelled/Unpolished, 9:10kg Bag Unshelled, 10:20lt Tin Unshelled/Unpolished, 11:5ltr/ Gallon, 12:MEDA, 13:Bunches, 14:Muchumbu, 15:Ka B.P, 16:Crates, 17:Tonnes, 18:Boxes, 19:Number, 20:Kilogram (kg)

[14] S7Q6B: 7.6b Specify the unit for the %rostertitle% you RECEIVED between October 2017 & September? - Unit
Categories: 1:90kg Bag, 2:50kg Bag, 3:25kg Bag, 4:10kg Pocket/Bag, 5:20ltr Tin, 6:90kg bag unshelled/unpolished, 7:50kg Bag Unshelled/Unpolished, 8:25kg Bag Unshelled/Unpolished, 9:10kg Bag Unshelled, 10:20lt Tin Unshelled/Unpolished, 11:5ltr/ Gallon, 12:MEDA, 13:Bunches, 14:Muchumbu, 15:Ka B.P, 16:Crates, 17:Tonnes, 18:Boxes, 19:Number, 20:Kilogram (kg)

[15] S8Q7B: 7.7b Specify the unit for the %rostertitle% you GAVE OUT between October 2017 & September? - Unit
Categories: 1:90kg Bag, 2:50kg Bag, 3:25kg Bag, 4:10kg Pocket/Bag, 5:20ltr Tin, 6:90kg bag unshelled/unpolished, 7:50kg Bag Unshelled/Unpolished, 8:25kg Bag Unshelled/Unpolished, 9:10kg Bag Unshelled, 10:20lt Tin Unshelled/Unpolished, 11:5ltr/ Gallon, 12:MEDA, 13:Bunches, 14:Muchumbu, 15:Ka B.P, 16:Crates, 17:Tonnes, 18:Boxes, 19:Number, 20:Kilogram (kg)

[16] S10Q23: 9.23 What was the main purpose for which %rostertitle% was planted.
Categories: 1:Fuel wood for domestic use, 2:Fuel wood for sale, 3:Fodder for own use, 4:Fodder for sale, 5:Timber/poles for own use, 6:Timber/poles for sale, 7:For production of edible tree products (e.g. fruits) for own use, 8:For production of edible tree products (e.g. fruits) for sale, 9:Other products for own use, 10:Other products for sale, 11:For shade, 12:For wind protection, 13:Carbon sequestration, 14:Other environmental services, 15:Land demarcation, 16:To increase the value of my land, 17:Agroforestry, 18:To allow my children and/or grandchildren to see these trees, 19:Don't know (e.g. planted the trees because another HH member asked to), 20:Person not available to answer, 21:Other purpose

[17] S11Q1: 10.1 Please specify all the wood and non-wood forest products collected regularly during the last 12 months by household members
Categories: 1:Industrial wood, 2:Fuel wood, 3:Charcoal, 4:Wood for wood carvings, 5:Wood for poles, 6:Fruits, nuts, seeds, roots, berries, etc, 7:Mushrooms, 8:Fodder, 9:Rattan, 10:Plant medicines, 11:Herbs and spices, 12:Dying / tanning, 13:Seeds (for regeneration purposes), 14:Fibres (for rope etc.), 15:Wildlife (including Mice, bush meat), 16:Beekeeping activities /honey collection, 17:Caterpillar, 18:Other

[18] S11Q6: 10.6 Specify unit
Categories: 1:90kg Bag, 2:50kg Bag, 3:25kg Bag, 4:10kg Pocket/Bag, 5:20ltr Tin, 6:90kg bag unshelled/unpolished, 7:50kg Bag Unshelled/Unpolished, 8:25kg Bag Unshelled/Unpolished, 9:10kg Bag Unshelled, 10:20lt Tin Unshelled/Unpolished, 11:5ltr/ Gallon, 12:MEDA, 13:Bunches, 14:Muchumbu, 15:Ka B.P, 16:Crates, 17:Tonnes, 18:Boxes, 19:Number, 20:Kilogram (kg)

[19] S13Q2: 13.2 Which products were bought?
Categories: 1:Industrial wood, 2:Fire wood, 3:Wood for charcoal, 4:Wood for carvings, 5:Wood for poles, 7:Fruits, nuts, seed, roots, berries, tubers, 8:Mushroom, 9:Caterpillars, 10:Fodder, 11:Rattan, reeds, 12:Plant medicines, 13:Herbs and spices, 14:Raisings (Dying & Tanning), 15:Fibers, 16:Bush meat, 17:Honey, 18:Bees wax, 19:Caterpillar

[20] S13Q5: 13.5 What was the Unit?
Categories: 1:90kg Bag, 2:50kg Bag, 3:25kg Bag, 4:10kg Pocket/Bag, 5:20ltr Tin, 6:90kg bag unshelled/unpolished, 7:50kg Bag Unshelled/Unpolished, 8:25kg Bag Unshelled/Unpolished, 9:10kg Bag Unshelled, 10:20lt Tin Unshelled/Unpolished, 11:5ltr/ Gallon, 12:MEDA, 13:Bunches, 14:Muchumbu, 15:Ka B.P, 16:Crates, 17:Tonnes, 18:Boxes, 19:Number, 20:Kilogram (kg)

[21] S17Q4U: 15.4_unt Specify the unit for the quantity of charcoal used.
Categories: 1:90kg Bag, 2:50kg Bag, 3:25kg Bag, 4:10kg Pocket/Bag, 5:20ltr Tin, 6:90kg bag unshelled/unpolished, 7:50kg Bag Unshelled/Unpolished, 8:25kg Bag Unshelled/Unpolished, 9:10kg Bag Unshelled, 10:20lt Tin Unshelled/Unpolished, 11:5ltr/ Gallon, 12:MEDA, 13:Bunches, 14:Muchumbu, 15:Ka B.P, 16:Crates, 17:Tonnes, 18:Boxes, 19:Number, 20:Kilogram (kg)

[22] S18Q1: 16.1 Does this household own any of the following items?
(Read out items and tick all that apply)
Categories: 1:Tractor, 2:Hand Driven Tractor, 3:Ploughs, 4:Harrows, 5:Cultivators, 6:Sheller, 7:Rippers, 8:Hammer mills, 9:Hand Hammer Mills, 10:Rump press/Oil expeller, 11:Sprayers, 12:Hoes, 14:Water Pump, 15:Treadle Pump, 16:Sprinklers, 17:Borehole, 19:Feed mixer, 20:Milking Equipment, 18:Castration Equipment, 21:Branding Equipment, 22:Vet. Related tools and Equipment, 24:Radio, 25:Television, 26:Bicycles, 27:Motorcycles, 28:Trucks/Lorries, 29:Pick-up/Vans/Cars, 30:Solar Panel and Equipment, 31:Scotch-cart, 32:Mobile phone, 33:Sewing Machine, 34:Generator, 35:Improved cook stove, 37:Storage facilities (warehouses, granaries, etc.), 38:Poultry Houses, 39:Cow-shed, 40:Pig sty, 43:Cattle, 44:Goats, 45:Pigs, 46:Sheep, 47:Donkeys, 48:Chickens, 49:Guinea fowls, 50:Ducks, 51:Pigeons, 52:Other, 88:None

LEGEND

Legend and structure of information in this file