

Baseline Evaluation of the Amalima Loko Resilience Food Security Activity in Zimbabwe



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IMPEL | Implementer-Led Evaluation & Learning Associate Award



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TABLE OF CONTENTS

Acknowledgments	i
List of Tables.....	v
List of Figures.....	v
Acronyms.....	vi
Executive Summary	vii
1. Baseline Household Survey	1
1.1 Objective	1
1.2 Questionnaire.....	1
1.3 Sampling.....	2
1.4 Field Activities	3
1.5 Limitations and Challenges	4
2. Results	5
2.1 Household Demographics	5
2.2 Poverty Indicators	5
2.3 Water, Sanitation, and Hygiene	6
2.4 Housing Quality	7
2.5 Assets	8
2.6 Land and Agriculture	9
2.6.1 Land and Crops.....	9
2.6.2 Agricultural Finance and Techniques	10
2.7 Livestock Holdings.....	10
2.8 Food Security.....	11
2.8.1 Food Consumption Score	11
2.8.2 Food Insecurity.....	12
2.8.3 Dietary Diversity.....	13
2.9 Women and Children’s Health and Nutrition	13
2.9.1 Women’s Health and Diet.....	13
2.9.2 Children’s Health and Diet	14
2.9.3 Family Planning	15
2.10 Gender.....	16
2.11 Resilience and Mental Health	18
2.12 Savings and Loans.....	20
2.13 Collective Action and Government Support	21
3. Next Steps.....	24
3.1 Preparation for Outcome Monitoring Survey	24

3.2 Devise Criteria for Propensity Score Matching 24

Annex A: Additional Tables25

VOLUME II

Annex B: Baseline Survey Tools

Annex C: Field Manual

Annex D: Research Protocol

LIST OF TABLES

Table 1. Key findings from the baseline survey	vii
Table 2. Sample overview	3
Table 3. Enumerators' productivity	4
Table 4. Household demographics.....	5
Table 5. Poverty level.....	6
Table 6. Water, sanitation, and hygiene	6
Table 7. Housing quality.....	7
Table 8. Household assets.....	8
Table 9. Crops cultivated.....	9
Table 10. Agriculture.....	10
Table 11. Livestock assets in the last 12 months	10
Table 12. Food Consumption Score	11
Table 13. Food Insecurity Experience Scale	12
Table 14. Dietary diversity	13
Table 15. Women's health	14
Table 16. Small children: diet and health	14
Table 17. Family planning	15
Table 18. Women empowerment.....	17
Table 19. Resilience.....	18
Table 20. Mental health in the last 12 months.....	19
Table 21. Savings.....	20
Table 22. Loans	21
Table 23. Collective action	21
Table 24. Government support.....	22
Table 25. Improved management practices and technologies for crop.....	25
Table 26. Improved management practices and technologies for livestock.....	26
Table 27. Activity wards in the Hwange district	27
Table 28. Activity wards in the Lupane district.....	28
Table 29. Activity wards in the Binga district.....	29
Table 30. Activity wards in the Nyazi district.....	30
Table 31. Activity wards in the Tsholotsho district.....	31

LIST OF FIGURES

Figure 1. Amalima Loko wards.....	3
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ACRONYMS

BHA	Bureau for Humanitarian Assistance
CI	Confidence Interval
CNFA	Cultivating New Frontiers in Agriculture
FCS	Food Consumption Score
FIES	Food Insecurity Experience Scale
GPS	Global Positioning System
HDDS	Household Dietary Diversity Score
IMC	International Medical Corps
IPA	Innovations for Poverty Action
IUD	Intrauterine Device
MAD	Minimum Acceptable Diet
N	Number Sampled
NGO	Non-Governmental Organization
ORAP	Organization of Rural Associations for Progress
PPP	Purchasing Power Parity
QE	Quasi-experimental research design
RFSA	Resilience Food Security Activity
TMG	The Manoff Group
USAID	United States Agency for International Development
USD	United States Dollar
VSLA	Village Savings and Loan Association
WASH	Water, sanitation, and hygiene

EXECUTIVE SUMMARY

Under the Implementer-Led Evaluation and Learning (IMPEL) Associate Award funded by the United States Agency for International Development (USAID), Innovations for Poverty Action (IPA) is conducting an impact evaluation of the Amalima Loko Resilience Food Security Activity (RFSA) in Matabeleland North province, Zimbabwe. Amalima Loko is an activity led by Cultivating New Frontiers in Agriculture (CNFA) and partners with the Organisation of Rural Associations for Progress (ORAP), Dabane Water Workshops (Dabane), The Manoff Group (TMG), International Medical Corps (IMC), and Mercy Corps, with financial support from USAID.

The goal of Amalima Loko is to sustainably improve food security through increased food access and sustainable watershed management among extremely poor and chronically vulnerable households and communities in Matabeleland North Province. The Amalima Loko interventions are grouped into three purposes:

1. Enhanced and inclusive local ownership over food security and resilience planning and development.
2. Improved health and availability of soil, water, and plant resources within the watershed and their individual and collective capacities to withstand the most common shocks and stressors.
3. Improved human health and livelihoods.

Amalima Loko's interventions will be rolled out in 87 wards across the participating districts (Binga, Hwange, Lupane, Nkayi, and Tsholotsho), with the wards assigned to 21 watershed clusters of 3–5 wards each. Amalima Loko will generally be implemented in every village in the activity area, with an expected target population of 188,302. The expectation is that individuals will self-select into the most beneficial interventions for them; as such, while all individuals are eligible, not everyone in each area is expected to participate. Table 1 below shows the intervention conceptual framework. The main objective of the impact evaluation is to assess Amalima Loko's effectiveness in achieving its objectives. IPA will use a quasi-experimental (QE) design to compare outcomes among treated and non-treated households. This report describes the data collected as part of the baseline survey of the Amalima Loko activity. Additional surveys will be carried out during the process evaluation, the midline survey, and the final evaluation stage.

This report provides summary statistics and indicator estimates based on a recently completed round of baseline data collection. IPA, with a team of 10 enumerators, administered a baseline survey to 511 households between April 29 and May 22, 2022, in the districts of Binga, Hwange, Lupane, and Nkayi. Tsholotsho district, while part of the activity, only has a few treated wards due to only these wards being part of the Gwayi sub-catchment area and was thus omitted from the baseline survey.

Table 1. Key findings from the baseline survey

Demographics and Poverty
511 households were interviewed, with an average size of 5.3 people.
The share of adults over 18 years was 48% in the targeted communities.
The share of children under 5 years was 16% in the targeted communities.
The share of women of reproductive age (15–49 years) was 20% in the targeted communities.

Demographics and Poverty
In the targeted communities, 84% of households lived on less than Purchasing Power Parity (PPP) \$1.90 per day and per adult.
WASH
25% of households report having access to a basic sanitation service.
64% of households report not using basic sanitation services.
Housing and Assets
65% of households have thatched roofs.
64% have an earth/sand floor.
Land, Agriculture, and Livestock
88% of households report owning land. ¹
93% of households cultivated at least one crop in the last 12 months and have an average of 16.32 acres of land.
88% of households report owning livestock.
Women’s and Children’s Nutrition
26% of women of reproductive age (18–49) reported having a diet of minimum diversity.
26% of children aged 6–23 months had a diet of minimum diversity.
8% of children 6–23 months had a minimum acceptable diet.
Access to Cash Resources
7% of women and 26% of men in union reported earning cash.
67% of women in unions report that their opinion is always heard in decisions about major purchases.
Household Food Access and Security
The mean food consumption score (FCS) was 40.40.
88% of households had moderate or severe food insecurity, based on the Food Insecurity Experience Scale (FIES).
Resilience
Households reported a mean ability to recover index of 3.27 (range of 2–6). ²
Households had a mean adaptive capacity of 40.48 (0–100). ³
Households had a mean transformative capacity index of 40.77 (0–100). ⁴
Collective Action and Government Support
35% of households reported that they had worked with others in their village to do something for the community’s benefiting.
51% of households report having a government or NGO program in their village.

¹ In these areas (communal lands), land ownership means that the local authority has given the respondent access rights. All land is held by the government, and local leaders can assign limited property rights (i.e., the ability to derive income from land) but cannot grant the right to sell the land.

