FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Feed the Future Zambia 2015

Zone of Influence Interim Assessment Report

May 2016

USAID
FROM THE AMERICAN PEOPLE

Prepared for the United States Agency for International Development, USAID Contract Number GS-23F-8144H/AID-OAA-M-12-00006, Feed the Future FEEDBACK

Recommended Citation:
Feed the Future FEEDBACK. 2016. Feed the Future Zambia 2015 Zone of Influence Interim Assessment Report. Rockville, MD: Westat.

USAID Bureau for Food Security Contact:
bfs.mel@usaid.gov

Westat Contact:
Detra Robinson, MA, PMP, Chief of Party
1600 Research Boulevard
Rockville, MD 20850
Tel: (301) 738-3653
Email: detrarobinson@westat.com

Table of Contents

List of Acronyms vii
Executive Summary ix
Background ix
Interim Assessment Indicators ix
Interim Assessment Data Sources x
Summary of Key Findings x
1. Background 1
1.1 Feed the Future Overview 1
Feed the Future Objective and Strategies in Zambia 1
1.2 Feed the Future ZOI Profile 2
1.2.1 Rationale for ZOI Selection 3
1.2.2 Demography of the ZOI 4
1.2.3 Agriculture in the ZOI 6
1.3 Purpose of This Report 7
2. Methodologies for Obtaining Interim Values for Feed the Future Indicators 8
2.1 Data Sources 8
2.1.1 Primary Data: The ZOI Interim Survey in Zambia 9
2.1.2 Secondary Data 14
2.1.3 Comparability of Data Sources Used for the ZOI Interim Assessment 14
2.2 Measures and Reporting Conventions Used Throughout This Report 15
2.2.1 Standard Disaggregates 15
2.2.2 Reporting Conventions 17
3. ZOI Interim Survey Population 19
3.1 Demographics 19
3.2 Living Conditions 21
3.3 Education 23
4. Household Economic Status 27
4.1 Daily Per Capita Expenditure 27
4.2 Prevalence and Depth of Poverty in the ZOI 29
4.2.1 The $1.25 Poverty Threshold 30
4.2.2 The National Poverty and Extreme Poverty Thresholds 32
5. Women's Empowerment in Agriculture 36
5.1 Overview 36
5.2 Production 38
5.3 Productive Resources 41
5.4 Leadership in the Community 44
5.5 Time Use 46

Table of Contents (continued)

6. Hunger and Dietary Intake 48
6.1 Household Hunger 48
6.2 Dietary Intake 49
6.2.1 Dietary Diversity Among Women Age 15-49 Years 49
6.2.2 Infant and Young Child Feeding 54
6.2.3 Women's Knowledge, Cultivation, and Consumption of OFSP and Orange Maize 58
6.2.4 Consumption of Targeted Nutrient-Rich Value Chain Commodities 61
7. Nutritional Status of Women and Children 69
7.1 Body Mass Index of Women Age 15-49 Years 69
7.2 Stunting, Wasting, and Underweight Among Children Under 5 Years 70
7.2.1 Stunting (Height-for-Age) 71
7.2.2 Wasting (Weight-for-Height) 73
7.2.3 Underweight (Weight-for-Age) 75
8. Summary and Conclusions 77
8.1 Summary of Key Findings 77
8.1.1 Household Economic Status 77
8.1.2 WEAI Indicators 78
8.1.3 Hunger and Dietary Intake 78
8.1.4 Nutritional Status of Women and Children 79
8.2 Conclusions 79
References 81

List of Appendixes

Appendix 1. Supplementary Data and Figures 84
A1.1 Interim Feed the Future Indicator Estimates 84
A1.2 Interim Feed the Future Indicator Estimates by District 86
Appendix 2. Methodology 91
A2.1 Sampling and Weighting 91
A2.2 Poverty Prevalence and Expenditure Methods 92
Price Adjustments and Conversions 94
Weights 95
National Poverty Thresholds 95
International Poverty Threshold of $1.90 2011 PPP 96
A2.3 Criteria for Achieving Adequacy for Women's Empowerment in Agriculture Indicators 98

List of Tables

Feed the Future ZOI indicator estimates: Zambia xiv
Table 1.1. Population of individuals, by category, in the ZOI, Zambia 2015 5
Table 1.2. Number of households, by category, in the ZOI, Zambia 2015 6
Table 2.1. Data sources and dates of the baseline and interim Feed the Future indicators 8
Table 2.2. Sample size estimate for the key indicators and exclusive breastfeeding 10
Table 2.3. Results of the household and individual interviews for the ZOI interim survey in Zambia 2015 13
Table 2.4. Secondary data sources used for the ZOI interim assessment in Zambia 2015 14
Table 2.5. Seasonal issues affecting comparison of indicators across data sources 15
Table 3.1. Household demographic characteristics 19
Table 3.2. Characteristics of the primary male and female adult decisionmakers 21
Table 3.3. Household dwelling characteristics 22
Table 3.4. School attendance, educational attainment, and literacy 24
Table 4.1. Daily per capita expenditure by household characteristic (in 2010 USD) 28
Table 4.2. Poverty at the $1.25 (2005 PPP)[1] per person per day threshold 31
Table 4.3. Zambia 2015: Poverty at the 2015 national threshold of 214.3 ZMW per adult equivalent per month 33
Table 4.4. Zambia 2015: Poverty at the 2015 national extreme threshold of 151.9 ZMW per adult equivalent per month 35
Table 5.1. Achievement of adequacy on Women's Empowerment in Agriculture Index indicators 38
Table 5.2. Economic activities and input in decisionmaking on production among surveyed women 39
Table 5.3. Input in decisionmaking on use of income among surveyed women 40
Table 5.4. Decisionmaking on production among surveyed women 40
Table 5.5. Household ownership and surveyed women's control over productive resources 42
Table 5.6. Credit access among surveyed women 44
Table 5.7. Comfort with speaking in public among surveyed women 45
Table 5.8. Group membership among surveyed women 45
Table 5.9. Time allocation among surveyed women 46
Table 6.1. Household hunger 49
Table 6.2. Women's dietary diversity score 51

List of Tables (continued)

Table 6.3. Women's minimum dietary diversity 52
Table 6.4. Consumption of foods by women's minimum dietary diversity status 53
Table 6.5. Prevalence of exclusive breastfeeding among children under 6 months 54
Table 6.6. Percentage of children age 6-23 months who receive a minimum acceptable diet 56
Table 6.7. Components of a minimum acceptable diet among children age 6-23 months 57
Table 6.8. Women's knowledge, cultivation, and consumption of orange-fleshed sweet potatoes (OFSP) 59
Table 6.9. Women's knowledge, cultivation, and consumption of orange maize 60
Table 6.10. Women's consumption of targeted nutrient-rich value chain commodities 63
Table 6.11. Children's consumption of targeted nutrient-rich value chain commodities 66
Table 7.1. Prevalence of underweight, normal weight, overweight, and obese women 70
Table 7.2. Stunting (height-for-age) among children under 5 years old 72
Table 7.3. Wasting (weight-for-height) among children under 5 years old 74
Table 7.4. Underweight (weight-for-age) among children under 5 years old 76
Table A2.1. Poverty at the $1.90 (2011 PPP) per person per day threshold 97

List of Figures

Figure 1.1. Map of Zambia: Feed the Future ZOI 3
Figure 4.1. Share of consumption1 per quintile: Feed the Future ZOI 29

List of Acronyms

5DE	Five Domains of Empowerment
BFS	Bureau for Food Security
BMI	Body Mass Index
CI	Confidence Interval
CPE	Certificate of Primary Education
CPI	Consumer Price Index
CSO	Central Statistical Office
DEFF	Design Effect
DGLV	Dark Green Leafy Vegetables
DHS	Demographic and Health Survey
EA	Enumeration Area
FANTA	Food and Nutrition Technical Assistance Project
FTF FEEDBACK	Feed the Future FEEDBACK
GDP	Gross Domestic Product
GPI	Gender Parity Index
HHS	Household Hunger Scale
IAPRI	Indaba Agricultural Policy Research Institute
IFPRI	International Food Policy Research Institute
LCMS	Living Conditions Monitoring Survey
LCU	Local Currency Unit
LSMS	Living Standards Measurement Study
MAD	Minimum Acceptable Diet
MDD-W	Women's Minimum Dietary Diversity
MDG	Millennium Development Goals
MOH	Ministry of Health
NGO	Non-Governmental Organization
NRVCC	Nutrient-Rich Value Chain Commodity
OFSP	Orange-Fleshed Sweet Potatoes
PHS	Post Harvest Survey
PPP	Purchasing Power Parity
RALS	Rural Agricultural Livelihoods Survey
SD	Standard Deviation
UNDG	United Nations Development Group
USAID	United States Agency for International Development

USD	United States Dollar
USG	United States Government
WDDS	Women's Dietary Diversity Score
WEAI	Women's Empowerment in Agriculture Index
WHO	World Health Organization
ZMK	Zambian Kwacha, Prior to Rebasing in 2012
ZMW	Zambian Kwacha, After Rebasing in 2012
ZOI	Zone of Influence

Executive Summary

Background

Feed the Future, led by the United States Agency for International Development (USAID), seeks to reduce poverty and undernutrition in 19 developing countries through its focus on accelerating growth of the agriculture sector, addressing root causes of undernutrition, and reducing gender inequality.

Feed the Future monitors its performance in part by periodic assessments of a number of standardized indicators. These indicators reflect data collected through population-based surveys in the geographic areas targeted by Feed the Future interventions, known as the Feed the Future Zones of Influence (ZOI). This document reports the results of the first interim assessment of Feed the Future's population-based indicators for the ZOI in Zambia.

The Feed the Future ZOI in Zambia includes five districts in Eastern Province: Chipata, Katete, Lundazi, Nyimba, and Petauke.

This first interim assessment will provide the U.S. Government (USG) interagency partners, USAID Bureau for Food Security (BFS), USAID Missions, host country governments, and development partners with information about short-term progress of the ZOI indicators. The assessment is designed for use as a monitoring tool, and as such provides point estimates of the indicators with an acceptable level of statistical precision. However, Feed the Future ZOI sample calculations are not designed to support conclusions of causality or program attribution, nor is the interim assessment designed to measure change from the baseline.

Interim Assessment Indicators

Thirteen Feed the Future indicators are included in this assessment: (1) Daily per capita expenditures (as a proxy for income) in USG-assisted areas; (2) Prevalence of Poverty; (3) Depth of Poverty; (4) Prevalence of households with moderate or severe hunger; (5) Women's Dietary Diversity; (6) Prevalence of children 6-23 months receiving a minimum acceptable diet (MAD); (7) Prevalence of exclusive breastfeeding among children under 6 months of age; (8) Prevalence of women of reproductive age who consume targeted nutrient-rich value chain commodities (NRVCC); (9) Prevalence of children 6-23 months who consume targeted NRVCC; (10) Prevalence of underweight women; (11) Prevalence of stunted children under 5 years of age; (12) Prevalence of wasted children under 5 years of age; and (13) Prevalence of underweight children under 5 years of age.

The first interim assessment does not report on the Feed the Future indicator Women's Empowerment in Agriculture Index (WEAI) score, but does report on nine of the 10 indicators that comprise the WEAI. These are presented in the WEAI Section of this report (Section 5).

Because adjustments were being made to the WEAI tool at the time of the first interim ZOI survey, a streamlined version of the WEAI module was used that only collected data for nine of the 10 indicators. The full WEAI will be collected during the next interim survey in 2017.

The interim assessment also does not report on the two Feed the Future anemia indicators because changes plausibly associated with Feed the Future's efforts are unlikely given coverage and focus of nutrition programs at this time, and because they require more intrusive data collection, increase the cost of the survey, and increase the time and complexity of data collection and of obtaining in-country institutional review board approval.

Interim Assessment Data Sources

Data for the Feed the Future ZOI indicators presented in this assessment are drawn from two sources: (1) the Zambia Living Conditions Monitoring Survey (LCMS) 2015 and (2) Zambia interim ZOI survey. The LCMS covers the entire population in the five Eastern Province districts, while the Zambia interim ZOI survey covers only the rural and peri-urban population in the five districts, which reflects the Rural Agricultural Livelihoods Survey (RALS) sample frame. Classification of rural and peri-urban standard enumeration areas (EAs) draws on information from Zambia's 2000 Census of Population and Housing, the approach established for Zambia Post Harvest Surveys (PHS), and the RALS sample frame. Agricultural households are those reporting any crop production, livestock production, poultry production, or fish farming; rural EAs are those that include at least 30 agricultural households; and peri-urban EAs are urban EAs with at least 70 percent of their households classified as agricultural. The ZOI population that resides in the urban areas excluded from the Zambia ZOI survey represents approximately 10 percent of the total ZOI population.

The Zambia ZOI interim survey was conducted by Feed the Future FEEDBACK (FTF FEEDBACK) in conjunction with its data collection partner, Palm Associates Limited. Fieldwork for the ZOI interim survey took place from November 25 to December 21, 2015. The LCMS 2015 was conducted by the Zambia Central Statistics Office (CSO). Field data collection for the LCMS took place from April to May 2015.

Summary of Key Findings

Household Economic Status

The Zambia interim assessment shows that average daily per capita expenditures in the ZOI is $1.01 (2010 United States dollars [USD]). The prevalence of poverty, defined as the percentage of people living below $1.25 per day (2005 purchasing power parity [PPP]), is 80.9 percent. The depth of poverty (the mean percent shortfall relative to the $1.25 per day poverty line) is 47.3 percent.

Women's Empowerment in Agriculture Index Indicators

The Feed the Future interim assessments present uncensored headcounts for nine of the 10 WEAI indicators. Uncensored headcounts are the percent of women (regardless of their overall empowerment status) who achieve adequacy on each of the WEAI indicators. The Feed the Future indicator estimates table on pages xiv-xv shows that the WEAI uncensored headcounts with the highest levels of surveyed women's achievement in the Zambia ZOI include control over the use of income (94.8 percent), ownership of assets (93.0 percent), and satisfaction with leisure time (92.8 percent). The WEAI uncensored headcount with the lowest level of achievement among primary adult female decisionmakers is access to and decisions on credit (30.5 percent).

Hunger and Dietary Intake

The Feed the Future indicator estimates table shows that the prevalence of households in the Zambia ZOI with moderate or severe hunger is 31.9 percent; about three of every 10 ZOI households experience hunger. Women's dietary diversity, or the mean number of food groups (of nine possible groups) consumed in the prior 24 hours by women of reproductive age (15-49), is 4.84 food groups. The prevalence of exclusive breastfeeding among children under 6 months is 43.7 percent; fewer than half of all infants in the Zambia ZOI were exclusively breastfed in the prior day. Among children 6-23 months, over one-third (35.7 percent) received a MAD the prior day.

The targeted NRVCC in Zambia are seven commodities identified by USAID/Zambia which meet NRVCC criteria (see Chapter 6): groundnuts, soy, pigeon peas, cow peas, orange-fleshed sweet potatoes (OFSP), local dark green leafy vegetables (DGLV), and biofortified orange maize.

Among women of reproductive age in the Zambia ZOI, more than half (52.4 percent) consumed in the prior day at least one of the seven NRVCC foods, with groundnuts or foods made from groundnuts most commonly consumed (42.1 percent of women), followed by local DGLV (15.5 percent). The remaining five NRVCC in Zambia were consumed by fewer than 5 percent of women in the ZOI: soy (2.6 percent), cow peas (2.6 percent), orange maize (1.3 percent), pigeon peas (0.9 percent), and OFSP (0.5 percent).

The NRVCC pattern is similar for children age 6-23 months. Among young children, groundnuts are the most prevalent NRVCC (consumed in the prior day by 45.5 percent of children, nearly half of all children), followed by soy (14.0 percent), and local DGLV (10.8 percent). The remaining four commodities were consumed by fewer than 4 percent of children age 6-23 months: orange maize (3.5 percent), OFSP (1.8 percent), pigeon peas (1.4 percent), and cow peas (0.4 percent). More than half (57.3 percent) of ZOI children age 6-23 months consumed at least one of the NRVCC foods the prior day.

Women's Knowledge and Use of OFSP and Orange Maize

In addition to the NRVCC indicators for women and children (i.e., consumption in the prior day), this Zambia interim assessment report also presents measures of women's knowledge (i.e., ever heard) and use (i.e., ever obtained, ever planted, ever eaten) of two of the NRVCC: OFSP and orange maize (also known as vitamin A maize). As shown in Tables 6.8 and 6.9 in Chapter 6, more than three-quarters of women of reproductive age in the Zambia ZOI (78.5 percent) have heard of OFSP, while just under half (49.7 percent) have heard of orange maize.

Nutritional Status of Women and Children

The prevalence of women's underweight in the Zambia ZOI (defined as a body mass index [BMI] below 18.5) is 5.1 percent. Approximately one in every 20 non-pregnant women of reproductive age in the Zambia ZOI is underweight. Among children less than 5 years, 38.4 percent are stunted; more than one-third of all children under age 5 in the ZOI have low height-for-age, indicating long-term, chronic undernutrition in young children. However, only 2.0 percent of children under age 5 are wasted, or have low weight-for-height. Wasting is an indicator of acute malnutrition. Finally, 13.6 percent of children are underweight, or have low weight-for-age. Underweight is an indicator of either acute or chronic undernutrition in children.

Measuring Change Over Time

Although the Zambia ZOI interim assessment was not designed to measure change from baseline indicator values, for a few indictors, non-overlapping confidence intervals (CIs) between 2010/2012 baseline indicators and comparable 2015 interim indicators or statistical tests of differences point to a statistically significant change over time. (When CIs do overlap, however, which is the case for most indicators, conclusions cannot be made regarding statistically significant change from baseline to interim without conducting a statistical test of the difference.)

Statistical tests of differences were conducted for the daily per capita expenditure; prevalence and depth of poverty; and child stunting, wasting and underweight indicators. There has been a statistically significant reduction in the prevalence of poverty in the Zambia ZOI from the baseline prevalence of 88.0 percent in 2010 to 80.9 percent in 2015. None of the differences between the baseline and interim estimates for the other indicators for which statistical tests of differences were conducted were statistically significant.

For the remaining indicators, and as shown by the non-overlapping CIs in the Feed the Future indicator estimates table below, significant differences were found over time between the baseline and interim estimates for the four WEAI indicators of (1) ownership of assets,

(2) speaking in public, (3) workload, and (4) satisfaction with leisure time. In addition, the prevalence of households with moderate or severe hunger, women's dietary diversity, and the prevalence of children 6-23 months receiving a MAD were also significantly different between the Zambia baseline and interim assessments.

Four of the nine WEAI uncensored headcounts have increased between baseline and interim. Women's adequacy on ownership of assets has increased from 83.8 percent at baseline to 93.0 percent at interim. Similarly, women's adequacy on the speaking in public indicator has increased from 71.5 percent to 81.3 percent; adequacy on the workload indicator has increased from 21.0 percent to 72.2 percent; and adequacy on the satisfaction with leisure time indicator has increased from 81.4 percent to 92.8 percent.

The ZOI prevalence of households with moderate or severe hunger has increased from the baseline estimate (23.2 percent) to 31.9 percent at interim.[1] Counter-intuitively (given the household hunger finding), dietary diversity among women of reproductive age in the Zambia ZOI has also increased over time, from an average of 4.01 food groups (of nine possible groups) at baseline, to 4.84 food groups at interim. Finally, and consistent with the women's dietary diversity finding (if not with the household hunger finding) the prevalence of children with a MAD has increased from 16.2 percent at baseline, to 35.7 percent – over one-third of all children age 6-23 months – at interim.

The Zambia ZOI interim assessment report is a product of the Feed the Future (FTF) FEEDBACK project, which is responsible for specific elements of performance monitoring and impact evaluation supporting the Feed the Future initiative. FTF FEEDBACK is implemented by Westat in partnership with TANGO International and the University of North Carolina's Carolina Population Center.

Baseline and interim estimates of indicator values in the ZOI are shown in the Feed the Future Zone of Influence Indicator Estimates table below.

[1] Note that the FTF FEEDBACK ZOI baseline and interim surveys, from which the household hunger estimates are calculated, were conducted in November and December 2012 and November and December 2015. These data collection dates overlap with the peak hungry season in Zambia, which is from November through February (see Chapter 6).

Feed the Future ZOI indicator estimates: Zambia

Feed the Future indicator[1]	Baseline (2012)			Interim (2015)		
	Estimate	95% CI[2]	n	Estimate	95% CI	n
Daily per capita expenditures (as a proxy for income) in USG-assisted areas (2010 USD)[3]						
All households	0.84	0.76 – 0.93	1,431	1.01	0.89 – 1.14	1,214
Male and female adult	0.83	0.75 – 0.91	1,168	0.99	0.86 – 1.12	992
Female adult(s) only	0.81	0.68 – 0.94	179	1.08	0.86 – 1.31	155
Male adult(s) only	1.99	1.29 – 2.68	84	2.11	1.32 – 2.91	67
Prevalence of Poverty: Percent of people living on less than $1.25/day (2005 PPP)[3]						
All households*	88.0	85.4 – 90.6	1,431	80.9	77.1 – 84.8	1,214
Male and female adults*	88.2	82.9 – 90.9	1,168	80.8	76.8 – 84.8	992
Female adult(s) only	88.9	82.9 – 94.8	179	85.6	79.6 – 91.5	155
Male adult(s) only	70.5	56.6 – 84.3	84	63.0	45.6 – 80.5	67
Depth of Poverty: Mean percent shortfall relative to the $1.25/day (2005 PPP) poverty line[3]						
All households	50.4	46.9 – 53.8	1,431	47.3	43.2 – 51.3	1,214
Male and female adults	50.5	47.0 – 54.1	1,168	47.5	43.3 – 51.6	992
Female adult(s) only	51.6	45.8 – 57.4	179	47.5	40.2 – 54.8	155
Male adult(s) only	31.0	17.7 – 44.3	84	32.4	20.2 – 44.5	67
Percent of women achieving adequacy on Women's Empowerment in Agriculture Index Indicators[4,5]						
Input in productive decisions	90.4	87.5 – 92.8	1,366	91.7	88.2 – 94.1	719
Ownership of assets	83.8	80.3 – 86.7	1,366	93.0	90.0 – 95.2	719
Purchase, sale or transfer of assets	72.1	68.6 – 75.4	1,366	73.6	68.7 – 77.9	719
Access to and decisions on credit	26.2	22.2 – 30.7	1,366	30.5	25.3 – 36.2	719
Control over use of income	94.6	92.7 – 96.1	1,366	94.8	92.2 – 96.6	719
Group member	71.9	67.3 – 76.0	1,366	75.0	69.4 – 79.9	719
Speaking in public	71.5	67.3 – 75.3	1,366	81.3	76.3 – 85.4	719
Workload	21.0	18.3 – 23.9	1,366	72.2	67.3 – 76.5	719
Leisure	81.4	78.1 – 84.4	1,366	92.8	89.5 – 95.2	719
Autonomy in production	79.2	73.1 – 84.2	1,366	n/a	n/a	n/a
Prevalence of households with moderate or severe hunger						
All households	23.2	20.0 – 26.4	1,491	31.9	26.7 – 37.7	763
Male and female adults	21.5	17.9 – 25.0	1,280	32.1	26.6 – 38.1	689
Female adult(s) only	31.0	22.2 – 39.7	167	33.8	20.9 – 49.6	61
Male adult(s) only	32.6	17.1 – 48.0	43	^	^	13
Women's Dietary Diversity: Mean number of food groups consumed by women of reproductive age						
All women age 15-49	4.01	3.90 – 4.12	1,549	4.84	4.65 – 5.03	932
Prevalence of exclusive breastfeeding among children under 6 months of age						
All children	^	^	23	43.7	26.9 – 62.1	54
Male children	^	^	9	^	^	28
Female children	^	^	14	^	^	26
Prevalence of children 6-23 months receiving a minimum acceptable diet						
All children	16.2	11.2 – 21.2	362	35.7	26.3 – 46.3	206
Male children	14.6	8.0 – 21.2	182	41.2	27.9 – 55.9	108
Female children	17.7	10.1 – 25.3	180	28.2	18.4 – 40.7	98

Feed the Future ZOI indicator estimates: Zambia (continued)

Feed the Future indicator[1]	Baseline (2012)			Interim (2015)		
	Estimate	95% CI[2]	n	Estimate	95% CI	n
Prevalence of women of reproductive age who consume targeted nutrient-rich value chain commodities[6]						
Groundnuts: All women age 15-49	n/a	n/a	n/a	42.1	36.3 – 48.1	932
Soy: All women age 15-49	n/a	n/a	n/a	2.6	1.6 – 4.2	932
Pigeon peas: All women age 15-49	n/a	n/a	n/a	0.9	0.3 – 2.7	932
Cow peas: All women age 15-49	n/a	n/a	n/a	2.6	1.5 – 4.6	932
Orange-fleshed sweet potatoes (OFSP): All women age 15-49[7]	n/a	n/a	n/a	0.5	0.1 – 1.7	932
Local dark green leafy vegetables (DGLV): All women age 15-49[8]	n/a	n/a	n/a	15.5	12.0 – 19.8	932
Orange maize: All women age 15-49[7]	n/a	n/a	n/a	1.3	0.6 – 3.1	932
Prevalence of women of reproductive age who consume at least one targeted nutrient-rich value chain commodity[6]						
All women age 15-49	n/a	n/a	n/a	52.4	46.5 – 58.2	932
Prevalence of children 6-23 months who consume targeted nutrient-rich value chain commodities[5]						
Groundnuts: All children	n/a	n/a	n/a	45.5	35.3 – 56.1	206
Soy: All children	n/a	n/a	n/a	14.0	8.3 – 22.4	206
Pigeon peas: All children	n/a	n/a	n/a	1.4	0.5 – 3.7	206
Cow peas: All children	n/a	n/a	n/a	0.4	0.1 – 3.1	206
Orange-fleshed sweet potatoes (OFSP): All children[7]	n/a	n/a	n/a	1.8	0.7 – 4.8	206
Local dark green leafy vegetables (DGLV): All children[8]	n/a	n/a	n/a	10.8	5.5 – 20.4	206
Orange maize: All children[7]	n/a	n/a	n/a	3.5	1.3 – 9.3	206
Prevalence of children 6-23 months who consume at least one targeted nutrient-rich value chain commodity[6]						
All children	n/a	n/a	n/a	57.3	46.9 – 67.1	206
Male children	n/a	n/a	n/a	55.3	41.7 – 68.2	108
Female children	n/a	n/a	n/a	59.9	45.5 – 72.8	98
Prevalence of underweight women						
All non-pregnant women age 15-49	6.3	4.4 – 8.3	1,383	5.1	3.4 – 7.8	830
Prevalence of stunted children under 5 years of age						
All children	45.5	41.2 – 49.9	1,114	38.4	32.1 – 45.1	650
Male children	51.2	44.8 – 57.6	529	41.4	33.9 – 49.3	346
Female children	40.8	35.5 – 46.0	585	34.3	26.3 – 43.3	304
Prevalence of wasted children under 5 years of age						
All children	2.7	1.5 – 3.9	1,114	2.0	1.0 – 4.0	650
Male children	4.1	1.9 – 6.2	529	3.4	1.7 – 6.9	346
Female children	1.5	0.2 – 2.9	585	0.0	-	304

Feed the Future ZOI indicator estimates: Zambia (continued)

Feed the Future indicator[1]	Baseline (2012)			Interim (2015)		
	Estimate	95% CI[2]	n	Estimate	95% CI	n
Prevalence of underweight children under 5 years of age						
All children	13.3	10.4 – 16.2	1,114	13.6	9.9 – 18.4	650
Male children	17.7	13.9 – 21.4	529	15.9	10.6 – 23.0	346
Female children	9.6	6.4 – 12.9	585	10.4	5.2 – 19.9	304

^ Results not statistically reliable, n<30.

* Significance tests were performed to evaluate statistical differences between baseline and interim values for Per capita expenditure, Prevalence and Depth of poverty, and Child Stunting, Wasting and Underweight indicators. The p-value and level of significance are noted to the right of each indicator. *.05 < p > .01.

1 The Per capita expenditure, Prevalence of poverty and Depth of poverty indicator estimates are representative of the entire ZOI population. The remaining indicators are representative of the RALS sample population, which includes rural areas and peri-urban areas with at least 70 percent of the households classified as agricultural.

2 Confidence intervals (CIs) demonstrate the reliability of estimated values. While interim surveys were not designed to capture change over time, non-overlapping CIs do indicate significant differences between the two estimates. However, if CIs do overlap, the reader cannot conclude whether there is or is not a significant difference between baseline and interim estimates unless a statistical test of differences is conducted. For the following indicators, it cannot be concluded that there are significant differences in estimates over time: The five WEAI indicators of Input in productive decisions, Purchase, sale or transfer of assets, Access to and decisions on credit, Control over the use of income, and Group membership; Prevalence of exclusive breastfeeding among children under 6 months of age [note that baseline estimates are unavailable due to insufficient sample size]; and Prevalence of underweight women.

3 The baseline year for the expenditure and poverty indicators is 2010.

4 The full WEAI score cannot be calculated because interim data were collected from women only and the autonomy indicator was dropped. The second interim survey (2017) will collect the full set of data from women and men and will report on the full WEAI.

5 The baseline report presented censored headcounts of inadequate achievement for these empowerment indicators, while this interim report presents uncensored headcounts of adequate achievement for both baseline and interim reporting periods. Censored headcounts present the percent of women who are disempowered and achieve adequacy (or inadequacy) in each indicator, while uncensored headcounts present the percent of women who achieve adequacy (or inadequacy) in each indicator regardless of empowerment status.

6 The indicators for women's and children's consumption of targeted NRVCC were not collected during the baseline round of data collection.

7 Women's and children's consumption of OFSP and orange maize were asked differently than the other NRVCC foods, via a series of knowledge and use questions in Module H/Module I. Women (or children) who reported consumption of OFSP or orange maize in the past day were coded as yes on these respective NRVCC indicators.

8 The local DGLV in the Zambia ZOI include: Amaranth (Bondwe), Nightshade (Ndulwe), Spiderplant (Sunta), Black Jack (Kanunka), and Moringa.

n/a – Not available.

Source(s): Baseline: FTF FEEDBACK ZOI Baseline Survey, Zambia 2012; Zambia Living Conditions Monitoring Survey 2010; Interim: FTF FEEDBACK ZOI Interim Survey, Zambia 2015; Zambia Living Conditions Monitoring Survey 2015.

1. Background

This section provides background information on Feed the Future in Zambia, including a description of the program and the zone of influence (ZOI), demographic information on the ZOI population, and a summary of the agriculture situation in the ZOI.

1.1 Feed the Future Overview

Feed the Future Objective and Strategies in Zambia

Zambia's Feed the Future strategy is derived from the overall Feed the Future framework,[2] the United States Agency for International Development (USAID) Zambia Country Development Cooperation Strategy,[3] and the Global Health Initiative objectives.[4] The goal of Feed the Future Zambia is to sustainably reduce poverty and undernutrition in targeted areas by 2015. The objective of the Zambia Feed the Future program is to reduce poverty in targeted rural areas and improve nutrition-related health status–based on the following development hypothesis: *the diversification of staple crop production and consumption will increase food security and rural incomes, and contribute to a reduction of undernutrition in children under 5*.[5]

USAID Zambia set preliminary targets to provide assistance to an estimated 263,000 Zambian women, children, and family members (mostly smallholders) through value chain and economic resilience interventions. Feed the Future in Zambia planned to target more than 173,000 children under 5 with services aimed at improving nutrition, preventing stunting, and reducing child mortality. Strategic policy and institutional reforms supported by Feed the Future were expected to enable a large percentage of the rural population to improve their incomes and their nutritional status. To meet its objectives, Feed the Future made core investments in four key areas: (1) oilseeds, legumes, maize, and horticulture value chains; (2) enabling environment through analysis and advocacy to improve agriculture policy; (3) economic resilience by improving household-level food security and ensuring gender equity; and (4) improving nutrition through a combination of scaling up nutrition efforts and strengthened health and nutrition systems. The Zambia Feed the Future strategy strives to maximize positive impacts on female farmers and equitable benefits for men and women. Feed the Future prioritized the value chains for legumes, oilseeds, vegetables, and maize to strengthen women's participation. Capacity-building activities are designed to provide women greater access to economic opportunities related to these commodities. Feed the Future investments in farm technologies select those that are appropriate to both women and men.

[2] USAID. (2010).
[3] USAID. (2011b).
[4] United States Government Zambia Interagency Team. (2012).
[5] USAID. (2011a).

The Zambia Feed the Future program "seeks to build the economic resilience of households to improve food security, reduce vulnerability, and increase incomes."[6] The program targeted poor and very poor smallholder households, female adult only households, and women within male and female adult households. Investments in the economic resilience of these households are directed to helping households to more efficiently manage their resources; encouraging more equitable intra-household allocation of those resources, especially food for women and children under 5; and supporting increased labor productivity through improved, labor-saving technology. In emphasizing resilience, Feed the Future Zambia also integrates activities that build assets with those that reduce risk, and seeks out innovative models to link vulnerable households to value chain interventions and investments in the country's health systems.

1.2 Feed the Future ZOI Profile

The geographic focus of the interim data collection is the ZOI. The ZOI at interim is the same as the ZOI at baseline: five districts in Eastern Province: Chipata, Katete, Lundazi, Nyimba, and Petauke.

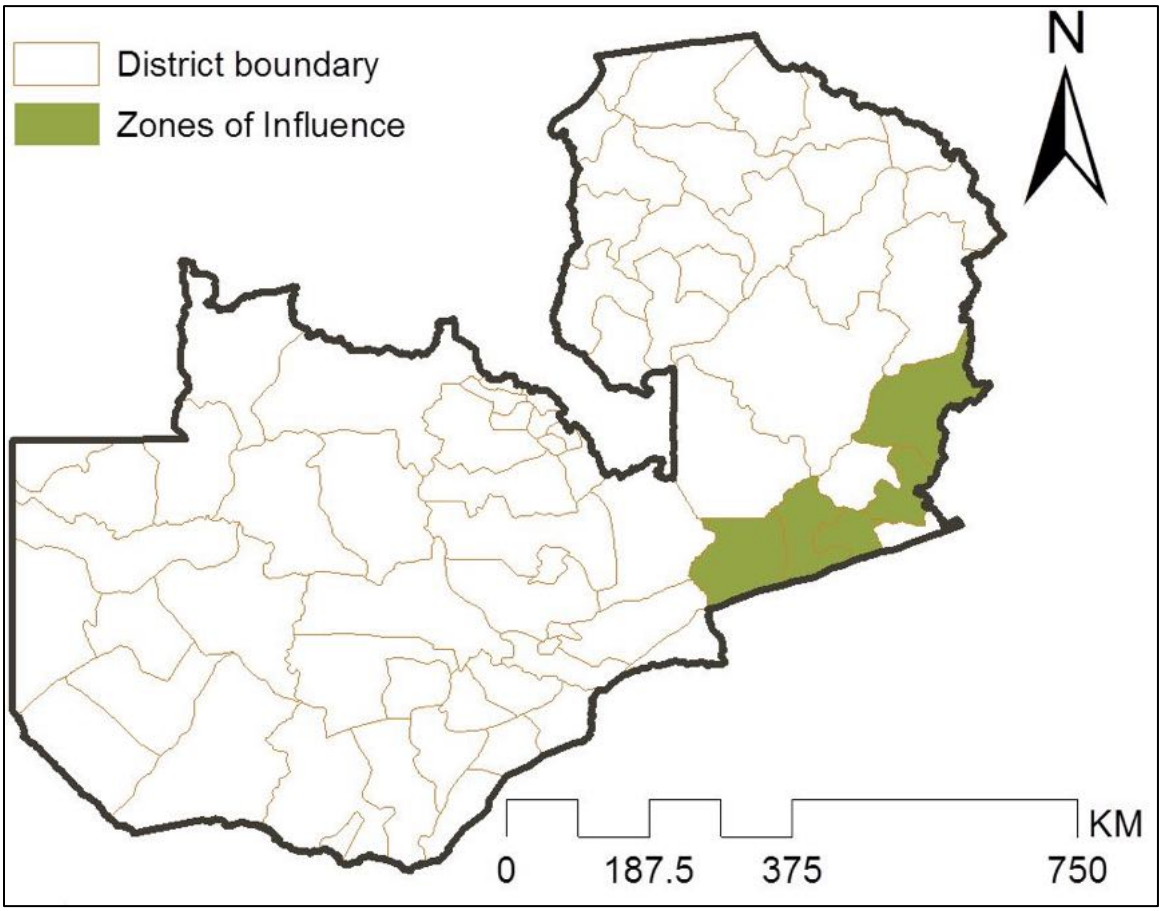
There are, however, differences in the sample frame used for the two sources of data for the ZOI interim assessment. The Living Conditions Monitoring Survey (LCMS) includes urban and rural enumeration areas (EAs) and thus covers the entire ZOI. Because the Zambia interim ZOI survey uses the Rural Agricultural Livelihoods Survey (RALS) sample frame, it contains rural and peri-urban EAs only.[7] The urban EAs not included in the RALS sample contain approximately 10 percent of the population of the ZOI. Classification of EAs draws on information from Zambia's 2000 Census of Population and Housing, the approach established for Zambia Post Harvest Survey (PHS), and the RALS sample frame. Agricultural households are those reporting any crop production, livestock production, poultry production, or fish farming; rural EAs are those that include at least 30 agricultural households; and peri-urban EAs are urban EAs with at least 70 percent of their households classified as agricultural.

A map of the Feed the Future ZOI in Zambia is provided in Figure 1.1.

[6] Ibid. p.17.

[7] The RALS sample frame was used so the ZOI interim survey could visit the same households interviewed by the RALS and the two datasets could be linked.

Figure 1.1. Map of Zambia: Feed the Future ZOI



1.2.1 Rationale for ZOI Selection

Zambia is a landlocked country with a population of approximately 13 million people, with one of the lowest population densities in Africa. Thirty-nine percent of Zambia's population is concentrated in urban areas along major transportation corridors. Zambia has a number of major rivers that are the main sources of water, as well as several lakes. The northern part of the country receives the highest rainfall with an annual average of 1,100 millimeters (mm) to 1,400 mm. The southern and eastern parts of the country have less rainfall, ranging from 600 mm to 1,100 mm annually.

Urban growth is partly the result of extractive industries such as copper; however, agriculture supports the livelihoods of more than 70 percent of the population. Rural poverty remains very high at 80 percent. Despite a positive gross domestic product (GDP) growth of 6 percent per year in the last decade, poverty and malnutrition are rampant, particularly in rural areas. Agricultural productivity of staple crops has been stagnant because of inadequate infrastructure,

small agricultural parcels, low productivity, and seasonal variability. With a Gini coefficient of 0.53, Zambia is in the top 20 countries globally in income inequality.[8]

In consultation with a range of stakeholders, USAID Zambia identified four agricultural commodity value chains (legumes, oilseeds, maize, and horticulture) in two geographic areas (Eastern Province and peri-urban areas of Lusaka) as the focus of Feed the Future activities. USAID Zambia followed this process to identify the key value chains and focus areas: [9]

- Identify key geographic areas based on level of poverty and nutritional status (need);
- Analyze value chains to identify those with positive gender, environment, and policy characteristics (socioeconomic);
- Assess the level of commercialization of selected value chains, and the potential for scaling up trade based on transport and market linkages and cost-benefit analysis (market/income opportunity); and
- Identify agents (and technologies) that could generate significant results.

1.2.2 Demography of the ZOI

Tables 1.1 and 1.2 present individual and household population estimates, respectively, for the ZOI for 2015. Estimates of the total population as well as sub-populations of the ZOI are presented. The sub-population categories correspond to the various sub-populations for the Feed the Future indicators and disaggregates (e.g., children age 6-23 months, number of households). The ZOI estimates for the total population of individuals as well as households are also disaggregated by gendered household type.[10]

The number of individuals in each category presented in Table 1.1 was estimated using the Central Statistical Office (CSO) 2015 population projections for Chipata, Katete, Lundazi, Nyimba, and Petauke,[11] and the 2013/14 Zambia Demographic and Health Survey (DHS). Specifically, the percentages of individuals in certain groups were calculated from the DHS and then applied to the total projected population of the Zambia ZOI in 2015. Child survival curves were generated with data from the Zambia DHS for children younger than 59 months. These survival curves were used to calculate ZOI estimates of children 0-5 months, 6-23 months, and 6-59 months.

[8] USAID. (2011a). p.5.
[9] Ibid. p.9.
[10] See Section 2.2.1, Standard Disaggregates, for the definition of gendered household type.
[11] CSO. (2013). p.106.

As shown in Table 1.1, there are an estimated 1.6 million individuals living within the Zambia ZOI. There are about 367,000 women of reproductive age (15-49), 227,000 children under age 5, and 447,000 male and female youth (age 15-29) in the ZOI. An estimated 87 percent of ZOI residents live in rural areas, and the remaining 13 percent reside in urban areas.

Table 1.1. Population of individuals, by category, in the ZOI, Zambia 2015

Category of individuals	Estimated population
Total population	**1,609,112**
Total population, by sub-population	
Women of reproductive age (15-49 years)	366,643
Children 0-59 months	226,429
Children 0-5 months	25,792
Children 6-23 months	74,868
Children 6-59 months	200,637
Youth 15-29 years	466,714
Total population, by area type	
Urban	213,288
Rural	1,379,424
Total population, by gendered household type	
Male and female adult(s)	1,506,933
Female adult(s) only	93,650
Male adult(s) only	8,528
Child(ren) only (no adults)	0
Women of reproductive age, by pregnancy status	
Pregnant	29,883
Non-pregnant	336,760
Children 0-59 months, by child sex	
Male	116,714
Female	109,715
Children 0-5 months, by child sex	
Male	12,312
Female	13,480
Children 6-23 months, by child sex	
Male	37,986
Female	36,882
Children 6-59 months, by child sex	
Male	104,402
Female	96,235
Youth 15-29 years, by sex	
Male	222,043
Female	224,779

Source: Population projections from the 2010 census were obtained from the Central Statistical Office (CBO) website. The total population was then disaggregated into the subgroups reported here using the population characteristics recorded in the 2013/14 Zambia Demographic and Health Survey (DHS).