² The Ability to Recover from Shocks and Stresses Index is an estimation of the ability of households to recover from the typical types of shocks and stressors that occur in the activity areas, such as loss of a family member, loss of income, hunger, drought, flood, conflict, or similar events. The Index is based on data regarding recovery from the shocks and stressors households experienced in the year before the survey and their perceived ability to meet food needs the following year.

³ The adaptive capacity index measures the ability of households to manage resources and make proactive and informed choices to better prepare for and adapt to future shocks. The Index is constructed from ten indicators and indices.

⁴ Transformative capacity involves system-level resources, governance, and institutions that comprise the enabling environment that promote or limit households’ capacity to respond to shocks and stressors. The index is constructed from fifteen indicators and indices.

1. BASELINE HOUSEHOLD SURVEY

1.1 Objective

The primary objectives of the baseline household survey are: (1) to gain a better understanding of prevailing conditions and perceptions of the study population, (2) to guide the criteria used in the Quasi-Experimental (QE) design, and (3) to improve the precision of our impact estimates. Innovations for Poverty Action (IPA) will conduct the midline survey 12 months after implementation of the activity begins to test differences between households in treatment and control areas. Then, IPA will administer an endline survey 36 months after completion of the baseline.

1.2 Questionnaire

IPA developed the baseline questionnaire in consultation with Cultivating New Frontiers in Agriculture (CNFA), the United States Agency for International Development (USAID) Bureau for Humanitarian Assistance (BHA), and Save the Children over the period September 2021 to January 2022. Multiple consultations took place to determine which BHA indicators were pertinent, and IPA only included indicators deemed relevant to inform activity implementation in the baseline survey. Anthropometric indicators were initially proposed but eventually left out to optimize budget resources.

The questionnaire included the following modules:

- Household roster and demographics
- Poverty and consumption
- Water, sanitation, and hygiene (WASH)
- Housing and assets ownership
- Land usage, crop cultivation, and agricultural practices
- Livestock holdings
- Women’s health, nutritional status, dietary diversity, and family planning
- Child nutrition
- Gender (cash-focused)
- Cash for assets
- Household food access and security
- Resilience
- Collective action and government support
- Women’s empowerment
- Income sources
- Financial health
- Savings and loans
- Perceived economic ladder
- Mental health
- Self-control

- Gender access to credit and group participation
- Family planning

Some of the more in-depth modules were administered to a subsample of households to reduce cost and respondent fatigue. The results subsections indicate the number of households that were administered specific modules. Not all modules' indicators are included in this report.

1.3 Sampling

CNFA originally targeted 87 communal wards⁵ in Binga, Hwange, Lupane, Nkayi, and Tsholotsho districts. At the time of writing, five additional wards were under consideration for being added to the activity. Of these original 87 wards, 45 were eventually chosen for the baseline survey, covering four districts (Binga, Hwange, Lupane, and Nkayi) of the activity. The wards were selected because they belong to CNFA's Phase II sample. These are areas that are downstream of Phase 1 wards. Activity implementation had already begun in the Phase 1 wards when the baseline survey was undertaken, while activities in the Phase 2 wards were set to occur within the following year.

The actual participating households were selected randomly using the random walk technique. In this case, the starting point was identified as a central location within the community, which could be a market, a church, a health facility, or the junction between two roads. After that, the following steps were taken to select the households to include in the baseline survey:

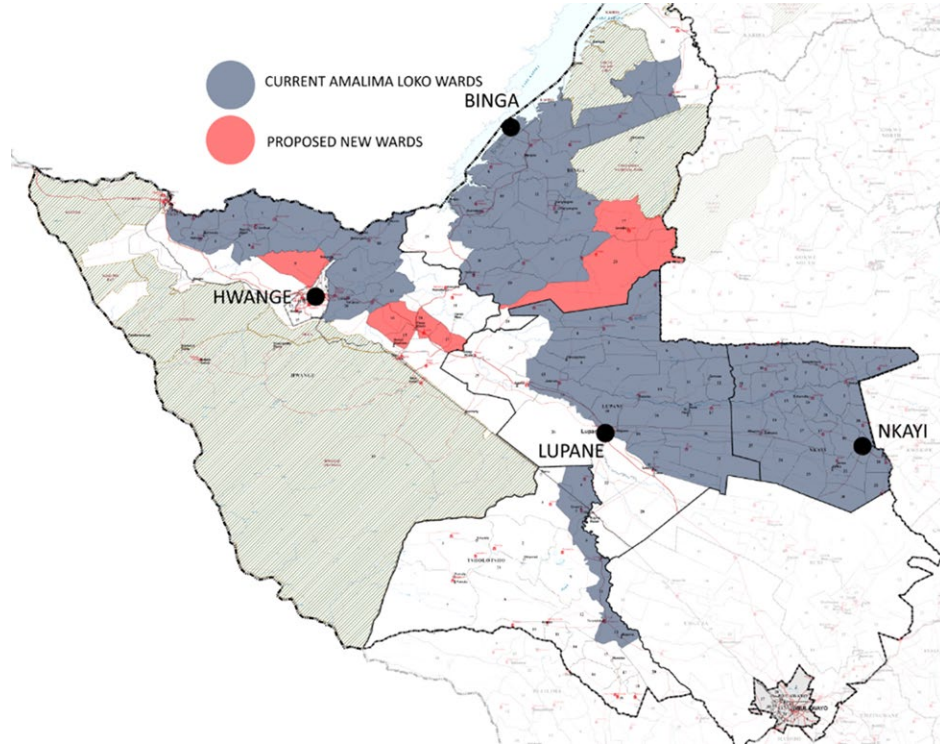
1. The household nearest to the starting point was the first to be included.
2. The field officer selected which direction to take by spinning a bottle or flipping a coin (for reference and a detailed plan, see the field manual in Annex C).
3. Following a road or path, the field worker identified the next households. The fieldworker followed paths connecting to the main road to try and reach out even to those houses away from the road (For reference and detailed plan, see the field manual in Annex C).
4. For densely populated villages, enumerators approach every eighth household; for sparser villages, they approach every fourth or fifth household.
5. The fieldworker stopped whenever they reached the target number of households for the village.

Training for the baseline ran from April 7 until April 15, 2022. The baseline survey was piloted from April 25–April 28, 2022. A total of 510 households were targeted out of 51 villages. To minimize the burden on respondents, we randomly selected 50% to complete the modules on women's health, nutritional status, dietary diversity, and family planning (Module E). We then independently sampled 50% to complete the gender (cash), resilience, and agriculture modules. In some cases, the number of respondents is less than half the total sample size because of other restrictions in the module. The smaller sample size overall (510) was intentionally chosen due to the QE research design, which is discussed in more depth in Section 1.4. In the context of this specific QE design, the baseline is not being used to compare treatment effects but rather to inform the QE choices made during the midline and endline surveys.

⁵ Communal wards are contrasted with the other ward types, urban, national parks, forest conservation areas, private safari concessions, commercial farming, mining areas, or contested lands).

Some indicators target respondents aged 15 and above, but IPA did not have Internal Review Board approval to survey people under 18; thus, our indicators are truncated to be from 18 and above. This is particularly relevant for indicators BL11, BL13, and BL32.

Figure 1. Amalima Loko wards



1.4 Field Activities

Field data collection started on April 29 for Amalima Loko and was completed on May 21, 2022. A total of 511 respondents of the targeted 510 surveys had been completed and uploaded by May 21, 2022. Of these, 211 cases (41%) had opened the Resilience module, while 254 had opened the Gender module. All districts met their allotted sample sizes. Nkayi and Binga had the largest sample sizes at 180 and 170, respectively, while Lupane had 131 households reached and Hwange 30.

Table 2. Sample overview

Province	District	# of Surveys
Matabeleland	Binga	170
	Hwange	30
	Lupane	131
	Nkayi	180

The average number of households surveyed per day decreased from 24.3 to 22.2 between the first and second weeks and the third and fourth weeks. This was primarily due to difficulties accessing households, particularly in the last 2 days in Lupane, which substantially lowered the mean.

Table 3. Enumerators' productivity

Productivity	
Start date in Washington, District of Columbia:	April 29, 2022
End day of field work:	May 22, 2022
Total enumerators	10
Number of days in the field:	23
Average per Day	
Average per day – Completed surveys	22.2
Average per day per enumerator – Completed surveys	2.2
Average per day per enumerator – Incomplete surveys (found but partially interviewed)	0

A total of 516 households were approached, and interviews were secured with 511 (99% response rate). Five surveys were incomplete due to respondents not being found. All 511 respondents gave informed consent to participate in the household survey and to record their homestead’s Global Positioning System (GPS) coordinates.

Surveys were administered on a tablet using SurveyCTO. Short audio recordings were collected only for quality control purposes. If respondents declined to be recorded, interviews were completed without recording. Five of the 511 respondents surveyed refused to give consent for audio recording.

1.5 Limitations and Challenges

Availability of respondents due to competing schedules: The harvesting season had started when survey fieldwork began, and the local chiefs had set a date when free-range grazing of livestock would start. As a result, farmers were frantically harvesting their crops to ensure they met the deadline, resulting in challenges in securing interviews. As a result, five households could not be found and had to be replaced.

2. RESULTS

The following sections describe baseline findings for several key indicators, focused on several traditional areas: (1) poverty, consumption, and asset indicators; (2) WASH; (3) child and female adult nutrition; (4) land, cultivation, and livestock; (5) nutrition and food security; and (6) collective action and government support. Where applicable, IPA collected data on a sub-sample of the overall sample size. These choices on sub-sample were made to reduce respondent fatigue and keep the overall survey budgets manageable. We have included additional details about the sub-sampling in each section below.

2.1 Household Demographics

Table 4. Household demographics

Description	Mean	Confidence Interval (CI) Lower	CI Upper	Number (N) Sampled
Female household head	40%	36%	44%	511
Household head age	52.73	51.35	54.11	511
Household head married or living together	73%	69%	77%	511
Household head level of education				
No formal schooling	11%	8%	14%	511
Some primary schooling	28%	24%	32%	511
Primary school completed	24%	21%	28%	511
Some secondary school	23%	19%	26%	511
Secondary school completed	13%	10%	15%	511
Household head occupation				
Farmer	46%	41%	50%	511
Unemployed	30%	26%	34%	511

Notes: Confidence intervals for binary indicators are based on Normal approximations; for very small samples and indicator values near 0 or 1, these confidence intervals can exceed 0 or 1, and in this table, confidence interval bounds are censored at 0 from below, and 1 from above.

2.2 Poverty Indicators

Three consumption-based indicators are used to assess the extent of poverty in the sample: (1) daily per capita consumption expenditures; (2) percentage of people living below \$1.90 per day, expressed at 2011 dollars inflated to 2022 levels and (3) the mean percentage shortfall of the poor relative to the \$1.90/day 2011 poverty line. The baseline indicates that the target communities are quite poor, with 84% of households falling below the poverty line of \$1.90.

Table 5. Poverty level

Description	Mean	CI Lower	CI Upper	N
[BL40] Consumption per capita per day, United States Dollar (USD)	1.29	1.17	1.40	511
Female and male adults	1.26	1.14	1.39	414
Adult female no adult male	1.26	1.04	1.47	88
[BL01] Prevalence of Poverty, less than \$1.90 per day	84%	81%	87%	511
Female and male adults	85%	81%	88%	414
Adult female no adult male	85%	78%	93%	88
[BL02] Depth of Poverty of the Poor: Mean percentage shortfall of the poor relative to the \$1.90/day	0.62	0.59	0.65	429
Female and male adults	0.65	0.62	0.69	350
Adult female no adult male	0.46	0.40	0.53	75

Notes: The \$1.90 threshold is inflated from 2011 to 2022 using the United States Consumer Price Index to match the year of the data collection. A PPP adjustment factor was not used, as the most recently available WB PPP deflator comes from 2018 before Zimbabwe instituted a new currency. The categories “Adult Male no Adult Female” and “Child no Adults” were omitted due to small sample sizes.

2.3 Water, Sanitation, and Hygiene

IPA collected household-level data on three WASH indicators: household access to a basic sanitation service, the type of toilet the household uses, and the main source of drinking water. Of 511 households, 327 (64%) reported using “No facility/bush/field.” Among the 184 households that do not use open defecation, 134 report using an improved sanitation service, including ventilated improved pit latrines and flushing to a septic or sewer system. The remaining 50 households do not practice open defecation but do not utilize an improved system. This group primarily includes “covered pit latrine with slab” (41 households).

Table 6. Water, sanitation, and hygiene

Description	Mean	CI Lower	CI Upper	N
[BL27] HH with access to a basic sanitation service	26%	22%	30%	511
Female and male adults	25%	21%	29%	414
Adult female no adult male	30%	20%	39%	88
[BL19] HH that do not use sanitation facilities	64%	60%	68%	511
Female and male adults	64%	60%	69%	414
Adult female no adult male	65%	55%	75%	88
Kind of toilet the household uses:				
No access	64%	60%	68%	511
Ventilated improved pit-latrine	22%	18%	26%	511
Covered pit-latrine with slab	8%	6%	10%	511

Description	Mean	CI Lower	CI Upper	N
Other	6%	4%	8%	511
Share toilet with other household	21%	15%	27%	184
Main source of drinking water:				
Tube well/borehole	42%	38%	47%	511
Surface water	19%	16%	23%	511
Unprotected well	15%	12%	18%	511
Protected well	11%	8%	14%	511
Public tap/standpipe	9%	6%	11%	511
Other	4%	2%	6%	511

Notes: "Share toilet with other household" was administered only to households with any kind of toilet.

2.4 Housing Quality

Most households in the targeted area live in traditional dwellings, predominantly with earthen or sand floors, thatched roofs, and mud walls. Commensurate with these findings, only 6% of households have access to electricity, and most of those with electricity get it from a home solar system.

Table 7. Housing quality

Description	Mean	CI Lower	CI Upper	N
Household's tenure status				
Owner/purchaser without title	50%	45%	54%	511
Owner/purchaser with title	42%	37%	46%	511
Tied accommodation	7%	4%	9%	511
Other	2%	1%	3%	511
Type of dwelling				
Traditional	67%	63%	71%	511
Mixed	25%	21%	29%	511
Detached	5%	3%	7%	511
Other	4%	2%	5%	511
Main material for floor				
Earth/sand	64%	60%	68%	511
Cement	32%	28%	36%	511
Other	4%	2%	6%	511
Main material for roof				
Thatch	65%	61%	69%	511
Metal/tin sheets	26%	22%	30%	511

Description	Mean	CI Lower	CI Upper	N
Asbestos	6%	4%	8%	511
Other	2%	1%	3%	511
Main material for walls				
Mud	58%	53%	62%	511
Bricks	24%	20%	28%	511
Cement	9%	7%	12%	511
Cement blocks	7%	5%	9%	511
Other	2%	1%	4%	511
Number of rooms in the household	2.78	2.66	2.91	511
Access to electricity	6%	4%	8%	511
Sources of electricity:				
Solar home system	60%	41%	79%	30
National grid	23%	7%	39%	30
Solar lantern/lighting system	17%	3%	31%	30

2.5 Assets

Most households report owning at least some land, which is consistent with the agricultural section, showing that over 90% of households cultivated some type of crop in the last year.

Table 8. Household assets

Description	Mean	CI Lower	CI Upper	N
Household owns:				
Land (arable, industrial, residential)	88%	85%	91%	511
Cellphone	83%	80%	86%	511
Plough	56%	52%	61%	511
Goat	51%	47%	55%	511
Solar panel	48%	43%	52%	511
Cattle	45%	40%	49%	511
Hoe	37%	33%	41%	511
Radio	29%	25%	33%	511
Bicycle	28%	24%	32%	511
Scotch cart/water cart	23%	20%	27%	511
Axe	23%	19%	26%	511
Donkey	22%	19%	26%	511

Description	Mean	CI Lower	CI Upper	N
Lounge suite	18%	15%	22%	511
Wheelbarrow	16%	13%	19%	511
Knapsack sprayer	15%	12%	18%	511
Satellite dish and components	12%	9%	15%	511
Harrow	9%	6%	11%	511
Television	6%	4%	8%	511
Other	5%	3%	7%	511

2.6 Land and Agriculture

Most households have land, and an even higher percentage (93%) report cultivating anything in the last 12 months. The dominant crops were maize and sorghum/millet, with a small number of groundnuts also cultivated. Notably, groundnuts are not listed as the most important crop for households.