Table 1.2 shows the estimated population of households in 2015 in the Zambia ZOI. The number of households in the ZOI was estimated by using the average household size (6.0 members) in the LCMS. There are approximately 268,000 households in the Zambia ZOI. The disaggregation of households by gendered household type was done using data from the ZOI interim survey. About 91 percent of the households in the ZOI are male and female adult households.

Table 1.2. Number of households, by category, in the ZOI, Zambia 2015

Category of households	Estimated population
Total number of households in ZOI	**268,185**
Number of households, by gendered household type	
Male and female adult(s)	243,244
Female adult(s) only	21,133
Male adult(s) only	3,781
Child(ren) only, (no adults)	0

Source: Population projections from the 2010 census were obtained from the Central Statistical Office (CBO) website. The total population and the average household size recorded in the 2015 LCMS were used to estimate the number of households in the ZOI.

1.2.3 Agriculture in the ZOI

Zambia is a large, landlocked country with considerable agricultural potential in unused or underproductive arable land. Eastern Province has two distinct physiographic regions: a plateau with elevations ranging from 900 meters to 1,500 meters, and the Luangwa Valley, with an average elevation of 500 meters. The valley has alluvial soils suitable for crops such as rice, cotton, and drought-resistant sorghum and millet. Plateau soils are moderately fertile and suitable for cultivating maize, groundnuts, cotton, sunflower, tobacco, and soybeans.

Smallholder agricultural production typically relies on rainfall, as few of these farmers have access to irrigation. Unpredictable rainfall in Zambia can cause drought or flooding, and reduces food security for vulnerable communities and families. Rainfall variation tends to be greater in zones with low rainfall. Annual rainfall in Eastern Province ranges from 850 mm to 1,050 mm, subjecting rain-fed agriculture in the south and the southeastern part of Eastern Province to risk of drought.

Zambia's agricultural production is dominated by small-scale farms cultivating landholdings of 1 to 5 hectares and producing most of the country's cotton, millet, and sorghum, along with maize, groundnuts, and sunflowers. Smallholder yields tend to be less than 15 percent of commercial farm production, however, since they have inadequate access to inputs such as fertilizer and seeds, improved technologies, and extension services. Smallholder farm production is often not sufficient to produce surplus that could be sold in local markets or beyond, and may fail to meet household nutritional needs. Around 60 percent of these farming households face a hungry season from November through February.

Agriculture contributes about 22 percent of national GDP. While the agricultural sector grew at an average annual rate of 4.5 percent during the 1990s, subsequent years have seen more drought and slower growth. Zambia's main food crops are sugar cane, maize, cassava, sweet potato, vegetables/fruits, groundnuts, and legumes. Cash crops including tobacco and vegetables have begun to increase in importance.[12]

1.3 Purpose of This Report

The purpose of this interim assessment is to provide the United States Government interagency partners, USAID Bureau for Food Security, USAID Missions, host country governments, and development partners with information about the current status of the ZOI indicators. The assessment is designed for use as a monitoring tool, and as such provides point estimates of the indicators with an acceptable level of statistical precision. However, Feed the Future ZOI sample calculations are not designed to support conclusions of causality or program attribution, nor is the interim assessment designed to measure change from the baseline with statistical precision.

[12] USAID. (2013b). p.7.

2. Methodologies for Obtaining Interim Values for Feed the Future Indicators

This section describes the methodology used to obtain the population-based Feed the Future indicators. It provides information on the data sources and describes measures and reporting conventions used throughout the report.

2.1 Data Sources

Table 2.1 presents the data sources and dates of data collection for the baseline and interim Feed the Future indicators.

Table 2.1. Data sources and dates of the baseline and interim Feed the Future indicators

Indicator	Baseline		Interim	
	Data source	Date collected	Data source	Date collected
Daily per capita expenditures (as a proxy for income) in USG-assisted areas[1]	Zambia Living Conditions Monitoring Survey (LCMS)	January/March, 2010	LCMS	April/May, 2015
Prevalence of Poverty: Percent of people living on less than $1.25/day[1]	LCMS	January/March, 2010	LCMS	April/May, 2015
Depth of Poverty: Mean percent shortfall relative to the $1.25/day poverty line[1]	LCMS	January/March, 2010	LCMS	April/May, 2015
Women's Empowerment in Agriculture Index indicators	FTF FEEDBACK ZOI Survey	November/December 2012	FTF FEEDBACK ZOI Survey	November/December 2015
Prevalence of households with moderate or severe hunger	FTF FEEDBACK ZOI Survey	November/December 2012	FTF FEEDBACK ZOI Survey	November/December 2015
Women's Dietary Diversity: Mean number of food groups consumed by women of reproductive age	FTF FEEDBACK ZOI Survey	November/December 2012	FTF FEEDBACK ZOI Survey	November/December 2015
Prevalence of exclusive breastfeeding among children under 6 months of age	FTF FEEDBACK ZOI Survey	November/December 2012	FTF FEEDBACK ZOI Survey	November/December 2015
Prevalence of children 6-23 months receiving a minimum acceptable diet	FTF FEEDBACK ZOI Survey	November/December 2012	FTF FEEDBACK ZOI Survey	November/December 2015
Prevalence of women of reproductive age who consume targeted nutrient-rich value chain commodities	n/a	n/a	FTF FEEDBACK ZOI Survey	November/December 2015
Prevalence of children 6-23 months who consume targeted nutrient-rich value chain commodities	n/a	n/a	FTF FEEDBACK ZOI Survey	November/December 2015
Prevalence of underweight women	FTF FEEDBACK ZOI Survey	November/December 2012	FTF FEEDBACK ZOI Survey	November/December 2015

Table 2.1. Data sources and dates of the baseline and interim Feed the Future indicators (continued)

Indicator	Baseline		Interim	
	Data source	Date collected	Data source	Date collected
Prevalence of stunted children under 5 years of age	FTF FEEDBACK ZOI Survey	November/December 2012	FTF FEEDBACK ZOI Survey	November/December 2015
Prevalence of wasted children under 5 years of age	FTF FEEDBACK ZOI Survey	November/December 2012	FTF FEEDBACK ZOI Survey	November/December 2015
Prevalence of underweight children under 5 years of age	FTF FEEDBACK ZOI Survey	November/December 2012	FTF FEEDBACK ZOI Survey	November/December 2015

[1] The Per capita expenditure, Prevalence of poverty and Depth of poverty indicator estimates are representative of the entire ZOI population. The remaining indicators are representative of the RALS sample population, which includes rural areas and peri-urban areas with at least 70 percent of the households classified as agricultural.

n/a – Not applicable.

2.1.1 Primary Data: The ZOI Interim Survey in Zambia

This section describes the ZOI interim survey, including discussion of the sample design (including targeted sample size), questionnaire customization, fieldwork, response rates, and limitations of the survey.

Survey Sample Design

The sample frame for Feed the Future FEEDBACK 2015 interim survey in Zambia is the same as that used for the 2012 baseline survey. Specifically, the areas of Zambia's ZOI sampled comprise rural and peri-urban enumeration areas (EAs) in the following five districts in Eastern Province: Chipata, Katete, Lundazi, Nyimba, and Petauke.

Below we describe the sample size calculation, sample design, and sample weights.

Sample Size Calculation

The purpose of the interim indicator assessment is to provide estimates of the population-based indicators with an acceptable level of statistical accuracy. The interim survey sample sizes were calculated to provide point estimates of indicator values rather than calculating sample sizes to detect change in indicator values over time.

In sample size calculations, the margin of error determines the amount of precision the indicator estimates will have. For continuous variables such as expenditures, the margin of error was based on the mean indicator value times 0.10; the margin of error for proportions (poverty, stunting, and wasting) was equal to 0.10.

Standard deviations and design effects for sample size calculation were estimated using baseline survey data. We calculated sample sizes using projected interim indicator values based on the United States Agency for International Development (USAID) Mission's 2015 targets in the Feed the Future Monitoring System. For indicators for which the USAID Mission's 2015 targets

were not available, projected interim values were calculated based on a 10 percent change from baseline.

All sample sizes were further adjusted for nonresponse using the nonresponse rate from the baseline survey or a 10 percent nonresponse rate if either the former was not provided or was greater than 10 percent. For all indicators, the sample sizes are for the populations associated with the indicator. The proportion of the population of interest (e.g., children under 5 years of age for underweight children) in the total population and the average number of household members was estimated based on baseline survey data, and used to calculate the number of households needed for that indicator.[13]

Sample sizes were calculated for each of the key Feed the Future indicators (poverty, daily per capita expenditures, stunting and underweight). Using estimates from the baseline survey of the average number of children 0-5 months per household, we also calculated sample size needed for capturing 70 children in this age range.

Table 2.2 shows the estimated sample sizes for the relevant population-based indicators. The minimum sample size required to calculate the exclusive breastfeeding indicator also is included in the table. The number of households selected for the sample was determined by the per capita expenditures indicator. The largest sample size for the indicators for which FTF FEEDBACK collected data is 762 households.

Table 2.2. Sample size estimate for the key indicators and exclusive breastfeeding

Indicator	Baseline value	DEFF	Std. dev.	Estimated interim value	Sample size	Number of households needed
Prevalence of poverty	79.75	1.93		65.00	169	188
Prevalence of underweight children	13.28	2.01		10.00	<100	124
Prevalence of stunted children	45.52	2.14		35.00	187	337
Per capita expenditures (as a proxy for incomes)	1.19	1.75	2.02	2.00	686	762
Household hunger	23.18	2.20		18.00	125	126
Women's dietary diversity	4.01	3.43	1.14	5.00	<100	<100
Prevalence of exclusive breastfeeding of children <6 months	60.9	2		33.00	70	750

Sample Design

The sample of households for the interim survey was provided by Indaba Agricultural Policy Research Institute (IAPRI) from the Rural Agricultural Livelihoods Survey (RALS). The RALS is a panel survey, which draws a sample prior to baseline data collection to be used in each

[13] Stukel and Deitchler. (2012).

succeeding round of data collection. The same households are re-visited in each round. It follows a two-stage stratified cluster sampling design, and consists of 1,640 agricultural households in 82 EAs in the five districts. At baseline, 20 households were randomly selected per EA in the RALS sample. Among the households that were re-visited, 10 households per EA were randomly selected for the interim assessment sample for FTF FEEDBACK. This provides a targeted sample size of 820 households, which exceeds the sample size estimates required for all indicators.

There are three categories of agricultural households in the RALS sample, determined by farm size. Within each EA, households of each category for Feed the Future interim survey were selected with the same selection probability of that category as in the original RALS sample.

Sample Weights

Data required for the statistical weighting of survey data were collected throughout the sampling process. These data included, but were not limited to: (1) EA population sizes used for selection of EAs; (2) population of strata (i.e., region, urban/rural) from which EAs are drawn; (3) population of selected EAs at the time of listing; and (4) response rates at the household and individual (women, men, and children) levels.

Computations based on the survey sample were weighted so that the results accurately reflected the proportions of the sampled elements within the overall sample frame of the sub-population in the ZOI. Details of how weights were computed are provided in Appendix 2.

Questionnaire Design

The questionnaire used for the ZOI interim survey in Zambia was based on the population-based survey instrument for Feed the Future ZOI indicators for the interim assessments. Module E was removed from the questionnaire because secondary data from the Living Conditions Monitoring Survey (LCMS) were used for the corresponding indicators (per capita expenditures, prevalence of poverty and depth of poverty.) Questions relating to targeted nutrient-rich value chain commodity (NRVCC) (groundnut, soy, pigeon pea, cow pea, orange-fleshed sweet potato, local dark green leafy vegetable [amaranth, nightshade, spider plant, black jack and moringa], and orange maize) were added to address Feed the Future programming in those commodities in Zambia.

FTF FEEDBACK provided training in customization, pretesting, and translation of the questionnaire to Palm Associates, the in-country data collection partner. FTF FEEDBACK modified the questionnaire based on customizations recommended by Palm Associates and pretest findings, with Bureau for Food Security (BFS) review and approval of the revisions.

The questionnaire was translated into two native languages spoken by 10 percent or more of the population in the ZOI. In Zambia, the questionnaire was translated into Chewa and Nyanja.

Translation quality was assured using a team translation approach with back translation from the main translation. Translations were incorporated into the data entry program on the tablet computers that were used for data collection in the households.

Questionnaires were further refined based on observations during training and the pilot.

Fieldwork

Preparation for fieldwork began with thorough training of the Palm Associates specialists to conduct and supervise fieldwork. A senior FTF FEEDBACK trainer trained nine Palm Associates trainers.

Palm Associates trainers then trained the field staff from October 26 to November 07, 2015. Training of field staff reflected the procedures detailed in the FTF FEEDBACK interviewing and field supervision manuals. An FTF FEEDBACK trainer supported the field training, including providing training on use of the tablets for data collection. Trainees' comprehension of the material imparted was assessed periodically throughout the training. Trainees also participated in role-plays to practice important skills and responses to common fieldwork challenges.

At the conclusion of training, Palm Associates senior management and trainees, joined by the FTF FEEDBACK trainer, conducted a pilot test of all procedures. At the conclusion of the pilot test, FTF FEEDBACK and Palm Associates senior management considered findings from the pilot test and made final modifications to procedures, the questionnaires, and the data entry programs.

A final field team of 52 individuals conducted fieldwork from November 24 to December 19, 2015. The field teams visited each selected cluster and household. Up to three visits were made to each household so that all eligible members of the household could be interviewed. Senior quality assurance staff from Palm Associates visited each field team on a regular basis to assure that procedures were being followed and to provide any needed supplies.

Data for completed household interviews that had been reviewed and approved were uploaded to FTF FEEDBACK servers on a daily basis, where possible. When lack of Internet access precluded this, data were submitted prior to starting work in the next assigned cluster.

A data management team at FTF FEEDBACK worked with a Data Manager in Palm Associates headquarters to review data and case completion regularly. These reviews informed fieldwork where necessary to improve data quality.

Limitations of the Survey

No limitations arose during planning or conduct of the survey.

ZOI Interim Survey Response Rates

Table 2.3 presents the response rates for the ZOI interim survey for Zambia. The components and the response rates for the sampled households, women of reproductive age (15-49), primary adult female decisionmakers (for the Women's Empowerment in Agriculture module), as well as children under 5 years are presented. Response rates are presented by rural/urban residence as well as for the total sample.[14]

Table 2.3. Results of the household and individual interviews for the ZOI interim survey in Zambia 2015

Response rates and components	Residence		Total
	Urban	Rural*	
Households			
Households selected	0	820	820
Households occupied	n/a	775	775
Households interviewed	n/a	768	768
Household response rate[1]	n/a	99.1	99.1
Women of reproductive age (15-49 years)			
Number of eligible women	0	1,016	1,016
Number of eligible women interviewed	n/a	932	932
Eligible women response rate[2]	n/a	91.7	91.7
Primary adult female decisionmakers (age 18+ years)			
Number of eligible women	0	752	752
Number of eligible women interviewed	n/a	739	739
Primary adult female response rate[2]	n/a	98.3	98.3
Children under 5 years of age			
Number of eligible children	0	715	715
Number of caregivers of eligible children interviewed	n/a	705	705
Eligible children response rate[2]	n/a	98.6	98.6

* Rural includes peri-urban EAs with 70 percent or more of households classified as agricultural.

[1] Household response rates are calculated based on the result codes of Module C, the household roster, and are defined as the number of households interviewed divided by the number of households occupied. Unoccupied households were excluded from the response rate calculations. The unoccupied households were those that were found to be vacant, not a dwelling unit, dwelling unit destroyed, or with an extended absence, or other result code.

[2] Individual response rates are calculated based on the result codes in the relevant individual modules, i.e., Modules G, H, and I. These rates are defined as the number of eligible individuals interviewed divided by the number of eligible individuals. Eligibility is determined in modules G, H, and I, respectively. (Note that for children under 5 years of age [Module I], the primary caregivers of the children served as the respondents, not the children directly.)

n/a – Not applicable. (Urban areas were in the sampling frame, but no urban areas were selected in the sample).

Source: FTF FEEDBACK ZOI Interim Survey, Zambia 2015.

[14] In Zambia, there were urban EAs included in the sampling frame (but none were selected into the survey sample); for this reason, the urban column is included in Table 2.3.

2.1.2 Secondary Data

This section discusses the use of secondary data sources for the calculation of interim indicators. The Zambia interim assessment utilizes secondary data, the Zambia 2015 LCMS, for the calculation of three indicators: daily per capita expenditures, prevalence of poverty, and depth of poverty.

As shown in **Table 2.4**, the LCMS was conducted from April to May 2015, and the ZOI sample for the three income-related indicators is 1,214 households.

Table 2.4. Secondary data sources used for the ZOI interim assessment in Zambia 2015

Name of data source	Indicators	Fieldwork dates	Sample size in the ZOI
Zambia 2015 Living Conditions Monitoring Survey (LCMS)	Daily per capita expenditures	April-May 2015	1,214
Zambia 2015 LCMS	Prevalence of poverty	April-May 2015	1,214
Zambia 2015 LCMS	Depth of Poverty	April-May 2015	1,214

2.1.3 Comparability of Data Sources Used for the ZOI Interim Assessment

This section discusses the comparability across data sources for the interim assessment.

Timing of Data Collection

Data for the 2015 ZOI interim survey were collected at the same time of year as the 2012 ZOI baseline data collection. Data for the LCMS 2015 were collected in April and May while data for the LCMS 2010 were collected in January to March.

Seasonality

Zambia's rainy season runs approximately from December through April, with cool dry weather from May through August, and the hot dry season in September, October, and November. The FTF FEEDBACK interim survey at the end of 2015 thus began at the end of the hot dry season and finished at the start of the rainy season. The LCMS in April-May 2015 was conducted at the end of the rainy season and beginning of cool dry season. **Table 2.5** provides indicators along with the season in which interim data were collected.

Table 2.5. Seasonal issues affecting comparison of indicators across data sources

Indicator	Season of data collection for interim
Daily per capita expenditures	End of rainy season/Beginning of cool dry season
Prevalence of Poverty	End of rainy season/Beginning of cool dry season
Depth of Poverty	End of rainy season/Beginning of cool dry season
Women's Empowerment in Agriculture Index	End of hot dry season/Beginning of rainy season
Prevalence of households with moderate or severe hunger	End of hot dry season/Beginning of rainy season
Women's Dietary Diversity	End of hot dry season/Beginning of rainy season
Prevalence of exclusive breastfeeding among children under 6 months of age	End of hot dry season/Beginning of rainy season
Prevalence of children 6-23 months receiving a minimum acceptable diet	End of hot dry season/Beginning of rainy season
Prevalence of underweight children under 5 years of age	End of hot dry season/Beginning of rainy season
Prevalence of stunted children under 5 years of age	End of hot dry season/Beginning of rainy season
Prevalence of wasted children under 5 years of age	End of hot dry season/Beginning of rainy season
Prevalence of underweight women	End of hot dry season/Beginning of rainy season

2.2 Measures and Reporting Conventions Used Throughout This Report

2.2.1 Standard Disaggregates

A standard set of disaggregate variables are used in tables throughout this report. This section lists each of the standard disaggregate variables and defines how the variable is calculated.

These variables are coded consistently; however, because data have been drawn from the ZOI interim survey and the LCMS, there may be minor cross-source variations in the data used to derive the standard disaggregates. These are noted in the variable descriptions below. The data source used for each Feed the Future indicator is also the data source used to produce the disaggregate variables presented in the associated descriptive tables.

Age in Months

The age of children in months is collected in the child nutrition-focused module of the questionnaire, rather than in the household roster, so that the child's parent or primary caregiver can be prompted to provide the most accurate age possible. Children's age in months is presented by monthly age groups as appropriate for the children's dietary intake and anthropometry tables. For example, for the minimum acceptable diet (MAD) table (Table 6.6), which presents the MAD indicator for children age 6-23 months, children's age in months is disaggregated into 6-month age groups as follows: 6-11 months, 12-17 months, and 18- 23 months. For the children's anthropometry tables (Tables 7.2, 7.3, and 7.4), which present the prevalence of stunting, wasting, and underweight for all children under 5 years of age, children's age in months is disaggregated into 12-month age groups as follows: 0-11 months, 12-23 months, 24-35 months, 36-47 months, and 48-59 months.

Age in Years

Data on respondent's age in years is collected in the household roster. For women age 15-49 and children under age 6, more detailed age data are collected in subsequent questionnaire modules to confirm eligibility to respond to the module questions; these more detailed age data are used where available. Age is generally presented in the tables in 5- or 10-year age groups.

Child Sex

The sex of the child – male or female – is a standard disaggregate for the tables presenting children's indicators, e.g., children's anthropometry (Tables 7.2, 7.3, and 7.4).

Educational Attainment (Household)

Household educational attainment reflects the highest level of education attained by any member of the household, as reported in the household roster of the corresponding questionnaire. This variable is used in tables that present household-level data, and comprises four categories: no education (households where no member has received any formal education); less than primary (households with at least one member who has entered the formal schooling system, but with no member who has completed primary); primary (households with at least one member whose highest educational attainment is completed primary, but with no member who has completed secondary); and secondary or more (households with at least one member whose highest educational attainment is completed secondary education or more). Households are categorized in only one of the four categories.

Educational Attainment (Individual)

Educational attainment at the individual level reflects the highest level of education attained by individual household members, as reported in the household roster of the corresponding questionnaire. This variable comprises four categories: no education (those who have not received any formal education), less than primary (those who have entered the formal schooling system but whose educational attainment is less than completed primary); primary (those who have completed primary but have not completed secondary); and secondary or more (those who have completed secondary education or more).

Gendered Household Type

Feed the Future Monitoring and Evaluation Guidance Series *Volume 6: Feed the Future Measuring Gender Impact Guidance* notes that household-level indicators should be disaggregated by *gendered household types* – that is: (1) households where members include both male and female

adults;[15] (2) households where members include male adult(s), but no female adults; (3) households where members include female adult(s), but no male adults; and (4) households with only members under age 18 (children), i.e., households with children only and no adult members. This approach to conceptualizing household type is distinct from the standard *head of household* approach, which is embedded with presumptions about household gender dynamics and may perpetuate existing social inequalities and prioritization of household responsibilities that may be detrimental to women.[16]

This variable is calculated using data on age and sex collected in the household roster of the survey questionnaire.

Household Hunger

As described in greater detail in Section 6.1 of this report, the Household Hunger Scale (HHS) characterizes households according to three categories of hunger severity: little to no household hunger, moderate household hunger, and severe household hunger. For the purposes of serving as a disaggregate in selected tables, the HHS is converted to a dichotomous measure reflecting households that report little to no household hunger, and households that report moderate or severe household hunger.

Household Size

For the ZOI surveys, household size is defined as the total number of people who: (1) are reported to be usual members of the household; and (2) have spent the night in the household within the past 6 months. This ordinal household size variable is recoded into a categorical variable as follows: small households (1-5 members), medium households (6-10 members), and large households (11 or more members). Note that the LCMS may use a slightly different definition of household member from that used in the ZOI surveys.

2.2.2 Reporting Conventions

The Feed the Future ZOI interim assessment reports are primarily descriptive in nature. This section provides an overview of the conventions used in reporting these descriptive results.

- In the tables throughout this report, weighted point estimates and unweighted sample sizes (denoted by *n*) are presented.
- Most estimates are shown to one decimal place, with the specific exceptions of per capita expenditures and the women's dietary diversity indicators, which are shown

[15] Adult is defined as age 18 or older.
[16] USAID. (2014a). p.1.

to two decimal places. Unweighted sample sizes in all tables and the population estimates in Tables 1.1 and 1.2 are shown as whole numbers.

- Values in the tables are suppressed when the unweighted sample size is insufficient to calculate a reliable point estimate ($n<30$); this is denoted by the use of the symbol ^ in the designated row and an explanatory footnote.

Bivariate relationships are described using cross tabulation, and the strength and direction of the relationships are assessed through the use of statistical tests. Analyses are performed in Stata using *svy* commands to handle features of data collected through the use of complex survey designs, including sampling weights, cluster sampling, and stratification.

Statistical significance ($p<0.05$) is denoted with matched superscripted letters attached to the row (usually the disaggregate variable) and column (usually the outcome variable) headings. Explanatory footnotes following each table clarify the meaning of the significance test annotation, and statistically significant relationships are highlighted in the narrative throughout the report.

3. ZOI Interim Survey Population

This section describes the background characteristics of the zone of influence (ZOI) population using data from the ZOI interim survey.

3.1 Demographics

Table 3.1 presents demographic characteristics of the households in the ZOI. Values are shown for all households, as well as by categories of gendered household type. This table presents the average household size, as well as the average number of female adults and children within the household. Household education, defined as the highest level of education of any member of the household, is also presented in this table.

Table 3.1. Household demographic characteristics

Characteristic	Total (All households)	By gendered household type[a]			
		Male and female adult	Female adult(s) only	Male adult(s) only	Child only
Mean household size[a]	5.9	6.1	4.5	^	-
Mean number of adult female household members[1,2]	1.3	1.4	1.4	^	-
Mean number of children (<2 years)[1]	0.4	0.4	0.3	^	-
Mean number of children (0-4 years)[1]	0.9	1.0	0.8	^	-
Mean number of children (5-17 years)[1]	2.4	2.4	2.3	^	-
Mean percentage of adults who are female[1,2,a]	53.7	49.7	100.0	^	-
Highest education level attained[a]					
No education	6.3	4.7	17.2	^	-
Less than primary	35.2	33.1	53.5	^	-
Primary	48.7	52.4	22.3	^	-
Secondary or more	9.7	9.9	7.0	^	-
n[3]	**768**	**694**	**61**	**13**	**0**

^ Results not statistically reliable, n<30.

[1] The count is based on household members with known age.

[2] Feed the Future defines adult as an individual age 18 or older. Females age 15-17 are of reproductive age, but are not considered adults by this definition.

[3] Sample n is the unweighted count of all households that responded to the survey.

[a] Significance tests were performed for associations between household characteristics and gendered household type. For example, a test was done between mean household size and gendered household type. When an association is found to be significant ($p<0.05$), a superscript is noted next to the household characteristic.

Source: FTF FEEDBACK ZOI Interim Survey, Zambia 2015.

Among all households in the Zambia ZOI, the average household size is 5.9 people. Male and female adult households have an average of 6.1 members, whereas female adult-only households have an average of 4.5 people. (The estimate for male adult-only households is suppressed due to small sample size, n<30 but data from those households are included in

Total (All Households)). As shown in the superscripts in Table 3.1, household size varies significantly by gendered household type.

The average number of adult (age 18 or over) females in ZOI households is 1.3. Regarding children, the average number of children under 2 years is 0.4; the average number of children 0-4 years is 0.9; and the average number of school-age children, those 5-17 years, is 2.4. None of these four household demographic characteristics – mean number of adult females, children under 2, children 0-4, and children 5-17 – vary significantly by gendered household type.

Over half (53.7 percent) of adults in Zambian ZOI households are female. About 6.3 percent of households have no education at all, and over one-third (35.2 percent) have less than primary education. Nearly half (48.7 percent) of ZOI households have primary education (i.e., they have at least one member whose highest level of education is completed primary, but no members with completed secondary or greater). Finally, nearly 1 in 10 (9.7 percent) of households in the Zambia ZOI have secondary or more education. Gendered household type is significantly associated with household educational attainment. Notably, among female adult-only households (those households with no adult males) over two-thirds have less than primary school (53.5 percent) or no education at all (17.2 percent). In comparison, less than 40 percent of male and female adult households have less than primary school (33.1 percent) or no education at all (4.7 percent).

Table 3.2 shows characteristics of the primary adult male and female decisionmakers in the sampled households in the ZOI. The primary male and primary female adult decisionmakers are household members age 18 or over who self-identify as the primary adult male and/or primary adult female responsible for both social and economic decisionmaking within the household. When they exist within a single household, primary male and female adult decisionmakers are typically, but not necessarily, husband and wife. Table 3.2 shows the age group, literacy status, and educational attainment for these household members. These characteristics are shown for all primary adult decisionmakers and for primary adult decisionmakers according to sex.

Among all primary adult decisionmakers, the modal age group is 30-39; over one-quarter (28.9 percent) of decisionmakers are within that age group. The age of household decisionmakers varies significantly by sex, with a greater proportion of female than male decisionmakers in the youngest age group (18-24). About 12.2 percent of female primary decisionmakers are in the 18-24 year age group, while only 6.9 percent of male primary decisionmakers are between the ages of 18 and 24 years.

With respect to literacy and educational attainment among primary adult decisionmakers in the Zambia ZOI, over half (51.0 percent) are literate (i.e., report they can read and write). Literacy among primary adult decisionmakers is also significantly associated with sex; about two-thirds of male decisionmakers (66.9 percent) compared to about one-third of female decisionmakers (37.5 percent) are literate.

Table 3.2. Characteristics of the primary male and female adult decisionmakers

Characteristic	Total (All primary adult decisionmakers)		By primary adult decisionmaker sex[a]			
			Male		Female	
	Percent	n	Percent	n	Percent	n
Age[a]						
18-24	9.7	1,417	6.9	665	12.2	752
25-29	11.7	1,417	9.0	665	14.0	752
30-39	28.9	1,417	31.3	665	26.8	752
40-49	18.4	1,417	21.1	665	16.1	752
50-59	15.8	1,417	15.0	665	16.4	752
60+	15.5	1,417	16.7	665	14.5	752
Literacy[a]						
Percent literate[1]	51.0	1,417	66.9	665	37.5	752
Educational attainment[a]						
No education	26.8	1,415	18.3	663	34.1	752
Less than primary	41.5	1,415	38.6	663	43.8	752
Primary	28.1	1,415	36.4	663	21.0	752
Secondary or more	3.6	1,415	6.6	663	1.1	752

[1] The percent who are literate comprises those who report that they can both read and write.

[a] Significance tests were performed for associations between the sex and background characteristics of the decisionmaker. For example, a test was done between sex and age of the decisionmaker. When an association is found to be significant ($p<0.05$), a superscript is noted next to the characteristic.

Source: FTF FEEDBACK ZOI Interim Survey, Zambia 2015.

The modal educational category among primary decisionmakers is less than primary schooling. About 41.5 percent have less than primary education, and an additional 26.8 percent have no education at all. As with literacy, educational attainment among households' primary adult decisionmakers is also significantly associated with sex, with female decisionmakers exhibiting lower levels of education than their male counterparts. Over one-third (34.1 percent) of female decisionmakers have no education at all; among male decisionmakers, however, only 18.3 percent have no education. Moreover, a greater percentage of male decisionmakers than female decisionmakers have secondary or more schooling (6.6 percent and 1.1 percent, respectively).

3.2 Living Conditions

Table 3.3 shows dwelling characteristics of the households in the ZOI. Many of these measures align with the 2015 Millennium Development Goals (MDG) definitions (UNDG, 2003). The table presents the percentage of households who have access to an improved water source, improved sanitation, electricity, and solid cooking fuel. The average number of people per sleeping room, as well as roof, exterior wall, and floor materials are also presented. Values are shown for all households.

Table 3.3. Household dwelling characteristics

Characteristic	Total (All households)	
	Estimate	n
Percent with improved water source[1]	81.3	768
Percent with improved sanitation[2]	9.6	768
Mean persons per sleeping room[3]	2.8	768
Percent using solid fuel for cooking[4]	98.6	767
Percent with access to electricity	30.2	768
Household roof materials (%)[5]		
Natural	51.4	766
Rudimentary	0.1	766
Finished	48.6	766
Household exterior wall materials (%)[6]		
Natural	50.7	767
Rudimentary	1.7	767
Finished	47.6	767
Household floor materials (%)[7]		
Natural	77.0	767
Rudimentary	0.0	767
Finished	23.0	767

[1] Improved water sources include piped water into the dwelling, piped water into the yard, a public tap/standpipe, a tube well/borehole, a protected dug well, a protected spring, and rainwater (WHO and UNICEF, 2006). The proportion of the population with sustainable access to an improved water source is the 2015 MDG indicator #30 (UNDG, 2003); however, as in most major international survey programs, the measure reported here reflects only access to an improved water source, and not the sustainability of that access.

[2] Improved sanitation facilities are those that separate human excreta from human contact and include the categories flush to piped sewer system, flush to septic tank, flush/pour flush to pit, composting toilet, ventilated improved pit latrine, and a pit latrine with a slab. Because shared and public facilities are often less hygienic than private facilities, shared or public sanitation facilities are not counted as improved (WHO and UNICEF, 2006). The proportion of the population with access to improved sanitation is the 2015 MDG indicator #31 (UNDG, 2003).

[3] The average number of persons per sleeping room is a common indicator of crowding (UNDG, 2003).

[4] Solid fuel is defined as charcoal, wood, animal dung, and agriculture crop residue. The proportion of the population using solid fuels is MDG indicator #29 (UNDG, 2003). The other and no food cooked in household categories are removed from percentages.

[5] Natural roofs include no roof, grass/thatch/straw, and sod. Rudimentary roofs include rustic mat, palm/bamboo, wood planks, and cardboard. Finished roofs include metal/iron sheets, wood, calamine/cement fiber, ceramic tiles, cement, roofing shingles, asbestos sheets, and asbestos tiles. The other category is removed from percentages.

[6] Natural walls include no walls, poles, dirt/mud, and mud brick. Rudimentary walls include pole and dagga, stone with mud, plywood, cardboard, reused wood, and steel/metal sheeting. Finished walls include cement, stone with lime/cement, pan bricks, concrete bricks, burnt bricks, and wood planks/shingles. The other category is removed from percentages.

[7] Natural floors include earth/sand, dung, and mud. Rudimentary floors include wood planks and palm/bamboo. Finished floors include parquet/polished wood, vinyl or asphalt strips, ceramic tiles, cement/concrete, and carpet. The other category is removed from percentages.

Source: FTF FEEDBACK ZOI Interim Survey, Zambia 2015.

Table 3.3 reveals that the great majority of households (81.3 percent) in the Zambia ZOI have access to improved water. This is somewhat higher than findings from other data sources for rural areas; the Zambia 2013-14 Demographic and Health Survey (DHS) reports that 46.6 percent of rural Zambian households (and 64.5 percent nationally) have an improved source of drinking water.[17]

[17] CSO, MOH, and ICF International. (2014). p.16.

Relative to improved water, a much smaller share of Zambian ZOI households has access to improved sanitation. As shown in Table 3.3, about one in every 10 households (9.6 percent) has access to improved sanitation facilities. The 2013-14 Zambia DHS improved sanitation estimate for rural households is 18.5 percent.[18]

Households in the Zambian ZOI have an average of 2.8 people per sleeping room. Nearly all households in the ZOI (98.6 percent) report using solid cooking fuel, an MDG indicator, and fewer than one-third (30.2 percent) of ZOI households have access to electricity. The 2013-14 DHS reports a nearly identical percentage (98.1 percent) of rural Zambian households using solid cooking fuel sources (e.g., coal/lignite, wood/straw/shrubs/grass, and animal dung), but only 3.8 percent of rural households with access to electricity (and 27.9 percent nationally).[19]

About half (51.4 percent) of households in the Zambia ZOI have natural roofs, defined as no roof, or roofs made of grass, thatch, straw, or sod. Nearly all of the remaining households, 48.6 percent, have finished roofs, or roofs made of metal/iron sheets, wood, calamine/cement fiber, ceramic tiles, cement, roofing shingles, asbestos sheets, or asbestos tiles.

Similar to roofs, Table 3.3 shows that about half of ZOI households (50.7 percent) have natural walls, defined as no walls or walls made from poles, dirt/mud, or mud brick. Nearly the same percentage (47.6 percent) have finished exterior walls, or walls made from cement, stone with lime/cement, pan bricks, concrete bricks, burnt bricks, or wood planks/shingles.

Most ZOI households (77.0 percent) have natural floors (i.e., floors of earth/sand, dung, or mud), although 23.0 percent of ZOI households have finished floors, or floors made of parquet/polished wood, vinyl or asphalt strips, ceramic tiles, cement/concrete, or carpet. As shown in Table 3.3, very few households in the Zambian ZOI have rudimentary roofs, walls, or floors. (Note that the 2013-14 DHS report does not present summary measures for natural/rudimentary/finished roofs, walls, and floors.)

3.3 Education

Table 3.4 presents school attendance, educational attainment, and literacy in the ZOI. The table presents the percent of male, female, and all household members under age 25 who are currently attending school. It also presents the percent of household members over age 9 who have attained a primary level of education, as well as the percent of household members who are reported as literate. Sex ratios in school attendance, attainment of primary education, and literacy are also presented. These measures align with MDG education indicators.

[18] Ibid. p.17.
[19] Ibid., p.18.

Table 3.4. School attendance, educational attainment, and literacy

Characteristic	Percent			Female to male ratio			n
	Attending school[1,a]	Attained a primary level of education[2,b]	Literate[3,c]	Attending school[1]	Attained a primary level of education[2]	Literate[3]	
Age group[a,b,c]							
5-9	39.0	n/a[1]	7.1	1.3	n/a[1]	1.6	877
10-14	73.7	6.4	40.9	1.2	2.0	1.5	707
15-19	43.0	43.6	57.6	0.9	1.1	1.0	641
20-24	10.2	49.5	61.1	0.3	0.7	0.7	350
25-29	n/a[2]	36.5	49.7	n/a[2]	0.6	0.6	246
30-34	n/a[2]	29.7	55.8	n/a[2]	0.8	0.7	231
35-54	n/a[2]	37.5	55.6	n/a[2]	0.6	0.6	716
55+	n/a[2]	23.5	42.3	n/a[2]	0.3	0.5	377
Sex[b,c]							
Female							
Age group							
5-9	43.4	n/a[1]	8.6	n/a[3]	n/a[3]	n/a[3]	454
10-14	81.1	8.8	49.5	n/a[3]	n/a[3]	n/a[3]	324
15-19	40.7	45.4	56.3	n/a[3]	n/a[3]	n/a[3]	286
20-24	4.8	42.3	50.7	n/a[3]	n/a[3]	n/a[3]	170
25-29	n/a[2]	27.2	37.4	n/a[3]	n/a[3]	n/a[3]	143
30-34	n/a[2]	26.1	46.0	n/a[3]	n/a[3]	n/a[3]	124
35-54	n/a[2]	27.9	43.3	n/a[3]	n/a[3]	n/a[3]	358
55+	n/a[2]	12.7	28.5	n/a[3]	n/a[3]	n/a[3]	202
Male							
Age group							
5-9	34.1	n/a[1]	5.3	n/a[3]	n/a[3]	n/a[3]	423
10-14	67.2	4.3	33.5	n/a[3]	n/a[3]	n/a[3]	383
15-19	45.3	41.9	58.9	n/a[3]	n/a[3]	n/a[3]	355
20-24	15.7	56.8	71.6	n/a[3]	n/a[3]	n/a[3]	180
25-29	n/a[2]	49.2	66.4	n/a[3]	n/a[3]	n/a[3]	103
30-34	n/a[2]	34.1	67.8	n/a[3]	n/a[3]	n/a[3]	107
35-54	n/a[2]	46.7	67.3	n/a[3]	n/a[3]	n/a[3]	358
55+	n/a[2]	37.0	59.5	n/a[3]	n/a[3]	n/a[3]	175

[1] The FTF FEEDBACK ZOI Interim Survey took place in November and December 2015, which overlapped with the school year in Zambia.

[2] The goals of achieving universal primary education and achieving gender equity with respect to education are assessed by multiple MDG indicators, typically using administrative school data. This table presents respondent-reported school attendance, primary educational attainment, and literacy, as well as the ratio of females to males on these measures (UNDG, 2003).

[3] The MDG indicators for universal primary education and gender equity within education are assessed through the literacy rate (MDG indicator #8) and the ratio of literate women to men (MDG indicator #10) among young adults, age 15-24 years (UNDG, 2003).

[a-c] A superscript in the column heading indicates significance tests were performed for associations between the indicator in the column heading, and age and sex. For example, a test was done for school attendance by sex, and a test was done for school attendance by age. When an association is found to be significant ($p<0.05$), the superscript of the column heading will appear next to the sex row heading and/or next to the age group row heading.

n/a[1] Not applicable – Children in the age group 5-9 years are not yet old enough to have attained a primary level of education.

n/a[2] Not applicable – Current school attendance applies to school-age children and youth only, ages 5-24.

n/a[3] Not applicable – Female to male ratios cannot be calculated for male-only and female-only disaggregates.

Source: FTF FEEDBACK ZOI Interim Survey, Zambia 2015.

The Zambian educational system consists of primary school (grades 1-7) and secondary school (Grades 8-12). Government primary schools are free and a national exam is held at the end of grade 7 (which culminates in the Certificate of Primary Education [CPE]). Secondary education includes junior secondary (grades 8-9) and senior secondary (grades 10-12). Zambian children begin school around age 7, and the school year starts in January and ends in December.[20]

Table 3.4 reveals that the age group where school attendance is most prevalent is age 10-14; nearly three-quarters (73.7 percent) of 10-14 year old children in the ZOI are currently attending school. A much smaller percentage, 39.0 percent, of children age 5-9 are currently attending school (although many of these children, particularly children age 5-6, may not yet have begun their schooling). As denoted by the superscripts in Table 3.4, current school attendance varies significantly by age, but not by sex.

Attainment of a primary level of education in the Zambia ZOI varies significantly by both age group and sex. Slightly more than two of every five 15-19 year olds (43.6 percent), and about half of 20-24 year olds (49.5 percent) in the Zambian ZOI have attained a primary level of education. However, this percentage declines with increasing age; less than one-quarter (23.5 percent) of ZOI residents aged 55 or above have attained a primary level of education.

Sex disparities in attainment of primary education are particularly noticeable for specific age groups. While the percentages of males and females in the youngest applicable age group (i.e., 10-14 years) that have obtained a primary education are quite small, the percentage of females who have attained primary education in that age group (8.8 percent) is twice that of the percentage of males (4.3 percent). As shown in Table 3.4, this apparent female advantage in the attainment of primary education among younger children is reversed in the older age groups; at the highest age group (55 and above), over one-third (37.0 percent) of males, but only 12.7 percent of females, have attained primary schooling.

In addition to current school attendance and achievement of primary education, Table 3.4 also shows the percent literate in the Zambia ZOI by age group and sex. Both of these variables are significantly associated with literacy. Literacy is highest among the lower middle age groups: 61.1 percent for age 20-24 and 57.6 percent for those age 15-19. Roughly three of every five ZOI residents between the ages of 15 and 24 are literate. Literacy then appears to decline slightly with increasing age groups; among ZOI residents age 55 and above, 42.3 percent are literate. Among males in this age group, however, twice as many are literate compared to females (59.5 percent versus 28.5 percent).