2.6.1 Land and Crops

Table 9. Crops cultivated

Description	Mean	CI Lower	CI Upper	N
Households owns land, not including plot with home	90%	87%	92%	511
Total area of agricultural land (in acres)	16.32	0.00	1.00	459
Household cultivated anything in the last 12 months	93%	91%	95%	511
During the last rainy season, household cultivated				
Maize	77%	74%	81%	474
Sorghum/millet	67%	62%	71%	474
Groundnuts	23%	19%	26%	474
Bean	9%	6%	11%	474
Cowpeas	8%	6%	10%	474
Millet	7%	5%	10%	474
Sunflower	5%	3%	8%	474
Vegetables	4%	3%	6%	474
Soybeans	4%	2%	6%	474
Other	20%	17%	24%	474
Most important crop cultivated				
Maize	51%	47%	56%	474
Sorghum/millet	40%	35%	44%	474
Other	5%	3%	8%	474

Notes: Confidence intervals for binary indicators are based on Normal approximations; for very small samples and indicator values near 0 or 1, these confidence intervals can exceed 0 or 1, and in this table, confidence interval bounds are censored at 0 from below, and 1 from above.

2.6.2 Agricultural Finance and Techniques

IPA also asked a subset of 211 households questions about farmers' use of financial services. Additionally, IPA asked 175 households about improved management practices or technologies and 154 more households about improved management practices on livestock.

Table 10. Agriculture

Description	Mean	CI Lower	CI Upper	N
[BL29] Percent of farmers who used financial services (savings, agricultural credit, and/or agricultural insurance) in the past 12 months	21%	16%	27%	211
Agricultural credit	0.06	0.03	0.09	211
Save any cash	0.16	0.11	0.21	211
Total savings USD	126.33	75.95	176.72	34
Agricultural insurance	0.01	0	0.02	211
Female	21%	14%	28%	125
Male	22%	13%	31%	86
[BL21] Percentage of producers who have applied targeted improved management practices or technologies	95%	92%	99%	175
Female	95%	91%	99%	104
Male	96%	91%	100%	71
[BL21] Improved management practices/technologies on livestock	78%	71%	85%	154
Female	76%	67%	85%	88
Male	80%	70%	90%	66

Notes: This section was administered to a random subsample of farmers over 18 years of age.

2.7 Livestock Holdings

Most households in the sample area reported owning some livestock: 452 out of 511. While poultry and goats were the most represented, a still significant percentage (66% of households that owned livestock or 58% of all households) reported owning cattle.

Table 11. Livestock assets in the last 12 months

Description	Mean	CI Lower	CI Upper	N
Household owned livestock	88%	86%	91%	511
Household-owned [animals]:				
Poultry	90%	87%	92%	452

Description	Mean	CI Lower	CI Upper	N
Goats	73%	69%	77%	452
Cattle	66%	61%	70%	452
Donkey/mule	22%	18%	25%	452
Pigs	10%	8%	13%	452
Other	9%	6%	12%	452

2.8 Food Security

Food security is essential to well-being, and the United Nations Sustainable Development Goal (SDG) 2 calls for the elimination of hunger by 2030. Food diversity is also important to ensure sufficient intake of micro-nutrients that are key for the individual development of their full potential, particularly in the first years of life.

In terms of food insecurity at the household level, IPA computed two indicators, the Food Consumption Score (FCS) and the Food Insecurity Experience Scale (FIES).

2.8.1 Food Consumption Score

The FCS is a frequency-weighted diet diversity score, also referred to as a “food frequency indicator.” The FCS is calculated using the frequency of consumption (number of days) of eight food groups consumed by a household during the 7 days before the survey, weighted by the nutrient density of the food group.⁶

Table 12. Food Consumption Score

Description	Mean	CI Lower	CI Upper	N
[BL10] Food Consumption Score	40.40	38.59	42.20	511
[BL10] Poor Food Consumption Score (0–21)	21%	18%	25%	511
[BL10] Borderline Food Consumption Score (21.5–35)	26%	22%	29%	511
[BL10] Acceptable Food Consumption Score (> 35)	53%	49%	58%	511
Over the past 7 days, number of days household consumed				
Main staples	6.25	6.08	6.41	511
Sugar	3.32	3.04	3.59	511
Fruit	3.00	2.75	3.26	511
Meat and fish	2.79	2.55	3.03	511
Oil	2.67	2.40	2.94	511
Vegetables	2.31	2.06	2.55	511
Condiments	2.09	1.83	2.34	511

⁶ WFP, Vulnerability Analysis and Mapping Branch (ODAV). (2008). Food consumption analysis—Calculation and use of the food consumption score in food security analysis. Rome, Italy.

Description	Mean	CI Lower	CI Upper	N
Milk and dairy	1.51	1.30	1.72	511
Pulses	0.80	0.65	0.95	511

2.8.2 Food Insecurity

The Food and Agricultural Organization, in consultation with global food security actors, developed the FIES to help mark progress toward meeting SDG 2. SDG 2 commits countries to “end hunger, achieve food security and improved nutrition and promote sustainable agriculture” by 2030. The FIES helps actors understand the severity of food insecurity in a country’s population.

The FIES asks respondents directly about their experience of food insecurity through eight direct yes or no questions. These eight questions are reproduced in the annex.

Table 13 below shows the results of the FIES module. The FIES score ranges from 0 to 8. The households in the sample had a mean of 5.52, putting them at fairly high levels of food insecurity. 81% of households report having either moderate or severe food insecurity.

Table 13. Food Insecurity Experience Scale

Description	Mean	CI Lower	CI Upper	N
BL06: Prevalence of moderate and severe food insecurity in the household, based on the FIES	81%	65%	97%	511
Female and male adults	81%	65%	97%	350
Adult female no adult male	82%	65%	98%	75
Prevalence of severe food insecurity	52%	39%	65%	511
Female and male adults	51%	38%	63%	350
Adult female no adult male	59%	45%	72%	75
Raw FIES Score	5.52	5.28	5.75	511
During the last 12 months, because of a lack of money or resources, you or others in your household...				
Were unable to eat healthy and nutritious food	85%	82%	88%	511
Ate only a few kinds of foods	82%	79%	86%	511
Had to skip a meal	74%	70%	78%	511
Were worried you would not have enough food to eat	71%	67%	75%	511
Ate less than you thought you should	68%	63%	72%	511
Did not have food	64%	60%	69%	511
Were hungry but did not eat	59%	54%	63%	511
Went without eating for a whole day	49%	45%	53%	511

2.8.3 Dietary Diversity

IPA administered a section on dietary diversity to determine if households in the sample had sufficiently nutritious diets. This section mirrors the questions on dietary diversity targeted toward women of reproductive age and children.

Table 14. Dietary diversity

Description	Mean	CI Lower	CI Upper	N
Household Dietary Diversity Score (HDDS) (1–12)[1]	3.62	3.46	3.77	511
Food groups consumed yesterday by any member of the household...				
Cereals	68%	64%	72%	511
Oils and fats	62%	57%	66%	511
Other fruits	47%	42%	51%	511
Dark green leafy vegetables	40%	35%	44%	511
Other vegetables	36%	32%	40%	511
Milk and milk products	29%	25%	33%	511
Legumes, nuts, and seeds	23%	19%	27%	511
Vitamin A-rich fruits	16%	12%	19%	511
Flesh meats	15%	12%	18%	511
Rich vegetables and tubers	10%	8%	13%	511
Fish and seafood	10%	7%	12%	511
Eggs	9%	6%	11%	511
Eat anything OUTSIDE the home	8%	5%	10%	511
White roots and tubers	7%	4%	9%	511
Sweets	6%	4%	9%	511
Spices, condiments, beverages	6%	4%	8%	511
Organ meat	4%	2%	5%	511

Notes: HDDS is calculated by summing up consumption of 12 different food categories: vegetables (dark leafy greens, other vegetables or rich vegetables, and tubers), fruits (other fruits, vitamin-rich fruits), meat (flesh meats, fish, and seafood), cereals, tubers, eggs, fish, legumes, milk, oils, sweets, and spices.

2.9 Women and Children's Health and Nutrition

2.9.1 Women's Health and Diet

Women ages 18–49 years were asked whether they consumed at least five of 10 specific food groups during the previous day and night to evaluate the diversity of their consumption. As shown in Table 15, the share of women of reproductive age with a diet of minimum diversity was 26% in the targeted areas.

Table 15. Women’s health

Description	Mean	CI Lower	CI Upper	N
[BL11] Prevalence of women of reproductive age consuming a diet of minimum diversity	26%	19%	33%	148
Women of reproductive age < 19 years	---	---	---	5
Women of reproductive age +19 years	26%	19%	33%	143
Food groups consumed:				
Grains, white roots, tubers, plantains	85%	79%	91%	148
Dark green leafy vegetables	51%	43%	59%	148
Other fruits	49%	41%	57%	148
Other vitamin A-rich fruits and vegetables	42%	34%	50%	148
Pulses	31%	24%	39%	148
Meat, poultry, and fish	27%	20%	34%	148
Other vegetables	26%	19%	34%	148
Dairy	18%	12%	25%	148
Nuts and seeds	11%	6%	17%	148
Eggs	9%	4%	13%	148

Notes: This section was administered to a random subsample of women between 18 and 49 years of age.

2.9.2 Children’s Health and Diet

As with women of reproductive age, IPA asked for specific information about children’s diets. Two main indicators were calculated, the percentage of children aged 6–23 months receiving a Minimum Acceptable Diet (MAD) and minimum dietary diversity. The MAD measures the percentage of children 6–23 months who receive a minimum feeding frequency and minimum dietary diversity. IPA asked caregivers about the liquid and solid types of food consumed by these children in the day and night preceding the survey. The minimum dietary diversity indicator is calculated similarly to the indicator for women of reproductive age, this time calculated as the share of children who consumed 5 of 8 different food groups during the previous day and night.

In the targeted area, only 8% of children were deemed to have reached a MAD, while 25% had a diet of minimum diversity, which is comparable to that of reproductive-age women interviewed in the targeted area.

Table 16. Small children: diet and health

Description	Mean	CI Lower	CI Upper	N
[BL13] Prevalence of exclusive breastfeeding of children under 6 months	66%	48%	83%	32
[BL12] Percentage of children 6–23 months receiving a MAD	8%	2%	14%	84
Female	8%	0%	16%	39

Description	Mean	CI Lower	CI Upper	N
Male	9%	0%	18%	45
Minimum dietary diversity				
Breastfed	26%	15%	38%	61
Non-breastfed	---	---	---	23
Minimum meal frequency				
Breastfed	41%	28%	54%	61
Non-breastfed	---	---	---	23
[BL39] Prevalence of children 6–23 months consuming a diet of minimum diversity	25%	16%	34%	84
Female	28%	13%	43%	39
Male	22%	10%	35%	45
Foods group consumed:				
Breast milk	89%	83%	96%	84
Other fruits and vegetables	73%	63%	82%	84
Eggs	60%	49%	70%	84
Vitamin-A-rich fruits and vegetables	39%	29%	50%	84
Dairy products	32%	22%	42%	84
Grains, roots, and tubers	31%	21%	41%	84
Legumes and nuts	19%	10%	28%	84
Flesh foods	7%	2%	13%	84

2.9.3 Family Planning

IPA administered questions about family planning methods to all women of reproductive age currently in a union, totaling 111 women. The survey showed high levels of knowledge about contraceptive practices, but only 63% of the respondents reported making decisions about contraceptive usage in the past 12 months. A further sub-sample of respondents of reproductive age but not currently pregnant were asked about their current contraceptive use. 71% of these women reported currently using some sort of modern contraceptive.

Table 17. Family planning

Description	Mean	CI Lower	CI Upper	N
[BL36] Knowledge of modern family planning methods	95%	90%	99%	111
Knowledge of modern family planning methods score (1–13)	6.87	6.4	7.35	111
Modern family planning method:				
Contraceptive pill	96%	93%	100%	111
Male condom	90%	84%	96%	111

Description	Mean	CI Lower	CI Upper	N
Injectables	86%	80%	93%	111
Female condom	84%	77%	91%	111
Implants	69%	61%	78%	111
Standard days method	59%	49%	68%	111
Intrauterine device (IUD)	56%	46%	65%	111
Lactational Amenorrhea Method	48%	38%	57%	111
Female sterilization	41%	32%	51%	111
Emergency contraception	27%	19%	35%	111
Male sterilization	18%	11%	25%	111
Diaphragm with spermicidal foam, cream, or gel	7%	2%	12%	111
Other modern methods	5%	1%	10%	111
[BL37] Percentage of women in a union who made decisions about modern family planning methods in the past 12 months	63%	54%	72%	111
Partner used modern contraceptive method in past 12 months	76%	68%	84%	111
Usually makes the decision whether or not to use contraceptive methods:				
Respondent	44%	33%	55%	84
Respondent jointly with husband/partner	39%	29%	50%	84
Husband/partner	17%	9%	25%	84
Non-pregnant women	95%	90%	99%	111
[BL20] Contraceptive prevalence rate	71%	63%	80%	105
Women using any method to delay or avoid getting pregnant	71%	63%	80%	105
Method used:				
Contraceptive pill	41%	30%	53%	75
Injectables	27%	16%	37%	75
Implants	21%	12%	31%	75
Other	11%	4%	18%	75

Notes: This section was administered to each woman in union aged 18 to 49 years. The indicator [BL20] Contraceptive Prevalence Rate was administered to non-pregnant women.

2.10 Gender

Questions about cash earnings and decisions about cash spending were administered to both male and female adults in the responding households. A total of 445 women were asked about cash decisions, while 401 men were also asked. A total of 333 married women were then interviewed about household purchasing decisions, with a majority (67%) reporting that the wife's opinion is always heard when deciding what to buy.

Table 18. Women empowerment

Description	Mean	CI Lower	CI Upper	N
[BL32] Percentage of women and men in a union who earned cash in the past 12 months	16%	13%	18%	846
Female	7%	4%	9%	445
18–29 years old	9%	4%	14%	128
30–49 years old	6%	2%	9%	194
> 49 years old	7%	2%	11%	123
Male	26%	22%	30%	401
18–29 years old	23%	13%	34%	64
30–49 years old	40%	32%	47%	163
> 49 years old	14%	9%	19%	174
When the household makes a major purchase, the wife's opinion is heard in deciding what to buy				
Never	3%	1%	5%	333
Very rarely	1%	0%	2%	333
Rarely	4%	2%	6%	333
Yes, sometimes	14%	10%	18%	333
Yes, usually	10%	6%	13%	333
Yes, always	67%	62%	72%	333
Wife has to ask other household members for permission to buy clothes for her				
No	47%	41%	52%	333
Yes	51%	45%	56%	333
Have never bought	2%	1%	4%	333
Wife is allowed to buy things in the market without asking permission:				
Never	7%	4%	10%	333
Very rarely	11%	7%	14%	333
Rarely	3%	1%	5%	333
Yes, sometimes	13%	9%	17%	333
Yes, usually	9%	6%	12%	333
Yes, always	51%	45%	56%	333
Wife is allowed to visit women from other villages to talk to them without asking permission:				
Never	10%	7%	13%	333
Yes, but never alone	7%	4%	10%	333
Yes, alone, with permission	46%	41%	52%	333
Yes, alone, do not need permission	33%	28%	38%	333

Notes: This section was administered to each married woman over 18 years of age. Confidence intervals for binary indicators are based on Normal approximations; for very small samples and indicator values near 0 or 1, these confidence intervals can exceed 0 or 1, and in this table, confidence interval bounds are censored at 0 from below and 1 from above.