Table 3.4 also presents female to male sex ratios of the indicators of current school attendance among household members age 5-24, achievement of primary education among household members age 10 and above, and literacy among household members age 5 and above. Values

[20] EPDC. (2014).

less than 1.0 in this portion of the table illustrate disparities for females, and values greater than 1.0 illustrate disparities for males. In the Zambian ZOI, the greatest disparities between males and females appear to be with school attendance for age 20-24 (the sex ratio is 0.3), as well as primary educational attainment and literacy for the oldest age groups (55 and above), with ZOI females exhibiting disadvantage on these measures relative to similarly-aged males (sex ratios of 0.3 and 0.5, for primary education and literacy, respectively).

4. Household Economic Status

This section includes a background discussion of monetary poverty in Zambia. A decade of economic growth in Zambia has not translated into substantial poverty reduction. Overall, in 2010 about 60.5 percent of the national population lived below the poverty line, with 42.3 percent in extreme poverty. Those in urban areas have lower prevalence of poverty than rural populations (e.g., 27.5 percent in urban areas versus 77.9 percent in rural areas).[21] In2015 previously high copper prices fell, reducing income in that sector, and hydroelectric power generation has been impaired by poor rains.[22]

Data from the Living Conditions Monitoring Survey (LCMS) 2015 are used to calculate the per capita expenditures and prevalence and depth of poverty indicators. The LCMS follows the Living Standards Measurement Study (LSMS) methods, where households' consumption of various food and non-food items is measured to infer household income and well-being. From these data, household expenditure totals are calculated and used as a proxy for household incomes, based on the assumption that a household's consumption is closely related to its income. Household consumption and expenditures are often preferred to income when measuring poverty due to the difficulty in accurately measuring income. According to Deaton (2008), expenditure data are less prone to error, easier to recall, and more stable over time than income data.[23] Individuals' per capita expenditures are then derived by dividing total household expenditures by the number of household members.

4.1 Daily Per Capita Expenditure

Table 4.1 presents daily per capita expenditures, the Feed the Future indicator that measures average daily expenditures within the zone of influence (ZOI) per person in 2010 United States dollars (USD) after adjusting for 2005 purchasing power parity (PPP). Daily per capita expenditures serve as a proxy for income.

This table includes the mean per capita expenditures, distributional information, and the poorest quintile's share of consumption. The percentiles are shown to provide information on the distribution of expenditures. As is typical of expenditure and income data, these estimates are positively skewed, with the majority of the population consuming/spending very little, and a small portion consuming much more. The share of consumption attributed to the lowest quintile (the bottom 20 percent) is a measure of inequality, and an Millennium Development Goal (MDG).

[21] CSO. (2012). The national poverty line was 146,009 kwacha per adult equivalent per month in 2010 and the extreme poverty line was 96,366 kwacha.
[22] CIA. (2016).
[23] Deaton. (2008).

This table includes the mean per capita expenditure and percentile distribution of per capita expenditure. The percentiles are interpreted as the percentage of the population that has a per capita expenditure less than the listed value. For example, the cut off point for the 50th percentile is 0.63. This means that 50 percent of individuals have a per capita income less than $0.63 (2010 USD) per day. The 50th percentile is also the median. The percentiles are shown to provide information on the distribution of incomes. As is typical of expenditure and income data, these estimates are positively skewed, with the majority of the population earning very little, and a small portion earning much more. This is apparent because the median per capita expenditure of $0.63 (2010 USD) is much lower than the average per capita expenditure of $1.01 (2010 USD).

Table 4.1. Daily per capita expenditure by household characteristic (in 2010 USD)[1]

Characteristic	Estimate (weighted)						
	Mean[a]	Percentile					n[2]
		10th	25th	50th	75th	90th	
Total (All households)	1.01	0.22	0.39	0.63	1.15	2.11	1,214
Gendered household type[a]							
Male and female adults	0.99	0.22	0.37	0.61	1.15	2.04	992
Female adult(s) only	1.08	0.14	0.42	0.65	1.02	2.65	155
Male adult(s) only	2.11	0.42	0.54	0.90	1.90	5.74	67
Child(ren) only (no adults)	-	-	-	-	-	-	0
Household size[a]							
Small (1-5 members)	1.16	0.22	0.44	0.73	1.31	2.38	690
Medium (6-10 members)	0.94	0.21	0.35	0.58	1.03	2.04	483
Large (11+ members)	0.82	0.24	0.36	0.57	1.08	1.46	41
Household educational attainment[a]							
No education	0.78	0.12	0.18	0.40	0.66	1.17	76
Less than primary	0.65	0.14	0.32	0.56	0.79	1.24	275
Primary	0.82	0.24	0.38	0.61	1.05	1.53	447
Secondary or more	2.21	0.42	0.74	1.48	2.91	4.97	416

[1] Per capita expenditures measured in Zambia kwacha (ZK) were converted to 2010 USD using the Consumer Price Index (CPI) and the PPP Index estimated by The World Bank. We used the formula (2005 CPI ZK/April-May_2015 CPI ZK)*1/(PPP 2005)* (2010 USD CPI /2005 USD CPI) where ZK PPP 2005 =2.8303, April-May_2015 CPI ZK = 230.95, 2005 CPI ZK =100, 2010 USD CPI =111.65, and 2005 USD CPI = 100. The PPP Index used in this calculation reflects the revaluation of the kwacha in 2013, when one new kwacha replaced 1,000 old kwacha. The 2015 ZK to 2010 USD conversion factor was 0.1708.

[2] Records missing information for the disaggregate variables have been excluded from the disaggregated estimates. The unweighted sample size reflects this loss in observations; therefore disaggregates' sample sizes may not total to the aggregated sample size.

[a] Significance tests were performed for associations between per capita expenditure and household characteristics. For example, a test was done between per capita expenditure and gendered household type. When an association is found to be significant ($p<0.05$), the superscript is noted next to the household characteristic.

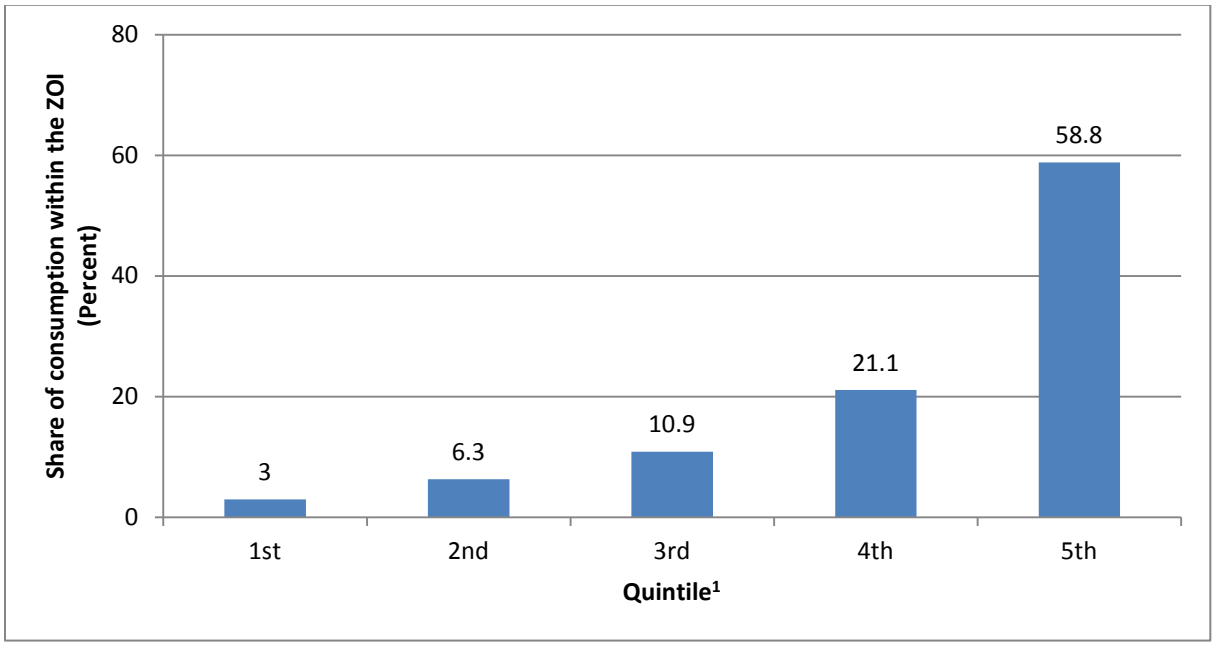
Source: Zambia 2015 Living Conditions Monitoring Survey.

Estimates in Table 4.1 are shown for all households as well as disaggregated by household characteristics, including gendered household type, household size, and household educational attainment. The table shows statistically significant differences between the mean per capita expenditure among the different categories of gendered household type, household size and household educational attainment. Male adult(s) only households have considerably higher expenditures than do households that include both male and female adults and those with

female adult(s) only. In general, it appears that smaller households have higher per capita expenditure and that per capita expenditure is higher with increasing levels of household education.

Figure 4.1 shows the share of total consumption per quintile in the ZOI. The share of consumption attributed to the lowest quintile (the bottom 20 percent) is a measure of inequality. This figure shows that the poorest 20 percent within the ZOI consumes only 3.0 percent of total consumption within the ZOI. Conversely, the wealthiest 20 percent within the ZOI consumes 58.8 percent of total consumption within the ZOI.

Figure 4.1. Share of consumption[1] per quintile: Feed the Future ZOI



[1] Share of the poorest quintile in national consumption is an MDG indicator that provides information on income inequality (UNDG, 2003). The poorest quintile is determined as the poorest fifth of the population. The poorest quintile's share of total consumption is calculated by dividing the consumption of the poorest quintile by total consumption within the ZOI.

Source: Zambia 2015 Living Conditions Monitoring Survey.

4.2 Prevalence and Depth of Poverty in the ZOI

The prevalence of poverty, sometimes called the poverty headcount ratio, is measured by determining the percent of individuals living below a poverty threshold. Estimates of poverty prevalence are sensitive to the poverty thresholds used to identify the poor. A standardized poverty threshold of $1.25 per person per day in adjusted[24] 2005 USD is used to track global changes in poverty across countries and over time, including for the purpose of monitoring

[24] Adjustments are made according to PPP conversions. These conversions are established by The World Bank to allow currencies to be compared across countries in terms of how much an individual can buy in a specific country. The $1.25 in 2005 PPP means that $1.25 could buy the same amount of goods in another country as $1.25 could in the United States in 2005.

progress toward international goals such as the MDG to eradicate extreme poverty and hunger. The $1.25 threshold is in effect the extreme poverty threshold and represents the poverty line typical of the world's poorest countries.[25] Poverty estimates are also presented for Zambia's own poverty and food poverty thresholds.

Where the poverty prevalence indicates how *many* individuals are impacted by poverty, it does not speak to how *much* people are impacted by poverty. The depth of poverty, often called the poverty gap, is a useful poverty estimate because it captures the extremity of poverty. This measure indicates the average gap between income levels and the poverty line, with the non-poor counted as having a gap of zero. The measure is expressed as a proportion of the poverty line. The depth of poverty or poverty gap represents the entire ZOI population. The average income shortfall of the poor, in contrast, is estimated for only those individuals living below the poverty line.

4.2.1 The $1.25 Poverty Threshold

Table 4.2 presents poverty estimates at the $1.25 per day (2005 PPP) threshold. The prevalence of poverty and depth of poverty at the $1.25 per day poverty line are Feed the Future indicators. Similar to the per capita expenditure table, this table presents poverty estimates for all households in the ZOI, as well as disaggregated by household characteristics, including gendered household type, household size, and household educational attainment.

[25] World Bank. (2011).

Table 4.2. Poverty at the $1.25 (2005 PPP)[1] per person per day threshold

Characteristic	Prevalence of poverty[2]		Depth of poverty[3]		Average consumption shortfall of the poor[4]		
	Percent population[a]	n[5]	Percent of poverty line[b]	n[5]	In USD 2005 PPP[c]	Percent of poverty line[c]	n[5]
Total (All households)	80.9	1,214	47.3	1,214	0.73	58.4	708
Gendered household type[a,b,c]							
Male and female adults	80.8	992	47.5	992	0.75	60.2	608
Female adult(s) only	85.6	155	52.5	155	0.73	58.8	83
Male adult(s) only	63.0	67	32.4	67	0.64	51.4	17
Child(ren) only (no adults)	-	-	-	-	-	-	0
Household size[a,b,c]							
Small (1-5 members)	78.0	690	42.9	690	0.69	55.0	363
Medium (6-10 members)	81.9	483	49.8	483	0.76	60.8	315
Large (11+ members)	89.8	41	51.2	41	0.71	57.0	30
Household educational attainment[a,b,c]							
No education	91.7	76	64.5	76	0.88	70.3	54
Less than primary	91.5	275	56.8	275	0.78	62.1	228
Primary	86.2	447	48.8	447	0.71	56.6	333
Secondary or more	46.0	416	22.0	-	0.60	47.9	93

[1] The Feed the Future poverty indicators are based on the poverty threshold of $1.25 (2005 PPP) per person per day.

[2] The prevalence of poverty is the percentage of individuals living below the $1.25 (2005 PPP) per person per day threshold. Poverty prevalence is sometimes referred to as the poverty incidence or poverty headcount ratio.

[3] The depth of poverty, or poverty gap, is the average consumption shortfall multiplied by the prevalence of poverty.

[4] The average consumption shortfall of the poor is the average amount below the poverty threshold of a person in poverty. This value is estimated only among individuals living in households that fall below the poverty threshold.

[5] Records missing information for the disaggregate variables have been excluded from the disaggregated estimates. The unweighted sample size reflects this loss in observations; therefore disaggregates' sample sizes may not total to the aggregated sample size.

[a-c] Superscripts in the column heading indicates significance tests were performed for associations between the indicator in the column heading and each of the variables in the rows. For example, a test was done between prevalence of poverty and gendered household type. When an association between the column indicator and row variable is found to be significant ($p<0.05$), the superscript for the indicator in the column heading is noted next to the row variable.

Source: Zambia 2015 Living Conditions Monitoring Survey.

Poverty Prevalence

Just over 80 percent (80.9) of individuals in the ZOI live below the $1.25 poverty threshold.

There are statistically significant differences in the prevalence of poverty among the different categories of gendered household type, household size, and household educational attainment. Male adult(s) only households have considerably lower prevalence of poverty than do households that include both male and female adults and those with female adult(s) only, and female adult(s) only households have the highest prevalence of poverty. In general, it appears that smaller households have lower prevalence of poverty and that the prevalence of poverty is lower with increasing levels of education.

Depth of Poverty

The depth of poverty in the ZOI is 47.3 percent, which indicates that the average gap between consumption levels of the population and the poverty line is $0.59 (2005 PPP).

The depth of poverty provides an indication of the amount of resource transfers that, if *perfectly* targeted to poor households, would be needed to bring everyone below the poverty line up to the poverty line. With a ZOI population of 1.6 million, a poverty threshold of $1.25 per day, and a poverty gap of 47.3 percent, $951 thousand (2005 PPP) per day would need to be transferred to the poor to bring their income up to the poverty threshold.

The depth of poverty is significantly different among the categories of gendered household type, household size, and household educational attainment. Female adult(s) only households have a higher depth of poverty, and smaller households have a lower depth of poverty. Households with no education and less than primary education have the highest depth of poverty while households who have at least a secondary level of education have the lowest depth of poverty.

Average Income Shortfall of the Poor

The average *poor* person within the ZOI lives at 41.6 percent of the poverty line, or 58.4 percent below the poverty line. The average value of consumption of a *poor* person is $0.52 (2005 PPP) per day or, stated differently, the average person living in poverty consumes $0.73 (2005 PPP) less than the $1.25 poverty threshold.

Among those who are poor, there is a statistically significant relationship between average consumption shortfalls and the categories of gendered household type, household size, and household educational attainment. Among the impoverished, male adult(s) only households have the smallest consumption shortfall, the large-sized households have a largest consumption shortfall and those households with no education or less than a primary level of education have the greatest consumption shortfalls.

4.2.2 The National Poverty and Extreme Poverty Thresholds

Table 4.3 presents poverty estimates at the national poverty threshold for Zambia. **Table 4.4** presents poverty estimates at the national extreme poverty threshold. Similar to the $1.25 per person per day poverty table, the tables present poverty estimates for all households in the ZOI, as well as disaggregated by household characteristics, including gendered household type, household size, and household educational attainment.

Table 4.3. Zambia 2015: Poverty at the 2015 national threshold of 214.3 ZMW per adult equivalent per month[1]

Characteristic	Prevalence of poverty[2]		Depth of poverty[3]		Average consumption shortfall of the poor[4]		
	Percent population[a]	n[5]	Percent of poverty line[b]	n[5]	In USD 2005 PPP[c]	Percent of poverty line[c]	n[5]
Total (All households)	70.0	1,214	35.6	561	0.64	50.9	561
Gendered household type[a,b,c]							
Male and female adults	70.2	992	36.0	484	0.64	51.3	484
Female adult(s) only	70.6	155	33.6	62	0.60	47.6	62
Male adult(s) only	57.5	67	23.4	15	0.51	40.6	15
Household size[a,b,c]							
Small (1-5 members)	63.6	690	31.0	275	0.61	48.8	275
Medium (6-10 members)	73.9	483	38.4	262	0.65	51.9	262
Large (11+ members)	74.4	41	38.8	24	0.65	52.1	24
Household educational attainment[a,b,c]							
No education	86.6	76	54.4	48	0.79	62.8	48
Less than primary	84.3	275	43.3	199	0.64	51.4	199
Primary	71.4	447	36.3	248	0.64	50.8	248
Secondary or more	37.4	416	15.1	66	0.51	40.4	66

[1] The national threshold used in this analysis is the updated total poverty threshold used in the analysis of the Zambia 2015 Living Conditions Monitoring Survey. The threshold of 214.3 ZMW per adult equivalent per month is equivalent to US$0.81 per person per day at 2005 PPP.

[2] The prevalence of poverty is the percentage of individuals living below the national poverty line. Poverty prevalence is sometimes referred to as the poverty incidence or poverty headcount ratio.

[3] The depth of poverty, or poverty gap, is the average consumption shortfall multiplied by the prevalence of poverty.

[4] The average consumption shortfall of the poor is the average amount below the poverty threshold of a person in poverty. This value is estimated only among individuals living in households that fall below the poverty threshold.

[5] Records missing information for the disaggregate variables have been excluded from the disaggregated estimates. The unweighted sample size reflects this loss in observations; therefore disaggregates' sample sizes may not total to the aggregated sample size.

[a-c] A superscript in the column heading indicates significance tests were performed for associations between the indicator in the column heading and each of the variables in the rows. For example, a test was done between prevalence of poverty and gendered household type. When an association between the column indicator and row variable is found to be significant ($p<0.05$), the superscript for the indicator in the column heading is noted next to the row variable.

Source: Zambia 2015 Living Conditions Monitoring Survey.

The national poverty line and the national extreme poverty line were developed by the National Food and Nutrition and Price and Income Commissions using a cost-of-basic-needs approach in 1991. The thresholds have since been updated to 2015 prices. Unlike the $1.25 poverty per person per day threshold, the national poverty lines were created for adult equivalents and were developed as monthly amounts. In 2010, the food (extreme) poverty line was set at 96,366 kwacha per adult equivalent per month and the national poverty line was set at 146,009 kwacha per adult equivalent per month. After rebasing the currency[26] and inflating 2015 prices, the extreme poverty line was set at 152 new kwacha per adult equivalent per

[26] Bank of Zambia. (2012).

month and the national poverty line was set at 214 new kwacha per adult equivalent per month.[27]

Poverty lines created in *adult equivalents* are not neatly comparable to poverty lines defined in *per capita* terms. Poverty thresholds defined in adult equivalents vary by age in Zambia whereas per capita thresholds do not vary by age. The *average* extreme poverty threshold per person per month is 114 new kwacha, while the national poverty line is equivalent to 159 new kwacha per capita per month. The difference between *adult equivalent* and *per capita* thresholds are further discussed in Appendix 2.2.

As seen in Table 4.3, 70.0 percent of individuals in the ZOI live below the national poverty threshold. The national poverty line identifies fewer individuals as poor than does the $1.25 poverty threshold because the national poverty line (214 new kwacha per adult equivalent per month) is lower than the international extreme threshold of $1.25 per person per day (equivalent to 246 new kwacha per person per month).

There is a significant relationship between all three disaggregate variables (gendered household type, household size and household educational attainment) and the prevalence of poverty, the depth of poverty and the average income shortfall of the poor at the national poverty line. Male adult(s) only households have lower prevalence and depth of poverty and poor male adult(s) only households have smaller average consumption shortfalls, as do smaller households and those with secondary or more education. The differences between male and female adult households and female adult(s) only households are not large.

[27] CIA. (2016).

Table 4.4. Zambia 2015: Poverty at the 2015 national extreme threshold of 151.9 ZMW per adult equivalent per month[1]

Characteristic	Prevalence of poverty[2]		Depth of poverty[3]		Average consumption shortfall of the poor[4]		
	Percent popula-tion[a]	n[5]	Percent of poverty line[b]	n[5]	In USD 2005 PPP	Percent of poverty line[c]	n[5]
Total (All households)	56.6	1,214	24.1	412	$0.32	42.5	412
Gendered household type[a,b,c]							
Male and female adults	57.2	992	24.4	360	$0.33	42.7	360
Female adult(s) only	52.2	155	22.4	42	$0.33	44.1	42
Male adult(s) only	41.5	67	11.3	10	$0.21	27.3	10
Household size[a,b,c]							
Small (1-5 members)	48.1	690	20.7	188	$0.33	43.1	188
Medium (6-10 members)	60.8	483	26.2	203	$0.33	43.1	203
Large (11+ members)	70.4	41	25.2	21	$0.27	35.8	21
Household educational attainment[a,b,c]							
No education	77.4	76	42.7	39	$0.42	55.2	39
Less than primary	67.8	275	29.4	150	$0.33	43.3	150
Primary	59.0	447	24.3	184	$0.31	41.1	184
Secondary or more	25.1	416	9.0	39	$0.27	35.8	39

[1] The national extreme threshold used in this analysis is the severe poverty threshold used in the analysis of the 2015 Living Conditions Monitoring Survey. The threshold of 151.9 ZMW per adult equivalent per month is equivalent to US$0.57 per person per day at 2005 PPP.

[2] The poverty prevalence is the percentage of individuals living below the national extreme poverty line. Poverty prevalence is sometimes referred to as the poverty incidence or poverty headcount ratio.

[3] The depth of poverty, or poverty gap, is the average consumption shortfall multiplied by the prevalence of poverty.

[4] The average consumption shortfall of the poor is the average amount below the poverty threshold of a person in poverty. This value is estimated only among individuals living in households that fall below the poverty threshold.

[5] Records missing information for the disaggregate variables have been excluded from the disaggregated estimates. The unweighted sample size reflects this loss in observations; therefore disaggregates' sample sizes may not total to the aggregated sample size.

[a-c] A superscript in the column heading indicates significance tests were performed for associations between the indicator in the column heading and each of the variables in the rows. For example, a test was done between prevalence of poverty and gendered household type. When an association between the column indicator and row variable is found to be significant ($p<0.05$), the superscript for the indicator in the column heading is noted next to the row variable.

Source: Zambia 2015 Living Conditions Monitoring Survey.

Over 56 percent (56.6) of individuals in the ZOI have per capita consumption below the national extreme poverty threshold. These individuals do not have access to enough resources to purchase the minimum caloric intake for their age group.

Prevalence of extreme poverty, depth of extreme poverty and average consumption shortfall of the extremely poor differ significantly by disaggregate variables. Male adult(s) only households have the lowest prevalence and depth of extreme poverty while male and female adult households have the highest. The poverty prevalence and depth of poverty are greater among medium-sized households than smaller households. Finally, the poverty prevalence and the depth of poverty are much higher among households with no education and much lower among households with secondary or higher.

5. Women's Empowerment in Agriculture

While women play a prominent role in agriculture, they face persistent economic and social constraints. Because of this, women's empowerment is a main focus of Feed the Future. Empowering women is particularly important to achieving the Feed the Future objectives of inclusive agriculture sector growth and improved nutritional status. The Women's Empowerment in Agriculture Index (WEAI) was developed to track the change in women's empowerment that occurs as a direct or indirect result of interventions under Feed the Future and as a programming tool to identify and address the constraints that limit women's full engagement in the agriculture sector.[28] For more information, the WEAI questionnaires and manual can be found online.[29]

5.1 Overview

The WEAI measures empowerment in five domains. The *Production* domain assesses the ability of individuals to provide input and autonomously make decisions about agricultural production. The *Resources* domain reflects individuals' control over and access to productive resources. The *Income* domain monitors individuals' ability to direct the financial resources derived from agricultural production or other sources. The *Leadership* domain reflects individuals' social capital and comfort speaking in public within their community. The *Time* domain reflects individuals' workload and satisfaction with leisure time. The WEAI aggregates information collected for each of the five domains into a single empowerment indicator.

The index is composed of two subindices: the Five Domains of Empowerment (5DE) subindex, which measures the empowerment of women in the five empowerment domains, and the Gender Parity Index (GPI), which measures the relative empowerment of men and women within the household. The WEAI questionnaire is asked of the primary adult male and female decisionmaker in each household and compares the 5DE profiles of women and men in the same household. The primary adult decisionmakers are individuals age 18 or older who are self-identified as the primary adult male or female decisionmaker during the collection of the household roster.[30] The WEAI score is computed as a weighted sum of the zone of influence (ZOI)-level 5DE and the GPI.

The ZOI interim survey, however, only collects data for nine of the 10 indicators and only for the primary adult *female* decisionmakers, not for primary adult *male* decisionmakers, within sampled households. The data collected during the 2015 interim survey allow calculation of nine of the 10 individual empowerment indicators for primary adult female decisionmakers (referred

[28] Alkire et al. (2013).
[29] IFPRI. (2013). http://feedthefuture.gov/lp/womens-empowerment-agriculture-index.
[30] The respondents of the WEAI questionnaire are only the primary decisionmakers in the household and, therefore, may not be representative of the entire female and male populations in the surveyed area.

to hereafter as *surveyed women*), enabling Feed the Future to assess change to the individual indicators or constraints that are affecting women's empowerment in countries' ZOIs. This section presents findings on these nine empowerment indicators.

Since data were not collected from men and the *Autonomy in Production* indicator is excluded, the WEAI score cannot be calculated for the interim assessment. Interim WEAI data collection was streamlined to reduce the overall length of the WEAI module and survey questionnaire, and to address concerns over the validity of the *Autonomy in Production* sub-module used in the baseline surveys. Feed the Future is still working with partners to revise the *Autonomy in Production* sub-module. Data to calculate the full WEAI will be collected during the 2017 interim survey.

Table 5.1 presents the five empowerment domains, their definitions under the WEAI, the corresponding 10 indicators, and the percentage of women who achieve adequacy in the nine indicators assessed in the ZOI interim survey. Because it was not possible to calculate whether a woman is empowered or not based on the complete set of indicators that comprises the 5DE, the percentages presented in Table 5.1 reflect the proportion of all surveyed women with adequacy in individual indicators regardless of their empowerment status (i.e., the uncensored headcount) and not the proportion of surveyed women who are disempowered and achieve adequacy in individual indicators (i.e., the censored headcount).[31] The criteria for determining adequacy in each domain are provided in Appendix A2.3.

Among surveyed women in the Zambia ZOI, the 5DE indicators with the highest uncensored (or "raw") headcounts (i.e., the greatest achievement of adequacy) are (1) control over the use of income (94.8 percent), (2) ownership of assets (93.0 percent), and (3) satisfaction with leisure time (92.8 percent). The 5DE indicators with the lowest levels of achievement are (1) access to and decisions on credit (30.5 percent), (2) workload (72.2 percent), and (3) purchase, sale or transfer of assets (73.6 percent).

The tables and text in the remainder of Section 5 present further description of the individual components of these 5DE indicators.

[31] See Appendix A2.3 for the criteria for achieving adequacy in each WEAI indicator.

Table 5.1. Achievement of adequacy on Women's Empowerment in Agriculture Index indicators[1]

Domain	Definition of domain	Indicators	Percent with adequate achievement	n
Production	Sole or joint decisionmaking over food and cash crop farming, livestock, and fisheries, and autonomy in agricultural production	Input in productive decisions	91.7	719
		Autonomy in production	n/a	n/a
Resources	Ownership, access to, and decisionmaking power over productive resources such as land, livestock, agricultural equipment, consumer durables, and credit	Ownership of assets	93.0	719
		Purchase, sale or transfer of assets	73.6	719
		Access to and decisions on credit	30.5	719
Income	Sole or joint control over income and expenditures	Control over use of income	94.8	719
Leadership	Membership in economic or social groups and comfort in speaking in public	Group member	75.0	719
		Speaking in public	81.3	719
Time	Allocation of time to productive and domestic tasks and satisfaction with the available time for leisure activities	Workload	72.2	719
		Leisure	92.8	719

[1] The ZOI interim survey includes an abridged version of the empowerment instrument, and the ZOI interim survey did not include information to measure women's autonomy in agricultural production. Due to this omission, censored headcounts and the 5DE cannot be calculated.

n/a Data for this empowerment indicator were not collected for the ZOI interim surveys.

Source: FTF FEEDBACK ZOI Interim Survey, Zambia 2015.

5.2 Production

Table 5.2 presents economic activities (including agricultural activities) among surveyed women. This table presents the percentage of surveyed women who are involved in agricultural activities (food crop farming, cash crop farming, livestock raising, or fishing); non-farm economic activities, and wage or salaried employment. This table also presents the percentage of women who have input into the decisions made regarding a specific activity.

Nearly all surveyed women (99.4 percent of primary female decisionmakers) in the Zambia ZOI report participating in a productive activity, and of these women, nearly all (95.9 percent) report having input into the decisions made about the activities. Food crop farming (defined as crops primarily for household food consumption) is the activity with the highest participation, at 96.8 percent of surveyed women in the ZOI. In addition to food crop farming, smaller percentages of women report livestock raising (77.5 percent) and cash crop farming (57.3 percent). The economic activity with the lowest participation in the Zambia ZOI is fishing or fishpond culture (only 1.1 percent of surveyed women).

Table 5.2. Economic activities and input in decisionmaking on production among surveyed women

Activity	Participates in activity		Has input[1] into decisions about activity	
	Percent	n[2]	Percent	n[1,3]
Total (All surveyed women)	99.4	719	95.9	708
Type of activity				
Food crop farming	96.8	719	89.4	673
Cash crop farming	57.3	719	84.0	429
Livestock raising	77.5	719	89.5	572
Fishing or fishpond culture	1.1	719	^	7
Non-farm economic activities	37.7	719	95.5	276
Wage or salaried employment	23.4	719	97.3	148

^ Results not statistically reliable, n<30.

[1] *Having input* means that a woman reported having input into most or all decisions regarding the activity.

[2] Estimates exclude households who have no primary adult female decisionmaker or whose data are missing/incomplete.

[3] Women who do not participate in an activity or report that no decision was made are excluded from these percentages.

Source: FTF FEEDBACK ZOI Interim Survey, Zambia 2015.

Women who participate in the specific economic activities shown in Table 5.2, report high levels of input into decisions regarding the activity. For each respective economic activity (for which there is sufficient sample size), more than 80 percent of women report having input into decisionmaking. The activity with women's greatest reported input into decisionmaking is wage or salaried employment (97.3 percent).

Table 5.3 shows the percentage of surveyed women who have input into the decisions made regarding the use of income derived from an activity. Nearly all women (96.5 percent) report having input into the use of income generated from the economic activities in which they participate. Of the specific activities for which there is an adequate sample size (all but fishing or fishpond culture), over 85 percent of women report having input in the use of income from the activity. Similar to the results shown in Table 5.2 (which was about input in decisions about specific activities), the activity with the greatest income-related input is wage or salaried employment; 96.4 percent of the sub-group of women participating in this economic activity report having input into the use of income generated from their wage or salaried employment.

In addition to the decisionmaking of women on broad agricultural and economic activities, the WEAI module collects information on the extent to which women can contribute to specific agricultural and economic activities. **Table 5.4** presents the percent distribution of surveyed women's perceived ability to contribute to decisions regarding various activities. The row percentages total to 100 percent.

Table 5.3. Input in decisionmaking on use of income among surveyed women

Activity	Has input[1] into use of income from activity	
	Percent	n[2,3]
Total (All surveyed women)	96.5	666
Type of activity		
Food crop farming	86.9	489
Cash crop farming	86.2	419
Livestock raising	88.9	471
Fishing or fishpond culture	^	6
Non-farm economic activities	95.5	271
Wage or salaried employment	96.4	147

^ Results not statistically reliable, n<30.

[1] *Having input* means that a woman reported having input into most or all decisions regarding the use of income generated from the activity.

[2] Estimates exclude households who have no primary adult female decisionmaker or whose data are missing/incomplete.

[3] Women who do not participate in an activity or report that no decision was made are excluded from these percentages.

Source: FTF FEEDBACK ZOI Interim Survey, Zambia 2015.

Table 5.4. Decisionmaking on production among surveyed women

Activity	Extent to which respondents feel they can make their own decisions (percent)[1,2]				Not applicable[3]	n
	Not at all	Small extent	Medium extent	High extent		
Getting inputs for agricultural production	8.0	16.6	18.1	57.3	0.1	719
The types of crops to grow	5.3	14.9	16.7	62.9	0.1	719
Whether to take crops to the market	10.7	13.9	16.3	53.0	6.2	719
Livestock raising	10.4	14.7	13.3	55.3	6.3	719
Her own wage or salary employment	5.0	9.7	6.9	49.2	29.2	718
Major household expenditures	11.4	15.2	13.4	45.5	14.6	719
Minor household expenditures	2.1	8.8	8.9	79.9	0.2	719

[1] Estimates exclude households who have no primary adult female decisionmaker or whose data are missing or incomplete. Women who do not participate in an activity, or who report that no decision was made, are excluded from these percentages.

[2] When a primary adult female decisionmaker reports that she alone makes decisions about the specified activities, she is not asked any further questions, and is categorized during analysis as making her own decisions "to a high extent." When she reports making decisions about the specified activities in conjunction with other individuals, she is asked an additional question about the extent to which she feels she could make her own personal decisions on the specified matters, with possible response options being "not at all," "to a small extent," "to a medium extent," or "to a high extent." Responses are recoded accordingly.

[3] This category includes respondents who report participating in the activity, but say that making the specified decision is not applicable to their situation.

Source: FTF FEEDBACK ZOI Interim Survey, Zambia 2015.

Across the various activities shown in Table 5.4, the activity with the highest percentage of women reporting that they have no decisionmaking ability at all is with respect to major household expenditures (such as the purchase of a large household appliance); 11.4 percent of women report having no decisionmaking ability in this area. This is followed closely by decisionmaking regarding whether to take crops to the market (10.7 percent report having no decisionmaking ability at all) and livestock raising (10.4 percent).

When examining the areas where women report the most decisionmaking ability, the most common activity about which women report their ability to make decisions to a "high extent" is minor household expenditures (79.9 percent). About four of every five women report that they can make decisions about minor household expenditures (such as food for daily consumption or other household needs) to a high extent. In contrast, less than half (45.5 percent) of women report their ability to make decisions to a high extent for major household expenditures.

Tables 5.2, 5.3, and 5.4 present information contributing to two indicators of the WEAI. *Input into productive decisions*, one indicator of the *Production* domain, is measured by the extent to which individuals make decisions or feel they can make decisions on the economic activities listed in the three tables. The *Income* domain is comprised entirely of a single indicator measuring the control over use of income. This indicator captures individuals' ability to make decisions involving the income generated from their productive activity or the extent to which they feel they can make decisions regarding household expenditure and wage income.

5.3 Productive Resources

One of the 10 indicators of the WEAI is the ownership of productive resources. The ability of women to make decisions on the use of productive resources is a second indicator of the *Resource* domain. **Table 5.5** presents households' ownership of productive resources, as reported by surveyed women. Table 5.5 also presents the percentage of women who can make a decision to purchase or to sell, give away, or rent owned items. Women are counted as having the ability to make a decision if they can solely make a decision or if they can make these decisions with others with any degree of input.

Of the 14 productive resources included in the WEAI module, those most commonly owned by ZOI households in Zambia (specifically, only the subsample of ZOI households with a primary adult female decisionmaker) include small consumer durables such as a radio or cookware (owned by 99.5 percent of households), and non-mechanized farm equipment, such as hand tools, animal-drawn plows, etc. (owned by 99.2 percent of households). These items were reported to be owned by nearly all of the households in the WEAI sample in the Zambia ZOI. The least commonly owned resources include fish pond or fishing equipment (1.0 percent of households) and mechanized farm equipment, e.g., tractor-drawn plows, power tillers, etc. (1.5 percent of households). Fewer than 2 percent of ZOI households own these items.

Table 5.5. Household ownership and surveyed women's control over productive resources

Type of resource	Someone in the household owns item		Woman can decide to purchase items		Woman can decide to sell/give/rent owned items	
	Percent	n[1]	Percent	n[1]	Percent	n[1]
Agricultural land	96.6	719	40.4	687	41.2	690
Large livestock	44.2	718	47.1	400	44.2	402
Small livestock	47.5	719	64.4	385	66.2	385
Chickens, ducks, turkeys, and pigeons	68.3	719	71.4	522	73.3	522
Fish pond or fishing equipment	1.0	719	^	8	^	7
Non-mechanized farm equipment	99.2	719	56.9	709	66.1	703
Mechanized farm equipment	1.5	718	^	15	^	14
Nonfarm business equipment	20.3	719	n/a		n/a	
House or other structures	36.6	718	n/a		n/a	
Large consumer durables	25.0	719	n/a		n/a	
Small consumer durables	99.5	719	n/a		n/a	
Cell phone	64.6	719	n/a		n/a	
Non-agricultural land	23.4	719	n/a		n/a	
Means of transportation	67.0	719	n/a		n/a	

^ Results not statistically reliable, n<30.

[1] Estimates exclude households that have no primary adult female decisionmaker or in which Module G data are missing/incomplete. Those who indicate "Not applicable" are excluded from estimates.

n/a Questions regarding who can decide to purchase, sell, give or rent the item were not included in the ZOI interim surveys.

Source: FTF FEEDBACK ZOI Interim Survey, Zambia 2015.

For the first seven resources shown in Table 5.5, women were asked the extent of their decisionmaking ability to purchase (the middle set of columns), or to sell, give away, or rent the specific owned item. Of the resources with sufficient sample size, the purchase of poultry/fowl (e.g., chickens, ducks, turkeys, and pigeons) was the item with the greatest percentage of women's decisionmaking, at 71.4 percent of women in households who owned this item. This was followed by the purchase of small livestock (e.g., goats, pigs, or sheep), at 64.4 percent of women. Regarding women's decisionmaking over selling, giving away, or renting the owned resources, the items with the highest percentages on this measure were also poultry/fowl (73.3 percent) and small livestock (66.2 percent).

In other words, among the 68.3 percent of ZOI households that own poultry/fowl, 71.4 percent (fewer than three-quarters) of primary adult female decisionmakers report the ability to make purchasing decisions (solely or with any degree of input) about poultry/fowl, and

a similar proportion (73.3 percent) report any decisionmaking ability to sell, give away, or rent the poultry/fowl.

As shown in Table 5.5, the great majority of households (96.6 percent) in the Zambia ZOI own some agricultural land. Yet within these land-owning households, a minority of primary adult women (40.4 percent) report they have any decisionmaking input to purchase agricultural land, and a similar minority (41.2 percent) report they have any decisionmaking input to sell, give away, or rent agricultural land.

Table 5.6 shows the third indicator of the *Resources* domain, access to, and decisionmaking on credit. The table presents the percent of surveyed women who report that a member of the household has in the past 12 months received any loan, either an in-kind loan (such as food items or raw materials), or a cash loan. These categories are not mutually exclusive. Further, for women living in households where a household member has received a loan, the table presents the percentage who report having contributed to the decision to take the loan and the subsequent decisions on how to use the loan. These figures are disaggregated by the source of the loan.

In the Zambia ZOI, about half of the households in the WEAI module (50.4 percent) report a household member receiving any type of loan in the prior year. The most common credit source overall (of the five possible sources) is friends or relatives (26.5 percent). When examining type of loans, the most common type is cash loans; about one-third (33.2 percent) of households received a cash loan, and one-quarter (25.5 percent) reported receiving an in-kind loan in the prior 12 months.

Among the subsample of women living in households that received a loan in the prior year (n=359), the bottom half of Table 5.6 presents the percentages who reported having contributed to two different decisions surrounding the loan: (1) the decision on whether to borrow, and (2) the decision on how to use the loan (what to do with the money or in kind item(s) loaned). Overall, 60.5 percent of women report contributing to at least one of the credit decisions. Very similar percentages of women reported contributing to the decisions on whether to borrow the loan (54.5 percent) and on how to use the loan (54.0 percent).

Table 5.6. Credit access among surveyed women

Estimate	Any source (percent)	Credit source (percent)[1]				
		Non-governmental organization	Informal lender	Formal lender	Friends or relatives	Group-based micro-finance
Total receiving a loan (All surveyed women)	50.4	11.3	11.4	1.1	26.5	15.8
Type of loan						
Any loan	50.4	11.3	11.4	1.1	26.5	15.8
In-kind loan	25.5	6.9	3.1	0.5	6.1	11.7
Cash loan	33.2	4.5	8.3	0.7	21.6	4.4
n[2]	**719**	**719**	**718**	**715**	**719**	**719**
Total contributing to a credit decision (All surveyed women)	60.5	61.0	57.2	^	56.1	57.8
Type of decisions						
On whether to borrow	54.5	51.2	48.7	^	49.4	52.7
On how to use loan	54.0	54.4	44.2	^	52.6	54.7
n[2]	**359**	**80**	**74**	**9**	**176**	**127**

^ Results not statistically reliable, n<30.

[1] Percentages sum to more than 100 because loans may have been received from more than one source.

[2] Estimates exclude households who have no primary adult female decisionmaker or whose data are missing/incomplete.

Source: FTF FEEDBACK ZOI Interim Survey, Zambia 2015.

5.4 Leadership in the Community

The *Leadership* domain measures an individual's influence and involvement with community organizations and issues impacting her community. The first indicator of the domain is an individual's ease speaking in public, which is measured by three questions related to the level of difficulty an individual faces when voicing her opinion regarding community decisions. On this indicator, 81.3 percent of surveyed women in the ZOI achieves adequacy in voicing her opinions on community matters (**Table 5.7**). This is also the uncensored headcount for this indicator, as shown in Table 5.1.

When looking at the three individual topics for public discussion asked about in the WEAI module, the percentages of surveyed women who are comfortable speaking in public about each of the topics are fairly consistent. About 72.3 percent of women report being comfortable speaking up in public to help decide on infrastructure to be built in the community. This is followed by speaking up in public to ensure proper payment of wages for public works or other similar programs (71.1 percent of women feel comfortable), and speaking up in public to protest the misbehavior of authorities or elected officials (70.3 percent of women).

Table 5.7. Comfort with speaking in public among surveyed women

Topics for public discussion	Percent Comfortable speaking in public about selected topics	n[1]
Total (All surveyed women)	81.3	719
Topics		
To help decide on infrastructure to be built in the community	72.3	706
To ensure proper payment of wages for public works or other similar programs	71.1	697
To protest the misbehavior of authorities or elected officials	70.3	709

[1] Estimates exclude households who have no primary adult female decisionmaker or whose data are missing/incomplete.

Source: FTF FEEDBACK ZOI Interim Survey, Zambia 2015.

The second indicator of the *Leadership* domain is an individual's participation in a community organization. **Table 5.8** shows the percentage of surveyed women who are active members of an organization in their community.

In the Zambia ZOI, three-quarters of surveyed women (75.0 percent) report membership in at least one group. (This is also the uncensored headcount for this indicator; 75.0 percent of women are adequate on the group membership indicator, also shown in Table 5.1.) The group type in the ZOI with the highest participation among primary adult female decisionmakers is religious groups, at 48.6 percent (nearly half) of surveyed women. Other group types in the ZOI with active participation among surveyed women, albeit at lower percentages, include credit or microfinance groups (22.2 percent of women), agricultural producers' groups (21.4 percent), and water user's groups (20.6 percent).

Table 5.8. Group membership among surveyed women

Group type	Percent[1] Is an active group member	n[2]
Total (All surveyed women)	75.0	719
Group type		
Agricultural producers' group	21.4	719
Water users' group	20.6	719
Forest users' group	6.2	719
Credit or microfinance group	22.2	719
Mutual help or insurance group	4.5	719
Trade and business association	4.2	719
Civic or charitable group	8.8	718
Local government	4.5	719
Religious group	48.6	719
Other	20.2	719

[1] The denominator for this percentage includes all surveyed women, even those who reported that no group exists or that she is unaware of the existence of a group in her community. Women who report that no group exists or who are unaware of a group are counted as having inadequate achievement of this indicator.

[2] Estimates exclude households who have no primary adult female decisionmaker or whose data are missing/incomplete.

Source: FTF FEEDBACK ZOI Interim Survey, Zambia 2015.

5.5 Time Use

The last domain of the WEAI is time use. This domain assesses women's work load as directly measured through a time allocation log, as well as the satisfaction felt by the surveyed woman with her leisure time. **Table 5.9** shows the percentage distribution and average hours spent participating in various activities and chores that women often perform. The percentage of women performing an activity indicates the percentage of women who reported doing an activity within the past 24 hours, irrespective of the length of time spent performing the activity. The average hours spent performing an activity is the average across all women, assigning zero hours to women who did not perform an activity. Both primary and secondary activities are presented in Table 5.9. In the ZOI, 92.8 percent of women reported being satisfied with their leisure time.

Table 5.9. Time allocation among surveyed women

Activity	Primary activity		Secondary activity[1]	
	Percent of women	Mean hours devoted	Percent of women	Mean hours devoted
Sleeping and resting	100.0	10.8	7.2	0.1
Eating and drinking	98.3	1.0	16.6	0.1
Personal care	87.6	0.5	2.0	0.0
School and homework	0.3	0.0	0.0	0.0
Work as employed	0.4	0.0	0.0	0.0
Own business work	3.7	0.2	0.1	0.0
Farming/livestock/fishing	60.4	2.7	0.8	0.0
Shopping/getting services	10.1	0.2	0.0	0.0
Weaving, sewing, textile care	3.3	0.0	0.8	0.0
Cooking	87.8	1.5	6.7	0.1
Domestic work (fetching food and water)	87.1	1.8	14.4	0.1
Care for children/adults/elderly	42.3	0.4	10.3	0.1
Travel and commuting	77.3	1.7	0.7	0.0
Watching TV/listening to radio/reading	8.8	0.2	8.7	0.2
Exercising	0.2	0.0	0.0	0.0
Social activities and hobbies	85.2	2.7	25.2	0.4
Religious activities	12.4	0.3	0.1	0.0
Other	4.0	0.1	0.0	0.0
n	**719**	**719**	**719**	**719**

[1] Respondents were allowed to report up to two activities per time use increment (15 minutes) in the prior 24 hours. If two activities were reported, one was designated as a primary and the second as a secondary activity. Some women may not have reported secondary activities for each 15-minute period.

Source: FTF FEEDBACK ZOI Interim Survey, Zambia 2015.

Of all the activities reported in Table 5.9, the most commonly reported primary activities among surveyed women in the ZOI include sleeping and resting (100.0 percent of women, mean 10.8 hours); eating and drinking (98.3 percent, mean 1.0 hours); and cooking (87.8 percent, mean 1.5 hours). Least common activities include exercising (only reported by 0.2 percent of surveyed women), school and homework (0.3 percent), and employed work (0.4 percent). Beyond activities of daily life such as sleeping and eating, other common work activities (in addition to cooking) include domestic work such as fetching food or water (87.1 percent); traveling and commuting (77.3 percent); and farming, caring for livestock, or fishing (60.4 percent).

In the Zambia ZOI, relatively few women reported secondary activities, the second set of columns in Table 5.9. Thus, the average time spent in secondary activities across all the women is less than half an hour. The most commonly reported secondary activity is social activities and hobbies, reported by 25.2 percent of women.

6. Hunger and Dietary Intake

This section presents findings related to hunger in the zone of influence (ZOI) as well as women's and young children's dietary intake.

6.1 Household Hunger

The Household Hunger Scale (HHS) is used to calculate the prevalence of households in the Zambia ZOI experiencing moderate or severe hunger. The HHS was developed by the United States Agency for International Development (USAID)-funded Food and Nutrition Technical Assistance II Project (FANTA-2/FHI 360) in collaboration with the United Nations Food and Agriculture Organization. It has been cross-culturally validated to allow comparison across different food-insecure contexts. The HHS is used to assess, geographically target, monitor, and evaluate settings affected by substantial food insecurity. The HHS is used to estimate the percentage of households affected by three different severities of household hunger: little to no household hunger (HHS score 0-1); moderate household hunger (HHS score 2-3); and severe household hunger (HHS score 4-6). The HHS should be measured at the same time each year, and ideally at the most vulnerable time of year (right before the harvest, during the dry season, etc.).[32,33]

The hungry season in Zambia occurs from November through February.[34] Data collection for the FTF FEEDBACK ZOI baseline and interim surveys coincided with the hunger season in Zambia. Baseline data collection took place from November to December 2012, and interim data collection took place from November to December 2015.

Table 6.1 presents estimates of household hunger for all households, as well as by household characteristics, including gendered household type, household size, and household educational attainment.

Approximately two-thirds (68.1 percent) of the households in the Zambia ZOI report that they experience no or little hunger. However, nearly one-third (29.7 percent) experience moderate hunger, and an additional 2.3 percent experience severe hunger. As shown in the Feed the Future ZOI indicator estimates table in the Executive Summary (as well as the appendix Table A1.1), about 32 percent of ZOI households experience either moderate or severe hunger, which is the Feed the Future standard indicator.

Significance tests were performed for relationships between little to no hunger and household characteristics and each respective household characteristic. This is equivalent to a significance

[32] Deitchler, Ballard, Swindale, and Coates. (2011).
[33] For further description of the household hunger indicator and its calculation, refer to the Feed the Future Indicator Handbook, available at http://feedthefuture.gov/resource/feed-future-handbook-indicator-definitions.
[34] FEWS NET. (2014).

test for moderate and severe hunger combined. As denoted by the superscripts in Table 6.1, experiencing little to no hunger is not significantly associated with any of the household characteristics included in the table (gendered household type, household size, and household educational attainment).

Table 6.1. Household hunger

Characteristic	Percent			n[1]
	Little to no hunger[a]	Moderate hunger	Severe hunger	
Total (All households)	68.1	29.7	2.3	763
Gendered household type				
Male and female adults	67.9	29.6	2.5	689
Female adult(s) only	66.2	33.8	0.0	61
Male adult(s) only	^	^	^	13
Child(ren) only (no adults)	-	-	-	0
Household size				
Small (1-5 members)	68.0	30.0	2.1	296
Medium (6-10 members)	67.8	29.5	2.6	426
Large (11+ members)	72.1	27.9	0.0	41
Household educational attainment				
No education	77.7	22.3	0.0	31
Less than primary	64.1	33.5	2.5	230
Primary	69.0	28.2	2.8	396
Secondary or more	71.8	28.0	0.2	106

^ Results not statistically reliable, n<30.

[1] Records missing information for the disaggregate variables have been excluded from the disaggregated estimates. The unweighted sample size reflects this loss in observations; therefore disaggregates' sample size may not total to the aggregated sample size.

[a] Significance tests were performed for associations between little to no hunger and household characteristics, which is equivalent to testing the association between moderate to severe hunger and household characteristics. For example, a test was done between little to no hunger and gendered household type. When differences were found to be significant ($p<0.05$), the superscript is noted next to the household characteristic.

Source: FTF FEEDBACK ZOI Interim Survey, Zambia 2015.

6.2 Dietary Intake

This section presents information on the dietary diversity of women of reproductive age and on infant and young child feeding in the ZOI.

6.2.1 Dietary Diversity Among Women Age 15-49 Years

Women of reproductive age (15-49 years) are at risk of multiple micronutrient deficiencies, which can jeopardize their health and their ability to care for their children and participate in income-generating activities (Darnton-Hill et al., 2005). The Feed the Future women's dietary diversity indicator is a proxy for the micronutrient adequacy of women's diets. The dietary diversity indicator reports the mean number of food groups consumed in the previous day by women of reproductive age.

For the ZOI interim survey, two dietary diversity indicators for women are calculated: the Women's Dietary Diversity Score (WDDS) and Women's Minimum Dietary Diversity (MDD-W).

Women's Dietary Diversity Score

The Feed the Future women's dietary diversity indicator, presented in Table 6.2, is based on nine food groups: (1) grains, roots, and tubers; (2) legumes and nuts; (3) dairy products; (4) organ meat; (5) eggs; (6) flesh food and small animal protein; (7) vitamin A-rich dark green leafy vegetables; (8) other vitamin A-rich vegetables and fruits; and (9) other fruits and vegetables. The number of food groups consumed is averaged across all women of reproductive age in the sample for whom dietary diversity data were collected to produce a WDDS.

Table 6.2 shows the mean and median WDDS for all women of reproductive age in the ZOI, and by individual-level and household-level characteristics. Mean WDDS is the Feed the Future high-level indicator. Individual-level characteristics include women's age groups and educational attainment. Household-level characteristics include categories of gendered household type, household size, and household hunger.

In the Zambia ZOI, the WDDS indicator value is 4.84; in other words, women consume an average of 4.84 food groups of the nine possible groups. The median value is five food groups. Mean WDDS varies significantly by levels of women's educational attainment and household hunger status. As shown in Table 6.2, mean WDDS rises with increasing levels of women's education. Women with no education consume an average of 4.50 food groups, while women with secondary or more schooling consume an average of 5.28 food groups.

In addition to the significant association with education, WDDS scores vary significantly by levels household hunger status. Women in households experiencing little to no hunger consume an average of 5.08 food groups, compared to women in households with moderate or severe hunger, at 4.41 food groups.

Women's Minimum Dietary Diversity

The Feed the Future MDD-W indicator is a new measure introduced in the interim assessments and uses the following 10 food groups: (1) grains, roots, and tubers; (2) legumes and beans; (3) nuts and seeds; (4) dairy products; (5) eggs; (6) flesh foods, including organ meat and miscellaneous small animal protein; (7) vitamin A-rich dark green leafy vegetables; (8) other vitamin A-rich vegetables and fruits; (9) other fruits; and (10) other vegetables.[35] Achievement

[35] The differences between the nine food groups used for the WDDS (Table 6.2), which is the current standard Feed the Future indicator, and the 10 food groups used for the new MDD-W measure (Table 6.3) include: (1) legumes and beans are separated from nuts and seeds; (2) meat (flesh foods) and organ meat are combined into one group; and (3) other fruits and other vegetables are separated into two groups.

of MDD-W is defined as having consumed foods from five of the 10 food groups in the past 24 hours. Thus, this indicator is a dichotomous variable, and the measure is reported as the percentage of women who achieve a minimum dietary diversity.[36]

Table 6.2. Women's dietary diversity score

Characteristic	Mean[a]	Median	n[l]
Total (All women 15-49)	4.84	5	932
Age			
15-19	5.02	5	244
20-24	4.71	5	150
25-29	4.87	5	132
30-34	4.76	5	120
35-39	4.74	5	114
40-44	4.89	5	91
45-49	4.73	5	81
Educational attainment[a]			
No education	4.50	4	190
Less than primary	4.90	5	402
Primary	4.99	5	303
Secondary or more	5.28	5	37
Gendered household type			
Male and female adults	4.86	5	883
Female adult(s) only	4.58	4	46
Male adult(s) only	^	^	3
Child(ren) only (no adults)	-	-	0
Household size			
Small (1-5 members)	4.59	4	230
Medium (6-10 members)	4.88	5	596
Large (11+ members)	5.43	5	106
Household hunger[a]			
Little to no hunger	5.08	5	674
Moderate or severe hunger	4.41	4	257

^ Results not statistically reliable, n<30.

[l] Records missing information for the disaggregate variables have been excluded from the disaggregated estimates. The unweighted sample size reflects this loss in observations; therefore disaggregates' sample sizes may not total to the aggregated sample size.

[a] Significance tests were performed for associations between mean women's dietary diversity score and individual/household characteristics. For example, a test was done between mean women's dietary diversity score and age. When an association is found to be significant ($p<0.05$), the superscript is noted next to the characteristic.

Source: FTF FEEDBACK ZOI Interim Survey, Zambia 2015.

[36] For more information, refer to USAID's *Volume 11: Guidance on the First Interim Assessment of the Feed the Future Zone of Influence Population-Level Indicators* (October 2014), Section 4.2, available for download at http://www.feedthefuture.gov/sites/default/files/resource/files/ftf_guidanceseries_vol11_interimassessment_oct2014.pdf.

Table 6.3 shows the percentage of all women of reproductive age in the ZOI who have achieved the minimum dietary diversity threshold by individual-level and household-level characteristics. Individual-level characteristics include women's age groups and educational attainment. Household-level characteristics include categories of gendered household type, household size, and household hunger.

Table 6.3. Women's minimum dietary diversity

Characteristic	Percent[a]	n[1]
Total (All women 15-49)	59.1	932
Age		
15-19	61.4	244
20-24	57.2	150
25-29	59.6	132
30-34	60.6	120
35-39	55.4	114
40-44	59.2	91
45-49	56.7	81
Educational attainment[a]		
No education	47.4	190
Less than primary	59.6	402
Primary	65.5	303
Secondary or more	90.0	37
Gendered household type		
Male and female adults	60.2	883
Female adult(s) only	45.7	46
Male adult(s) only	^	3
Child(ren) only (no adults)	-	0
Household size[a]		
Small (1-5 members)	48.9	230
Medium (6-10 members)	62.2	596
Large (11+ members)	73.1	106
Household hunger[a]		
Little to no hunger	68.5	674
Moderate or severe hunger	42.6	257

^ Results not statistically reliable, n<30.

[1] Records missing information for the disaggregate variables have been excluded from the disaggregated estimates. The unweighted sample size reflects this loss in observations; therefore disaggregates' sample sizes may not total to the aggregated sample size.

[a] Significance tests were performed for associations between women's minimum dietary diversity and individual/household characteristics. For example, a test was done between women's minimum dietary diversity and age. When an association is found to be significant ($p<0.05$), the superscript is noted next to the characteristic.

Source: FTF FEEDBACK ZOI Interim Survey, Zambia 2015.

Among women in the Zambian ZOI, 59.1 percent meet the MDD-W threshold (five food groups). Of the disaggregates presented in Table 6.3, women's educational attainment, household size, and household hunger are significantly associated with the women's MDD-W indicator. Prevalence of MDD-W increases substantially with women's increasing education, from 47.4 percent among women with no education, to 90.0 percent among women with secondary or more schooling.

In addition, prevalence of MDD-W increases with increasing household size; about half (48.9 percent) of women in small households (those with one to five members) meet the minimum dietary diversity threshold (i.e., consumed five of the 10 food groups in the prior day), while nearly three-quarters (73.1 percent) of women in large households (those with 11 or more members) do so. Finally, Table 6.3 shows that prevalence of MDD-W is significantly higher among women residing in households experiencing little to no hunger than among women in households with moderate or severe hunger, 68.5 percent and 42.6 percent, respectively.

Table 6.4 shows the percentages of women age 15-49 years who consume each of the 10 food groups by dietary diversity achievement status. The percentages who consume each of the 10 food groups are shown for women who achieve a minimum dietary diversity and for women who do not achieve a minimum dietary diversity.

Table 6.4. Consumption of foods by women's minimum dietary diversity status

Category	Percent of women according to achievement of a minimum dietary diversity[a]	
	Achieving	Not achieving
Women consuming a specific food group		
Grains, roots and tubers	100.0	98.9
Legumes and beans[a]	72.7	16.2
Nuts and seeds[a]	5.5	0.0
Dairy products[a]	13.8	0.3
Meat and organ meats[a]	61.2	13.2
Eggs[a]	14.2	2.8
Vitamin A-rich dark green leafy vegetables[a]	87.4	66.3
Other vitamin A-rich vegetables and fruits[a]	99.4	85.8
Other fruits[a]	22.6	2.6
Other vegetables[a]	99.3	78.5
n	**587**	**345**

[a] Significance tests were performed for associations between women's achievement of minimum dietary diversity and consumption of a specific food group. For example, a test was done between women's achievement of minimum dietary diversity and consumption of grains, roots, and tubers. When an association is found to be significant ($p<0.05$), a superscript is noted next to the food group.

Source: FTF FEEDBACK ZOI Interim Survey, Zambia 2015.

Among the sub-group of women who do not achieve a minimum dietary diversity (n=345), only four of the 10 food groups are consumed by at least half of the women: grains, roots, and tubers (consumed by 98.9 percent of women in this "not achieving MDD-W" group); other vitamin A-rich vegetables and fruits (85.8 percent); other vegetables (78.5 percent); and vitamin A-rich dark green leafy vegetables (66.3 percent). For the other six food groups, the percentage of women consuming each group falls below 20 percent (ranging from 16.2 percent of women consuming legumes and beans down to 0.0 percent of women consuming nuts and seeds).

Moreover, as shown in the superscripts in Table 6.4, achievement of a minimum dietary diversity is significantly associated with consumption of nine of the 10 specific food groups. The

only exception is the grains, roots, and tubers group, which is not significantly associated with MDD-W achievement status.

6.2.2 Infant and Young Child Feeding

This section presents young children's dietary intake measures, including the Feed the Future indicators of exclusive breastfeeding among babies 0-5 months and the MAD indicator among children 6-23 months.

Exclusive Breastfeeding

Exclusive breastfeeding provides children with significant health and nutrition benefits, including protection from gastrointestinal infections and reduced risk of mortality due to infectious disease. Exclusive breastfeeding means the infant received breast milk (including expressed breast milk or breast milk from a wet nurse) and may have received oral rehydration salts, vitamins, minerals, and/or medicines, but did not receive any other food or liquid. This indicator measures the percentage of children 0-5 months of age who were exclusively breastfed during the day preceding the survey.

Table 6.5 shows the prevalence of exclusive breastfeeding among children 0-5 months in the ZOI. Estimates are shown for all children, as well as by children's sex and by educational attainment of the child's primary caregiver. The caregiver's educational categories include no education, less than primary, completed primary, and completed secondary or more. Note that the data are collected for the self-identified *primary caregiver* and not strictly for the biological mother (although it is often the same person).

Table 6.5. Prevalence of exclusive breastfeeding among children under 6 months

Characteristic	Percent	n[1]
Total (All children under 6 months)	43.7	54
Child sex		
Male	^	28
Female	^	26
Caregiver's educational attainment[2]		
No education	^	17
Less than primary	^	21
Primary	^	13
Secondary or more	^	3

^ Results not statistically reliable, n<30.

[1] Records missing information for the disaggregate variables have been excluded from the disaggregated estimates. The unweighted sample size reflects this loss in observations; therefore disaggregates' sample sizes may not total to the aggregated sample size.

[2] The ZOI interim survey identifies the primary caregiver of each age-eligible child. This person is likely, but not necessarily, the child's biological mother.

Source: FTF FEEDBACK ZOI Interim Survey, Zambia 2015.

Among all infants less than 6 months of age in the Zambia ZOI, less than half (43.7 percent) are exclusively breastfed. In the 2013-14 Zambia Demographic and Health Survey (DHS), for comparison, 72.5 percent of infants less than 6 months (nationally) were exclusively breastfed.[37,38]

As shown in Table 6.5, the ZOI exclusive breastfeeding estimates for male and female infants, as well as for categories of caregivers' education, are suppressed due to insufficient sample size (n<30).[39]

Minimum Acceptable Diet

The prevalence of children 6-23 months receiving a minimum acceptable diet (MAD) measures the proportion of young children who receive a MAD apart from breastfeeding. This composite indicator measures both the minimum feeding frequency and minimum dietary diversity based on caregiver reports of the frequency with which the child was fed in the past 24 hours, and what foods were consumed during the past 24 hours. Tabulation of the indicator requires data on children's age in months, breastfeeding status, dietary diversity, number of semi-solid or solid feeds, and number of milk feeds.

Table 6.6 presents the Feed the Future MAD indicator for children in the ZOI. Estimates are shown for all children, as well as by characteristics of the children, caregiver, and household. Children's characteristics include children's sex and age group. Caregivers' characteristics include educational attainment. Household characteristics include gendered household type, household size, and household hunger.

In the Zambia ZOI, over one-third (35.7 percent) of children age 6-23 months receive a MAD. Significance tests were run for differences in the prevalence of MAD by the child's sex, child's age group, caregiver's educational attainment, gendered household type, household size, and household hunger. No significant association was found between prevalence of MAD and any of these disaggregate variables.

[37] CSO, MOH, and ICF International. (2014). p.164.

[38] Note that the exclusive breastfeeding indicator for children 0-5 months is not disaggregated by residence (rural/urban) in the 2013-14 Zambia DHS report.

[39] It is important to note that the sample size for all infants age 0-5 months is quite small in the Zambia ZOI interim survey data, at just 54 cases. As a result, the confidence interval (CI) for the exclusive breastfeeding indicator estimate, as shown in the Executive Summary and Appendix A1.1 tables, is correspondingly wide (26.9 percent to 62.1 percent).

Table 6.6. Percentage of children age 6-23 months who receive a minimum acceptable diet

Characteristic	Percent[a]	n[1]
Total (All children 6-23 months)	35.7	206
Child sex		
Male	41.2	108
Female	28.2	98
Child age		
6-11 months	40.5	72
12-17 months	34.0	67
18-23 months	30.4	67
Caregiver's educational attainment[2]		
No education	49.3	48
Less than primary	31.2	92
Primary	26.1	63
Secondary or more	^	3
Gendered household type		
Male and female adults	37.2	193
Female adult(s) only	^	12
Male adult(s) only	^	1
Child(ren) only (no adults)	-	0
Household size		
Small (1-5 members)	30.6	40
Medium (6-10 members)	39.6	141
Large (11+ members)	^	25
Household hunger		
Little to no hunger	40.9	152
Moderate or severe hunger	21.9	54

^ Results not statistically reliable, n<30.

[1] Records missing information for the disaggregate variables have been excluded from the disaggregated estimates. The unweighted sample size reflects this loss in observations; therefore disaggregates' sample sizes may not total to the aggregated sample size.

[2] The ZOI interim survey identifies the primary caregiver of each age-eligible child. This person is likely, but not necessarily, the child's biological mother.

[a] Significance tests were performed for associations between children receiving a minimum acceptable diet and child/caregiver/household characteristics. For example, a test was done between children receiving a minimum acceptable diet and child's sex. When an association is found to be significant ($p<0.05$), the superscript is noted next to the characteristic.

Source: FTF FEEDBACK ZOI Interim Survey, Zambia 2015.

Table 6.7 presents the percentage of children achieving the MAD components (e.g., minimum meal frequency, minimum dietary diversity) and consuming each of the food groups of the minimum dietary diversity indicator. Estimates are shown for all children, as well as by specific age groups, and presented separately for breastfed children and non-breastfed children.

Table 6.7 reveals that among breastfed children in the Zambia ZOI, 59.1 percent receive a minimum meal frequency and 56.8 percent receive a minimum dietary diversity. Among non-breastfed children (n=34), the group shown in the bottom panel of the table, 23.9 percent receive a minimum meal frequency, 69.4 percent receive a minimum dietary diversity, and virtually no non-breastfed children (0.9 percent) receive the minimum milk feeding frequency.

Table 6.7. Components of a minimum acceptable diet among children age 6-23 months

MAD components and food groups	Percent			
	All children[a]	By child age (in months)		
		6 to 11	12 to 17	18 to 23
Breastfed children				
Achieving minimum meal frequency[a]	59.1	70.9	47.7	51.3
Achieving minimum dietary diversity	56.8	49.3	64.5	61.0
Consuming				
Grains, roots, and tubers	98.5	97.8	98.4	100.0
Legumes and nuts	54.5	57.8	56.2	44.5
Dairy products[a]	15.5	12.3	12.8	27.0
Flesh foods	18.4	12.4	28.2	15.9
Eggs	7.3	4.9	11.7	5.3
Vitamin A-rich fruits and vegetables[a]	81.1	69.9	86.8	97.0
Other fruits and vegetables[a]	77.8	74.0	76.0	88.9
n	**172**	**71**	**62**	**39**
Non-breastfed children				
Achieving minimum meal frequency[a]	23.9	^	^	^
Achieving minimum milk feeding frequency	0.9	^	^	^
Achieving minimum dietary diversity	69.4	^	^	^
Consuming				
Grains, roots, and tubers	100.0	^	^	^
Legumes and nuts	52.1	^	^	^
Dairy products[a]	2.3	^	^	^
Flesh foods	34.2	^	^	^
Eggs	18.5	^	^	^
Vitamin A-rich fruits and vegetables[a]	97.9	^	^	^
Other fruits and vegetables[a]	96.6	^	^	^
n	**34**	**1**	**5**	**28**

^ Results not statistically reliable, n<30.

[a] Significance tests were performed for associations between MAD components/food groups for breastfed and non-breastfed children. For example, a test was done for achieving minimum meal frequency and breastfeeding status. When an association is found to be significant ($p<0.05$), a superscript is noted next to the breastfed and non-breastfed row headings corresponding to the MAD component/food group.

Source: FTF FEEDBACK ZOI Interim Survey, Zambia 2015.

Receipt of a minimum meal frequency is significantly associated with breastfeeding status (with breastfed children exhibiting an advantage over non-breastfed children), although receipt of a minimum dietary diversity is not significantly associated with children's breastfeeding status.

When examining the individual food groups, Table 6.7 shows that the most common food group for both groups of children (both breastfed and non-breastfed) is grains, roots, and tubers; 98.5 percent of breastfed children and 100.0 percent of non-breastfed children received foods from this group. The least common food for breastfed children is eggs, consumed by only 7.3 percent of children. Among non-breastfed children, the least common food group is dairy products, consumed by only 2.3 percent of children in this group.

The consumption of three food groups (of the seven groups presented in Table 6.7) is significantly associated with breastfeeding status: dairy products, vitamin A-rich fruits and vegetables, and other fruits and vegetables. For dairy products, consumption is higher among breastfed children than among non-breastfed children. For vitamin A-rich fruits and vegetables, and for other fruits and vegetables, the opposite pattern is shown in Table 6.7; consumption of these two food groups is significantly higher among non-breastfed children age 6-23 months than among breastfed children.

6.2.3 Women's Knowledge, Cultivation, and Consumption of OFSP and Orange Maize

The Zambia ZOI interim survey questionnaire included questions in Module H on women's knowledge (i.e., "ever heard") and use (i.e., "ever obtained," "ever planted," and "ever eaten") of orange-fleshed sweet potatoes (OFSP) and biofortified orange maize (also called vitamin A maize). Consumption of these two food items in the prior 24 hours (for both women of reproductive age and children 6-23 months) is presented further below in this report. This section presents Zambian women's awareness of these two commodities, as well as, among women who have ever heard of OFSP and orange maize, the percentages who have ever obtained, ever planted, or ever eaten the commodities. Separate tables for OFSP and orange maize are presented below, and the standard set of individual women's and household disaggregates are included: age group, educational attainment, gendered household type, household size, and household hunger.

Women's Knowledge, Cultivation, and Consumption of OFSP

Table 6.8 shows that most women (78.5 percent) have heard of OFSP. Among this sub-group of women with awareness of OFSP, the majority (69.8 percent) report having obtained OFSP at some point in time (i.e., "Did you ever obtain this special orange-fleshed sweet potato from anyone…?"). While only about one-third of women who heard of OFSP (32.5 percent) reported having themselves planted (or anyone in their household having planted) OFSP, over three-quarters (77.5 percent) report having ever eaten OFSP.

The superscripts in Table 6.8 reveal that several of these OFSP knowledge and use measures are significantly associated with various disaggregate variables. The percentage of women of reproductive age who have ever planted OFSP is significantly associated with gendered household type. Women in female adult-only households are more than twice as likely as women in male and female adult households to have planted OFSP, 63.3 percent and 30.5 percent, respectively.

In addition, the percent of women of reproductive age that has ever eaten OFSP varies significantly by both age group and gendered household type. Table 6.8 reveals that women in the youngest and oldest age groups have the highest percentage of "ever eaten;" 85.8 percent

of women age 15-19 and 85.3 percent of women age 45-49 report having ever eaten OFSP. Finally, and similar to the finding for cultivation of OFSP, women in female adult-only households are significantly more likely to have eaten OFSP than women in male and female adult households, 97.5 percent versus 76.5 percent.

Table 6.8. Women's knowledge, cultivation, and consumption of orange-fleshed sweet potatoes (OFSP)

Characteristic	Percent ever heard of OFSP[a]	n[1]	If yes, ever heard			
			Percent ever obtained OFSP[b]	Percent ever planted OFSP[c]	Percent ever eaten OFSP[d]	n[1]
Total (All Women 15-49)	78.5	932	69.8	32.5	77.5	741
Age[d]						
15-19	71.9	244	69.8	29.8	85.8	183
20-24	80.5	150	67.3	29.9	75.2	117
25-29	83.8	132	74.4	33.8	63.9	107
30-34	75.9	120	75.7	45.3	79.5	96
35-39	84.2	114	69.1	27.6	72.9	93
40-44	85.5	91	51.2	16.7	79.2	78
45-49	77.9	81	76.4	45.1	85.3	67
Educational attainment						
No education	73.1	190	61.4	26.2	73.0	146
Less than primary	77.3	402	70.9	39.0	77.4	320
Primary	84.0	303	73.3	27.9	80.2	245
Secondary or more	83.9	37	79.6	35.6	82.3	30
Gendered household type[c,d]						
Male and female adults	78.0	883	69.4	30.5	76.5	702
Female adult(s) only	87.3	46	81.1	63.3	97.5	37
Male adult(s) only	^	3	^	^	^	2
Child(ren) only (no adults)	-	0	-	-	-	0
Household size						
Small (1-5 members)	74.5	230	70.9	39.6	77.6	176
Medium (6-10 members)	82.2	596	70.4	30.1	77.9	485
Large (11+ members)	66.4	106	60.7	25.8	73.2	80
Household hunger						
Little to no hunger	81.2	674	70.8	34.6	79.3	550
Moderate or severe hunger	73.5	257	67.5	28.6	73.5	190

^ Results not statistically reliable, n<30.

[1] Records missing information for the disaggregate variables have been excluded from the disaggregated estimates. The unweighted sample size reflects this loss in observations; therefore disaggregates' sample sizes may not total to the aggregated sample size.

[a-d] A superscript in the column heading indicates significance tests were performed for associations between the estimate reported in the column heading and each of the variables in the rows. For example, a test was done between the percent that has heard of OFSP and the woman's age. When an association between the column indicator and row variable is found to be significant ($p<0.05$), the superscript for the indicator in the column heading is noted next to the row variable.

Source: FTF FEEDBACK ZOI Interim Survey, Zambia 2015.

Women's Knowledge, Cultivation, and Consumption of Orange Maize

In contrast to Table 6.8, **Table 6.9** reveals that only about half of the women in the Zambia ZOI (49.7 percent) have heard of biofortified orange maize (i.e., "a special kind of maize that is orange in color and more nutritious than other kinds of maize…sometimes called vitamin A maize"). Among this sub-group of women, a similar percentage (47.9 percent) report having ever obtained orange maize. Only about one-quarter of these women (28.6 percent) report having themselves (or anyone in their households) planted orange maize, but over half (57.6 percent) report having ever eaten orange maize.

Table 6.9. Women's knowledge, cultivation, and consumption of orange maize

Characteristic	Percent ever heard of orange maize[a]	n[1]	If yes, ever heard:			
			Percent ever obtained orange maize[b]	Percent ever planted orange maize[c]	Percent ever eaten orange maize[d]	n[1]
Total (All Women 15-49)	49.7	932	47.9	28.6	57.6	453
Age[d]						
15-19	40.2	244	60.3	29.8	72.0	103
20-24	58.2	150	44.5	28.0	56.5	84
25-29	48.7	132	51.9	41.7	46.6	64
30-34	45.3	120	45.6	32.5	67.4	59
35-39	56.7	114	36.6	27.6	55.4	56
40-44	55.7	91	44.4	17.6	50.2	45
45-49	58.9	81	42.2	11.3	35.7	42
Educational attainment						
No education	51.3	190	40.1	36.1	52.7	94
Less than primary	48.3	402	45.7	27.0	59.5	187
Primary	49.8	303	56.8	25.6	60.3	152
Secondary or more	63.2	37	^	^	^	20
Gendered household type						
Male and female adults	49.8	883	47.1	28.9	56.0	430
Female adult(s) only	54.0	46	^	^	^	23
Male adult(s) only	^	3	-	-	-	0
Child(ren) only (no adults)	-	0	-	-	-	0

Table 6.9. Women's knowledge, cultivation, and consumption of orange maize (continued)

Characteristic	Percent ever heard of orange maize[a]	n[1]	If yes, ever heard:			
			Percent ever obtained orange maize[b]	Percent ever planted orange maize[c]	Percent ever eaten orange maize[d]	n[1]
Household size						
Small (1-5 members)	41.3	230	53.2	28.6	61.3	100
Medium (6-10 members)	53.8	596	44.4	30.1	57.0	294
Large (11+ members)	50.1	106	60.2	17.6	51.7	59
Household hunger[c]						
Little to no hunger	48.2	674	49.8	34.5	62.7	319
Moderate or severe hunger	51.9	257	43.6	19.2	48.1	133

^ Results not statistically reliable, n<30.

[1] Records missing information for the disaggregate variables have been excluded from the disaggregated estimates. The unweighted sample size reflects this loss in observations; therefore disaggregates' sample sizes may not total to the aggregated sample size.

[a-d] A superscript in the column heading indicates significance tests were performed for associations between the estimate reported in the column heading and each of the variables in the rows. For example, a test was done between the percent that have heard of orange maize and the woman's age. When an association between the column indicator and row variable is found to be significant ($p<0.05$), the superscript for the indicator in the column heading is noted next to the row variable.

Source: FTF FEEDBACK ZOI Interim Survey, Zambia 2015.

Only two of the orange maize measures shown in Table 6.9 are significantly associated with any disaggregate variables. The percent of women who have ever planted orange maize varies significantly by household hunger; over one-third (34.5 percent) of women in households with little to no hunger report having planted orange maize, relative to only 19.2 percent of women in households with moderate or severe hunger. In addition, the percent of women of reproductive age who have ever eaten orange maize varies by age group. Women in the youngest age group (15-19) have the highest prevalence of having ever eaten orange maize, at 72.0 percent.

6.2.4 Consumption of Targeted Nutrient-Rich Value Chain Commodities

U.S. Government (USG)-funded programming supports nutrition-sensitive agricultural value chain[40] interventions to achieve the dual purpose of enhancing both economic and nutritional outcomes. The Feed the Future ZOI interim assessment measures the degree to which respondents in the ZOI are consuming targeted nutrient-rich commodities or products made from targeted nutrient-rich commodities being promoted by these value chain activities.

[40] From Webber and Labaste (2010): "The term 'value chain' describes the full range of value-adding activities required to bring a product or service through the different phases of production, including procurement of raw materials and other inputs, assembly, physical transformation, acquisition of required services such as transport or cooling, and ultimately response to consumer demand (Kaplinsky and Morris (2002), *A Handbook for Value Chain Research*, p.46–47)."

There are three criteria for a food commodity to be considered a targeted nutrient-rich value chain commodities (NRVCC):

1. Increased production of the commodity must be promoted through a USG-funded value chain activity.

2. The value chain commodity must have been selected for nutrition objectives, in addition to any poverty-reduction or economic-growth related objectives.

3. The commodity must be considered nutrient rich, defined as meeting any one of the following criteria: It is bio-fortified; a legume, nut, or seed; an animal-sourced food, including dairy products (milk, yogurt, cheese), eggs, organ meat, flesh foods, and other miscellaneous small animal protein (e.g., grubs, insects); a dark yellow or orange-fleshed root or tuber; or a fruit or vegetable that meets the threshold for being a "high source" of one or more micronutrients on a per 100 gram basis.

This section presents the ZOI interim assessment's findings on the consumption of targeted NRVCC among women age 15-49 and children age 6-23 months. The targeted commodities in Zambia include seven foods: groundnuts, soy, pigeon peas, cow peas, OFSP, dark green leafy vegetables (DGLV), and orange maize.

Women's Consumption of Targeted Nutrient-Rich Value Chain Commodities

Table 6.10 presents women's consumption of targeted NRVCC. Estimates are shown for all women age 15-49, as well as by women's individual and household characteristics. Women's individual characteristics include age and educational attainment. Household characteristics include gendered household type, household size, and household hunger.

As shown in Table 6.10, over half of women of reproductive age in the Zambia ZOI consumed at least one NRVCC food in the prior day; 52.4 percent of women consumed at least one of the seven NRVCC foods.[41] Groundnuts are the most commonly consumed NRVCC in the Zambia ZOI (42.1 percent of women of reproductive age), followed by local DGLV (15.5 percent).[42] The remaining five commodities in Table 6.10 were consumed by fewer than five percent of women of reproductive age in the ZOI: soy (2.6 percent), cow peas (2.6 percent), orange maize (1.3 percent), pigeon peas (0.9 percent), and OFSP (0.5 percent).

[41] Please note that the "any targeted commodity" indicator shown in Tables 6.10 and 6.11 is sensitive to the total number of commodities identified by the USAID Mission for that country. For example, Zambia has seven NRVCC foods although Uganda has only one. The greater the number of NRVCC foods, the more likely women (and children) will have eaten at least one of the foods. This should be kept in mind when comparing the "any targeted commodity" indicator across Feed the Future countries.

[42] Local DGLV in the Zambia ZOI include Amaranth (Bondwe), Nightshade (Ndulwe), Spiderplant (Sunta), Black Jack (Kanunka), and Moringa.

Table 6.10. Women's consumption of targeted nutrient-rich value chain commodities

Characteristic	Percent								n[3]
	Any targeted commodity[a]	Groundnuts[b]	Soy[c]	Pigeon peas[d]	Cow peas[e]	Orange-fleshed sweet potatoes (OFSP)[1,f]	Local dark green leafy vegetables (DGLV)[2,g]	Orange maize[1,h]	
Total (All women 15-49)	52.4	42.1	2.6	0.9	2.6	0.5	15.5	1.3	932
Age									
15-19	58.4	48.5	3.4	0.4	3.7	0.0	13.8	1.7	244
20-24	42.8	31.7	0.8	0.6	2.9	0.9	14.3	1.0	150
25-29	60.4	42.7	6.1	3.0	0.6	0.1	23.5	1.8	132
30-34	50.1	41.7	2.5	0.0	0.1	0.2	14.2	2.4	120
35-39	44.0	34.8	1.5	0.0	2.4	2.2	13.4	0.7	114
40-44	60.8	56.5	1.1	0.0	4.4	0.0	21.5	0.0	91
45-49	46.9	40.5	0.3	3.4	6.2	0.0	9.1	0.0	81
Educational attainment									
No education	53.2	42.3	2.2	0.0	4.7	1.2	18.5	2.7	190
Less than primary	50.7	39.4	3.2	2.0	2.1	0.0	15.0	1.5	402
Primary	55.0	46.3	2.0	0.0	2.1	0.6	14.8	0.0	303
Secondary or more	38.5	32.9	2.8	0.0	0.0	0.0	1.7	3.6	37
Gendered household type[c]									
Male and female adults	51.9	41.7	2.7	0.9	2.8	0.5	14.9	1.4	883
Female adult(s) only	65.8	53.2	0.5	0.0	1.1	0.0	26.3	0.6	46
Male adult(s) only	^	^	^	^	^	^	^	^	3
Child(ren) only (no adults)	-	-	-	-	-	-	-	-	0

Table 6.10. Women's consumption of targeted nutrient-rich value chain commodities (continued)

Characteristic	Percent								n[3]
	Any targeted commodity[a]	Groundnuts[b]	Soy[c]	Pigeon peas[d]	Cow peas[e]	Orange-fleshed sweet potatoes (OFSP)[1,f]	Local dark green leafy vegetables (DGLV)[2,g]	Orange maize[1,h]	
Household size									
Small (1-5 members)	47.0	34.0	4.1	0.0	3.5	0.5	15.1	1.8	230
Medium (6-10 members)	54.8	46.0	1.7	1.4	1.7	0.5	15.4	1.3	596
Large (11+ members)	53.5	42.7	3.1	0.0	6.3	0.0	17.3	0.0	106
Household hunger[b,h]									
Little to no hunger	56.6	47.3	2.9	1.4	3.2	0.5	15.7	1.9	674
Moderate or severe hunger	45.3	33.0	2.0	0.0	1.7	0.4	15.3	0.2	257

^ Results not statistically reliable, n<30.