2.11 Resilience and Mental Health

The resilience module of the baseline survey focuses on households' ability to recover from shocks. The ability to recover index is the combination of two questions about the households' ability to recover from last year's shocks and expectations about their recovery from next year's shocks:

- “To what extent has your ability to meet food needs returned to the level it was before the shocks and stressors you experienced in the last 12 months?” with possible responses and weighted values:
 - Ability to meet food needs is the same as before the shocks (= value of 2)
 - Ability to meet food needs is better than before the shocks (= value of 3)
 - Ability to meet food needs is worse than before the shocks (= value of 1)
- “In light of the shocks you faced in the last 12 months, to what extent do you believe you will be able to meet your food needs in the next year?” with possible responses and weighted values:
 - Ability to meet food needs will be the same as before the shocks (= value of 2)
 - Ability to meet food needs will be better than before the shocks (= value of 3)
 - Ability to meet food needs will be worse than before the shocks (= value of 1)

The aggregate index ranges from 2 to 6, with 6 indicating a high level of resilience. The respondents reported an average of 3.27, implying that their aggregate ability to respond to shocks is slightly worse than it was before the shock occurred. Additionally, IPA collected data on the:

1. Adaptive capacity index, the ability of households to plan for future shocks;
2. Absorptive capacity index, which captures the ability to plan for shocks that affect well-being outcomes; and
3. Transformative capacity index, which captures system-level capacities to respond to shocks.

Finally, the resilience module also asked all households if they engage in savings groups or micro-finance programs, with a yes rate of only 3%.

Table 19. Resilience

Description	Mean	CI Lower	CI Upper	N
[BL23] Ability to recover index (2–6)	3.27	3.07	3.47	207
Female and male adults	3.23	3.01	3.45	173
Adult female no adult male	3.43	2.91	3.96	30
[BL24] Household that believes local government will respond effectively to future shock	60%	54%	67%	211
Female and male adults	63%	56%	70%	175
Adult female no adult male	47%	29%	65%	32
[BL31] Household participates in group-based savings, micro-finance, or lending programs	3%	1%	4%	511

Description	Mean	CI Lower	CI Upper	N
Female and male adults	3%	1%	5%	414
Adult female no adult male	1%	0%	3%	88
[BL08] Adaptive capacity index (0–100)	32.74	29.38	36.10	112
[BL09] Absorptive capacity index (0–100)	40.48	36.55	44.41	160
[BL25] Transformative capacity index (0–100)	40.77	37.87	43.67	160
[BL38] Index of social capital (0–6)	2.18	2.00	2.37	211
Index for bridging social capital (0–6)	2.01	1.81	2.21	211
Bonding Social Capital Index (0–6)	2.36	2.16	2.57	211

Notes: This section was administered to a random subsample of respondents.

IPA asked a series of questions about generalized mental health. The Kessler Psychological Distress Scale (K6) is a series of six questions with five values, ranging from “none of the time” (0) to “all of the time” (4). It is used as a quick assessment of physiological distress. The baseline results show a reasonable level of the K6 scale, but a high percentage of respondents reported feeling that “everything was difficult” all the time. Similarly, most respondents reported having a period in the last 30 days when they felt worried, tense, or anxious. Unsurprisingly, respondents reported that their major concern is food shortage.

Table 20. Mental health in the last 12 months

Description	Mean	CI Lower	CI Upper	N
Kessler 6 (0–24)	8.45	7.87	9.02	511
Respondent felt ... all or most of the time				
That everything was difficult	37%	33%	41%	511
Restless or fidgety	25%	21%	29%	511
So depressed that nothing could cheer you up	23%	19%	26%	511
Worthless	23%	19%	26%	511
Hopeless	23%	19%	26%	511
Nervous	17%	14%	20%	511
Had a period lasting 30 days or longer when felt worried, tense, or anxious most of the time	57%	52%	61%	511
Ended	18%	14%	22%	289
Still going on	62%	57%	68%	289
Still going on, but reduced	20%	15%	24%	289
These worries interfered with their ability to carry out normal activities				
A lot	65%	60%	71%	289
Some	10%	7%	14%	289
A little	17%	12%	21%	289
Not at all	8%	5%	11%	289

Description	Mean	CI Lower	CI Upper	N
Issues that sometimes are reasons for concern:				
Food shortage	48%	44%	52%	511
Health	29%	25%	33%	511
Living situation	24%	21%	28%	511
Children's education	23%	19%	26%	511
Financial constraints	19%	15%	22%	511
Nothing	17%	13%	20%	511
Clothing	11%	9%	14%	511
Domestic issues	9%	7%	12%	511
Employment	9%	6%	11%	511
Other	10%	7%	12%	511

2.12 Savings and Loans

IPA administered modules on savings and loans of all 511 households in the sample communities. This section covers loans not associated with village savings and loans or group-based savings but rather interactions with more formal lending institutions.

The module on savings shows a low rate of savings among households, with only 35% of households reporting keeping any savings in the past month, and of those that save, only a small percentage stored money outside the home, either with a financial institution or trusted individual.

Table 21. Savings

Description	Mean	CI Lower	CI Upper	N
Has kept any savings in the past 6 months				
No savings	65%	60%	69%	511
In your pocket/clothes/bag that you carry	13%	10%	15%	511
A secret place in your home	11%	9%	14%	511
Village Savings and Loans Association	9%	6%	11%	511
Box in the household	5%	3%	6%	511
Savings groups, including Savings and Credit Cooperative Organization, unions	3%	1%	4%	511
Mobile money	3%	1%	4%	511
With family members outside the household	1%	0%	2%	511
Commercial bank	1%	0%	2%	511
With a friend	0%	0%	1%	511
With a shopkeeper	0%	0%	1%	511
With a neighbor	0%	0%	0%	511

Notes: Confidence intervals for binary indicators are based on Normal approximations; for very small samples and indicator values near 0 or 1, these confidence intervals can exceed 0 or 1, and in this table, confidence interval bounds are censored at 0 from below, and 1 from above.

Similarly to savings, IPA found that only a small percentage of households reported getting a loan (4%). Among those that had loans in the past 12 months, the average amount was around \$49.

Table 22. Loans

Description	Mean	CI Lower	CI Upper	N
In the last 12 months, obtained loans from:				
Microfinance institution	2%	1%	3%	511
Savings and Credit Cooperative Organization	1%	0%	2%	511
Banks	0%	0%	1%	511
None	96%	95%	98%	511
Total loan (USD)	49.20	24.00	74.40	19
Household members regularly save cash	24%	20%	27%	503

Notes: Confidence intervals for binary indicators are based on Normal approximations; for very small samples and indicator values near 0 or 1, these confidence intervals can exceed 0 or 1, and in this table, confidence interval bounds are censored at 0 from below, and 1 from above.

2.13 Collective Action and Government Support

As part of the resilience module in the baseline survey, a random sub-sample of households was asked questions relating to collective action, i.e., the experiences they have had of community members working together to solve a local problem.

One of the main components of the Amalima Loko activity combines community visioning with greater local control of resources, and in particular, improvement and care of watershed resources. 35% of respondents report having engaged in a community project to improve their village.

Table 23. Collective action

Description	Mean	CI Lower	CI Upper	N
Household that has worked with others in their village to do something for the benefit of the community	35%	28%	41%	211
Activities:				
Repaired/built schools	29%	18%	39%	73
Repaired/built health posts or centers	18%	9%	27%	73
Improved community access to drinking water	15%	7%	23%	73
Area enclosure, sow grasses, manage pasture	11%	4%	18%	73
Road maintenance/construction	8%	2%	15%	73
Repaired/built communal irrigation system	7%	1%	13%	73
Formed a cooperative	5%	0%	11%	73

Description	Mean	CI Lower	CI Upper	N
Soil conservation	5%	0%	11%	73
Water harvesting at the household level	3%	0%	7%	73
Planted trees on communal land	1%	0%	4%	73
Flood diversion activities	1%	0%	4%	73
Other (specify)	15%	7%	23%	73

Notes: Soil conservation includes: terracing, bunds, half-moons, and gabions. This section was administered to a random subsample of respondents. Confidence intervals for binary indicators are based on Normal approximations; for very small samples and indicator values near 0 or 1, these confidence intervals can exceed 0 or 1, and in this table, confidence interval bounds are censored at 0 from below and 1 from above.

As part of the resilience module in the baseline survey, a random subsample of households was asked about access to government or non-governmental organization (NGO) programs in their village. Approximately half of the 211 households interviewed said a government or NGO program existed in their village.

Table 24. Government support

Description	Mean	CI Lower	CI Upper	N
Any government or NGO programs in the village	51%	44%	58%	211
Types of programming:				
Food/cash transfers	59%	49%	68%	107
Agricultural inputs (seeds, fertilizer)	38%	29%	48%	107
Educational assistance	25%	17%	34%	107
Livestock inputs (feed, fodder, medicine)	7%	2%	11%	107
WASH	6%	1%	10%	107
Child malnutrition/infant feeding	2%	0%	4%	107
Disaster planning/response	1%	0%	3%	107
Other (specify)	3%	0%	6%	107
HH received any government or NGO assistance	50%	43%	57%	211
Type of assistance:				
Food/cash transfers	77%	69%	85%	105
Agricultural inputs (seeds, fertilizer)	30%	21%	38%	105
Educational assistance	10%	4%	15%	105
Livestock inputs (feed, fodder, medicine)	2%	0%	5%	105
There is an emergency plan for livestock off-take if a drought hits	5%	2%	8%	211
There is an active Peace Committee in the village	46%	39%	53%	211
There is an active Area Land Committee in the village	37%	30%	44%	211

Description	Mean	CI Lower	CI Upper	N
The village has a security or police force	66%	60%	73%	211
Nearest security/police force:				
Community members	81%	74%	87%	140
National government	9%	4%	14%	140
District government	5%	1%	9%	140
Local militia	1%	0%	3%	140
Sub county government	1%	0%	2%	140
Other	3%	0%	6%	140
Distance to the nearest police station				
Over one hour	53%	45%	62%	135
About one hour	24%	16%	31%	135
Half an hour	16%	10%	23%	135
Minutes	7%	2%	11%	135

Notes: This section was administered to a random subsample of respondents. Confidence intervals for binary indicators are based on Normal approximations; for very small samples and indicator values near 0 or 1, these confidence intervals can exceed 0 or 1, and in this table, confidence interval bounds are censored at 0 from below and 1 from above. Security or police forces include both formal (with a police station) and informal (i.e., local community members).

3. NEXT STEPS

3.1 Preparation for Outcome Monitoring Survey

A midline survey will take place 1 year after the baseline survey. The midline survey aims to interview 2,250 households evenly split between treated and untreated areas. Currently, Amalima Loko is being implemented in 87 of the 125 wards that comprise the five activity area districts. CNFA proposes expanding into five more adjacent wards, bringing the total of treated wards to 92, potentially leaving 33 comparison wards. However, most of these wards are not communal wards, and among the untreated communal wards, most are located in the Tsholotsho district, which has received less attention due to only a few wards being part of the Gwayi sub-catchment. IPA is currently determining the suitability of locating control wards outside the Gwayi catchment area.

An endline survey will be conducted 2 years after the midline survey (3 years after the baseline). The midline survey will catalog a sufficiently exhaustive breadth of variables to allow for robust propensity score matching between treatment and control households. This information will be used to refine the sample in the endline: of the 2,250 randomly selected households at the midline, 1,500 high-propensity households will be re-interviewed at endline. In the next section, we will explain how this propensity score methodology works and how it will be applied here.

3.2 Devise Criteria for Propensity Score Matching

IPA will use propensity score matching to compare outcomes measured at follow-up surveys between households in the intervention areas to those in the comparison areas. The matching approach compares the difference in weighted average outcomes at the endline between treated and untreated households. The weights flexibly control for pre-intervention observables captured during the baseline survey. In the first stage, IPA will estimate the propensity to select for the intervention, modeling the selection as $D_i = \gamma X_i + \mu_i$ for household i in intervention areas (only), where D_i is an indicator of intervention participation, X_i is a vector of pre-intervention household characteristics (collected at baseline) that predicts intervention participation. In the second step, IPA will predict D_i in the intervention and comparison areas—this prediction is the propensity score. Lastly, IPA will match intervention area households to comparison area households on the propensity score (potentially after first enforcing common support conditions).

ANNEX A: ADDITIONAL TABLES

Table 25. Improved management practices and technologies for crop

Description	Mean	CI Lower	CI Upper	N
[BL21] Applied targeted improved management practices or technologies on crops (A, B, or C below)	95%	92%	99%	175
A. Has applied any improved management practices	91%	87%	95%	175
Type of improved management practices or technology used:				
Cultural practices ⁷	85%	79%	90%	175
Crop genetics	21%	15%	27%	175
Irrigation	8%	4%	12%	175
Agriculture water management—non-irrigation-based	6%	2%	9%	175
Pest and disease management	6%	2%	9%	175
Natural resource or ecosystem management	4%	1%	7%	175
Post-harvest handling and storage	3%	0%	5%	175
Soil-related fertility and conservation	3%	0%	5%	175
Livestock management	2%	0%	4%	175
Climate mitigation	2%	0%	4%	175
Climate adaptation/climate risk management	1%	0%	2%	175
Marketing and distribution	1%	0%	2%	175
Value-added processing	1%	0%	2%	175
Other	1%	0%	2%	175
None	20%	14%	26%	175
B. Has applied any improved storage practices	45%	47%	62%	175
Type of improved storage practices used:				
Sealed/air-tight bags	41%	34%	49%	175
Post-harvest practices that reduce pre-storage losses	15%	10%	20%	175
Locally made storage structures	11%	7%	16%	175
Grain treatment with agro-chemicals	6%	2%	9%	175
Community storage facilities	5%	1%	8%	175
Seed or grain treatment techniques	5%	1%	8%	175
None	55%	47%	62%	175
C. Has applied any natural resource management practices	43%	36%	51%	175
Type of natural resource management practices used:				

⁷ Cultural practices in this study refers to crop rotation, intercropping, mulching, and weeding.

Description	Mean	CI Lower	CI Upper	N
Area enclosure	27%	20%	33%	175
Land conservation, restoration, and protection	12%	7%	17%	175
Agriculture on-farm practices	12%	7%	17%	175
Water extraction technologies	9%	4%	13%	175
Flood diversion	3%	1%	6%	175
Water harvesting at the household-level	2%	0%	5%	175
Planting trees	1%	0%	3%	175
Improving access to drinking water	1%	0%	3%	175
Other	1%	0%	2%	175
None	57%	49%	64%	175

Notes: This section was administered to a random subsample of farmers over 18 years of age. Confidence intervals for binary indicators are based on Normal approximations; for very small samples and indicator values near 0 or 1, these confidence intervals can exceed 0 or 1, and in this table, confidence interval bounds are censored at 0 from below and 1 from above.

Table 26. Improved management practices and technologies for livestock

Description	Mean	CI Lower	CI Upper	N
[BL21] Improved management practices/technologies on livestock (A or B below)	78%	71%	85%	154
A. Has applied any practices when caring for the livestock	66%	58%	73%	154
Type of livestock practices used:				
Vaccinations	47%	39%	55%	154
Castration	21%	15%	28%	154
Homemade animal feeds made of locally available products	21%	14%	27%	154
Deworming	18%	11%	24%	154
Dehorning	14%	9%	20%	154
Services of community animal health workers/para-vets	8%	4%	13%	154
Services of a government animal health extension worker	8%	4%	12%	154
Improved shelters	5%	2%	9%	154
Pen feeding	4%	1%	7%	154
Services of community animal health extension worker	3%	0%	5%	154
Fodder production, veld reinforcement with legumes	3%	0%	5%	154
Periodic replacement of male breeding stock	2%	0%	4%	154
Animal feed supplied by stock feed manufacturer	1%	0%	3%	154
None	34%	27%	42%	154

Description	Mean	CI Lower	CI Upper	N
B. Has applied any natural resource management practices	44%	36%	52%	154
Type of natural resource management practices used:				
Area enclosure	27%	20%	34%	154
Agriculture on-farm practices	15%	9%	21%	154
Land conservation, restoration, and protection	14%	8%	19%	154
Water extraction technologies	10%	5%	14%	154
Flood diversion	4%	1%	7%	154
Water harvesting at the household-level	3%	0%	6%	154
Planting trees	2%	0%	4%	154
Improving access to drinking water	1%	0%	2%	154
Other	1%	0%	2%	154
None	56%	48%	64%	154

Notes: This section was administered to a random subsample of farmers over 18 years of age. Confidence intervals for binary indicators are based on Normal approximations; for very small samples and indicator values near 0 or 1, these confidence intervals can exceed 0 or 1, and in this table, confidence interval bounds are censored at 0 from below and 1 from above.