[1] Women's consumption of OFSP and orange maize were asked differently than the other NRVCC foods, via a series of knowledge and use questions in Module H. Women who reported consumption of orange maize or OFSP in the past day were coded as yes on these respective NRVCC indicators.

[2] USAID/Zambia has specified five local DGLV for this indicator: Amaranth (Bondwe), Nightshade (Ndulwe), Spiderplant (Sunta), Black Jack (Kanunka), and Moringa.

[3] Records missing information for the disaggregate variables have been excluded from the disaggregated estimates. The unweighted sample size reflects this loss in observations; therefore disaggregates' sample sizes may not total to the aggregated sample size.

[a-h] A superscript in the column heading indicates significance tests were performed for associations between the indicator in the column heading and each of the variables in the rows. For example, a test was done between any targeted commodity and the woman's age. When an association between the column indicator and row variable is found to be significant ($p<0.05$), the superscript for the indicator in the column heading is noted next to the row variable.

Source: FTF FEEDBACK ZOI Interim Survey, Zambia 2015.

A few of the disaggregates presented in Table 6.10 – which includes women's age group, educational attainment, gendered household type, household size, and household hunger – are significantly associated with women's consumption of individual commodities. Women's consumption of groundnuts is significantly associated with household hunger; women in households with little to no hunger are more likely to consume groundnuts than women in households with moderate or severe hunger (47.3 percent and 33.0 percent, respectively). Women's consumption of orange maize is similar, in that women in households with little to no hunger are significantly more likely to consume orange maize than women in households with moderate or severe hunger (1.9 percent and 0.2 percent, respectively).

Finally, women's consumption of soy or foods made from soy varies by gendered household type. As shown in Table 6.10, women in male and female adult households are more likely than women in female adult-only households to consume soy (2.7 percent and 0.5 percent, respectively).

Children's Consumption of Targeted Nutrient-Rich Value Chain Commodities

Table 6.11 presents children's consumption of targeted NRVCC. Estimates are shown for all children 6-23 months, as well as by characteristics of the child, caregiver, and household. Children's characteristics include sex and age, and caregivers' characteristics include educational attainment. Household characteristics include gendered household type, household size, and household hunger.

As shown in Table 6.11, more than half (57.3 percent) of children age 6-23 months in the Zambia ZOI consumed at least one NRVCC item (of the seven items) in the prior day. Similar to the pattern among women of reproductive age, groundnuts were most commonly consumed (45.5 percent of children age 6-23 months). The next most common NRVCC among children was soy (14.0 percent), followed by DGLV (10.8 percent). The remaining four commodities were consumed by fewer than 5 percent of children age 6-23 months: orange maize (3.5 percent), OFSP (1.8 percent), pigeon peas (1.4 percent), and cow peas (0.4 percent).

As denoted by the superscripts in Table 6.11, several of the standard disaggregates presented in this table are significantly associated with children's consumption of individual commodities. Children's consumption of orange maize varies significantly by child's sex; 7.0 percent of girls consumed orange maize in the prior day, relative to only 0.9 percent of boys. In addition, children's consumption of OFSP varies significantly by caregivers' education, with the greatest prevalence of children's consumption evident among children of the least educated caregivers (i.e., those with no education), at 4.9 percent of children.

Table 6.11. Children's consumption of targeted nutrient-rich value chain commodities

Characteristic	Percent								n[3]
	Any targeted commodity[a]	Groundnuts[b]	Soy[c]	Pigeon peas[d]	Cow peas[e]	Orange-fleshed sweet potatoes (OFSP)[1,f]	Local dark green leafy vegetables (DGLV)[2,g]	Orange maize[1,h]	
Total (All children 6-23 months)	57.3	45.5	14.0	1.4	0.4	1.8	10.8	3.5	206
Child sex[h]									
Male	55.3	41.9	14.5	1.2	0.7	2.0	12.1	0.9	108
Female	59.9	50.3	13.2	1.8	0.0	1.5	9.2	7.0	98
Child age									
6-11 months	57.3	54.5	8.4	0.5	0.0	0.4	6.7	2.8	72
12-17 months	55.2	45.3	17.8	1.6	1.3	3.1	11.4	4.6	67
18-23 months	59.9	31.8	17.6	2.7	0.0	2.3	16.5	3.1	67
Caregiver's educational attainment[4,f]									
No education	63.0	52.4	12.8	2.5	0.0	4.9	12.3	2.9	48
Less than primary	53.7	38.3	12.0	1.5	1.0	0.1	13.5	6.2	92
Primary	55.4	47.3	18.7	0.2	0.0	1.3	5.8	0.2	63
Secondary or more	^	^	^	^	^	^	^	^	3
Gendered household type									
Male and female adults	57.3	44.8	14.5	1.5	0.5	1.9	11.6	3.7	193
Female adult(s) only	^	^	^	^	^	^	^	^	12
Male adult(s) only	^	^	^	^	^	^	^	^	1
Child(ren) only (no adults)	-	-	-	-	-	-	-	-	0

Table 6.11. Children's consumption of targeted nutrient-rich value chain commodities (continued)

Characteristic	Percent								n_3
	Any targeted commodity[a]	Groundnuts[b]	Soy[c]	Pigeon peas[d]	Cow peas[e]	Orange-fleshed sweet potatoes (OFSP)[1,f]	Local dark green leafy vegetables (DGLV)[2,g]	Orange maize[1,h]	
Household size[c]									
Small (1-5 members)	45.1	31.1	4.7	2.1	0.0	0.7	15.1	6.1	40
Medium (6-10 members)	64.5	52.1	19.6	1.2	0.7	2.4	10.6	2.8	141
Large (11+ members)	^	^	^	^	^	^	^	^	25
Household hunger[h]									
Little to no hunger	56.9	44.1	11.4	1.7	0.6	2.5	13.0	1.5	152
Moderate or severe hunger	58.1	49.2	20.6	0.7	0.0	0.0	5.1	8.7	54

^ Results not statistically reliable, n<30.

[1] Children's consumption of OFSP and orange maize were asked differently than the other NRVCC foods, via a series of knowledge and use questions asked of the child's primary caregiver in Module I. Caregivers who reported that children consumed orange maize or OFSP in the past day were coded as yes on these respective NRVCC indicators.

[2] USAID/Zambia has specified five local DGLV for this indicator: Amaranth (Bondwe), Nightshade (Ndulwe), Spiderplant (Sunta), Black Jack (Kanunka), and Moringa.

[3] Records missing information for the disaggregate variables have been excluded from the disaggregated estimates. The unweighted sample size reflects this loss in observations; therefore disaggregates' sample sizes may not total to the aggregated sample size.

[4] The ZOI interim survey identifies the primary caregiver of each age-eligible child. This person is likely, but not necessarily, the child's biological mother.

[a-h] A superscript in the column heading indicates significance tests were performed for associations between the indicator in the column heading and each of the variables in the rows. For example, a test was done between any targeted commodity and the sex of the child. When an association between the column indicator and row variable is found to be significant ($p<0.05$), the superscript for the indicator in the column heading is noted next to the row variable.

Source: FTF FEEDBACK ZOI Interim Survey, Zambia 2015.

In addition, and as shown in Table 6.11, children's consumption of soy and foods made from soy varies by household size, with children in larger households (those with 6-10 members) more likely than children in small households (those with 1-5 members) to have consumed soy in the prior day (19.6 percent and 4.7 percent, respectively).[43] Finally, young children's consumption of orange maize varies by household hunger status. Children age 6-23 months in households with more hunger are more likely to have consumed orange maize; 8.7 percent of children in households with moderate or severe hunger consumed orange maize in the prior day, compared to 1.5 percent of children in households with no or little hunger.

[43] No estimate is shown for children in the largest household size category (11 or more members) due to insufficient sample size (n<30).

7. Nutritional Status of Women and Children

This section presents findings related to the Feed the Future indicators of women's underweight and children's anthropometry (stunting, wasting, and underweight).

7.1 Body Mass Index of Women Age 15-49 Years

Table 7.1 presents women's mean body mass index (BMI) as well as the BMI categories of underweight (BMI < 18.5), normal weight (18.5 ≤ BMI < 25.0), overweight (25.0 ≤ BMI < 30.0), and obese (BMI ≥ 30.0). Estimates are shown for all non-pregnant women age 15-49, as well as disaggregated by individual-level and household-level characteristics. Individual characteristics include age and educational attainment. Household characteristics include gendered household type, household size, and household hunger.

Among non-pregnant women age 15-49 in the Zambia zone of influence (ZOI), mean BMI is 22.6, or normal weight. This is similar to the 2013-14 Zambia Demographic and Health Survey (DHS) rural women's BMI value of 21.9.[44] As shown in Table 7.1, 5.1 percent of women in the Zambia ZOI are underweight (BMI <18.5), the Feed the Future standard indicator. This is lower than the women's underweight estimate in the 2013-14 Zambia DHS, where 12.0 percent of rural Zambian women were underweight.[45]

Nearly three-quarters (74.3 percent) of women in the Zambia ZOI are normal weight, and 17.6 percent and 3.0 percent are overweight and obese, respectively. The 2013-2014 Zambia DHS normal weight, overweight, and obese values for rural women (all rural women throughout the entire country) are 73.4 percent, 11.7 percent, and 2.9 percent, respectively.[46]

As shown in Table 7.1, mean BMI varies significantly by women's age group. Women's average BMI values increase with increasing age, from 21.5 among women age 15-19 years to 24.4 among women age 45-49. Although women's underweight, the Feed the Future standard indicator, does not vary significantly by any of the disaggregate variables presented in Table 7.1, the BMI category variable does vary significantly by levels of age, with older women more likely to be overweight or obese.

[44] CSO, MOH, and ICF International. (2014). p.176.
[45] Ibid.
[46] Ibid.

Table 7.1. Prevalence of underweight, normal weight, overweight, and obese women

Characteristic	Mean BMI[a]	Body Mass Index (BMI) category (percent)[b]				n[1]
		Under-weight[c]	Normal weight	Over-weight	Obese	
Total (All women age 15-49)	22.6	5.1	74.3	17.6	3.0	830
Age[a,b]						
15-19	21.5	7.9	84.0	7.7	0.4	217
20-24	22.4	2.1	87.5	8.5	1.9	132
25-29	22.3	4.5	77.1	18.2	0.1	114
30-34	23.0	4.4	69.2	22.8	3.6	102
35-39	23.8	2.9	61.7	29.9	5.5	103
40-44	24.0	10.8	46.3	34.3	8.6	88
45-49	24.4	2.7	59.2	28.5	9.6	74
Educational attainment						
No education	22.9	5.8	71.3	19.9	3.0	165
Less than primary	22.4	5.9	73.3	18.5	2.3	350
Primary	22.8	3.4	77.8	15.1	3.8	281
Secondary or more	22.6	9.1	74.2	12.8	3.9	34
Gendered household type						
Male and female adults	22.6	5.4	74.5	16.9	3.1	785
Female adult(s) only	23.4	0.9	67.6	31.2	0.3	42
Male adult(s) only	^	^	^	^	^	3
Child(ren) only (no adults)	-	-	-	-	-	0
Household size						
Small (1-5 members)	22.8	5.5	72.7	19.0	2.7	206
Medium (6-10 members)	22.5	4.3	75.5	17.6	2.7	528
Large (11+ members)	22.9	9.8	71.5	12.3	6.4	96
Household hunger						
Little to no hunger	22.7	5.1	75.2	16.3	3.4	602
Moderate or severe hunger	22.6	5.3	72.2	20.3	2.2	227

^ Results not statistically reliable, n<30.

[1] Records missing information for the disaggregate variables have been excluded from the disaggregated estimates. The unweighted sample size reflects this loss in observations; therefore disaggregates' sample sizes may not total to the aggregated sample size.

[a-c] A superscript in the column heading indicates significance tests were performed for associations between the indicator in the column heading and each of the variables in the rows. For example, a test was done between BMI and the woman's age. When an association between the column indicator and row variable is found to be significant ($p<0.05$), the superscript for the indicator in the column heading is noted next to the row variable.

Source: FTF FEEDBACK ZOI Interim Survey, Zambia 2015.

7.2 Stunting, Wasting, and Underweight Among Children Under 5 Years

This section reports on three anthropometric measurements of undernutrition among children under 5 years in the ZOI: stunting (height-for-age), wasting (weight-for-height), and underweight (weight-for-age).

7.2.1 Stunting (Height-for-Age)

Stunting is an indicator of linear growth retardation, most often due to a prolonged inadequate diet and poor health. Reducing the prevalence of stunting among children, particularly age 0-23 months, is important because linear growth deficits accrued early in life are associated with cognitive impairments, poor educational performance, and decreased work productivity as adults (Black et al., 2008; Victora et al., 2008). Stunting is a height-for-age measurement that reflects chronic undernutrition. This indicator measures the percentage of children 0-59 months who are stunted, as defined by a height-for-age Z-score more than two standard deviations (SD) below the median of the 2006 World Health Organization (WHO) Child Growth Standard (<-2SD).[47] The stunting measures presented below include the Feed the Future stunting indicator of moderate or severe stunting combined (<-2SD) as well as the indicator for severe stunting (<-3SD). Mean Z-scores are also presented.

Table 7.2 shows the prevalence of stunting, severe stunting, and mean Z-scores for children under 5 years in the ZOI. Estimates are presented for all children and by child, caregiver, and household characteristics. Children's characteristics include sex and age. Caregivers' characteristics include educational attainment. Household characteristics include gendered household type, household size, and household hunger.

In the Zambia ZOI, nearly four in every 10 children (38.4 percent) under age 5 are stunted. This is slightly less than the 2013-14 Zambia DHS rural estimate of 42.1 percent.[48] As shown in Table 7.2, 11.4 percent of ZOI children are severely stunted, relative to the 2013-14 DHS rural value of 18.0 percent.[49] The mean height-for-age Z-score in the ZOI is -1.7, which indicates that the average height-for-age among children in the Zambia ZOI is lower than that of the WHO global reference population. This value is identical to the mean height-for-age Z-score in the 2013-14 Zambia DHS for all rural children under age 5 (also -1.7).[50]

As denoted by the superscripts in Table 7.2, significance tests were run for both the Feed the Future children's stunting indicator (< -2SD) as well as the mean height-for-age Z-scores. The prevalence of children's stunting is significantly associated with children's age group and caregivers' education. The prevalence of stunting in the Zambia ZOI generally appears to exhibit an inverse "U" shape: increasing with increasing age and then declining again in the oldest age groups. Stunting prevalence is 15.8 percent among children age 0-11 months, peaks at 49.9 percent (half of all children) among children age 24-35 months, and declines to 37.0 percent among children age 48-59 months.

[47] WHO. (2006).
[48] CSO, MOH, and ICF International. (2014). p.159.
[49] Ibid.
[50] Ibid.

Table 7.2. Stunting (height-for-age) among children under 5 years old

Characteristic	% Stunted (<-2 SD)[a]	% Severely stunted (<-3 SD)	Mean Z-score[b]	n[1]
Total (All children under 5 years)	38.4	11.4	-1.7	650
Child sex				
Male	41.4	11.8	-1.7	346
Female	34.3	11.0	-1.6	304
Child age[a,b]				
0-11 months	15.8	2.3	-0.8	109
12-23 months	40.6	10.0	-1.6	132
24-35 months	49.9	18.4	-2.1	116
36-47 months	45.3	14.4	-1.9	141
48-59 months	37.0	10.7	-1.8	152
Caregiver's educational attainment[2,a]				
No education	34.0	11.1	-1.7	180
Less than primary	46.0	14.5	-1.8	285
Primary	31.2	7.0	-1.4	165
Secondary or more	^	^	^	20
Gendered household type				
Male and female adults	37.0	9.6	-1.6	606
Female adult(s) only	52.4	30.2	-2.3	43
Male adult(s) only	^	^	^	1
Child(ren) only (no adults)	-	-	-	0
Household size				
Small (1-5 members)	36.9	8.6	-1.6	150
Medium (6-10 members)	39.2	12.6	-1.7	436
Large (11+ members)	38.0	13.5	-1.6	64
Household hunger				
Little to no hunger	37.2	10.7	-1.6	484
Moderate or severe hunger	41.4	13.2	-1.8	166

^ Results not statistically reliable, n<30.

[1] Records missing information for the disaggregate variables have been excluded from the disaggregated estimates. The unweighted sample size reflects this loss in observations; therefore disaggregates' sample sizes may not total to the aggregated sample size.

[2] The ZOI interim survey identifies the primary caregiver of each age-eligible child. This person is likely, but not necessarily, the child's biological mother.

[a-b] A superscript in the column heading indicates significance tests were performed for associations between the indicator in the column heading and each of the variables in the rows. For example, a test was done between percent stunted and the child's sex. When an association between the column indicator and row variable is found to be significant ($p<0.05$), the superscript for the indicator in the column heading is noted next to the row variable.

Source: FTF FEEDBACK ZOI Interim Survey, Zambia 2015.

In addition to the significant relationship with children's age, stunting is also significantly associated with caregivers' educational attainment, although, as shown in Table 7.2, the pattern is mixed. Stunting prevalence is highest among children with caregivers with less than primary education (46.0 percent). Children of caregivers with no education and children of caregivers with primary school exhibit fairly similar levels of stunting (34.0 percent and 31.2 percent, respectively).

Finally, as shown in Table 7.2, children's mean height-for-age Z-scores are significantly associated with children's age group. Similar to the prevalence of stunting pattern, average height-for-age Z-scores appear to follow a slight "U" shape, declining with children's increasing age, and then improving slightly at the oldest age groups. For example, the mean height-for-age Z-score among children age 0-11 months is -0.8. It then declines to -2.1 among children age 24-35 months, and then improves slightly to -1.8 among children in the oldest age group, those age 48-59 months.

7.2.2 Wasting (Weight-for-Height)

Wasting is an indicator of acute malnutrition. Children who are wasted are too thin for their height and have a much greater risk of dying than children who are not wasted. This indicator measures the percentage of children 0-59 months who are acutely malnourished, as defined by a weight-for-height Z-score more than two SD below the median of the 2006 WHO Child Growth Standard. The wasting measures presented below include the Feed the Future wasting indicator of moderate or severe wasting combined (<-2SD) as well as the indicator for severe wasting (<-3SD), and the percentage of children who are overweight (>+2SD) and obese (>+3SD). Mean Z-scores are also presented.

Table 7.3 shows the prevalence of wasting, severe wasting, overweight, obesity, and mean Z-scores for children under 5 years in the ZOI. Estimates are presented for all children and by child, caregiver, and household characteristics. Children's characteristics include sex and age. Caregivers' characteristics include educational attainment. Household characteristics include gendered household type, household size, and household hunger.

In the Zambia ZOI, 2.0 percent of children under age 5 are wasted, and 0.0 percent (virtually no children in the survey) are severely wasted. The 2013-2014 DHS rural estimates for Zambia are 5.9 percent and 2.1 percent, respectively.[51]

With respect to overweight (> +2SD) and obese (> +3SD), in the Zambia ZOI, 3.3 percent of children under age 5 are overweight, and 0.9 percent are obese. In the 2013-14 DHS, for comparison, 5.4 percent of rural Zambian children nationally are overweight.[52] (Children's obesity estimates were not presented in the Zambia 2013-14 DHS report.) The mean weight-for-height Z-score for children under age 5 in the Zambia ZOI is 0.1, which indicates that, on average, the weight-for-height of children in the ZOI is similar as that for the WHO global reference population.

Table 7.3 also includes the results of significance tests for the children's wasting measures (< -2SD, the Feed the Future standard indicator), the overweight measure (> +2SD), and mean

[51] Ibid.
[52] Ibid.

weight-for-height Z-scores. There are no significant differences in these indicator values for all disaggregate variables with the exception of children's sex and caregiver's education. Children's wasting varies significantly by sex, with males significantly more likely than females to be wasted (3.4 percent and 0.0 percent, respectively). Similarly, wasting prevalence differs significantly by caregivers' level of education. The education category with the highest children's wasting prevalence is less than primary (4.1 percent).

Table 7.3. Wasting (weight-for-height) among children under 5 years old

Characteristic	% Wasted (<-2 SD)[a]	% Severely wasted (<-3 SD)	% Overweight (> +2SD)[b]	% Obese (> +3SD)	Mean Z-score[c]	n[1]
Total (All children under 5 years)	2.0	0.0	3.3	0.9	0.1	650
Child sex[a]						
Male	3.4	0.1	3.2	1.4	0.0	346
Female	0.0	0.0	3.4	0.2	0.2	304
Child age						
0-11 months	2.4	0.2	6.3	3.7	0.1	109
12-23 months	0.7	0.1	4.4	0.3	0.0	132
24-35 months	0.0	0.0	0.8	0.0	0.3	116
36-47 months	3.8	0.0	4.1	0.6	0.1	141
48-59 months	2.5	0.0	0.9	0.0	-0.1	152
Caregiver's educational attainment[2,a]						
No education	0.3	0.0	4.0	2.4	0.2	180
Less than primary	4.1	0.1	1.7	0.0	-0.1	285
Primary	0.6	0.0	5.4	0.3	0.2	165
Secondary or more	^	^	^	^	^	20
Gendered household type						
Male and female adults	2.0	0.1	3.6	1.0	0.1	606
Female adult(s) only	1.9	0.0	0.0	0.0	0.3	43
Male adult(s) only	^	^	^	^	^	1
Child(ren) only (no adults)	-	-	-	-	-	0
Household size						
Small (1-5 members)	1.4	0.0	5.0	2.2	0.1	150
Medium (6-10 members)	2.2	0.1	2.5	0.3	0.1	436
Large (11+ members)	2.4	0.0	2.4	0.0	-0.1	64
Household hunger						
Little to no hunger	1.7	0.1	2.4	0.1	0.1	484
Moderate or severe hunger	2.6	0.0	5.4	2.7	0.1	166

^ Results not statistically reliable, n<30.

[1] Records missing information for the disaggregate variables have been excluded from the disaggregated estimates. The unweighted sample size reflects this loss in observations; therefore disaggregates' sample sizes may not total to the aggregated sample size.

[2] The ZOI interim survey identifies the primary caregiver of each age-eligible child. This person is likely, but not necessarily, the child's biological mother.

[a-c] A superscript in the column heading indicates significance tests were performed for associations between the indicator in the column heading and each of the variables in the rows. For example, a test was done between the percent wasted and the child's sex. When an association between the column indicator and row variable is found to be significant ($p<0.05$), the superscript for the indicator in the column heading is noted next to the row variable.

Source: FTF FEEDBACK ZOI Interim Survey, Zambia 2015.

7.2.3 Underweight (Weight-for-Age)

Underweight is a weight-for-age measurement and is a reflection of acute and/or chronic undernutrition. This indicator measures the percentage of children 0-59 months who are underweight, as defined by a weight-for-age Z-score of more than two SD below the median of the 2006 WHO Child Growth Standard. The underweight measures presented below include the Feed the Future underweight indicator of moderate or severe underweight combined (<-2SD) as well as the indicator for severe underweight (<-3SD). Mean Z-scores are also presented.

Table 7.4 shows the prevalence of underweight, severe underweight, and mean Z-scores for children under 5 years in the ZOI. Estimates are presented for all children and by child, caregiver, and household characteristics. Children's characteristics include sex and age. Caregivers' characteristics include educational attainment. Household characteristics include gendered household type, household size, and household hunger.

In the Zambia ZOI, 13.6 percent of children under age 5 are underweight, and 1.9 percent are severely underweight. This is compared to the 2013-14 Zambia DHS rural estimates of 15.7 percent and 3.4 percent, respectively.[53] The mean weight-for-age Z-score in the ZOI is -0.9, which indicates that on average the weight-for-age for children in the ZOI is below that for the global reference population.

As shown in Table 7.4, significance tests were run for both children's underweight (< -2SD), the Feed the Future standard indicator, as well as the mean weight-for-age Z-scores. The prevalence of underweight indicator varies significantly by both caregivers' educational attainment and gendered household type. As seen with stunting and wasting, the educational category with the highest prevalence of children's underweight is less than primary; 18.2 percent of children whose caregivers have less than primary education are underweight. When examining underweight by gendered household type, more than twice as many children in female adult-only households are underweight relative to children in households with both male and female adults, 32.9 percent and 11.6 percent, respectively.

Average weight-for-age Z-scores vary significantly by children's age group and caregivers' educational attainment. Mean Z-scores worsen with children's increasing age, from -0.4 among children age 0-11 months to -1.1 among children age 48-59 months. Consistent with the underweight indicator, the educational group with the lowest mean weight-for-age Z-score is less than primary, at -1.1.

[53] Ibid.

Table 7.4. Underweight (weight-for-age) among children under 5 years old

Characteristic	% Underweight (<-2 SD)[a]	% Severely underweight (<-3 SD)	Mean Z-score[b]	n[1]
Total (All children under 5 years)	13.6	1.9	-0.9	650
Child sex				
Male	15.9	2.8	-0.9	346
Female	10.4	0.8	-0.8	304
Child age[b]				
0-11 months	5.2	0.4	-0.4	109
12-23 months	12.0	4.9	-0.8	132
24-35 months	14.8	0.3	-0.9	116
36-47 months	15.9	2.1	-1.0	141
48-59 months	18.2	1.9	-1.1	152
Caregiver's educational attainment[2,a,b]				
No education	13.2	0.0	-0.8	180
Less than primary	18.2	4.3	-1.1	285
Primary	5.2	0.2	-0.6	165
Secondary or more	^	^	^	20
Gendered household type[a]				
Male and female adults	11.6	1.9	-0.9	606
Female adult(s) only	32.9	1.9	-1.2	43
Male adult(s) only	^	^	^	1
Child(ren) only (no adults)	-	-	-	0
Household size				
Small (1-5 members)	12.8	1.2	-0.8	150
Medium (6-10 members)	14.6	1.8	-0.9	436
Large (11+ members)	7.6	6.1	-0.9	64
Household hunger				
Little to no hunger	11.2	1.8	-0.9	484
Moderate or severe hunger	19.1	2.2	-0.9	166

^ Results not statistically reliable, n<30.

[1] Records missing information for the disaggregate variables have been excluded from the disaggregated estimates. The unweighted sample size reflects this loss in observations; therefore disaggregates' sample sizes may not total to the aggregated sample size.

[2] The ZOI interim survey identifies the primary caregiver of each age-eligible child. This person is likely, but not necessarily, the child's biological mother.

[a-b] A superscript in the column heading indicates significance tests were performed for associations between the indicator in the column heading and each of the variables in the rows. For example, a test was done between the percent underweight and the child's sex. When an association between the column indicator and row variable is found to be significant ($p<0.05$), the superscript for the indicator in the column heading is noted next to the row variable.

Source: FTF FEEDBACK ZOI Interim Survey, Zambia 2015.

8. Summary and Conclusions

This report presents the results of the first interim assessment for the Feed the Future Zambia zone of influence (ZOI). The Zambia ZOI consists of five districts in Zambia's Eastern Province: Chipata, Katete, Lundazi, Nyimba, and Petauke. The FTF FEEDBACK Zambia ZOI interim survey was conducted between late November and late December 2015 in rural and peri-urban areas within the ZOI.

Sample size from these data is sufficient to provide point estimates in the Zambia ZOI for the standard Feed the Future indicators, but was not designed to be large enough to measure change in indicator values from the 2012 baseline assessment. Thirteen Feed the Future indicators are included in this assessment: (1) Daily per capita expenditures (as a proxy for income) in United States Government (USG)-assisted areas; (2) Prevalence of Poverty; (3) Depth of Poverty; (4) Prevalence of households with moderate or severe hunger; (5) Women's Dietary Diversity; (6) Prevalence of children 6-23 months receiving a minimum acceptable diet (MAD); (7) Prevalence of exclusive breastfeeding among children under 6 months of age; (8) Prevalence of women of reproductive age who consume targeted nutrient-rich value chain commodity (NRVCC); (9) Prevalence of children 6-23 months who consume targeted NRVCC; (10) Prevalence of underweight women; (11) Prevalence of stunted children under 5 years of age; (12) Prevalence of wasted children under 5 years of age; and (13) Prevalence of underweight children under 5 years of age.

The majority of these indicators were calculated from primary data collected by FTF FEEDBACK in Zambia. However, three indicators – per capita expenditures, prevalence of poverty, and depth of poverty – were calculated from secondary data for the Zambia ZOI from the 2015 Living Conditions Monitoring Survey (LCMS). These data represent the entire population of the five districts in the ZOI.

8.1 Summary of Key Findings

8.1.1 Household Economic Status

In the five districts of the Zambia ZOI, average daily per capita expenditures is $1.01 (2010 United States Dollars [USD]). The prevalence of poverty (the percent of people living below $1.25 per day [2005 purchasing power parity (PPP)]) is 80.9 percent. The depth of poverty (the mean percent shortfall relative to the $1.25 per day poverty line) is 47.3 percent.

8.1.2 WEAI Indicators

While neither the Women's Empowerment in Agriculture Index (WEAI) nor its component sub-indices can be calculated for the Feed the Future interim assessments, this report presents uncensored headcounts for nine of the 10 WEAI indicators. Uncensored headcounts are the percent of primary adult female decisionmakers who achieve adequacy on each of the WEAI indicators, regardless of their overall empowerment status. The WEAI indicators with the highest levels of surveyed women's achievement in the Zambia ZOI include control over the use of income (94.8 percent), ownership of assets (93.0 percent), and satisfaction with leisure time (92.8 percent). The WEAI indicator with the lowest level of achievement among primary adult female decisionmakers is access to and decisions on credit (30.5 percent).

8.1.3 Hunger and Dietary Intake

Nearly one-third (31.9 percent) of households in the Zambia ZOI experience moderate or severe hunger. Women's dietary diversity, or the average number of food groups (of nine possible groups) consumed in the prior day by women age 15-49, is 4.84 food groups. The prevalence of exclusive breastfeeding among ZOI infants age 0-5 months is 43.7 percent; fewer than half of all infants in the Zambia ZOI were exclusively breastfed in the prior 24 hours. Among ZOI children age 6-23 months, over one-third (35.7 percent) received a MAD the prior day.

The NRVCC in Zambia are groundnuts, soy, pigeon peas, cow peas, orange-fleshed sweet potatoes (OFSP), local dark green leafy vegetables (DGLV) (including Amaranth, Nightshade, Spiderplant, Black Jack, and Moringa), and biofortified orange maize. Questions about the consumption of these seven foods were incorporated into the women's and children's 24-hour dietary intake modules in the ZOI interim survey (Modules H and I).[54]

More than half (52.4 percent) of women of reproductive age in the Zambia ZOI consumed at least one of the seven NRVCC foods in the prior day, with groundnuts or foods made from groundnuts most commonly consumed (42.1 percent of women), followed by local DGLV (15.5 percent). The remaining five NRVCC foods were consumed by fewer than 5 percent of women in the ZOI: soy (2.6 percent), cow peas (2.6 percent), orange maize (1.3 percent), pigeon peas (0.9 percent), and OFSP (0.5 percent).

The consumption of the NRVCC among children age 6-23 months follows a similar pattern as women. Groundnuts are the most prevalent NRVCC for ZOI children, consumed by

[54] Women's and children's consumption of OFSP and orange maize were asked slightly differently than the other NRVCC, via a series of knowledge and use questions (i.e., ever obtained, ever planted, ever eaten, and if so, when) in Module H/Module I. Women (or children) who reported consumption of OFSP or orange maize in the past day were coded as yes on these respective NRVCC indicators.

45.5 percent of children in the prior 24 hours. This is followed by soy (14.0 percent), and local DGLV (10.8 percent). The remaining four NRVCC foods were consumed by fewer than 4 percent of children age 6-23 months in the ZOI: orange maize (3.5 percent), OFSP (1.8 percent), pigeon peas (1.4 percent), and cow peas (0.4 percent). As with women, more than half (57.3 percent) of Zambian children consumed at least one of the NRVCC foods in the prior 24 hours.

Women's Knowledge and Use of OFSP and Orange Maize

In addition to the NRVCC indicators for women and children (i.e., consumption in the prior day), the Zambia interim assessment report also presented measures of women's knowledge (i.e., ever heard) and use (i.e., ever obtained, ever planted, ever eaten) of two of the NRVCC: OFSP and orange maize (also known as vitamin A maize). As shown in country-specific tables in Chapter 6, more than three-quarters (78.5 percent) of women of reproductive age in Zambia have heard of OFSP, while just under half (49.7 percent) have heard of orange (or vitamin A) maize.

8.1.4 Nutritional Status of Women and Children

About 5.1 percent – or one in every 20 – non-pregnant women of reproductive age in the Zambia ZOI are underweight (body mass index [BMI] below 18.5). More than one-third (38.4 percent) of all children under age 5 in the ZOI have low height-for-age, indicating long term, chronic undernutrition. However, only 2.0 percent of children under age 5 are wasted, or have low weight-for-height. Wasting is an indicator of acute malnutrition. Finally, 13.6 percent of children are underweight, or have low weight-for-age. Underweight is an indicator of either acute or chronic undernutrition in children.

8.2 Conclusions

The Zambia ZOI interim assessment was not designed to measure change from baseline indicator values, nor was it designed to draw conclusions about attribution or causality. For a few standard indictors, however, non-overlapping confidence intervals (CIs) between 2010/2012 baseline indicators and comparable 2015 interim indicators or statistical tests of differences point to a statistically significant change over time. (It should be noted that baseline indicator estimates are shown in the Executive Summary table only.) However, when CIs do overlap, which is the case for most indicators, conclusions cannot be made regarding statistically significant change from baseline to interim without conducting a statistical test of the difference.

Statistical tests of differences were conducted for the daily per capita expenditure, prevalence and depth of poverty, and child stunting, wasting and underweight indicators. There has been a statistically significant reduction in the prevalence of poverty in the Zambia ZOI from the

baseline prevalence of 88.0 percent in 2010 to 80.9 percent in 2015. None of the differences between the baseline and interim estimates for the other indicators for which statistical tests of differences were conducted were statistically significant.

For the remaining indicators, significant differences based on non-overlapping confidence intervals were found over time between the baseline and interim estimates for the four WEAI uncensored headcounts of (1) ownership of assets, (2) speaking in public, (3) workload, and (4) satisfaction with leisure time. In addition, the prevalence of households with moderate or severe hunger, women's dietary diversity, and the prevalence of children 6-23 months receiving a MAD were also significantly different between the Zambia baseline and interim assessments.

As indicated by the confidence intervals presented in the indicator estimates summary table on pages xiv-xv in the Executive Summary, four of the nine WEAI uncensored headcounts exhibit an increase between baseline and interim. Women's adequacy on ownership of assets has increased from 83.8 percent at baseline to 93.0 percent at interim. Similarly, women's adequacy on the speaking in public indicator has increased from 71.5 percent to 81.3 percent; adequacy on the workload indicator has increased from 21.0 percent to 72.2 percent; and adequacy on the satisfaction with leisure time indicator has increased from 81.4 percent to 92.8 percent between baseline and interim.

In the Zambia ZOI, the prevalence of households with moderate or severe hunger has increased from the baseline estimate (23.2 percent) to 31.9 percent at interim.[55] Counter-intuitively, given the finding for household hunger, dietary diversity among women of reproductive age in the Zambia ZOI has also increased over time, from an average of 4.01 food groups (of nine possible groups) at baseline, to 4.84 food groups at interim. Finally, and consistent with the women's dietary diversity finding, the prevalence of children receiving a MAD has increased from 16.2 percent at baseline, to 35.7 percent at interim.

Notwithstanding the description above regarding the specific Feed the Future indicators which exhibit statistically significant change over time, this first interim assessment for the Zambia ZOI was designed to present point estimates for the Feed the Future indicators. The second interim assessment for the Zambia ZOI, planned for 2017, will explicitly explore change in indicator estimates over time.

[55] Note that the FTF FEEDBACK ZOI baseline and interim surveys, from which the household hunger estimates are calculated, were conducted at similar times of year, in November and December (of 2012 and 2015, respectively). These data collection dates overlap with the hungry season in Zambia, which is from November through February (see Chapter 6).

References

Alkire, S., Malapit, H., Meinzen-Dick, R., Peterman, A., Quisumbing, A., Seymour, G., & Vaz, A. (2013). *Instructional guide on the women's empowerment in agriculture index*; and International Food Policy Research Institute (IFPRI) (2013). Retrieved from http://www.ifpri.org/publication/womens-empowerment-agriculture-index

Ballard, T., Coates, J., Swindale, A., & Deitchler, M. (2011). *Household hunger scale: Indicator definition and measurement guide*. Washington, DC: Food and Nutrition Technical Assistance II Project, FHI 360.

Bank of Zambia. (2012). *Kwacha rebasing–All you need to know!.* Lusaka, Zambia: Author. Retrieved from http://www.boz.zm/currencyrebase/Rebasing%20Fact%20Sheet.pdf. Accessed April 18, 2016.

Black, R.E., Allen, L.H., Bhutta, Z.A., Caulfield, L.E., de Onis, M., Ezzati, M., Mathers, C., & Rivera, J. (2008). Maternal and child undernutrition: Global and regional exposures and health consequences. *The Lancet*, *371*(9608), 243-260.

Central Intelligence Agency. (CIA). (2016). *The world factbook: Zambia*. Retrieved from https://www.cia.gov/library/publications/resources/the-world-factbook/geos/za.html. Accessed April 5, 2016.

Central Statistical Office. (CSO). (2012). *Living conditions monitoring survey report 2006 and 2010*. Lusaka, Zambia: Author.

Central Statistical Office. (CSO). (2012). *2011 Census of population and housing: Volume 11 national descriptive tables*. Lusaka, Zambia: Author.

Central Statistical Office. (CSO). (2013). *Population and demographic projections 2011-2013*. Lusaka, Zambia: Author.

Central Statistical Office. (CSO). (2016). *Zambia 2015 living conditions monitoring survey: Key findings*. Lusaka, Zambia: Author.

Central Statistical Office (CSO) [Zambia], Ministry of Health (MOH) [Zambia], & ICF International. (2014). *Zambia demographic and health Survey 2013-14*. Rockville, Maryland, USA: Author.

Darnton-Hill, I., Webb, P., Harvey, P.W., Hunt, J.M., Dalmiya, N., Chopra, M, & de Benoist, B. (2005). Micronutrient deficiencies and gender: Social and economic costs. *American Journal of Clinical Nutrition*, May 2005, *81*(Supplement), 1198S-1205S.

Deaton, A. (2008). *The analysis of household surveys: A microeconomic approach to development policy*. Baltimore: The Johns Hopkins University Press.

Deaton, A., & Zaidi, S. (2002). *Guidelines for constructing consumption aggregates for welfare analysis.* Working Paper No. 135. Washington, DC: The World Bank.

Deitchler, M., Ballard, T., Swindale, A., & Coates, J. (2011). *FANTA Technical Note No. 12: Introducing a simple measure of household hunger for cross-cultural use.* Washington, DC: USAID.

Education Policy and Data Center. (EPDC). (2014). *Zambia: National education profile.* Retrieved from http://www.epdc.org/sites/default/files/documents/EPDC%20NEP_Zambia.pdf. Accessed April 14, 2016.

Famine Early Warning Systems Network. (FEWS NET). (2014). *Zambia food security outlook, October 2014-March 2015.* Retrieved from http://www.fews.net/sites/default/files/documents/reports/Zambia_FSO_2014_10_final.pdf Accessed April 25, 2016.

Indaba Agricultural Policy Research Institute (IAPRI). (2016). *Rural agricultural livelihoods survey: 2015 survey report.* Lusaka, Zambia: Author.

Kaplinsky, R., & Morris, M. (2003). *A handbook for value chain analysis*. Ottawa, Canada: International Development Research Center.

Megill, D.J. (2004). *Recommendations on sample design for post-harvest surveys in Zambia based on the 2000 census*. Lusaka, Zambia: Food Security Research Project.

Stukel, D., & Deitchler, M. (2012). *Addendum to FANTA sampling guide by Robert Magnani (1999)*. Washington, DC: FHI 360/FANTA.

The World Bank. (2011). *Poverty and equality data FAQs*. Retrieved from http://go.worldbank.org/PYLADRLUN0. Accessed April 15, 2015.

The World Bank. (2014). *Purchasing power parities and the real size of world economies: A comprehensive report of the 2011 international comparison program*. Washington, DC: Author. Retrieved from http://elibrary.worldbank.org/doi/book/10.1596/978-1-4648-0329-1. Accessed December 29, 2015.

The World Bank. (2015a). *Consumer price index (2010=100).* Retrieved from http://data.worldbank.org/indicator/FP.CPI.TOTL. Accessed September 18, 2015.

The World Bank. (2015b). *PovcalNet: An online analysis tool for global poverty monitoring.* Retrieved from http://iresearch.worldbank.org/PovcalNet/index.htm. Accessed December 29, 2015.

The World Bank. (2015c). *PPP conversion factor, private consumption (LCU per international $).* Retrieved from http://data.worldbank.org/indicator/PA.NUS.PRVT.PP. Accessed December 29, 2015.

United Nations Development Group. (UNDG). (2003). *Indicators for monitoring the millennium development goals: Definitions, rationale, concepts and sources*. New York: United Nations.

United States Agency for International Development. (USAID). (2010). F*eed the Future framework*.

United States Agency for International Development. (USAID). (2011a). *Feed the Future Zambia. FY 2011– 2015 multi-year strategy*.

United States Agency for International Development. (USAID). (2011b). *USAID Zambia country development cooperation strategy (CDCS)*.

United States Agency for International Development. (USAID). (2013a). *Feed the Future indicator handbook: Definition sheets* (updated October 18, 2014).

United States Agency for International Development. (USAID). (2013b). *Feed the Future Zambia. Zone of influence baseline report*.

United States Agency for International Development. (USAID). (2014a). *Feed the Future M&E guidance series. Volume 6: Feed the Future measuring gender impact guidance* (March 2014).

United States Agency for International Development. USAID. (2014b). *Volume 11: Guidance on the first interim assessment of the Feed the Future zone of influence population-level indicators (October 2014)*.