FIES index questions:

“During the last 12 months, was there a time when...”

1. You were worried you would not have enough food to eat because of a lack of money or other resources?
2. Were you unable to eat healthy and nutritious food because of a lack of money or other resources?
3. You ate only a few kinds of foods because of a lack of money or other resources?
4. You had to skip a meal because there was not enough money or other resources to get food?
5. You ate less than you thought you should because of a lack of money or other resources?
6. Your household ran out of food because of a lack of money or other resources?
7. You were hungry but did not eat because there was not enough money or other resources for food?
8. You went without eating for a whole day because of a lack of money or other resources?

Table 27. Activity wards in the Hwange district

Ward no.	Ward name	Population	Households	Covered by AL
2	Chidobe	4,153	1,012	Covered
3	Kachecheti	4,018	959	Covered
4	Nemananga	3,278	742	Covered
5	Chikandakubi	2,025	494	Covered

Ward no.	Ward name	Population	Households	Covered by AL
6	Mbizha	2,864	706	Covered
7	Jambezi	3,514	818	Covered
8	Sidinda	1,681	412	Covered
9	Mashala	1,498	373	Proposal additional
10	Simangani	4,474	1,083	Covered
12	Nekabandama	2,141	496	Covered
13	Nekatambe	593	128	Covered
14	Makwandara	3,825	826	Proposal additional
15	Silewu	4,016	895	Proposal additional
16	Lupote	3,454	723	Proposal additional
17	Mabale	3,142	677	Proposal additional
20	Change	4,959	1,139	Covered
	Total	49,635	11,483	
	Non-communal wards			
1	Matetsi	4,105	914	Not covered
11	Kamative	2,954	723	Not covered
18	Dete	3,315	1,121	Not covered
19	Chinamatila	828	293	Not covered
	Total	11,202	3,051	

Table 28. Activity wards in the Lupane district

Ward no.	Ward name	Population	Households	Covered by AL
1	Dongamuzi	2,747	537	Covered
2	Matshokotsha	1,845	393	Covered
3	Dandanda	4,550	892	Covered
4	Mzola East	2,433	472	Covered
5	Sibombo	4,400	824	Covered
6	Lusulu	2,931	508	Covered
7	Ndimimbili	2,001	357	Covered
8	Sobendle	3,813	703	Covered
9	Tshongokwe	2,791	536	Covered
10	Lupaka	5,171	894	Covered
11	Pupu	4,854	838	Covered

Ward no.	Ward name	Population	Households	Covered by AL
12	Gomoza	3,888	743	Covered
13	Jotsholo	4,103	872	Covered
14	Menyezwa	3,217	643	Covered
15	Matshiya	5,798	1,380	Covered
16	St Paul's	3,978	738	Covered
17	Malunku	3,976	694	Covered
18	Gwamba	3,041	606	Covered
19	Daluka	4,195	798	Covered
20	Jibajiba	3,846	721	Covered
21	St Paul's	4,574	824	Covered
23	Mbembesi	3,310	659	Covered
27	Mzola West	3,906	728	Covered
	Total	85,368	16,360	Covered
	Non-communal wards			
22	Lupanda (East and West)	7,092	1,440	Not covered
24	Kana Block	1,207	264	Not covered
25	Gwayi	1,365	347	Not covered
26	Sotani	870	179	Not covered
28	Lupanda (SSCFA)	1,330	255	Not covered
	Total	11,864	2,485	

Table 29. Activity wards in the Binga district

Ward no.	Ward name	Population	Households	Covered by AL
1	Luunga	3,098	762	not covered
2	Nabusenga	4,704	1,174	Covered
3	Nagangala, sinampande	4,736	1,256	Covered
4	Sinansengwe	3,180	849	Covered
5	Sinakoma	4,199	1,047	Covered
6	Sikalenge	4,843	1,252	Covered
7	Manjolo	4,737	1,217	Covered
8	Simatelele	3,812	1,005	Covered
9	Sianzyundu	5,360	1,441	Covered
10	Siachilaba	3,720	969	Covered

Ward no.	Ward name	Population	Households	Covered by AL
11	Lubu	3,383	871	Covered
12	Muchesu	3,237	753	Covered
13	Saba	4,006	1,005	Covered
14	Dobola	7,740	1,709	Covered
15	Kariangwe	3,265	772	Covered
16	Chinonge	9,229	2,077	Covered
17	Kabuba	9,950	2,111	Proposed additional
18	Tinde	5,182	1,125	Covered
19	Pashu	5,156	1,075	Covered
20	Lubimbi	4,232	833	Not covered
21	Sinamagonde	17,775	3,338	Proposed additional
22	Tyunga	2,517	634	Not covered
23	Kalungwizi	6,920	1,522	Not covered
24	Kaani	5,204	1,411	Covered
25	Lubanda	3,837	867	Not covered
	Total	134,022	31,075	

Table 30. Activity wards in the Nyaki district

Ward no.	Ward name	Population	Households	Covered by AL
1	Manguni I	4,813	949	Covered
2	Manguni li	4,116	771	Covered
3	Ngomambi Central	3,578	739	Covered
4	Ngomambi North	3,116	641	Covered
5	Ngomambi South	6,200	1,208	Covered
6	Sibangalwana li	4,575	893	Covered
7	Sibangelana I	3,627	721	Covered
8	Jojo West	3,982	719	Covered
9	Jojo East	2,370	418	Covered
10	Jojo South	3,212	582	Covered
11	Sivalo	2,632	489	Covered
12	Sikhobokho	3,961	759	Covered
13	Malandu West	4,211	807	Covered
14	Malandu East	3,278	595	Covered

Ward no.	Ward name	Population	Households	Covered by AL
15	Faroni	1,920	349	Covered
16	Phillip	3,597	736	Covered
17	Manomano	2,697	532	Covered
18	Fanisoni	2,937	545	Covered
19	Malindi	3,703	762	Covered
20	Nkalakatha	3,233	679	Covered
21	Nhlanganiso	3,427	705	Covered
22	Mpande	5,637	1,161	Covered
23	Mlume 2	2,712	573	Covered
24	Mlume 1	4,399	837	Covered
25	Siphunyuka	4,147	766	Covered
26	Sikobokobo East	2,883	517	Covered
29	Malindi East	4,861	1,220	Covered
30	Gwampa	2,261	428	Covered
	Total	107,613	21,112	

Table 31. Activity wards in the Tsholotsho district

Ward no.	Ward name	Population	Households	Covered by AL
1	Sodaka, Samahuru	3,583	734	Not covered
2	Dlamini	4,736	958	Not covered
3	Kapane, Mlevu	5,284	1,018	Not covered
4	Dibutibu	2,817	558	Covered
5	Siphepha	5,118	1,108	Covered
6	Jimila, Tshino	7,272	1,508	Covered
7	Pumula	4,112	801	Not covered
8	Mbiriya, Tshitatshawa	8,839	1,707	Not covered
9	Jowa, Phondo, Mpanedziba	6,525	1,270	Not covered
10	Sikente, Maphane	3,536	711	Not covered
11	Nanda	3,809	771	Not covered
12	Manqe	6,899	441	Not covered
13	Magama	6,049	1,380	Covered
14	Makhaza	3,712	769	Not covered
15	Mbamba	7,790	1,637	Not covered
16	Nshaba	5,497	1,197	Not covered

Ward no.	Ward name	Population	Households	Covered by AL
17	Bubude	4,444	938	Not covered
18	Nkunzi	4,645	945	Not covered
19	Chefunye	5,500	1,191	Not covered
21	Tshibizina	2,223	432	Not covered
22	Mbambangamandla, Nembe	7,624	1,851	Covered
	Total	110,014	21,925	