United States Government Zambia Interagency Team. (2012). *Global health initiative strategy: Zambia 2011-2015.*

Victora, C.G., Adair, L., Fall, C., Hallal, P.C., Martorell, R., Richter, L., & Harshpal, S.S. (2008). Maternal and child undernutrition: Consequences for adult health and human capital. *The Lancet*, *371*(9608), 340-357.

Webber, C.M., & Labaste, P. (2010). *Building competitiveness in Africa's agriculture: A guide to value chain concepts and applications*. Washington, DC: The World Bank. Retrieved from https://openknowledge.worldbank.org/handle/10986/2401.

World Health Organization (WHO), & United Nations Children's Fund (UNICEF). (2006). *WHO child growth standards and the identification of severe acute malnutrition in infants and children*. Geneva, Switzerland: Author.

World Health Organization (WHO), UNICEF, USAID, AED, FANTA 2, UC DAVIS, & IFPRI. (2010). *Indicators for assessing infant and young child practices (part 2 measurements).* Geneva, Switzerland: WHO.

Appendix 1. Supplementary Data and Figures

A1.1 Interim Feed the Future Indicator Estimates

Unweighted sample sizes, point estimates, standard deviations, confidence intervals, design effects (DEFF), and nonresponse rates for the interim Feed the Future indicators for the ZOI.

Feed the Future indicator	Estimate					n
	Indicator[a]	SD	95% CI	DEFF	Non-response rate[1]	
Daily per capita expenditures (as a proxy for income)[2] in USG-assisted areas (2010 USD)[a]						
All households	1.01	1.26	0.89 – 1.14	3.1	n/a	1,214
Male and female adults	0.99	1.17	0.86 – 1.12	3.2	n/a	992
Female adult(s) only	1.08	1.52	0.86 – 1.31	0.5	n/a	155
Male adult(s) only	2.11	3.28	1.32 – 2.91	0.3	n/a	67
Child(ren) only (no adults)	-	-	-	-	n/a	0
Prevalence of Poverty: Percent of people living on less than $1.25/day (2005 PPP)						
All households	80.9	-	77.1 – 84.8	3.1	n/a	1,214
Male and female adults	80.8	-	76.8 – 84.8	2.9	n/a	992
Female adult(s) only	85.6	-	79.6 – 91.5	0.7	n/a	155
Male adult(s) only	63.0	-	45.6 – 80.5	0.6	n/a	67
Child(ren) only (no adults)	-	-	-	-	n/a	0
Depth of Poverty: Mean percent shortfall relative to the $1.25/day (2005 PPP) poverty line[a]						
All households	47.3	30.9	43.2 – 51.3	5.5	n/a	1,214
Male and female adults	47.5	30.9	43.3 – 51.6	5.2	n/a	992
Female adult(s) only	47.5	29.7	40.2 – 54.8	1.5	n/a	155
Male adult(s) only	32.4	29.8	20.2 – 44.5	0.7	n/a	67
Child(ren) only (no adults)	-	-	-	-	n/a	0
Percent of women achieving adequacy on Women's Empowerment in Agriculture Index Indicators[2]						
Input in productive decisions	91.7	-	88.2 – 94.1	2.0	4.4%	719
Autonomy in production	n/a	n/a	n/a	n/a	n/a	n/a
Ownership of assets	93.0	-	90.0 – 95.2	1.8	4.4%	719
Purchase, sale or transfer of assets	73.6	-	68.7 – 77.9	1.9	4.4%	719
Access to and decisions on credit	30.5	-	25.3 – 36.2	2.5	4.4%	719
Control over use of income	94.8	-	92.2 – 96.6	1.7	4.4%	719
Group member	75.0	-	69.4 – 79.9	2.7	4.4%	719
Speaking in public	81.3	-	76.3 – 85.4	2.4	4.4%	719
Workload	72.2	-	67.3 – 76.5	1.9	4.4%	719
Leisure	92.8	-	89.5 – 95.2	2.1	4.4%	719

Feed the Future indicator	Estimate					n
	Indicator[a]	SD	95% CI	DEFF	Non-response rate[1]	
Prevalence of households with moderate or severe hunger						
All households	31.9	-	26.7 – 37.7	2.7	1.5%	763
Male and female adults	32.1	-	26.6 – 38.1	2.6	1.6%	689
Female adult(s) only	33.8	-	20.9 – 49.6	1.8	0.9%	61
Male adult(s) only	^	-	^	^	^	13
Child(ren) only (no adults)	-	-	-	-	-	0
Women's Dietary Diversity: Mean number of food groups consumed by women of reproductive age						
All women age 15-49	4.84	1.29	4.65 – 5.03	5.1	8.3%	932
Prevalence of exclusive breastfeeding among children under 6 months of age						
All children	43.7	-	26.9 – 62.1	1.6	3.9%	54
Male children	^	-	^	^	^	28
Female children	^	-	^	^	^	26
Prevalence of children 6-23 months receiving a minimum acceptable diet						
All children	35.7	-	26.3 – 46.3	2.3	2.6%	206
Male children	41.2	-	27.9 – 55.9	2.6	2.4%	108
Female children	28.2	-	18.4 – 40.7	1.4	2.9%	98
Prevalence of women of reproductive age who consume targeted nutrient-rich value chain commodities						
Groundnuts: All women age 15-49	42.1	-	36.3 – 48.1	3.4	8.3%	932
Soy: All women age 15-49	2.6	-	1.6 – 4.2	1.5	8.3%	932
Pigeon peas: All women age 15-49	0.9	-	0.3 – 2.7	2.7	8.3%	932
Cow peas: All women age 15-49	2.6	-	1.5 – 4.6	2.0	8.3%	932
Orange-fleshed sweet potatoes (OFSP): All women age 15-49[3]	0.5	-	0.1 – 1.7	1.8	8.3%	932
Local dark green leafy vegetables (DGLV): All women age 15-49[4]	15.5	-	12.0 – 19.8	2.7	8.3%	932
Orange maize: All women age 15-49[3]	1.3	-	0.6 – 3.1	2.4	8.3%	932
Prevalence of women of reproductive age who consume at least one targeted nutrient-rich value chain commodity						
All women age 15-49	52.4	-	46.5 – 58.2	3.2	8.3%	932
Prevalence of children 6-23 months who consume specific targeted nutrient-rich value chain commodities						
Groundnuts: All children	45.5	-	35.3 – 56.1	2.3	2.6%	206
Soy: All children	14.0	-	8.3 – 22.4	2.1	2.6%	206
Pigeon peas: All children	1.4	-	0.5 – 3.7	0.7	2.6%	206
Cow peas: All children	0.4	-	0.1 – 3.1	0.9	2.6%	206
Orange-fleshed sweet potatoes (OFSP): All children[3]	1.8	-	0.7 – 4.8	0.9	2.6%	206
Local dark green leafy vegetables (DGLV): All children[4]	10.8	-	5.5 – 20.4	2.8	2.6%	206
Orange maize: All children[3]	3.5	-	1.3 – 9.3	1.9	2.6%	206

Feed the Future indicator	Estimate					n
	Indicator[a]	SD	95% CI	DEFF	Non-response rate[1]	
Prevalence of children 6-23 months who consume at least one targeted nutrient-rich value chain commodity						
All children	57.3	-	46.9 – 67.1	2.2	2.6%	206
Male children	55.3	-	41.7 – 68.2	2.3	2.4%	108
Female children	59.9	-	45.5 – 72.8	1.8	2.9%	98
Prevalence of underweight women						
All non-pregnant women age 15-49	5.1	-	3.4 – 7.8	2.0	9.9%	830
Prevalence of stunted children under 5 years of age						
All children	38.4	-	32.1 – 45.1	3.0	9.1%	650
Male children	41.4	-	33.9 – 49.3	2.4	8.9%	346
Female children	34.3	-	26.3 – 43.3	2.3	9.3%	304
Prevalence of wasted children under 5 years of age[a]						
All children	2.0	-	1.0 – 4.0	1.7	9.1%	650
Male children	3.4	-	1.7 – 6.9	1.7	8.9%	346
Female children	0.0	-	-	0.0	9.3%	304
Prevalence of underweight children under 5 years of age						
All children	13.6	-	9.9 – 18.4	2.5	9.1%	650
Male children	15.9	-	10.6 – 23.0	2.7	8.9%	346
Female children	10.4	-	5.2 – 19.9	3.8	9.3%	304

^ Results not statistically reliable, n<30.

[1] Nonresponse rates for each indicator are derived by the difference between the number of eligible cases and the number of observations available for analysis divided by the number of eligible cases.

[2] The full WEAI score cannot be calculated because interim data were collected from women only and the autonomy indicator was dropped. The second interim survey (2017) will collect the full set of data from women and men and will report on the full WEAI.

[3] Women's and children's consumption of OFSP and orange maize were asked differently than the other NRVCC foods, via a series of knowledge and use questions in Module H/Module I. Women (or children) who reported consumption of OFSP or orange maize in the past day were coded as yes on these respective NRVCC indicators.

[4] The local DGLV in the Zambia ZOI include: Amaranth (Bondwe), Nightshade (Ndulwe), Spiderplant (Sunta), Black Jack (Kanunka), and Moringa.

[a] Significance tests were run for associations between each indicator (bold text title in the rows) and the disaggregate variable below the indicator title. For example, a test was done between per capita income and gendered household type. When an association between the indicator and disaggregate variable is found to be significant ($p<0.05$), the superscript is noted next to the indicator.

n/a – Not available.

Source(s): FTF FEEDBACK ZOI Interim Survey, Zambia 2015; Zambia 2015 Living Conditions Monitoring Survey.

A1.2 Interim Feed the Future Indicator Estimates by District

Indicator estimates, confidence intervals, and unweighted sample sizes for the interim Feed the Future indicators by ZOI district.

Feed the Future indicator	Chipata			Katete			Lunzadi			Nyimba			Petauke		
	Esti-mate	95% CI	n	Esti-mate	95% CI	n	Esti-mate	95% CI	n	Esti-mate	95% CI	n	Esti-mate	95% CI	n
Daily per capita expenditures (as a proxy for income)[1] in USG-assisted areas (2010 USD)															
All households	1.39	1.12 – 1.64	595	1.05	0.60 – 1.50	132	0.95	0.61 – 1.29	205	0.86	0.61 – 1.11	68	0.55	0.38 – 0.73	214
Male and female adults	1.35	1.09 – 1.60	482	1.06	0.61 – 1.51	110	0.89	0.60 – 1.19	171	0.89	0.63 – 1.15	57	0.54	0.37 – 0.72	172
Female adult(s) only	1.54	1.19 – 1.89	76	^	^	-	^	^	-	^	^	-	^	^	-
Male adult(s) only	3.13	1.18 – 5.09	37	^	^	-	^	^	-	^	^	-	^	^	-
Child(ren) only (no adults)	-	-	0	-	-	0	-	-	0	-	-	0	-	-	0
Prevalence of Poverty: Percent of people living on less than $1.25/day (2005 PPP)															
All households	70.9	62.1 – 77.7	595	79.7	69.7 – 89.8	132	84.1	73.3 – 95.0	205	82.9	71.5 – 94.4	68	94.0	89.3 – 98.7	214
Male and female adults	69.9	62.0 – 77.8	482	78.5	67.6 – 89.3	110	84.9	74.7 – 95.1	171	81.8	70.3 – 93.2	57	94.0	89.0 – 98.9	172
Female adult(s) only	73.9	62.2 – 85.5	76	^	^	-	^	^	-	^	^	-	^	^	-
Male adult(s) only	49.2	10.3 – 88.2	37	^	^	-	^	^	-	^	^	-	^	^	-
Child(ren) only (no adults)	-	-	0	-	-	0	-	-	0	-	-	0	-	-	0
Depth of Poverty: Mean percent shortfall relative to the $1.25/day (2005 PPP) poverty line															
All households	32.8	27.3 – 38.3	595	47.1	36.8 – 57.3	132	48.1	41.0 – 55.2	205	51.4	44.8 – 58.0	68	66.7	59.8 – 73.6	214
Male and female adults	32.8	27.3 – 38.4	482	46.5	35.1 – 57.9	110	49.6	42.8 – 56.3	171	50.5	45.3 – 55.7	57	67.0	60.1 – 73.9	172
Female adult(s) only	33.3	24.8 – 41.8	76	^	^	-	^	^	-	^	^	-	^	^	-
Male adult(s) only	25.7	2.0 – 49.2	37	^	^	-	^	^	-	^	^	-	^	^	-
Child(ren) only (no adults)	-	-	0	-	-	0	-	-	0	-	-	0	-	-	0
Percent of women achieving adequacy on Women's Empowerment in Agriculture Index Indicators[1]															
Input in productive decisions	92.5	83.9 – 96.6	175	94.8	85.5 – 98.3	167	91.3	81.8 – 96.1	157	97.3	73.8 – 99.8	59	87.4	78.3 – 93.0	161
Autonomy in production	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Ownership of assets	93.9	84.8 – 97.7	175	92.1	84.8 – 96.0	167	87.6	78.6 – 93.1	157	97.8	81.5 – 99.8	59	96.8	90.1 – 99.0	161
Purchase, sale or transfer of assets	71.2	58.4 – 81.4	175	73.8	64.4 – 81.5	167	66.0	56.7 – 74.1	157	77.6	60.1 – 88.8	59	82.2	70.5 – 90.0	161
Access to and decisions on credit	35.5	25.6 – 46.7	175	25.4	19.0 – 33.1	167	34.2	24.1 – 46.0	157	19.6	7.7 – 41.6	59	27.6	14.6 – 45.9	161
Control over use of income	96.8	88.8 – 99.1	175	92.6	85.1 – 96.4	167	95.0	88.1 – 98.0	157	97.4	88.0 – 99.5	59	93.6	85.7 – 97.3	161
Group member	76.5	63.0 – 86.1	175	79.4	70.6 – 86.1	167	76.5	64.4 – 85.4	157	70.8	46.3 – 87.2	59	69.6	54.6 – 81.4	161
Speaking in public	85.4	75.1 – 91.9	175	75.2	62.6 – 84.6	167	82.8	68.8 – 91.3	157	83.9	68.4 – 92.6	59	78.9	67.0 – 87.3	161
Workload	74.3	63.7 – 82.6	175	66.9	55.7 – 76.4	167	61.1	49.7 – 71.4	157	86.0	69.1 – 94.4	59	80.9	69.2 – 88.9	161
Leisure	91.1	80.3 – 96.3	175	92.7	85.7 – 96.4	167	94.7	88.3 – 97.7	157	87.1	65.6 – 96.0	59	94.4	85.1 – 98.0	161

Feed the Future indicator	Chipata			Katete			Lunzadi			Nyimba			Petauke		
	Esti-mate	95% CI	n	Esti-mate	95% CI	n	Esti-mate	95% CI	n	Esti-mate	95% CI	n	Esti-mate	95% CI	n
Prevalence of households with moderate or severe hunger															
All households	39.4	29.0 – 50.9	189	26.9	19.2 – 36.4	173	34.9	23.1 – 48.8	165	28.1	13.0 – 50.6	64	25.2	13.8 – 41.4	172
Male and female adults	40.0	28.3 – 52.9	171	24.4	16.9 – 33.9	158	37.1	25.1 – 51.0	154	30.0	14.5 – 51.9	59	23.2	12.6 – 38.7	147
Female adult(s) only	^	^	14	^	^	12	^	^	9	^	^	4	^	^	22
Male adult(s) only	^	^	4	^	^	3	^	^	2	^	^	1	^	^	3
Child(ren) only (no adults)	-	-	0	-	-	0	-	-	0	-	-	0	-	-	0
Women's Dietary Diversity: Mean number of food groups consumed by women of reproductive age															
All women age 15-49	5.09	4.60 – 5.57	240	4.92	4.52 – 5.32	225	4.5	4.21 – 4.78	204	4.55	3.99 – 5.11	79	4.83	4.63 – 5.03	184
Prevalence of exclusive breastfeeding among children under 6 months of age															
All children	^	^	12	^	^	13	^	^	14	^	^	2	^	^	13
Male children	^	^	6	^	^	7	^	^	5	^	^	1	^	^	9
Female children	^	^	6	^	^	6	^	^	9	^	^	1	^	^	4
Prevalence of children 6-23 months receiving a minimum acceptable diet															
All children	30.8	17.5 – 48.3	50	35.8	20.3 – 55.0	50	30.4	14.7 – 52.5	40	^	^	17	38.7	15.7 – 68.2	49
Male children	^	^	25	^	^	28	^	^	19	^	^	9	^	^	27
Female children	^	^	25	^	^	22	^	^	21	^	^	8	^	^	22
Prevalence of women of reproductive age who consume targeted nutrient-rich value chain commodities															
Groundnuts: All women age 15-49	44.2	32.5 – 56.6	240	34.3	21.5 – 49.8	225	33.3	22.1 – 46.9	204	42.4	19.7 – 68.9	79	54.4	42.4 – 66.0	184
Soy: All women age 15-49	3.1	1.1 – 8.4	240	5.4	2.9 – 10.0	225	0.8	0.2 – 3.1	204	0.7	0.1 – 7.7	79	1.7	0.5 – 5.6	184
Pigeon peas: All women age 15-49	0.3	0.0 – 2.5	240	0.5	0.1 – 4.5	225	0.0	-	204	0.0	-	79	3.1	0.7 – 12.8	184
Cow peas: All women age 15-49	2.5	0.9 – 7.2	240	5.0	1.9 – 12.0	225	1.6	0.3 – 7.7	204	0.1	0.0 – 1.1	79	2.6	0.6 – 10.9	184
Orange-fleshed sweet potatoes (OFSP): All women age 15-49[2]	0.5	0.1 – 3.8	240	1.4	0.2 – 10.6	225	0.2	0.1 – 1.0	204	0.0	-	79	0.0	-	184
Local dark green leafy vegetables (DGLV): All women age 15-49[3]	11.2	6.4 – 18.7	240	17.1	7.3 – 35.3	225	18.4	11.4 – 28.3	204	30.3	11.0 – 60.4	79	14.0	8.7 – 21.7	184
Orange maize: All women age 15-49[2]	1.7	0.4 – 7.2	240	1.2	0.1 – 8.9	225	0.1	0.0 – 1.2	204	6.0	0.6 – 41.0	79	0.9	0.1 – 6.1	184

Feed the Future indicator	Chipata			Katete			Lunzadi			Nyimba			Petauke		
	Esti-mate	95% CI	n	Esti-mate	95% CI	n	Esti-mate	95% CI	n	Esti-mate	95% CI	n	Esti-mate	95% CI	n
Prevalence of women of reproductive age who consume at least one targeted nutrient-rich value chain commodity															
All women age 15-49	52.8	40.2 – 65.0	240	49.2	34.8 – 63.7	225	45.2	34.8 – 56.1	204	52.8	26.7 – 77.4	79	61.9	50.0 – 72.5	184
Prevalence of children 6-23 months who consume specific targeted nutrient-rich value chain commodities															
Groundnuts: All children	56.8	35.5 – 75.9	50	29.3	14.5 – 50.4	50	37.4	21.1 – 57.3	40	^	^	17	50.2	25.4 – 75.0	49
Soy: All children	10.1	4.0 – 23.0	50	30.2	14.0 – 53.6	50	7.3	1.1 – 36.9	40	^	^	17	8.9	1.3 – 41.5	49
Pigeon peas: All children	0.3	0.0 – 2.8	50	5.1	1.4 – 16.6	50	0.0	-	40	^	^	17	1.1	0.3 – 4.1	49
Cow peas: All children	0.0	-	50	2.0	0.2 – 16.0	50	0.0	-	40	^	^	17	0.0	-	49
Orange-fleshed sweet potatoes (OFSP): All children[2]	0.4	0.0 – 3.2	50	1.8	0.4 – 8.4	50	5.2	0.9 – 23.8	40	^	^	17	1.2	0.3 – 4.3	49
Local dark green leafy vegetables (DGLV): All children[3]	0.3	0.0 – 2.7	50	15.1	4.9 – 37.7	50	3.8	0.9 – 14.7	40	^	^	17	12.9	3.3 – 39.6	49
Orange maize: All children[2]	8.3	1.9 – 29.3	50	3.5	0.8 – 13.7	50	1.2	0.1 – 10.2	40	^	^	17	0.5	0.1 – 2.2	49
Prevalence of children 6-23 months who consume at least one targeted nutrient-rich value chain commodity															
All children	65.4	41.4 – 83.5	50	53.1	29.9 – 75.0	50	39.1	23.2 – 57.8	40	^	^	17	59.5	35.4 – 79.8	49
Male children	^	^	25	^	^	28	^	^	19	^	^	9	^	^	27
Female children	^	^	25	^	^	22	^	^	21	^	^	8	^	^	22
Prevalence of underweight women															
All non-pregnant women age 15-49	4.9	1.8 – 12.8	211	5.6	2.4 – 12.5	207	5.4	2.8 – 10.4	189	4.9	0.9 – 22.8	69	4.7	1.5 – 13.5	154
Prevalence of stunted children under 5 years of age															
All children	36.2	21.6 – 53.8	165	39.5	29.4 – 50.7	150	39.9	29.6 – 51.1	143	32.4	17.0 – 52.9	49	40.5	27.2 – 55.3	143
Male children	43.0	25.8 – 62.1	88	39.6	24.5 – 57.1	85	48.7	33.2 – 64.4	73	^	^	24	42.1	29.1 – 56.3	76
Female children	27.3	12.7 – 49.3	77	39.4	27.8 – 52.4	65	29.9	18.4 – 44.6	70	^	^	25	37.9	16.7 – 65.0	67
Prevalence of wasted children under 5 years of age															
All children	2.0	0.3 – 11.1	165	4.4	1.8 – 10.2	150	0.0	-	143	0.2	0.0 – 1.8	49	2.2	0.5 – 8.9	143
Male children	3.6	0.6 – 18.3	88	7.4	3.3 – 15.8	85	0.0	-	73	^	^	24	3.5	0.8 – 14.4	76
Female children	0.0	-	77	0.0	-	65	0.0	-	70	^	^	25	0.0	-	67

Feed the Future indicator	Chipata			Katete			Lunzadi			Nyimba			Petauke		
	Esti-mate	95% CI	n	Esti-mate	95% CI	n	Esti-mate	95% CI	n	Esti-mate	95% CI	n	Esti-mate	95% CI	n
Prevalence of underweight children under 5 years of age															
All children	13.8	6.2 – 28.0	165	17.0	10.7 – 25.8	150	7.3	3.8 – 13.8	143	13.8	5.9 – 28.9	49	16.2	8.3 – 29.1	143
Male children	14.9	5.6 – 34.3	88	22.5	12.7 – 36.7	85	8.8	3.8 – 19.3	73	^	^	24	19.1	7.9 – 39.6	76
Female children	12.3	2.3 – 45.3	77	8.9	2.8 – 25.0	65	5.7	1.9 – 15.8	70	^	^	25	11.4	2.4 – 40.0	67

^ Results not statistically reliable, n<30.

[1] The full WEAI score cannot be calculated because interim data were collected from women only and the autonomy indicator was dropped. The second interim survey (2017) will collect the full set of data from women and men and will report on the full WEAI.

[2] Women's and children's consumption of OFSP and orange maize were asked differently than the other NRVCC foods, via a series of knowledge and use questions in Module H/Module I. Women (or children) who reported consumption of OFSP or orange maize in the past day were coded as yes on these respective NRVCC indicators.

[3] The local DGLV in the Zambia ZOI include: Amaranth (Bondwe), Nightshade (Ndulwe), Spiderplant (Sunta), Black Jack (Kanunka), and Moringa.

n/a – Not available.

Source(s): FTF FEEDBACK ZOI Interim Survey, Zambia 2015; Zambia 2015 Living Conditions Monitoring Survey 2015.

Appendix 2. Methodology

A2.1 Sampling and Weighting

Sampling

The sample of households for the zone of influence (ZOI) interim survey was from the Rural Agricultural Livelihoods Survey (RALS) sample in the five districts of the Feed the Future ZOI: Chipata, Katete, Lundazi, Nyimba, and Petauke. The RALS followed a two-stage stratified cluster sampling design, and consists of 1,640 agricultural households in 82 enumeration areas (EAs) in the five districts. At baseline, 20 households were randomly selected per EA in the RALS sample. Among the households that were re-visited, 10 households per EA were randomly selected for the interim FTF FEEDBACK sample.

There were three categories (A, B, and C)[56] of agricultural households in the RALS sample, determined by farm size. Within each EA, households of each category were selected with the same selection probability of that category as in the original RALS sample.

Weighting

Data required for weighting of survey data were collected throughout the sampling process, and included: (1) EA measure of size (where size is in terms of number of population or number of households) used for selection of EAs; (2) measure of size of strata from which EAs are drawn; (3) measure of size of EAs at time of listing; and (4) response rates among households, women, and men. Weights were calculated for households, women, men, and children in the sample.

Design weights for the RALS baseline sample were calculated based on the separate sampling probabilities for each sampling stage and for each cluster. We have:

P_{1hi} = first-stage sampling probability of the *i*-th cluster in stratum (district) *h.*

P_{2shi} = second-stage sampling probability of households in category *s* (s=A, B, or C) within the *i*-th cluster (household selection).

The probability of selecting cluster *i* in the sample is:

$$P_{1hi} = \frac{m_h \times N_{hi}}{N_h}$$

[56] The sample was stratified by land size and livestock. The sizes for the categories are: Category A households have 0-1.99 hectares, Category B have 2.0-4.99 hectares, and Category C have 5-19.99 hectares. Households with large numbers of livestock are added to Category C. The livestock thresholds are: 50 or more cattle, 20 or more pigs, 30 or more goats, and 50 or more poultry.

The second-stage probability of selecting a household in category *s* in cluster *i* is:

$$P_{2shi} = \frac{n_{shi}}{L_{shi}}$$

where:

m_h = number of sample clusters selected in district *h*.

N_{hi} = total population in the frame for the *i*-th sample cluster in district *h*.

N_h = total population in the frame in district *h*.

n_{shi} = number of sample households selected in category *s* for the *i*-th sample cluster in district *h*.

L_{shi} = number of households listed in category *s* in the household listing for the *i*-th sample cluster in stratum *h*.

The overall selection probability of each household in category *s* in cluster *i* of district *h* is the product of the selection probabilities of the two stages:

$$P_{shi} = P_{1hi} \times P_{2shi} = \frac{m_h \times N_{hi}}{N_h} \times \frac{n_{shi}}{L_{shi}}$$

The design weight for each household in category *s* in cluster *i* of stratum *h* is the inverse of its overall selection probability:

$$W_{shi} = \frac{1}{p_{shi}} = \frac{N_h \times L_{shi}}{m_h \times N_{hi} \times n_{shi}}$$

For Feed the Future interim sample, the sampling weight was calculated with the design weight adjusted for the selection probability of being re-interviewed in interim survey, the selection probability for households within each of the three categories, as well as nonresponse for each category of the selected clusters. Response rates were calculated at the cluster level as ratios of the number of interviewed units over the number of eligible units, where units could be household or individual (woman, child).

A2.2 Poverty Prevalence and Expenditure Methods

Data Source

The household expenditure and poverty indicators calculated for the ZOI interim assessment were derived using secondary data that was collected in the Zambia 2015 Living Conditions Monitoring Survey (LCMS), which were compared with data from the 2010 round of the same survey.[57] The Zambia 2010 LCMS collected data from 19,385 rural and urban households during

[57] CSO. (2012); CSO. (2016).

February-March 2010, whereas the Zambia LCMS 2015 collected data from 12,250 households during April-May 2015. In each case, the sampling frame used a two-stage stratified cluster design, based on the Zambian Census of Population and Housing; the sample was representative at the national level, by urban and rural areas, and by province.

The ZOI consists of five districts in Zambia's Eastern Province. Out of the overall sample, LCMS 2010 included 1,431 households in the ZOI: 932 rural and 499 urban. LCMS 2015 included 1,214 households in the ZOI, of which 676 were rural and 538 urban. These sample sizes are large enough to provide reliable poverty estimates for the ZOI as a whole, but not on a district-by-district basis.

Data Preparation and Expenditure Estimation by Components

The expenditure data collected in the Zambia LCMS are divided into three main components: food consumption, non-food consumption, and housing. The methods used to collect each type of data are summarized below. After collection, the expenditure data are aggregated into a single number – the "consumption aggregate" – which represents the material well-being of the household. The methodology used applies many of the principles of the LSMS approach, but departs from the LSMS protocol in significant respects.[58]

Food Consumption

LCMS collects data on food consumption from three sources: cash purchases, food consumed out of the household's own production, and food received as gifts or otherwise without payment. Consumption of maize products is measured over a 14-day recall period; all other food consumption is measured over a 7-day recall period. Households are asked to report their consumption of each food out of a list of 128 food items.

In all three cases, households report both the quantity and value of food consumed. In the case of purchased food, the value is the amount of money actually spent on that item; in the other two cases, the quantity of each food is recorded and the household asked to estimate the value of that quantity if they had purchased it in the market.

Non-Food Expenditures

The non-food consumption component captures household spending on frequent and less frequent (but still regular) consumption items (as opposed to items that are used for production purposes) – 85 items in all. It includes education expenses, medical expenses, personal consumption items including alcoholic beverages and cigarettes, and personal services. It also captures remittances sent to other households.

[58] Deaton and Zaidi. (2002).

The flow of services derived from durable consumer goods, such as furniture, kitchen appliances, and electronic items is also not included in the consumption aggregate. This approach represents a departure from the LSMS approach to expenditure measurement.

Expenditures on financial assets (e.g., repayment of debt, interest payments) are therefore excluded from the consumption aggregate.

Housing

The estimate of the monthly value of expenditure on housing services was based on the data on the estimated rental value of the dwelling, plus associated services such as water and electricity. In the case of households that rent their dwelling, the household's actual spending was used for this purpose. In contrast, for the majority of households that own their dwelling and so do not pay actual rent, the rental value of their needed to be imputed; the same applies to households that received free or subsidized housing. In these cases, the rental value was imputed. First, such households were asked to estimate the rent they would need to pay if they rented the same home; if the household provided an estimate, that estimate was used as the rental value. Otherwise, the rental value was estimated on the basis of a regression analysis of rents paid on dwellings in the same location with similar construction materials and other characteristics, such as access to water and sanitation.

Price Adjustments and Conversions

Spatial Price Adjustments

Zambia applies spatial price deflators that capture differences in the level of prices on a provincial basis.

Currency Conversions Using CPI and PPP

Consumption data for the 2010 LCMS were collected during January-March 2010, while those for the 2015 LCMS were collected during April-May 2015. In order to analyze the 2010 data, the consumption values and poverty thresholds were adjusted for inflation and converted between Zambian kwacha (ZMK) and US dollars. A new currency, the new Zambian kwacha (ZMW), was adopted in 2013, converted at a rate of 1000 old kwacha to one new kwacha. As a result, the 2015 data require conversion between new kwacha and US dollars. In both cases, inflation adjustments were based on the average monthly value of the Consumer Price Index over the 2 or 3months of the survey period. The currency conversions presented in this analysis were prepared as follows:

- The $1.25 2005 purchasing power parity (PPP) poverty threshold was converted to January-March 2010 kwacha using the formula ZMK_125=1.25*PPP2005*(CPIJan-March 2010/CPI2005), where PPP2005 (the 2005 PPP exchange rate for private

consumption) equals 2830.33; CPIJan-March 2010 (the average Zambian CPI for January-March 2010) equals 105.68; and CPI2005 (the annual CPI for 2005) equals 65.01. The $1.25 2005 PPP threshold is equivalent to 5,751 ZMK per person per day in January-March 2010 prices.

- The $1.25 2005 PPP poverty threshold was converted to April-May 2015 new kwacha using the formula ZMW_125=1.25*PPP2005*(CPIApril-May 2015/CPI2005), where PPP2005 (the 2005 PPP exchange rate for private consumption) equals 2.83033; CPIApril-May 2015 (the average Zambian CPI for April-May 2015) equals 150.14; and CPI2005 (the annual CPI for 2005) equals 65.01. The $1.25 2005 PPP threshold is equivalent to 8.1708 ZMW per person per day in April-May 2015 prices.

- Per capita expenditures measured in kwacha were converted to 2010 USD using the U.S. and Zambian CPIs and the 2005 PPP exchange rate. We used the formula $(CPI_{ZMB\_2005}/ CPI_{ZMB\_survey})*1/(PPP_{2005})* (CPI_{US\_2010} /CPI_{US\_2005})$. For data from the 2010 survey, CPI_{ZMB_survey} = 105.68 and PPP_{2005} = 2830.33, while for 2015 survey data, CPI_{ZMB_survey} = 150.14 and PPP_{2005} = 2.83033. In both cases, CPI_{ZMB_2005} = 65.01, CPI_{US_2005} = 100, and CPI_{US_2010} = 111.65. These values yield conversion factors of 0.000217351 kwacha per 2010 US dollar for data from the 2010 survey and 0.1708 new kwacha per 2010 U.S. dollar for data from the 2015 survey.

The monthly CPI values used for the currency conversions described here were taken from the website of the Zambian Statistical Service; PPP exchange rates from The World Bank's PovCalNet website.

Weights

Expenditure estimates are reflective of the consumption and poverty of individuals within the ZOI. The data are collected at the household level, and individual estimates are produced by multiplying the household sampling weight by the number of household members. Confidence intervals are computed taking into account the survey design, based on the svyset procedure with the Stata statistical package.

National Poverty Thresholds

Zambia measures poverty on an adult-equivalence basis, taking into account the different consumption needs of different household members. The adult equivalence scale is based on age alone, rather than age and sex as in some other countries. Children 3 years or younger are counted as 0.36 adult equivalents (AE); 4-6 year-olds as 0.62 AE; 7-9 year-olds as 0.76 AE; 10-12 year-olds as 0.78 AE; all those 13 years and older are treated as full adults. Two national poverty lines are used: an extreme poverty line based on the estimated cost of obtaining a minimal food basket, and a moderate poverty line that starts with the extreme poverty line, but adds an allowance for spending on nonfood essentials based on the observed spending patterns

of households whose actual food consumption was close to the food poverty line. In 2010, the food (extreme) poverty line was set at 96,366 kwacha per adult equivalent per month, or 3,160 kwacha per day; the moderate poverty line at 146,009 kwacha per adult equivalent per month, or 4,787 kwacha per day. In 2015, the extreme poverty line was set at 152 new kwacha per adult equivalent per month, or 5 kwacha per day; the moderate poverty line at 214 new kwacha per adult equivalent per month, or 7 kwacha per day. The representative family used in making poverty line calculations has six members and 4.52 adult equivalents. For this representative family, the 2015 extreme poverty line is equivalent to 3.8 new kwacha per capita per day, while the moderate poverty line is equivalent to 5.3 new kwacha per capita per day. The "moderate" poverty line is thus significantly lower than the $1.25 per day threshold (8.2 new kwacha per day), while the extreme poverty line is less than half that value.

International Poverty Threshold of $1.90 2011 PPP

In 2011 the International Comparison Program collected data to update the PPP exchange rates used to compare national accounts statistics and living standards across different economies.[59] In late 2015, the World Bank updated the $1.25 2005 PPP poverty threshold to a comparable $1.90 2011 PPP.[60] The update reflects changes in market prices and currencies based on the 2011 PPP maintaining while the substantive level of poverty measured by the $1.25 2005 PPP measure. Because future assessments in Zambia are likely to evaluate poverty using the $1.90 2011 PPP thresholds, **Table A2.1** has been prepared to provide a comparison for future assessments.

All indicators and analyses presented in this report have utilized the 2005 PPP to convert between Zambian kwacha and US dollars. The only use of the 2011 PPP was to create Table A2.1. The $1.90 2011 PPP poverty threshold was converted to April-May 2015 new kwacha using the 2011 PPP exchange rate for Zambia of value of 2.505. Using the 2011 CPI of 123.071 (2009=100) and the April-May 2015 CPI of 150.14 (2009=100), the $1.90 per day poverty threshold is equivalent to 5.807 new kwacha per day in April-May 2015 prices, which is lower than the kwacha equivalent of the $1.25 2005 PPP threshold (8.17 new kwacha per day). Because the 2011 PPP threshold is lower than the 2005 PPP threshold, poverty rates under the new threshold are lower than the rates reported in Table 4.2.

[59] The World Bank. (2014).
[60] The World Bank. (2015b).

Table A2.1. Poverty at the $1.90 (2011 PPP)[1] per person per day threshold

Characteristic	Prevalence of poverty[2]		Depth of poverty[3]		Average consumption shortfall of the poor[4]		
	Percent population[a]	n[5]	Percent of poverty line[b]	n[5]	In USD 2011 PPP[c]	Percent of poverty line[c]	n[5]
Total (All households)[a,b,c]	70.3	1,214	35.5	1,214	$0.96	50.6	558
Gendered household type[a,b,c]							
Male and female adults	70.3	992	35.9	992	$0.97	51.1	480
Female adult(s) only	72.6	155	34.2	155	$0.89	47.1	63
Male adult(s) only	57.5	67	21.8	67	$0.72	37.9	15
Household size[a,b,c]							
Small (1-5 members)	65.3	690	31.2	690	$0.91	47.7	278
Medium (6-10 members)	73.3	483	38.2	483	$0.99	52.1	257
Large (11+ members)	72.6	41	38.3	41	$1.00	52.7	23
Household educational attainment[a,b,c]							
No education	87.0	76	54.5	76	$1.19	62.7	47
Less than primary	85.6	275	43.9	275	$0.98	51.3	201
Primary	72.0	447	36.1	447	$0.95	50.1	248
Secondary or more	35.1	416	14.3	416	$0.78	40.9	62

[1] The international poverty line was updated in 2015. The line is $1.90 (2011 PPP) per person per day.

[2] The prevalence of poverty is the percentage of individuals living below the $1.90 (2011 PPP) per person per day threshold. Poverty prevalence is sometimes referred to as the poverty incidence or poverty headcount ratio.

[3] The depth of poverty, or poverty gap, is the average consumption shortfall multiplied by the prevalence of poverty.

[4] The average consumption shortfall of the poor is the average amount below the poverty threshold of a person in poverty. This value is estimated only among individuals living in households that fall below the poverty threshold.

[5] Records missing information for the disaggregate variables have been excluded from the disaggregated estimates. The unweighted sample size reflects this loss in observations; therefore disaggregates' sample sizes may not total to the aggregated sample size.

[a-c] Superscripts in the column heading indicates significance tests were performed for associations between the indicator in the column heading and each of the variables in the rows. For example, a test was done between prevalence of poverty and gendered household type. When an association between the column indicator and row variable is found to be significant ($p<0.05$), the superscript for the indicator in the column heading is noted next to the row variable.

Source: Zambia 2015 Living Conditions Monitoring Survey.

A2.3 Criteria for Achieving Adequacy for Women's Empowerment in Agriculture Indicators

The below table presents the Women's Empowerment in Agriculture five dimensions of empowerment, their corresponding empowerment indicators, the survey questions that are used to elicit the data required to establish adequacy or inadequacy for each empowerment indicator, and how adequacy criteria are defined for each empowerment indicator.

Dimension	Indicator name	Survey questions	Aggregation of adequacy criteria	Inadequacy criteria
Production	Input in productive decisions	G2.02 A-C, F How much input did you have in making decisions about: food crop farming, cash crop farming, livestock raising, fish culture; G5.02 A-D To what extent do you feel you can make your own personal decisions regarding these aspects of household life if you want(ed) to: agriculture production, what inputs to buy, what types of crops to grow for agricultural production, when or who would take crops to market, livestock raising	Must have at least some input into or can make own personal decisions in at least two decision-making areas	Inadequate if individual participates BUT does not have at least some input in decisions; or she does not make the decisions nor feels she could

Dimension	Indicator name	Survey questions	Aggregation of adequacy criteria	Inadequacy criteria
Resources	Ownership of assets	G3.02 A-N Who would you say owns most of the [ITEM]? Agricultural land, Large livestock, Small livestock, chicks etc.; Fish pond/equipment; Farm equipment (non-mechanized); Farm equipment (mechanized); Nonfarm business equipment; House; Large durables; Small durables; Cell phone; Non-agricultural land (any); Transport	Must own at least one asset, but not only one small asset (chickens, non-mechanized equipment, or small consumer durables)	Inadequate if household does not own any asset or only owns one small asset, or if household owns the type of asset BUT she does not own most of it alone
	Purchase, sale, or transfer of assets	G3.03-G3.05 A-G Who would you say can decide whether to sell, give away, rent/mortgage [ITEM] most of the time? G3.06 A-G Who contributes most to decisions regarding a new purchase of [ITEM]? Ag land; Large livestock, Small livestock; Chickens, etc.; Fish pond; Farm equipment (non-mechanized); Farm equipment (mechanized)	Must be able to decide to sell, give away, or rent at least one asset, but not only chickens and non-mechanized farming equipment	Inadequate if household does not own any asset or only owns one small asset, or household owns the type of asset BUT she does not participate in the decisions (exchange or buy) about it
	Access to and decisions on credit	G3.08-G3.09 A-E Who made the decision to borrow/what to do with money/item borrowed from [SOURCE]? Non-governmental organization (NGO); Informal lender; Formal lender (bank); Friends or relatives; ROSCA (savings/credit group)	Must have made the decision to borrow or what to do with credit from at least one source	Inadequate if household has no credit OR used a source of credit BUT she did not participate in ANY decisions about it

Dimension	Indicator name	Survey questions	Aggregation of adequacy criteria	Inadequacy criteria
Income	Control over use of income	G2.03 A-F How much input did you have in decisions on the use of income generated from: Food crop, Cash crop, Livestock, Non-farm activities, Wage and salary, Fish culture; G5.02 E-G To what extent do you feel you can make your own personal decisions regarding these aspects of household life if you want(ed) to: Your own wage or salary employment? Minor household expenditures?	Must have some input into decisions on income, but not only minor household expenditures	Inadequate if participates in activity BUT she has no input or little input on decisions about income generated
Leadership	Group member	G4.05 A-K Are you a member of any: Agricultural/livestock/ fisheries producer/ market group; Water, forest users', credit or microfinance group; Mutual help or insurance group (including burial societies); Trade and business association; Civic/charitable group; Local government; Religious group; Other women's group; Other group	Must be an active member of at least one group	Inadequate if not an active member of a group or if unaware of any group in the community or if no group in community
	Speaking in public	G4.01 – G4.03 Do you feel comfortable speaking up in public: To help decide on infrastructure (like small wells, roads) to be built? To ensure proper payment of wages for public work or other similar programs? To protest the misbehavior of authorities or elected officials?	Must feel comfortable speaking in at least one public setting	Inadequate if not at all comfortable speaking in public

Dimension	Indicator name	Survey questions	Aggregation of adequacy criteria	Inadequacy criteria
Time	Workload	G6 Worked more than 10.5 hours in previous 24 hours	Total summed hours spent toward labor must be less than 10.5	Inadequate if works more than 10.5 hours a day
	Leisure	G6.02 How would you rate your satisfaction with your available time for leisure activities like visiting neighbors, watching TV, listening to radio, seeing movies or doing sports?	Must rate satisfaction level as at least five out of 10	Inadequate if not satisfied (<5)

Feed the Future Zambia Zone of Influence Interim Survey Questionnaire

Disclaimer: The Feed the Future Zambia Zone of Influence Interim Survey Questionnaire is available on the Development Experience Clearinghouse and Development Data Library in the English language only. Should you require the translated version(s) of this questionnaire in Chewa and/or Nyanja language, please contact the United States Agency for International Development, Bureau for Food Security via email at bfs.mel@usaid.gov.

MODULE A. Household Identification Cover Sheet

HOUSEHOLD IDENTIFICATION	CODE
A01. HOUSEHOLD IDENTIFICATION	
A02. CLUSTER NUMBER	
A03. DISTRICT	
A04. CONSTITUENCY	
A05. WARD	
A06. CENSUS SUPERVISORY AREA (CSA)	
A06A. STANDARD ENUMERATION AREA (SEA)	
A06B. REGION	
A06C. VILLAGE	
A07A. GPS COORDINATES OF HOUSEHOLD: LATITUDE (S)	.
A07B. GPS COORDINATES OF HOUSEHOLD LONGITUDE (E)	.
A07C. ALTITUDE (METERS)	

NOTE:

THE **PRIMARY MALE AND PRIMARY FEMALE DECISIONMAKERS** ARE THOSE WHO ARE AGE 18 OR OLDER, AND WHO SELF-IDENTIFY AS THE PRIMARY MALE AND/OR PRIMARY FEMALE MEMBERS RESPONSIBLE FOR THE DECISION MAKING, BOTH SOCIAL AND ECONOMIC, WITHIN THE HOUSEHOLD.

IN HOUSEHOLDS WITH BOTH MALE AND FEMALE DECISIONMAKERS, THE PRIMARY MALE AND PRIMARY FEMALE DECISIONMAKERS ARE USUALLY HUSBAND AND WIFE; HOWEVER THEY CAN ALSO BE OTHER HOUSEHOLD MEMBERS, AS LONG AS THEY ARE AGED 18 AND OVER.

A09. INTERVIEWER VISITS

	1	2	3	FINAL VISIT
DATE				DAY / MONTH / YEAR
INTERVIEWER'S NAME				INT. NUMBER
RESULT*				RESULT
NEXT VISIT DATE				TOTAL NUMBER OF VISITS
TIME				

*RESULT CODES:

1 COMPLETED
2 NOT HOME
3 ENTIRE HOUSEHOLD ABSENT FOR EXTENDED PERIOD
4 POSTPONED/UNAVAILABLE
5 REFUSED
6 DWELLING VACANT
7 NOT A DWELLING
8 DWELLING DESTROYED
9 DWELLING NOT FOUND
10 TOO ILL TO RESPOND/COGNITIVELY IMPAIRED
11 OTHER (SPECIFY) _____
12 PARTIAL COMPLETE

A10. TOTAL PERSONS IN HOUSEHOLD

A11. TOTAL NUMBER OF WOMEN 15-49

A12. TOTAL NUMBER OF CHILDREN AGE 0-5

A13. LINE NO. OF RESPONDENT TO MODULE C

A14. SENIOR SUPERVISOR	**A15.** QC INTERVIEWER	**A16.** INTERVIEWER CODE
NAME _____	NAME _____	

A17. LANGUAGE OF QUESTIONNAIRE**

A18. LANGUAGE OF INTERVIEW**

A19. NATIVE LANGUAGE OF RESPONDENT**

A20. WAS A TRANSLATOR USED? (YES=1, NO=2)

**LANGUAGE CODES: 1 NYANJA 2 NSENGA 3 CHEWA 4 NGONI 5 TUMBUKA/SENGA 6 BEMBA 7 OTHER (SPECIFY)

MODULE B(1). Informed Consent

INTRODUCE THE HOUSEHOLD TO THE SURVEY AND OBTAIN THE CONSENT OF A RESPONSIBLE ADULT IN THE HOUSEHOLD TO PARTICIPATE IN MODULES C & D OF THE QUESTIONNAIRE.

AT THE BEGINNING OF EACH SUBSEQUENT MODULE, YOU WILL BE PROMPTED TO OBTAIN INFORMED CONSENT FROM EACH ELIGIBLE RESPONDENT PRIOR TO INTERVIEWING HIM OR HER.

ASK TO SPEAK WITH A RESPONSIBLE ADULT IN THE HOUSEHOLD:

STATEMENT TO BE READ TO THE RESPONDENT:
Thank you for the opportunity to speak with you. We are a research team from Palm Associates. We are conducting a survey to learn about agriculture, food security, food consumption, nutrition and wellbeing of households in this area. Your household has been selected to participate in an interview that includes questions on topics such as your family background, dwelling characteristics, household expenditures and assets, food consumption and nutrition of women and children. The survey includes questions about the household generally, and questions about individuals within your household, if applicable. The questions about the household and its characteristics will take about 30 minutes to complete. If additional questions are relevant for members of your household, the interview in total will take approximately 2-3 hours to complete. We will take breaks if participants would like to pause to eat or drink.

Your participation is entirely voluntary. We will not make an audio or video recording of the interview. If you agree to participate, you can choose to stop at any time or skip any questions you do not want to answer. You do not need to give a reason for skipping a question or stopping the interview. You will not suffer any penalty or loss of services if you skip a question or stop the interview. Your answers will be completely confidential; we will not share information that identifies you with anyone. After entering the questionnaire into a computer, we will destroy all information such as your name that could link these responses to you.

Do you have any questions about the survey or what I have said? If in the future you have any questions regarding the survey or the interview, or concerns or complaints we welcome you to contact Palm Associates, by calling +260977722280.We will leave a copy of this statement and our organization's complete contact information with you so that you may contact us at any time.

Do you have any questions?
May I begin the interview now?

SIGNATURE OF INTERVIEWER: _____ DATE: _____

RESPONDENT AGREES TO BE INTERVIEWED….1 RESPONDENT DOES NOT AGREE TO BE INTERVIEWED…….2 → END. "Thank you very much for your time."

↓

CONTINUE WITH HOUSEHOLD ROSTER:

"First, I'd like to ask you about the members of your household."

MODULE B(2). Informed Consent and Contact Information

To Leave with the Household

Thank you for the opportunity to speak with you. We are a research team from Palm Associates. We are conducting a survey to learn about agriculture, food security, food consumption, nutrition and wellbeing of households in this area. Your household has been selected to participate in an interview that includes questions on topics such as your family background, dwelling characteristics, household expenditures and assets, food consumption and nutrition of women and children. The survey includes questions about the household generally, and questions about individuals within your household, if applicable. The questions about the household and its characteristics will take about 30 minutes to complete. If additional questions are relevant for members of your household, the interview in total will take approximately 2-3 hours to complete. We will take breaks if participants would like to pause to eat or drink.

Your participation is entirely voluntary. We will not make an audio or video recording of the interview. If you agree to participate, you can choose to stop at any time or skip any questions you do not want to answer. You do not need to give a reason for skipping a question or stopping the interview. You will not suffer any penalty or loss of services if you skip a question or stop the interview. Your answers will be completely confidential; we will not share information that identifies you with anyone. After entering the questionnaire into a computer, we will destroy all information such as your name that could link these responses to you.

If in the future you have any questions regarding the survey or the interview, or concerns or complaints, we welcome you to contact Palm Associates, by calling +260977722280.This form is for you so that you will have a record of your participation in the study, and the contact information for the survey organization.

NAME OF SURVEY IMPLEMENTING ORGANIZATION:	PALM ASSOCIATES
NAME OF SURVEY DIRECTOR:	GELSON TEMBO
PHONE NUMBER:	+260977722280 / +260974779572
MAILING ADDRESS:	22959 PHI CHAINAMA P.O. BOX 38806 LUSAKA 10101 ZAMBIA
EMAIL ADDRESS:	TEMBOGEL@PALMASSOCIATES.ORG / TEMBOGEL@GMAIL.COM

MODULE C. Household Roster and Demographics

Household identification (*in data file, each module must be matched with the HH ID*) | | | | | | |

C01a. Who would you say is the primary male decisionmaker in this household? This person should be 18 years old or older.

YES, PRIMARY MALE DECISIONMAKER EXISTS IN HOUSEHOLD 1
NO PRIMARY MALE DECISIONMAKER IN HOUSEHOLD 2

IF THERE IS A PRIMARY MALE DECISIONMAKER, ENTER HIS NAME ON LINE 01 OF THE ROSTER. C02 AND C03 ARE PRE-FILLED FOR THIS LINE NUMBER.

C01b. Who would you say is the primary female decisionmaker in this household? This person should be 18 years old or older.

YES, PRIMARY FEMALE DECISIONMAKER EXISTS IN HOUSEHOLD.....1
NO PRIMARY FEMALE DECISIONMAKER IN HOUSEHOLD 2

IF THERE IS A PRIMARY FEMALE DECISIONMAKER, ENTER HER NAME ON LINE 02 OF THE ROSTER. SEX (CO2) IS PRE-FILLED FOR THIS LINE NUMBER. ENTER THE RELATIONSHIP (CO3) OF THE FEMALE DECISIONMAKER TO THE PERSON LISTED ON LINE 01; IF NO ONE IS LISTED ON LINE 01, ENTER CODE '01' FOR CO3.

LINE NUMBER	Now, please tell me the names of all of the other people who usually live here. LIST ALL HOUSEHOLD MEMBERS, THEIR SEX (C02), AND THEIR RELATIONSHIP TO THE PRIMARY DECISIONMAKER NAMED IN LINE 01 (C03), OR NAMED IN LINE 02 IF NO HH MEMBER LISTED ON LINE 01. IF THERE IS NO PRIMARY MALE OR FEMALE DECISIONMAKER IN THE HOUSEHOLD, START THE HOUSEHOLD LISTING ON LINE 03. THEN ASK: Are there any other people who live here, even if they are not at home now? These may include children in school or household members at work. Any other people like small children or infants that we have not listed? Are there any other people who may not be members of your family, such as domestic servants, lodgers, or friends who usually live here? IF YES, COMPLETE LISTING FOR QUESTIONS C02-C03. THEN, ASK QUESTIONS STARTING WITH C04 FOR EACH PERSON ONE AT A TIME.	What is [NAME's] sex? M = 1 F = 2	What is [NAME's] relation-ship to the primary male decision-maker? IF NO PRIMARY MALE DECISION-MAKER: What is [NAME's] relation-ship to the primary female decision-maker? SEE CODES BELOW IF NO ADULT DECISION-MAKER: ENTER CODE 16	What is [NAME's] age? IN YEARS IF 95 OR OLDER, ENTER '95'	Did [NAME] stay here last night? YES=1 NO=2	How long has it been since [NAME] has spent the night in this household? SEE CODES BELOW	CIRCLE LINE NUMBER OF ALL WOMEN AGE 15-49	CIRCLE LINE NUMBER OF ALL CHILD-REN AGE 0-5	Has [NAME] ever attended school? YES=1 NO=2	Is [NAME] currently attending school? YES=1 NO=2	What is the highest grade of education completed by [NAME]? SEE CODES BELOW	Can [NAME] read and write? SEE CODES BELOW
									IF AGE 3 OR OLDER				
	C01	**C02**	**C03**	**C04**	**C05**	**C06**	**C07**	**C08**	**C09**	**C10**	**C11**	**C12**
01		1	0 1		1→C07 2	1 2 3	01	01	1 2→C12	1 2		
02		2			1→C07 2	1 2 3	02	02	1 2→C12	1 2		
03		1 2			1→C07 2	1 2 3	03	03	1 2→C12	1 2		
04		1 2			1→C07 2	1 2 3	04	04	1 2→C12	1 2		
05		1 2			1→C07 2	1 2 3	05	05	1 2→C12	1 2		
06		1 2			1→C07 2	1 2 3	06	06	1 2→C12	1 2		

C03. RESULT CODES: RELATIONSHIP TO PRIMARY MALE (OR FEMALE, IF NO MALE) DECISIONMAKER:

SELF 01
SPOUSE/PARTNER.....02
SON/DAUGHTER.....03
SON/DAUGHTER-IN-LAW.....04
GRANDSON/ GRANDDAUGHTER.....05
MOTHER/FATHER.....06
BROTHER/SISTER 07
NEPHEW/NIECE 08
NEPHEW/NIECE OF SPOUSE.....09
COUSIN 10
BROTHER/SISTER-IN-LAW 11
MOTHER/FATHER-IN-LAW 12
OTHER RELATIVE 13
SERVANT/MAID 14
LABORER 15
NO DECISIONMAKER AGE 18 OR OLDER IN HOUSEHOLD.....16
OTHER RELATIONSHIP 96

C06. RESULT CODES: TIME SINCE SPENT THE NIGHT

CIRCLE 1 IF DAYS; ENTER # OF DAYS IN BOX (1-6)

CIRCLE 2 IF WEEKS; ENTER # OF WEEKS IN BOX (1-5)

CIRCLE 3 IF MONTHS; ENTER # OF MONTHS IN BOX MEMBER HAS BEEN AWAY.

C11. RESULT CODES: EDUCATION

LESS THAN GRADE 1 (OR NO SCHOOL).....00
GRADE 1.....01
GRADE 2.....02
GRADE 3.....03
GRADE 4.....04
GRADE 5.....05
GRADE 6.....06
GRADE 7.....07
GRADE 8.....08
GRADE 9.....09
GRADE 10.....10
GRADE11.....11
GRADE 12.....12
DIPLOMA OR HIGHER.....13
TECHNICAL OR VOCATIONAL 14
ADULT LITERACY ONLY (NO FORMAL EDUCATION) 15
KORANIC/RELIGIOUS ONLY (NO FORMAL EDUCATION) 16
DON'T KNOW/ NOT APPLICABLE 91

C12. RESULT CODES: LITERACY

CANNOT READ & WRITE 1
CAN SIGN (WRITE) ONLY 2
CAN READ ONLY 3
CAN READ & WRITE 4

MODULE C. Household Roster and Demographics

Household identification (*in data file, each module must be matched with the HH ID*) | | | | | | |

LINE NUMBER	Now, please tell me the names of all of the other people who usually live here. LIST ALL HOUSEHOLD MEMBERS, THEIR SEX (C02), AND THEIR RELATIONSHIP TO THE PRIMARY DECISIONMAKER NAMED IN LINE 01 (C03), OR NAMED IN LINE 02 IF NO HH MEMBER LISTED ON LINE 01. IF THERE IS NO PRIMARY MALE OR FEMALE DECISIONMAKER IN THE HOUSEHOLD, START THE HOUSEHOLD LISTING ON LINE 03. THEN ASK: Are there any other people who live here, even if they are not at home now? These may include children in school or household members at work. Any other people like small children or infants that we have not listed? Are there any other people who may not be members of your family, such as domestic servants, lodgers, or friends who usually live here? IF YES, COMPLETE LISTING FOR QUESTIONS C02-C03. THEN, ASK QUESTIONS STARTING WITH C04 FOR EACH PERSON, ONE AT A TIME.	What is [NAME's] sex? M = 1 F = 2	What is [NAME's] relation-ship to the primary male decision-maker? IF NO PRIMARY MALE DECISION-MAKER: What is [NAME's] relation-ship to the primary female decision-maker? SEE CODES BELOW IF NO ADULT DECISION-MAKER: ENTER CODE 16	What is [NAME's] age? IN YEARS IF 95 OR OLDER, ENTER '95'	Did [NAME] stay here last night? YES=1 NO=2	How long has it been since [NAME] has spent the night in this household? SEE CODES BELOW	CIRCLE LINE NUMBER OF ALL WOMEN AGE 15-49	CIRCLE LINE NUMBER OF ALL CHILD-REN AGE 0-5	Has [NAME] ever attended school? YES=1 NO=2	Is [NAME] currently attending school? YES=1 NO=2	What is the highest grade of education completed by [NAME]? SEE CODES BELOW	Can [NAME] read and write? SEE CODES BELOW
										IF AGE 3 OR OLDER			
	C01	**C02**	**C03**	**C04**	**C05**	**C06**	**C07**	**C08**	**C09**	**C10**	**C11**	**C12**
07		1 2			1→C07 2	1 2 3	07	07	1 2→C12	1 2		
08		1 2			1→C07 2	1 2 3	08	08	1 2→C12	1 2		
09		1 2			1→C07 2	1 2 3	09	09	1 2→C12	1 2		
10		1 2			1→C07 2	1 2 3	10	10	1 2→C12	1 2		
11		1 2			1→C07 2	1 2 3	11	11	1 2→C12	1 2		
12		1 2			1→C07 2	1 2 3	12	12	1 2→C12	1 2		
13		1 2			1→C07 2	1 2 3	13	13	1 2→C12	1 2		
14		1 2			1→C07 2	1 2 3	14	14	1 2→C12	1 2		
15		1 2			1→C07 2	1 2 3	15	15	1 2→C12	1 2		

C03. RESULT CODES: RELATIONSHIP TO PRIMARY MALE (OR FEMALE, IF NO MALE) DECISIONMAKER:

SELF	01	COUSIN	10
SPOUSE/PARTNER	02	BROTHER/SISTER-IN-LAW	11
SON/DAUGHTER	03	MOTHER/FATHER-IN-LAW	12
SON/DAUGHTER-IN-LAW	04	OTHER RELATIVE	13
GRANDSON/ GRANDDAUGHTER	05	SERVANT/MAID	14
		LABORER	15
MOTHER/FATHER	06	NO DECISIONMAKER AGE 18 OR OLDER IN HOUSEHOLD	16
BROTHER/SISTER	07		
NEPHEW/NIECE	08		
NEPHEW/NIECE OF SPOUSE	09	OTHER RELATIONSHIP	96

C06. RESULT CODES: TIME SINCE SPENT THE NIGHT

CIRCLE 1 IF DAYS; ENTER # OF DAYS IN BOX (1-6)

CIRCLE 2 IF WEEKS; ENTER # OF WEEKS IN BOX (1-5)

CIRCLE 3 IF MONTHS; ENTER # OF MONTHS IN BOX MEMBER HAS BEEN AWAY.

C11. RESULT CODES: EDUCATION

LESS THAN GRADE 1 (OR NO SCHOOL)	00
GRADE 1	01
GRADE 2	02
GRADE 3	03
GRADE 4	04
GRADE 5	05
GRADE 6	06
GRADE 7	07
GRADE 8	08
GRADE 9	09
GRADE 10	10
GRADE11	11
GRADE 12	12
DIPLOMA OR HIGHER	13
TECHNICAL OR VOCATIONAL	14
ADULT LITERACY ONLY (NO FORMAL EDUCATION)	15
KORANIC/RELIGIOUS ONLY (NO FORMAL EDUCATION)	16
DON'T KNOW/ NOT APPLICABLE	91

C12. RESULT CODES: LITERACY

CANNOT READ & WRITE	1
CAN SIGN (WRITE) ONLY	2
CAN READ ONLY	3
CAN READ & WRITE	4

MODULE D. Dwelling Characteristics

Household identification (*in data file, each module must be matched with the HH ID*) | | | | | | |

CONTINUE INTERVIEWING THE SAME RESPONDENT FROM MODULE C.

"Now I'd like to ask you a few questions about your home."

QNO.	QUESTIONS	RESPONSE CODES
D01	**OBSERVE (DO NOT ASK)** ROOF TOP MATERIAL (OUTER COVERING):	**D01. TYPE OF ROOF** NATURAL ROOFING NO ROOF ..... 11 GRASS/THATCH/STRAW ..... 12 SOD ..... 13 RUDIMENTARY ROOFING RUSTIC MAT ..... 21 PALM/BAMBOO ..... 22 WOOD PLANKS ..... 23 CARDBOARD ..... 24 FINISHED ROOFING METAL/IRON SHEETS ..... 31 WOOD ..... 32 CALAMINE/CEMENT FIBER ..... 33 CERAMIC TILES ..... 34 CEMENT ..... 35 ROOFING SHINGLES ..... 36 ASBESTOS SHEETS ..... 37 ASBESTOS TILES ..... 38 OTHER 96
D02	**OBSERVE (DO NOT ASK)** FLOOR MATERIAL:	**D02. TYPE OF FLOOR** NATURAL FLOOR EARTH/SAND ..... 11 DUNG ..... 12 MUD ..... 13 RUDIMENTARY FLOOR WOOD PLANKS ..... 21 PALM/BAMBOO ..... 22 FINISHED FLOOR PARQUET/POLISHED WOOD ..... 31 VINYL OR ASPHALT STRIPS ..... 32 CERAMIC TILES ..... 33 CEMENT/CONCRETE ..... 34 CARPET ..... 35 OTHER 96
D03	**OBSERVE (DO NOT ASK)** EXTERIOR WALLS:	**D03. TYPE OF WALLS** NATURAL WALLS NO WALLS ..... 11 POLES ..... 12 DIRT/MUD ..... 13 MUD BRICK ..... 14 RUDIMENTARY WALLS POLE AND DAGGA ..... 21 STONE WITH MUD ..... 22 PLYWOOD ..... 24 CARDBOARD ..... 25 REUSED WOOD ..... 26 STEEL/METAL SHEETING ..... 27 FINISHED WALLS CEMENT ..... 31 STONE WITH LIME/CEMENT ..... 32 PAN BRICKS ..... 33 CONCRETE BRICKS ..... 34 BURNT BRICKS ..... 35 WOOD PLANKS/SHINGLES ..... 36 OTHER 96

QNO.	QUESTIONS	RESPONSE CODES
D04	How many rooms in this dwelling are used for sleeping?	**D04. NUMBER OF ROOMS USED FOR SLEEPING:** ☐☐
D05	What is the main type of toilet your household uses?	**D05. TYPE OF TOILET** FLUSH OR POUR FLUSH TOILET FLUSH TO PIPED SEWER SYSTEM ..... 11 FLUSH TO SEPTIC TANK..... 12 FLUSH TO PIT LATRINE..... 13 FLUSH TO SOMEWHERE ELSE ..... 14 FLUSH, DON'T KNOW WHERE..... 15 PIT LATRINE VENTILATED IMPROVED PIT LATRINE (VIP) ..... 21 PIT LATRINE WITH SLAB..... 22 PIT LATRINE WITHOUT SLAB/OPEN PIT ..... 23 COMPOSTING TOILET..... 31 BUCKET TOILET..... 41 HANGING TOILET/HANGING LATRINE..... 51 NO FACILITY/BUSH/FIELD..... 61 → SKIP TO D08 OTHER..... 96
D06	Do you share this toilet with other households?	**D06. IF TOILET IS SHARED** YES..... 1 NO..... 2 → SKIP TO D08
D07	How many households use this toilet?	**D07. NUMBER OF HOUSEHOLDS WITH WHOM TOILET IS SHARED** NUMBER OF HOUSEHOLDS (IF LESS THAN 10)..... 0☐ 10 OR MORE HOUSEHOLDS..... 95 DON'T KNOW..... 98
D08	What is the main source of drinking water for your household?	**D08. MAIN DRINKING WATER SOURCE** PIPED WATER PIPED INTO DWELLING .....11 PIPED TO YARD/PLOT .....12 PUBLIC TAP/STANDPIPE .....13 TUBE WELL OR BOREHOLE .....21 DUG WELL PROTECTED WELL.....31 UNPROTECTED WELL .....32 WATER FROM SPRING PROTECTED SPRING.....41 UNPROTECTED SPRING .....42 RAINWATER .....51 TANKER TRUCK.....61 CART WITH SMALL TANK .....71 SURFACE WATER (RIVER/DAM/LAKE/ POND/STREAM/CANAL/ IRRIGATION CHANNEL)..... 81 BOTTLED WATER .....91 OTHER 96

QNO.	QUESTIONS	RESPONSE CODES
D09	Does this household have electricity?	**D09. ELECTRICITY** YES ..... 1 NO 2
D10	What is the main source of cooking fuel for your household?	**D10. COOKING FUEL** ELECTRICITY ..... 01 LIQUID PROPANE GAS ..... 02 NATURAL GAS ..... 03 BIOGAS ..... 04 KEROSENE ..... 05 COAL, LIGNITE ..... 06 CHARCOAL ..... 07 WOOD ..... 08 STRAW/SHRUBS/GRASS ..... 09 AGRICULTURAL CROP RESIDUE ..... 10 ANIMAL DUNG ..... 11 NO FOOD COOKED IN HOUSEHOLD ... 95 OTHER 96

MODULE F. Household Hunger Scale

Household identification (*in data file, each module must be matched with the HH ID*) | | | | | | |

CHECK THE INFORMED CONSENT REGISTER AND ENSURE THAT THE RESPONDENT TO MODULE F HAS PREVIOUSLY PROVIDED INFORMED CONSENT; IF NOT, ADMINISTER THE MODULE F INFORMED CONSENT PROCEDURE (ANNEX 4) TO THE RESPONDENT.

ASK THESE QUESTIONS OF THE PERSON RESPONSIBLE FOR HOUSEHOLD FOOD PREPARATION.

"Moving on to another topic, I'd like to ask you a few questions about the availability of food in your home."

QNO.	QUESTION	RESPONSE
F01	In the past 30 days was there ever no food to eat of any kind in your house because of lack of resources to get food?	YES..... 1 NO.....2 → GO TO F03 REFUSED.....9 → GO TO F03
F02	How often did this happen in the past 30 days?	RARELY (1-2 TIMES)..... 1 SOMETIMES (3-10 TIMES)..... 2 OFTEN (MORE THAN 10 TIMES).... 3 REFUSED..... 9
F03	In the past 30 days, did you or any household member go to sleep at night hungry because there was not enough food?	YES..... 1 NO.....2 → GO TO F05 REFUSED.....9 → GO TO F05
F04	How often did this happen in the past 30 days?	RARELY (1-2 TIMES)..... 1 SOMETIMES (3-10 TIMES)..... 2 OFTEN (MORE THAN 10 TIMES)..... 3 REFUSED..... 9
F05	In the past 30 days did you or any household member go a whole day and night without eating anything at all because there was not enough food?	YES..... 1 NO.....2 → END MODULE REFUSED.....9 → END MODULE
F06	How often did this happen in the past 30 days?	RARELY (1-2 TIMES)..... 1 SOMETIMES (3-10 TIMES)..... 2 OFTEN (MORE THAN 10 TIMES)..... 3 REFUSED..... 9

MODULE G. Women's Empowerment in Agriculture Index

THIS QUESTIONNAIRE SHOULD BE ADMINISTERED TO THE PRIMARY FEMALE DECISIONMAKER (AGE 18 OR OLDER) IDENTIFIED ON LINE 02 OF THE HOUSEHOLD ROSTER (SECTION C) OF THE HOUSEHOLD LEVEL QUESTIONNAIRE.

YOU SHOULD COMPLETE THIS COVERSHEET FOR EACH ELIGIBLE RESPONDENT EVEN IF THE INDIVIDUAL IS NOT AVAILABLE TO BE INTERVIEWED.

PLEASE DOUBLE CHECK TO ENSURE:

- YOU HAVE COMPLETED THE ROSTER SECTION OF THE HOUSEHOLD QUESTIONNAIRE TO IDENTIFY THE CORRECT PRIMARY FEMALE DECISIONMAKER;
- RESPONDENTS TO THIS MODULE ARE AGE 18 OR OLDER;
- YOU HAVE NOTED THE HOUSEHOLD ID AND INDIVIDUAL ID CORRECTLY FOR THE PERSON YOU ARE ABOUT TO INTERVIEW;
- YOU HAVE SOUGHT TO INTERVIEW THE INDIVIDUAL IN PRIVATE OR WHERE OTHER MEMBERS OF THE HOUSEHOLD CANNOT OVERHEAR OR CONTRIBUTE ANSWERS;
- YOU HAVE CHECKED THE INFORMED CONSENT REGISTER AND ENSURED THAT THE RESPONDENT(S) TO MODULE G HAVE PREVIOUSLY PROVIDED INFORMED CONSENT; IF NOT, ADMINISTER THE MODULE G INFORMED CONSENT PROCEDURE (ANNEX 5) TO THE RESPONDENT(S).

SUB-MODULE G1. Individual Identification

	Code		Code
G1.01. HOUSEHOLD IDENTIFICATION:	☐☐☐☐☐☐	**G1.03.** OUTCOME OF INTERVIEW	COMPLETED..... 1 HOUSEHOLD MEMBER TOO ILL TO RESPOND/COGNITIVELY IMPAIRED ..... 2 RESPONDENT NOT AT HOME / TEMPORARILY UNAVAILABLE..... 3 RESPONDENT NOT AT HOME/EXTENDED ABSENCE..... 4 REFUSED..... 5 COULD NOT LOCATE 6
G1.02. NAME OF RESPONDENT CURRENTLY BEING INTERVIEWED (LINE NUMBER FROM ROSTER IN SECTION C HOUSEHOLD ROSTER): **SURNAME, FIRST NAME:**_____	☐☐	**G1.04.** ABILITY TO BE INTERVIEWED ALONE: (SELECT ALL THAT APPLY)	ALONE.....A ADULT FEMALES PRESENT .....B ADULT MALES PRESENT.....C CHILDREN PRESENT.....D

NO.	QUESTION	RESPONSE
G1.05	In what month and year were you born?	☐☐ MONTH DK MONTH….98 ☐☐☐☐ YEAR DK YEAR….9998
G1.06	Please tell me how old you are. What was your age at your last birthday? RECORD AGE IN COMPLETED YEARS	☐☐ YEARS IF RESPONDENT KNOWS HER/HIS AGE, SKIP TO G1.08 IF RESPONDENT CANNOT REMEMBER HOW OLD SHE/HE IS, ENTER '98' AND ASK QUESTION G1.07.
G1.07	Are you 18 years old or older?	YES.....1 NO.....2 DK.....8 → RESPONDENT NOT ELIGIBLE FOR THIS MODULE; END MODULE G (WEAI) AND PROCEED TO MODULE H IF RESPONDENT IS ELIGIBLE FOR MODULE H.
G1.08	CHECK G1.05, G1.06 AND G1.07 (IF APPLICABLE): IS THE RESPONDENT 18 YEARS OLD OR OLDER? IF THE INFORMATION IN G1.05, G1.06 AND G1.07 CONFLICTS, DETERMINE WHICH IS MOST ACCURATE USING THE AGE/YEAR OF BIRTH CONSISTENCY CHART AND GUIDANCE FROM YOUR INTERVIEWER'S MANUAL.	YES.....1 NO.....2 DK.....8 → RESPONDENT NOT ELIGIBLE FOR THIS MODULE; END MODULE G (WEAI) AND PROCEED TO MODULE H IF RESPONDENT IS ELIGIBLE FOR MODULE H.
G1.09	Are you currently married or living together with a man as if married?	YES, CURRENTLY MARRIED.....1 YES, LIVING WITH A MAN ..... 2 → GO TO SUB-MODULE G2 NO, NOT IN UNION.....3 REFUSED.....9
G1.10	Have you ever been married or lived together with a man as if married?	YES, FORMERLY MARRIED.....1 YES, LIVED WITH A MAN.....2 NO.....3→ GO TO SUB-MODULE G2 REFUSED.....9
G1.11	What is your marital status now: are you widowed, divorced, or separated?	WIDOWED.....1 DIVORCED.....2 SEPARATED.....3

SUB-MODULE G2. Role In Household Decisionmaking Around Production and Income Generation

HOUSEHOLD IDENTIFICATION (IN DATA FILE, EACH SUB-MODULE (G2-G6) MUST BE LINKED WITH HH AND RESPONDENT ID) | | | | | | |

RESPONDENT ID CODE | | |

"Now I'd like to ask you some questions about your participation in certain types of work activities."

ACTIVITY		Did you yourself participate in [ACTIVITY] in the past 12 months?	How much input did you have in making decisions about [ACTIVITY]?	How much input did you have in decisions on the use of income generated from [ACTIVITY]
ACTIVITY CODE	**ACTIVITY DESCRIPTION**	**G2.01**	**G2.02**	**G2.03**
A	**Food crop farming:** These are crops that are grown primarily for household food consumption	YES ..... 1 NO ..... 2 → SKIP TO NEXT ACTIVITY	NO INPUT OR INPUT INTO VERY FEW DECISIONS ..... 01 INPUT INTO SOME DECISIONS ..... 02 INPUT INTO MOST OR ALL DECISIONS .. 03 NO DECISION MADE ..... 93 REFUSED 99	NO INPUT OR INPUT INTO VERY FEW DECISIONS ..... 01 INPUT INTO SOME DECISIONS ..... 02 INPUT INTO MOST OR ALL DECISIONS .. 03 NO DECISION MADE ..... 93 REFUSED 99
B	**Cash crop farming:** These are crops that are grown primarily for sale in the market	YES ..... 1 NO ..... 2 → SKIP TO NEXT ACTIVITY	NO INPUT OR INPUT INTO VERY FEW DECISIONS ..... 01 INPUT INTO SOME DECISIONS ..... 02 INPUT INTO MOST OR ALL DECISIONS .. 03 NO DECISION MADE ..... 93 REFUSED 99	NO INPUT OR INPUT INTO VERY FEW DECISIONS ..... 01 INPUT INTO SOME DECISIONS ..... 02 INPUT INTO MOST OR ALL DECISIONS .. 03 NO DECISION MADE ..... 93 REFUSED 99
C	**Livestock raising**	YES ..... 1 NO ..... 2 → SKIP TO NEXT ACTIVITY	NO INPUT OR INPUT INTO VERY FEW DECISIONS ..... 01 INPUT INTO SOME DECISIONS ..... 02 INPUT INTO MOST OR ALL DECISIONS .. 03 NO DECISION MADE ..... 93 REFUSED 99	NO INPUT OR INPUT INTO VERY FEW DECISIONS ..... 01 INPUT INTO SOME DECISIONS ..... 02 INPUT INTO MOST OR ALL DECISIONS .. 03 NO DECISION MADE ..... 93 REFUSED 99
D	**Non-farm economic activities:** This would include things like running a small business, self-employment, buy-and-sell	YES ..... 1 NO ..... 2 → SKIP TO NEXT ACTIVITY	NO INPUT OR INPUT INTO VERY FEW DECISIONS ..... 01 INPUT INTO SOME DECISIONS ..... 02 INPUT INTO MOST OR ALL DECISIONS .. 03 NO DECISION MADE ..... 93 REFUSED 99	NO INPUT OR INPUT INTO VERY FEW DECISIONS ..... 01 INPUT INTO SOME DECISIONS ..... 02 INPUT INTO MOST OR ALL DECISIONS .. 03 NO DECISION MADE ..... 93 REFUSED 99
E	**Wage and salary employment:** This could be work that is paid for in cash or in-kind, including both agriculture and other wage work	YES ..... 1 NO ..... 2 → SKIP TO NEXT ACTIVITY	NO INPUT OR INPUT INTO VERY FEW DECISIONS ..... 01 INPUT INTO SOME DECISIONS ..... 02 INPUT INTO MOST OR ALL DECISIONS .. 03 NO DECISION MADE ..... 93 REFUSED 99	NO INPUT OR INPUT INTO VERY FEW DECISIONS ..... 01 INPUT INTO SOME DECISIONS ..... 02 INPUT INTO MOST OR ALL DECISIONS .. 03 NO DECISION MADE ..... 93 REFUSED 99
F	**Fishing or fishpond culture**	YES ..... 1 NO ..... 2 → SKIP TO MODULE G3	NO INPUT OR INPUT INTO VERY FEW DECISIONS ..... 01 INPUT INTO SOME DECISIONS ..... 02 INPUT INTO MOST OR ALL DECISIONS .. 03 NO DECISION MADE ..... 93 REFUSED 99	NO INPUT OR INPUT INTO VERY FEW DECISIONS ..... 01 INPUT INTO SOME DECISIONS ..... 02 INPUT INTO MOST OR ALL DECISIONS .. 03 NO DECISION MADE ..... 93 REFUSED 99

SUB-MODULE G3(A). Access to Productive Capital

"Now I'd like to ask you about your household's ownership of a number of items that could be used to generate income."

PRODUCTIVE CAPITAL		Does anyone in your household currently have any [ITEM]?	How many of [ITEM] does your household currently have?	Who would you say owns most of the [ITEM]? **CIRCLE ALL APPLICABLE**	Who would you say can decide whether to sell [ITEM] most of the time? **CIRCLE ALL APPLICABLE**	Who would you say can decide whether to give away [ITEM] most of the time? **CIRCLE ALL APPLICABLE**	Who would you say can decide to mortgage or rent out [ITEM] most of the time? **CIRCLE ALL APPLICABLE**	Who contributes most to decisions regarding a new purchase of [ITEM]? **CIRCLE ALL APPLICABLE**
PRODUCTIVE CAPITAL		**G3.01a**	**G3.01b**	**G3.02**	**G3.03**	**G3.04**	**G3.05**	**G3.06**
A	Agricultural land (plots)	YES....1 NO....2→ SKIP TO REFUSED ....9→ NEXT ITEM	☐☐☐	SELF....A PARTNER/SPOUSE....B OTHER HH MEMBER....C OTHER NON-HH MEMBER..D NOT APPLICABLE....Z REFUSED....9	SELF....A PARTNER/SPOUSE....B OTHER HH MEMBER....C OTHER NON-HH MEMBER..D NOT APPLICABLE....Z REFUSED....9	SELF....A PARTNER/SPOUSE....B OTHER HH MEMBER....C OTHER NON-HH MEMBER..D NOT APPLICABLE....Z REFUSED....9	SELF....A PARTNER/SPOUSE....B OTHER HH MEMBER....C OTHER NON-HH MEMBER..D NOT APPLICABLE....Z REFUSED....9	SELF....A PARTNER/SPOUSE....B OTHER HH MEMBER....C OTHER NON-HH MEMBER..D NOT APPLICABLE....Z REFUSED....9
B	Large livestock (oxen, cattle)	YES....1 NO....2→ SKIP TO REFUSED ....9→ NEXT ITEM	☐☐☐	SELF....A PARTNER/SPOUSE....B OTHER HH MEMBER....C OTHER NON-HH MEMBER..D NOT APPLICABLE....Z REFUSED....9	SELF....A PARTNER/SPOUSE....B OTHER HH MEMBER....C OTHER NON-HH MEMBER..D NOT APPLICABLE....Z REFUSED....9	SELF....A PARTNER/SPOUSE....B OTHER HH MEMBER....C OTHER NON-HH MEMBER..D NOT APPLICABLE....Z REFUSED....9	SELF....A PARTNER/SPOUSE....B OTHER HH MEMBER....C OTHER NON-HH MEMBER..D NOT APPLICABLE....Z REFUSED....9	SELF....A PARTNER/SPOUSE....B OTHER HH MEMBER....C OTHER NON-HH MEMBER..D NOT APPLICABLE....Z REFUSED....9
C	Small livestock (goats, pigs, sheep)	YES....1 NO....2→ SKIP TO REFUSED ....9→ NEXT ITEM	☐☐☐	SELF....A PARTNER/SPOUSE....B OTHER HH MEMBER....C OTHER NON-HH MEMBER..D NOT APPLICABLE....Z REFUSED....9	SELF....A PARTNER/SPOUSE....B OTHER HH MEMBER....C OTHER NON-HH MEMBER..D NOT APPLICABLE....Z REFUSED....9	SELF....A PARTNER/SPOUSE....B OTHER HH MEMBER....C OTHER NON-HH MEMBER..D NOT APPLICABLE....Z REFUSED....9	SELF....A PARTNER/SPOUSE....B OTHER HH MEMBER....C OTHER NON-HH MEMBER..D NOT APPLICABLE....Z REFUSED....9	SELF....A PARTNER/SPOUSE....B OTHER HH MEMBER....C OTHER NON-HH MEMBER..D NOT APPLICABLE....Z REFUSED....9
D	Chickens, ducks, turkeys, and pigeons	YES....1 NO....2→ SKIP TO REFUSED ....9→ NEXT ITEM	☐☐☐	SELF....A PARTNER/SPOUSE....B OTHER HH MEMBER....C OTHER NON-HH MEMBER..D NOT APPLICABLE....Z REFUSED....9	SELF....A PARTNER/SPOUSE....B OTHER HH MEMBER....C OTHER NON-HH MEMBER..D NOT APPLICABLE....Z REFUSED....9	SELF....A PARTNER/SPOUSE....B OTHER HH MEMBER....C OTHER NON-HH MEMBER..D NOT APPLICABLE....Z REFUSED....9	SELF....A PARTNER/SPOUSE....B OTHER HH MEMBER....C OTHER NON-HH MEMBER..D NOT APPLICABLE....Z REFUSED....9	SELF....A PARTNER/SPOUSE....B OTHER HH MEMBER....C OTHER NON-HH MEMBER..D NOT APPLICABLE....Z REFUSED....9
E	Fish pond or fishing equipment	YES....1 NO....2→ SKIP TO REFUSED ....9→ NEXT ITEM	☐☐☐	SELF....A PARTNER/SPOUSE....B OTHER HH MEMBER....C OTHER NON-HH MEMBER..D NOT APPLICABLE....Z REFUSED....9	SELF....A PARTNER/SPOUSE....B OTHER HH MEMBER....C OTHER NON-HH MEMBER..D NOT APPLICABLE....Z REFUSED....9	SELF....A PARTNER/SPOUSE....B OTHER HH MEMBER....C OTHER NON-HH MEMBER..D NOT APPLICABLE....Z REFUSED....9	SELF....A PARTNER/SPOUSE....B OTHER HH MEMBER....C OTHER NON-HH MEMBER..D NOT APPLICABLE....Z REFUSED....9	SELF....A PARTNER/SPOUSE....B OTHER HH MEMBER....C OTHER NON-HH MEMBER..D NOT APPLICABLE....Z REFUSED....9
F	Farm equipment (non-mechanized: hand tools, animal-drawn ploughs)	YES....1 NO....2→ SKIP TO REFUSED ....9→ NEXT ITEM	☐☐☐	SELF....A PARTNER/SPOUSE....B OTHER HH MEMBER....C OTHER NON-HH MEMBER..D NOT APPLICABLE....Z REFUSED....9	SELF....A PARTNER/SPOUSE....B OTHER HH MEMBER....C OTHER NON-HH MEMBER..D NOT APPLICABLE....Z REFUSED....9	SELF....A PARTNER/SPOUSE....B OTHER HH MEMBER....C OTHER NON-HH MEMBER..D NOT APPLICABLE....Z REFUSED....9	SELF....A PARTNER/SPOUSE....B OTHER HH MEMBER....C OTHER NON-HH MEMBER..D NOT APPLICABLE....Z REFUSED....9	SELF....A PARTNER/SPOUSE....B OTHER HH MEMBER....C OTHER NON-HH MEMBER..D NOT APPLICABLE....Z REFUSED....9
G	Farm equipment (mechanized: tractor-drawn plough, power tiller, treadle pump)	YES....1 NO....2→ SKIP TO REFUSED ....9→ NEXT ITEM	☐☐☐	SELF....A PARTNER/SPOUSE....B OTHER HH MEMBER....C OTHER NON-HH MEMBER..D NOT APPLICABLE....Z REFUSED....9	SELF....A PARTNER/SPOUSE....B OTHER HH MEMBER....C OTHER NON-HH MEMBER..D NOT APPLICABLE....Z REFUSED....9	SELF....A PARTNER/SPOUSE....B OTHER HH MEMBER....C OTHER NON-HH MEMBER..D NOT APPLICABLE....Z REFUSED....9	SELF....A PARTNER/SPOUSE....B OTHER HH MEMBER....C OTHER NON-HH MEMBER..D NOT APPLICABLE....Z REFUSED....9	SELF....A PARTNER/SPOUSE....B OTHER HH MEMBER....C OTHER NON-HH MEMBER..D NOT APPLICABLE....Z REFUSED....9

PRODUCTIVE CAPITAL		Does anyone in your household currently have any [ITEM]?	How many of [ITEM] does your household currently have?	Who would you say owns most of the [ITEM]? **CIRCLE ALL APPLICABLE**	Who would you say can decide whether to sell [ITEM] most of the time? **CIRCLE ALL APPLICABLE**	Who would you say can decide whether to give away [ITEM] most of the time? **CIRCLE ALL APPLICABLE**	Who would you say can decide to mortgage or rent out [ITEM] most of the time? **CIRCLE ALL APPLICABLE**	Who contributes most to decisions regarding a new purchase of [ITEM]? **CIRCLE ALL APPLICABLE**
PRODUCTIVE CAPITAL		**G3.01a**	**G3.01b**	**G3.02**	**G3.03**	**G3.04**	**G3.05**	**G3.06**
H	Nonfarm business equipment (solar panels used for recharging, sewing machine, brewing equipment, fryers)	YES.....1 NO.....2→ SKIP TO REFUSED ....9→ NEXT ITEM	☐☐☐	SELF.....A PARTNER/SPOUSE.....B OTHER HH MEMBER.....C OTHER NON-HH MEMBER..D NOT APPLICABLE.....Z REFUSED.....9				
I	House or other structures	YES.....1 NO.....2→ SKIP TO REFUSED ....9→ NEXT ITEM	☐☐☐	SELF.....A PARTNER/SPOUSE.....B OTHER HH MEMBER.....C OTHER NON-HH MEMBER..D NOT APPLICABLE.....Z REFUSED.....9				
J	Large consumer durables (refrigerator, TV, sofa)	YES.....1 NO.....2→ SKIP TO REFUSED ....9→ NEXT ITEM	☐☐☐	SELF.....A PARTNER/SPOUSE.....B OTHER HH MEMBER.....C OTHER NON-HH MEMBER..D NOT APPLICABLE.....Z REFUSED.....9				
K	Small consumer durables (radio, cookware)	YES.....1 NO.....2→ SKIP TO REFUSED ....9→ NEXT ITEM	☐☐☐	SELF.....A PARTNER/SPOUSE.....B OTHER HH MEMBER.....C OTHER NON-HH MEMBER..D NOT APPLICABLE.....Z REFUSED.....9				
L	Cell phone	YES.....1 NO.....2→ SKIP TO REFUSED ....9→ NEXT ITEM	☐☐☐	SELF.....A PARTNER/SPOUSE.....B OTHER HH MEMBER.....C OTHER NON-HH MEMBER..D NOT APPLICABLE.....Z REFUSED.....9				
M	Other land not used for agricultural purposes (plots, residential or commercial land)	YES.....1 NO.....2→ SKIP TO REFUSED ....9→ NEXT ITEM	☐☐☐	SELF.....A PARTNER/SPOUSE.....B OTHER HH MEMBER.....C OTHER NON-HH MEMBER..D NOT APPLICABLE.....Z REFUSED.....9				
N	Means of transportation (bicycle, motorcycle, car)	YES.....1 NO.....2→ SKIP TO REFUSED ....9→ MODULE G3(B)	☐☐☐	SELF.....A PARTNER/SPOUSE.....B OTHER HH MEMBER.....C OTHER NON-HH MEMBER..D NOT APPLICABLE.....Z REFUSED.....9				

SUB-MODULE G3(B). Access to Credit

"Next I'd like to ask about your household's experience with borrowing money or other items in the past 12 months."

LENDING SOURCES		Has anyone in your household taken any loans or borrowed cash/in-kind from [SOURCE] in the past 12 months?	Who made the decision to borrow from [SOURCE]? **CIRCLE ALL APPLICABLE**	Who makes the decision about what to do with the money/ item borrowed from [SOURCE]? **CIRCLE ALL APPLICABLE**
LENDING SOURCE NAMES		**G3.07**	**G3.08**	**G3.09**
A	Non-governmental organization (NGO)	YES, CASH ..... 1 YES, IN-KIND ..... 2 YES, CASH AND IN-KIND ..... 3 NO ..... 4 → GO TO NEXT SOURCE DON'T KNOW ..... 8 → GO TO NEXT SOURCE REFUSED ..... 9 → GO TO NEXT SOURCE	SELF ..... A PARTNER/SPOUSE ..... B OTHER HH MEMBER ..... C OTHER NON-HH MEMBER ..... D NOT APPLICABLE ..... Z REFUSED 9	SELF ..... A PARTNER/SPOUSE ..... B OTHER HH MEMBER ..... C OTHER NON-HH MEMBER ..... D NOT APPLICABLE ..... Z REFUSED 9
B	Informal lender	YES, CASH ..... 1 YES, IN-KIND ..... 2 YES, CASH AND IN-KIND ..... 3 NO ..... 4 → GO TO NEXT SOURCE DON'T KNOW ..... 8 → GO TO NEXT SOURCE REFUSED ..... 9 → GO TO NEXT SOURCE	SELF ..... A PARTNER/SPOUSE ..... B OTHER HH MEMBER ..... C OTHER NON-HH MEMBER ..... D NOT APPLICABLE ..... Z REFUSED 9	SELF ..... A PARTNER/SPOUSE ..... B OTHER HH MEMBER ..... C OTHER NON-HH MEMBER ..... D NOT APPLICABLE ..... Z REFUSED 9
C	Formal lender (bank/financial institutions such as ZANACO, Finance Bank, NATSAVE, INVESTRUST)	YES, CASH ..... 1 YES, IN-KIND ..... 2 YES, CASH AND IN-KIND ..... 3 NO ..... 4 → GO TO NEXT SOURCE DON'T KNOW ..... 8 → GO TO NEXT SOURCE REFUSED ..... 9 → GO TO NEXT SOURCE	SELF ..... A PARTNER/SPOUSE ..... B OTHER HH MEMBER ..... C OTHER NON-HH MEMBER ..... D NOT APPLICABLE ..... Z REFUSED 9	SELF ..... A PARTNER/SPOUSE ..... B OTHER HH MEMBER ..... C OTHER NON-HH MEMBER ..... D NOT APPLICABLE ..... Z REFUSED 9
D	Friends or relatives	YES, CASH ..... 1 YES, IN-KIND ..... 2 YES, CASH AND IN-KIND ..... 3 NO ..... 4 → GO TO NEXT SOURCE DON'T KNOW ..... 8 → GO TO NEXT SOURCE REFUSED ..... 9 → GO TO NEXT SOURCE	SELF ..... A PARTNER/SPOUSE ..... B OTHER HH MEMBER ..... C OTHER NON-HH MEMBER ..... D NOT APPLICABLE ..... Z REFUSED 9	SELF ..... A PARTNER/SPOUSE ..... B OTHER HH MEMBER ..... C OTHER NON-HH MEMBER ..... D NOT APPLICABLE ..... Z REFUSED 9
E	Group based micro-finance or lending including VSLAs / cooperatives/ Chilimba, etc.	YES, CASH ..... 1 YES, IN-KIND ..... 2 YES, CASH AND IN-KIND ..... 3 NO ..... 4 → GO TO MODULE G4 DON'T KNOW ..... 8 → GO TO MODULE G4 REFUSED ..... 9 → GO TO MODULE G4	SELF ..... A PARTNER/SPOUSE ..... B OTHER HH MEMBER ..... C OTHER NON-HH MEMBER ..... D NOT APPLICABLE ..... Z REFUSED 9	SELF ..... A PARTNER/SPOUSE ..... B OTHER HH MEMBER ..... C OTHER NON-HH MEMBER ..... D NOT APPLICABLE ..... Z REFUSED 9

SUB-MODULE G4(A). Individual Leadership and Influence in the Community

"Now I have a few questions about how comfortable you feel speaking up in public when the community needs to make important decisions."

QNO.	QUESTION	RESPONSE
G4.01	Do you feel comfortable speaking up in public to help decide on infrastructure (like small wells, roads, water supplies) to be built in your community?	NO, NOT AT ALL COMFORTABLE ..... 1 YES, BUT WITH DIFFICULTY ..... 2 YES, COMFORTABLY ..... 3 NOT APPLICABLE ..... 5 REFUSED 9
G4.02	Do you feel comfortable speaking up in public to ensure proper payment of wages for public works or other similar programs?	NO, NOT AT ALL COMFORTABLE ..... 1 YES, BUT WITH DIFFICULTY ..... 2 YES, COMFORTABLY ..... 3 NOT APPLICABLE ..... 5 REFUSED 9
G4.03	Do you feel comfortable speaking up in public to protest the misbehavior of authorities or elected officials?	NO, NOT AT ALL COMFORTABLE ..... 1 YES, BUT WITH DIFFICULTY ..... 2 YES, COMFORTABLY ..... 3 NOT APPLICABLE ..... 5 REFUSED 9

SUB-MODULE G4(B). Group Membership

"The next few questions are about different groups or organizations that may exist in your community."

GROUP MEMBERSHIP		Is there a [GROUP] in your community?	Are you an active member of this [GROUP]?
GROUP CATEGORIES		**G4.04**	**G4.05**
A	Agricultural/livestock/fisheries producer's group (including marketing groups)	YES.....1 NO.....2 → SKIP TO NEXT GROUP DON'T KNOW.....8	YES.....1 NO .....2 REFUSED.....9
B	Water users' group	YES.....1 NO.....2 → SKIP TO NEXT GROUP DON'T KNOW.....8	YES.....1 NO .....2 REFUSED.....9
C	Forest users' group	YES.....1 NO.....2 → SKIP TO NEXT GROUP DON'T KNOW.....8	YES.....1 NO .....2 REFUSED.....9
D	Credit or microfinance group (including VSLAs/ cooperatives/ Chilimba)	YES.....1 NO.....2 → SKIP TO NEXT GROUP DON'T KNOW.....8	YES.....1 NO .....2 REFUSED.....9
E	Mutual help or insurance group	YES.....1 NO.....2 → SKIP TO NEXT GROUP DON'T KNOW.....8	YES.....1 NO .....2 REFUSED.....9
F	Trade and business association	YES.....1 NO.....2 → SKIP TO NEXT GROUP DON'T KNOW.....8	YES.....1 NO .....2 REFUSED.....9
G	Civic groups (improving community) or charitable group (helping others)	YES.....1 NO.....2 → SKIP TO NEXT GROUP DON'T KNOW.....8	YES.....1 NO .....2 REFUSED.....9
H	Local government	YES.....1 NO.....2 → SKIP TO NEXT GROUP DON'T KNOW.....8	YES.....1 NO .....2 REFUSED.....9

GROUP MEMBERSHIP		Is there a [GROUP] in your community?	Are you an active member of this [GROUP]?
GROUP CATEGORIES		**G4.04**	**G4.05**
I	Religious group	YES.....1 NO.....2 → SKIP TO NEXT GROUP DON'T KNOW.....8	YES.....1 NO .....2 REFUSED.....9
J	Other women's group ONLY INCLUDE A GROUP HERE IF IT DOES NOT FIT INTO ONE OF THE OTHER CATEGORIES	YES.....1 NO.....2 → SKIP TO NEXT GROUP DON'T KNOW.....8	YES.....1 NO .....2 REFUSED.....9
K	Any other group or organization (SPECIFY)_____	YES.....1 NO.....2 → SKIP TO MODULE G5A DON'T KNOW.....8	YES.....1 NO .....2 REFUSED.....9

SUB-MODULE G5(A). Decisionmaking

"Now I have some questions about making decisions about various aspects of household life."

ACTIVITY		When decisions are made regarding [ACTIVITY], who is it that normally takes the decision? **CIRCLE ALL APPLICABLE**	**FILTER: CHECK G5.01**	To what extent do you feel you can make your own personal decisions regarding these aspects of household life if you want(ed) to?
	ACTIVITY	**G5.01**	**G5.01A**	**G5.02**
A	Getting inputs for agricultural production	SELF.....A SPOUSE/PARTNER.....B OTHER HH MEMBER.....C OTHER NON-HH MEMBER.....D NOT APPLICABLE.....Z → SKIP TO NEXT ACTIVITY REFUSED.....9 → SKIP TO NEXT ACTIVITY	CHECK G5.01: "SELF" ("A") IS THE ONLY RESPONSE.....1 → GO TO NEXT ACTIVITY "SELF" ("A") IS **NOT** THE ONLY RESPONSE....2 → GO TO G5.02	NOT AT ALL.....1 SMALL EXTENT.....2 MEDIUM EXTENT.....3 TO A HIGH EXTENT.....4 REFUSED.....9
B	The types of crops to grow	SELF.....A SPOUSE/PARTNER.....B OTHER HH MEMBER.....C OTHER NON-HH MEMBER.....D NOT APPLICABLE.....Z → SKIP TO NEXT ACTIVITY REFUSED.....9 → SKIP TO NEXT ACTIVITY	CHECK G5.01: "SELF" ("A") IS THE ONLY RESPONSE.....1 → GO TO NEXT ACTIVITY "SELF" ("A") IS **NOT** THE ONLY RESPONSE....2 → GO TO G5.02	NOT AT ALL.....1 SMALL EXTENT.....2 MEDIUM EXTENT.....3 TO A HIGH EXTENT.....4 REFUSED.....9
C	Taking crops to the market (or not)	SELF.....A SPOUSE/PARTNER.....B OTHER HH MEMBER.....C OTHER NON-HH MEMBER.....D NOT APPLICABLE.....Z → SKIP TO NEXT ACTIVITY REFUSED.....9 → SKIP TO NEXT ACTIVITY	CHECK G5.01: "SELF" ("A") IS THE ONLY RESPONSE.....1 → GO TO NEXT ACTIVITY "SELF" ("A") IS **NOT** THE ONLY RESPONSE....2 → GO TO G5.02	NOT AT ALL.....1 SMALL EXTENT.....2 MEDIUM EXTENT.....3 TO A HIGH EXTENT.....4 REFUSED.....9
D	Livestock raising	SELF.....A SPOUSE/PARTNER.....B OTHER HH MEMBER.....C OTHER NON-HH MEMBER.....D NOT APPLICABLE.....Z → SKIP TO NEXT ACTIVITY REFUSED.....9 → SKIP TO NEXT ACTIVITY	CHECK G5.01: "SELF" ("A") IS THE ONLY RESPONSE.....1 → GO TO NEXT ACTIVITY "SELF" ("A") IS **NOT** THE ONLY RESPONSE....2 → GO TO G5.02	NOT AT ALL.....1 SMALL EXTENT.....2 MEDIUM EXTENT.....3 TO A HIGH EXTENT.....4 REFUSED.....9

ACTIVITY		When decisions are made regarding [ACTIVITY], who is it that normally takes the decision? **CIRCLE ALL APPLICABLE**	**FILTER:** **CHECK G5.01**	To what extent do you feel you can make your own personal decisions regarding these aspects of household life if you want(ed) to?
	ACTIVITY	**G5.01**	**G5.01A**	**G5.02**
E	Your own (singular) wage or salary employment	SELF.....A SPOUSE/PARTNER.....B OTHER HH MEMBER.....C OTHER NON-HH MEMBER.....D NOT APPLICABLE.....Z → SKIP TO NEXT ACTIVITY REFUSED.....9 → SKIP TO NEXT ACTIVITY	CHECK G5.01: "SELF" ("A") IS THE ONLY RESPONSE.....1 → GO TO NEXT ACTIVITY "SELF" ("A") IS **NOT** THE ONLY RESPONSE....2 → GO TO G5.02	NOT AT ALL.....1 SMALL EXTENT.....2 MEDIUM EXTENT.....3 TO A HIGH EXTENT.....4 REFUSED.....9
F	Major household expenditures (such as a large appliance for the house like refrigerator)	SELF.....A SPOUSE/PARTNER.....B OTHER HH MEMBER.....C OTHER NON-HH MEMBER.....D NOT APPLICABLE.....Z → SKIP TO NEXT ACTIVITY REFUSED.....9 → SKIP TO NEXT ACTIVITY	CHECK G5.01: "SELF" ("A") IS THE ONLY RESPONSE.....1 → GO TO NEXT ACTIVITY "SELF" ("A") IS **NOT** THE ONLY RESPONSE....2 → GO TO G5.02	NOT AT ALL.....1 SMALL EXTENT.....2 MEDIUM EXTENT.....3 TO A HIGH EXTENT.....4 REFUSED.....9
G	Minor household expenditures (such as food for daily consumption or other household needs)	SELF.....A SPOUSE/PARTNER.....B OTHER HH MEMBER.....C OTHER NON-HH MEMBER.....D NOT APPLICABLE.....Z → SKIP TO NEXT MODULE REFUSED.....9 → SKIP TO NEXT MODULE	CHECK G5.01: "SELF" ("A") IS THE ONLY RESPONSE.....1 → GO TO NEXT MODULE "SELF" ("A") IS **NOT** THE ONLY RESPONSE....2 → GO TO G5.02	NOT AT ALL.....1 SMALL EXTENT.....2 MEDIUM EXTENT.....3 TO A HIGH EXTENT.....4 REFUSED.....9

SUB-MODULE G6(A). Time Allocation

G6.01: PLEASE RECORD A LOG OF THE ACTIVITIES FOR THE INDIVIDUAL IN THE LAST COMPLETE 24 HOURS (STARTING YESTERDAY MORNING AT 4 AM, FINISHING 3:59 AM OF THE CURRENT DAY). THE TIME INTERVALS ARE MARKED IN 15 MIN INTERVALS AND ONE TO TWO ACTIVITIES CAN BE MARKED FOR EACH TIME PERIOD BY DRAWING A LINE THROUGH THAT ACTIVITY. IF TWO ACTIVITIES ARE MARKED, THEY SHOULD BE DISTINGUISHED WITH A 1 FOR THE PRIMARY ACTIVITY AND A 2 FOR THE SECONDARY ACTIVITY WRITTEN NEXT TO THE LINES. PLEASE ADMINISTER USING THE PROTOCOL IN THE INTERVIEWER MANUAL.

"Now I'd like to ask you about how you spent your time during the past 24 hours. This will be a detailed accounting. We'll begin from yesterday morning at 4 am, and continue through to 4 am of this morning."

ACTIVITY CODE	ACTIVITY	NIGHT								MORNING				DAY																															
		4				5				6				7				8				9				10				11				12				13				14				15			
A	SLEEPING AND RESTING																																													
B	EATING AND DRINKING																																													
C	PERSONAL CARE																																													
D	SCHOOL (INCLUDING HOMEWORK)																																													
E	WORK AS EMPLOYED																																													
F	OWN BUSINESS WORK																																													
G	FARMING/LIVESTOCK/FISHING																																													
H	SHOPPING/GETTING SERVICE (INCLUDING HEALTH SERVICES)																																													
I	WEAVING, SEWING, TEXTILE CARE																																													
J	COOKING																																													
K	DOMESTIC WORK (INCLUDING FETCHING WOOD AND WATER)																																													
L	CARE FOR CHILDREN/ADULTS/ELDERLY																																													
M	TRAVEL AND COMMUTING																																													
N	WATCHING TV/LISTENING TO RADIO/READING																																													
O	EXERCISING																																													
P	SOCIAL ACTIVITIES AND HOBBIES																																													
Q	RELIGIOUS ACTIVITIES																																													
X	_____OTHER (SPECIFY)																																													

SUB-MODULE G6(A). Time Allocation (continued)

ACTIVITY CODE	ACTIVITY	DAY												EVENING				NIGHT																			
		16				17				18				19				20				21				22				23				24				1			
A	SLEEPING AND RESTING																																				
B	EATING AND DRINKING																																				
C	PERSONAL CARE																																				
D	SCHOOL (INCLUDING HOMEWORK)																																				
E	WORK AS EMPLOYED																																				
F	OWN BUSINESS WORK																																				
G	FARMING/LIVESTOCK/FISHING																																				
H	SHOPPING/GETTING SERVICE (INCLUDING HEALTH SERVICES)																																				
I	WEAVING, SEWING, TEXTILE CARE																																				
J	COOKING																																				
K	DOMESTIC WORK (INCLUDING FETCHING WOOD AND WATER)																																				
L	CARE FOR CHILDREN/ADULTS/ELDERLY																																				
M	TRAVEL AND COMMUTING																																				
N	WATCHING TV/LISTENING TO RADIO/READING																																				
O	EXERCISING																																				
P	SOCIAL ACTIVITIES AND HOBBIES																																				
Q	RELIGIOUS ACTIVITIES																																				
X	_____OTHER (SPECIFY)																																				

SUB-MODULE G6(B). Satisfaction With Time Allocation

QNO.	QUESTION	RESPONSE OPTIONS/INSTRUCTIONS
G6.01B	In the past 24 hours, did you work, either at home or outside the home, more than usual, about the same amount as usual, or less than usual?	MORE THAN USUAL……..1 ABOUT THE SAME AS USUAL……..2 LESS THAN USUAL……..……..3
G6.02	Next, I am going to ask you a question about how satisfied you are with the time you have to yourself to do things you enjoy. Please give your opinion on a scale of 1 to 10. 1 means you are not satisfied and 10 means you are very satisfied. If you are neither satisfied nor dissatisfied, this would be in the middle, or 5, on the scale. How satisfied are you with your available time for leisure activities like visiting neighbors, watching TV, listening to the radio, seeing movies or doing sports?	SATISFACTION RATING: ☐☐

MODULE H. Women's Anthropometry and Dietary Diversity

HOUSEHOLD IDENTIFICATION (IN DATA FILE, EACH RESPONDENT MUST BE MATCHED WITH THE HH ID) | | | | | | |

ASK THESE QUESTIONS OF EACH WOMAN AGE 15-49 YEARS IN THE HOUSEHOLD.

CHECK THE INFORMED CONSENT REGISTER AND ENSURE THAT THE RESPONDENT(S) TO MODULE H HAVE PREVIOUSLY PROVIDED INFORMED CONSENT; IF NOT, ADMINISTER THE MODULE H INFORMED CONSENT PROCEDURE (ANNEX 6) TO THE RESPONDENT(S).

CARRY DUPLICATE COPIES OF THIS MODULE IN CASE THERE ARE MORE THAN 5 WOMEN OF AGE 15-49 IN THE HOUSEHOLD.

ENSURE THAT THE ENTIRETY OF MODULE H, INCLUDING DIETARY DIVERSITY, IS COMPLETED FOR WOMAN 1 BEFORE MOVING ON TO WOMAN 2.

"In order to learn more about peoples' nutrition in our country, we would like to take measures of your growth – your height and your weight – and we'd also like to learn more about what kinds of foods you eat."

NO.	QUESTION	WOMAN 1	WOMAN 2	WOMAN 3	WOMAN 4	WOMAN 5
H01	WOMAN'S ID CODE AND NAME FROM THE HOUSEHOLD ROSTER	|__|__| NAME:_____________	|__|__| NAME:_____________	|__|__| NAME:_____________	|__|__| NAME:_____________	|__|__| NAME:_____________
H02	In what month and year were you born?	|__|__| MONTH DK MONTH….98 |__|__|__|__| YEAR DK YEAR….9998	|__|__| MONTH DK MONTH….98 |__|__|__|__| YEAR DK YEAR….9998	|__|__| MONTH DK MONTH….98 |__|__|__|__| YEAR DK YEAR….9998	|__|__| MONTH DK MONTH….98 |__|__|__|__| YEAR DK YEAR….9998	|__|__| MONTH DK MONTH….98 |__|__|__|__| YEAR DK YEAR….9998
H03	Please tell me how old you are. What was your age at your last birthday? RECORD AGE IN COMPLETED YEARS	|__|__| YEARS IF RESPONDENT KNOWS HER AGE, SKIP TO H05. IF RESPONDENT CANNOT REMEMBER HOW OLD SHE IS, ENTER '98' AND ASK QUESTION H04.	|__|__| YEARS IF RESPONDENT KNOWS HER AGE, SKIP TO H05. IF RESPONDENT CANNOT REMEMBER HOW OLD SHE IS, ENTER '98' AND ASK QUESTION H04.	|__|__| YEARS IF RESPONDENT KNOWS HER AGE, SKIP TO H05. IF RESPONDENT CANNOT REMEMBER HOW OLD SHE IS, ENTER '98' AND ASK QUESTION H04.	|__|__| YEARS IF RESPONDENT KNOWS HER AGE, SKIP TO H05. IF RESPONDENT CANNOT REMEMBER HOW OLD SHE IS, ENTER '98' AND ASK QUESTION H04.	|__|__| YEARS IF RESPONDENT KNOWS HER AGE, SKIP TO H05. IF RESPONDENT CANNOT REMEMBER HOW OLD SHE IS, ENTER '98' AND ASK QUESTION H04.

NO.	QUESTION	WOMAN 1	WOMAN 2	WOMAN 3	WOMAN 4	WOMAN 5
H04	Are you between the ages of 15 and 49 years old?	YES .....1 NO .....2 DK 8	YES .....1 NO .....2 DK.....8	YES.....1 NO .....2 DK.....8	YES.....1 NO .....2 DK.....8	YES..... 1 NO..... 2 DK..... 8
H05	CHECK H02, H03, AND H04 (IF APPLICABLE): IS THE RESPONDENT BETWEEN THE AGES OF 15 AND 49 YEARS? IF THE INFORMATION IN H02, H03, AND H04 CONFLICTS, DETERMINE WHICH IS MOST ACCURATE USING THE AGE/YEAR OF BIRTH CONSISTENCY CHART AND GUIDANCE FROM YOUR INTERVIEWER'S MANUAL.	YES .....1 NO .....2 ┐ CHECK DK .....8 → FOR OTHER WOMEN AGE 15-49 IN THE HOUSEHOLD; IF NONE, SKIP TO MODULE I	YES .....1 NO .....2 ┐ CHECK DK.....8 → FOR OTHER WOMEN AGE 15-49 IN THE HOUSEHOLD; IF NONE, SKIP TO MODULE I	YES.....1 NO .....2 ┐ CHECK DK.....8 → FOR OTHER WOMEN AGE 15-49 IN THE HOUSEHOLD; IF NONE, SKIP TO MODULE I	YES.....1 NO .....2 ┐ CHECK DK.....8 → FOR OTHER WOMEN AGE 15-49 IN THE HOUSEHOLD; IF NONE, SKIP TO MODULE I	YES..... 1 NO..... 2 ┐ CHECK DK..... 8 → FOR OTHER WOMEN AGE 15-49 IN THE HOUSEHOLD; IF NONE, SKIP TO MODULE I
	WOMEN'S NUTRITIONAL STATUS					
H06	Are you currently pregnant?	YES ..... 1 → SKIP TO DIETARY DIVERSITY NO .....2 DK .....8 REFUSED 9	YES ..... 1 → SKIP TO DIETARY DIVERSITY NO .....2 DK.....8 REFUSED 9	YES..... 1 → SKIP TO DIETARY DIVERSITY NO .....2 DK.....8 REFUSED.....9	YES..... 1 → SKIP TO DIETARY DIVERSITY NO .....2 DK.....8 REFUSED 9	YES..... 1 → SKIP TO DIETARY DIVERSITY NO..... 2 DK..... 8 REFUSED..... 9
H07	WEIGHT IN KILOGRAMS: WEIGH THE WOMAN	KG ☐☐☐.☐ NOT PRESENT..... 9994 OTHER..... 9996 REFUSED 9999	KG ☐☐☐.☐ NOT PRESENT..... 9994 OTHER..... 9996 REFUSED 9999	KG ☐☐☐.☐ NOT PRESENT ..... 9994 OTHER..... 9996 REFUSED..... 9999	KG ☐☐☐.☐ NOT PRESENT ..... 9994 OTHER..... 9996 REFUSED 9999	KG ☐☐☐.☐ NOT PRESENT ..... 9994 OTHER ..... 9996 REFUSED..... 9999
H08	HEIGHT IN CENTIMETERS: MEASURE THE WOMAN	CM ☐☐☐.☐ NOT PRESENT..... 9994 OTHER..... 9996 REFUSED 9999	CM ☐☐☐.☐ NOT PRESENT..... 9994 OTHER..... 9996 REFUSED 9999	CM ☐☐☐.☐ NOT PRESENT ..... 9994 OTHER..... 9996 REFUSED..... 9999	CM ☐☐☐.☐ NOT PRESENT ..... 9994 OTHER..... 9996 REFUSED 9999	CM ☐☐☐.☐ NOT PRESENT ..... 9994 OTHER ..... 9996 REFUSED..... 9999

	WOMEN'S DIETARY DIVERSITY
	Now I'd like to ask you to describe everything that you ate yesterday during the day or night, whether you ate it while you were at home, or while you were somewhere else. **(A)** Think about when you first woke up yesterday. Did you eat anything at that time? IF YES: Please tell me everything you ate at that time. PROBE: Anything else? CONTINUE PROBING UNTIL RESPONDENT SAYS "NOTHING ELSE," THEN CONTINUE TO PART B. IF NO: CONTINUE TO PART B. **(B)** What did you do after that? Did you eat anything at that time? IF YES: Please tell me everything you ate at that time. PROBE: Anything else? CONTINUE PROBING UNTIL RESPONDENT SAYS "NOTHING ELSE." REPEAT QUESTION B ABOVE UNTIL RESPONDENT SAYS SHE WENT TO SLEEP UNTIL THE NEXT DAY. IF RESPONDENT MENTIONS MIXED DISHES LIKE A PORRIDGE, SAUCE, OR STEW, PROBE: **(C)** What ingredients were in that [mixed dish]? PROBE: Anything else? CONTINUE PROBING UNTIL RESPONDENT SAYS "NOTHING ELSE." AS THE RESPONDENT RECALLS FOODS, UNDERLINE THE CORRESPONDING FOOD AND ENTER '1' IN THE COLUMN NEXT TO THE FOOD GROUP. IF THE FOOD IS NOT LISTED IN ANY OF THE FOOD GROUPS BELOW, WRITE THE FOOD IN THE BOX LABELED 'OTHER FOODS.' IF FOODS ARE USED IN SMALL AMOUNTS FOR SEASONING OR AS A CONDIMENT, INCLUDE THEM UNDER THE CONDIMENTS FOOD GROUP. ONCE THE RESPONDENT FINISHES RECALLING FOODS EATEN, READ EACH FOOD GROUP WHERE '1' WAS NOT ENTERED, ASK THE FOLLOWING QUESTION AND ENTER '1' IF RESPONDENT SAYS YES, '2' IF NO, AND '8' IF DON'T KNOW. Yesterday during the day or night, did you drink/eat any [food group items]?

NO.	QUESTION	WOMAN 1	WOMAN 2	WOMAN 3	WOMAN 4	WOMAN 5
	OTHER FOODS: PLEASE WRITE DOWN OTHER FOODS THAT RESPONDENT MENTIONED, BUT ARE NOT IN THE LIST BELOW, IN THE SPACE TO THE RIGHT OF THIS BOX. THIS WILL ALLOW THE SURVEY SUPERVISOR OR OTHER KNOWLEDGEABLE INDIVIDUAL TO CLASSIFY THE FOOD LATER.	WRITE FOODS EATEN HERE:	WRITE FOODS EATEN HERE:	WRITE FOODS EATEN HERE:	WRITE FOODS EATEN HERE:	WRITE FOODS EATEN HERE:
H14	Food made from grains, such as bread, rice, or noodles; dry corn, porridge such as nshima, or maize-based drinks such as munkoyo, chibuku beer, opaque maize beer, thobwa, or maheu?	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8
H15	Any foods that are yellow or orange inside such as pumpkin, carrots, red pepper, or squash including dishes made with these foods such as stew or other local dishes?	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8

NO.	QUESTION	WOMAN 1	WOMAN 2	WOMAN 3	WOMAN 4	WOMAN 5
H16	White potatoes, white sweet potatoes, white yams, cassava, other local root crops such as ubusala or mumbu, or any other foods made from roots?	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8
H17	Any local dark green leafy vegetables such as amaranthus, nightshade, spider plant, black jack, or moringa leaves?	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8
H17A	Any other dark green leafy vegetables such as kale, spinach, pumpkin leaves, cassava leaves, sweet potato leaves, cowpea leaves, bean leaves, rape, Chinese cabbage, or other dark green leafy vegetables?	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8
H17B	Any other vegetables such as okra, cabbage, onion, tomatoes…?	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8
H18	Ripe mangoes, ripe papayas, apricots, passionfruit, or wild loquat?	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8
H18A	Any other fruits such as guava, banana, apple, grapes, watermelon, or oranges?	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8
H19	Any liver, kidney, heart, or other organ meats from domesticated animals such as beef, pork, lamb, goat, chicken, or duck?	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8
H19A	Any meat from domesticated animals, such as beef, pork, lamb, goat, chicken, or duck?	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8
H20	Any liver, kidney, heart, or other organ meats from wild animals such as elephant, buffalo, hippo, rhino, duiker, hare, or mice?	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8
H20A	Any flesh from wild animals, such as elephant, buffalo, hippo, rhino, duiker, hare, or mice?	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8
H22	Eggs?	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8
H23	Fresh or dried fish, shellfish, or seafood?	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8

NO.	QUESTION	WOMAN 1	WOMAN 2	WOMAN 3	WOMAN 4	WOMAN 5
H24	Any soybeans or dishes made with soybeans such as soymilk, nyamasoya, soya chunks, high energy protein supplements, or other soy foods?	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8
H24A	Any pigeon peas or dishes made with pigeon peas?	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8
H24B	Any cowpeas or dishes made with cowpeas?	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8
H24C	Any groundnuts or foods made from groundnuts such as chalimbana groundnuts, peanut butter, or groundnut porridge?	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8
H24D	Any other beans, peas, or lentils, such as kabulangeti beans, or bambara nuts, or dishes made from other beans, peas or lentils?	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8
H24E	Any nuts, such as cashews, or seeds such as pumpkin seeds, avocado seeds, sunflower seeds, or watermelon seeds, or any foods made from nuts or seeds?	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8
H25	Milk, cheese, yogurt, or other milk products?	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8
H26	Any oil, fats, or butter, or foods made with any of these?	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8
H27	Any sugary foods such as chocolates, sweets, candies, pastries, cakes, or biscuits?	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8
H28	Condiments for flavor, such as chilies, spices, herbs, fish powder or salt?	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8
H29	Grubs, snails or insects such as caterpillars, flying ants like inswa or mafulufute, or grasshoppers?	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8
H30	Foods made with red palm oil, red palm nut, or red palm nut pulp sauce?	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8

VITAMIN A-BIOFORTIFIED MAIZE/ORANGE MAIZE AND ORANGE-FLESHED SWEET POTATOES						
NO.	**QUESTION**	**WOMAN 1**	**WOMAN 2**	**WOMAN 3**	**WOMAN 4**	**WOMAN 5**
H31	Have you ever heard of a special kind of maize that is orange in color and more nutritious than other kinds of maize? This special orange maize is sometimes called vitamin A maize.	YES ...... 1 NO ...... 2 DON'T KNOW ...... 8 GO TO H36	YES ...... 1 NO ...... 2 DON'T KNOW ...... 8 GO TO H36	YES ...... 1 NO ...... 2 DON'T KNOW ...... 8 GO TO H36	YES ...... 1 NO ...... 2 DON'T KNOW ...... 8 GO TO H36	YES ...... 1 NO ...... 2 DON'T KNOW ...... 8 GO TO H36
H32	Did you ever obtain this special orange maize from anyone, for example from an agricultural extension agent, a government agency, or from a friend?	NO ...... 1 YES, EXT AGENT ...... 2 YES, GOVT AGENCY. 3 YES, FRIEND ...... 4 YES, OTHER ...... 6 DON'T KNOW 8	NO ...... 1 YES, EXT AGENT ...... 2 YES, GOVT AGENCY. 3 YES, FRIEND ...... 4 YES, OTHER ...... 6 DON'T KNOW 8	NO ...... 1 YES, EXT AGENT ...... 2 YES, GOVT AGENCY 3 YES, FRIEND ...... 4 YES, OTHER ...... 6 DON'T KNOW 8	NO ...... 1 YES, EXT AGENT ...... 2 YES, GOVT AGENCY 3 YES, FRIEND ...... 4 YES, OTHER ...... 6 DON'T KNOW 8	NO ...... 1 YES, EXT AGENT ...... 2 YES, GOVT AGENCY 3 YES, FRIEND ...... 4 YES, OTHER ...... 6 DON'T KNOW 8
H33	Have you or anyone in your household ever planted this special orange maize?	YES ...... 1 NO ...... 2 DON'T KNOW 8	YES ...... 1 NO ...... 2 DON'T KNOW 8	YES ...... 1 NO ...... 2 DON'T KNOW 8	YES ...... 1 NO ...... 2 DON'T KNOW 8	YES ...... 1 NO ...... 2 DON'T KNOW 8
H34	Have you ever eaten this special orange maize for example, roasted or prepared as porridge?	YES ...... 1 NO ...... 2 DON'T KNOW ...... 8 GO TO H36	YES ...... 1 NO ...... 2 DON'T KNOW ...... 8 GO TO H36	YES ...... 1 NO ...... 2 DON'T KNOW ...... 8 GO TO H36	YES ...... 1 NO ...... 2 DON'T KNOW ...... 8 GO TO H36	YES ...... 1 NO ...... 2 DON'T KNOW ...... 8 GO TO H36
H35	When was the last time you ate this special orange maize or foods made with orange maize?	IN PAST DAY ...... 1 IN PAST WEEK ...... 2 IN PAST MONTH ...... 3 IN PAST YEAR ...... 4 MORE THAN ONE YEAR AGO ...... 5 DON'T KNOW 8	IN PAST DAY ...... 1 IN PAST WEEK ...... 2 IN PAST MONTH ...... 3 IN PAST YEAR ...... 4 MORE THAN ONE YEAR AGO ...... 5 DON'T KNOW 8	IN PAST DAY ...... 1 IN PAST WEEK ...... 2 IN PAST MONTH ...... 3 IN PAST YEAR ...... 4 MORE THAN ONE YEAR AGO ...... 5 DON'T KNOW 8	IN PAST DAY ...... 1 IN PAST WEEK ...... 2 IN PAST MONTH ...... 3 IN PAST YEAR ...... 4 MORE THAN ONE YEAR AGO ...... 5 DON'T KNOW 8	IN PAST DAY ...... 1 IN PAST WEEK ...... 2 IN PAST MONTH ...... 3 IN PAST YEAR ...... 4 MORE THAN ONE YEAR AGO ...... 5 DON'T KNOW 8
H36	Have you ever heard of a special kind of sweet potato that is orange in color and more nutritious than other kinds of sweet potatoes? This special sweet potato is sometimes called vitamin A sweet potato.	YES ...... 1 NO ...... 2 DON'T KNOW ...... 8 GO TO MODULE I	YES ...... 1 NO ...... 2 DON'T KNOW ...... 8 GO TO MODULE I	YES ...... 1 NO ...... 2 DON'T KNOW ...... 8 GO TO MODULE I	YES ...... 1 NO ...... 2 DON'T KNOW ...... 8 GO TO MODULE I	YES ...... 1 NO ...... 2 DON'T KNOW ...... 8 GO TO MODULE I
H37	Did you ever obtain this special orange-fleshed sweet potato from anyone, for example from an agricultural extension agent, a government agency, from the market, or from a friend?	NO ...... 1 YES, EXT AGENT ...... 2 YES, GOVT AGENCY. 3 YES, MARKET ...... 4 YES, FRIEND ...... 5 YES, OTHER ...... 6 DON'T KNOW 8	NO ...... 1 YES, EXT AGENT ...... 2 YES, GOVT AGENCY. 3 YES, MARKET ...... 4 YES, FRIEND ...... 5 YES, OTHER ...... 6 DON'T KNOW 8	NO ...... 1 YES, EXT AGENT ...... 2 YES, GOVT AGENCY 3 YES, MARKET ...... 4 YES, FRIEND ...... 5 YES, OTHER ...... 6 DON'T KNOW 8	NO ...... 1 YES, EXT AGENT ...... 2 YES, GOVT AGENCY 3 YES, MARKET ...... 4 YES, FRIEND ...... 5 YES, OTHER ...... 6 DON'T KNOW 8	NO ...... 1 YES, EXT AGENT ...... 2 YES, GOVT AGENCY 3 YES, MARKET ...... 4 YES, FRIEND ...... 5 YES, OTHER ...... 6 DON'T KNOW 8

NO.	QUESTION	WOMAN 1	WOMAN 2	WOMAN 3	WOMAN 4	WOMAN 5
H38	Have you or anyone in your household ever planted this special orange-fleshed sweet potato?	YES....1 NO....2 DON'T KNOW....8	YES....1 NO....2 DON'T KNOW....8	YES....1 NO....2 DON'T KNOW....8	YES....1 NO....2 DON'T KNOW....8	YES....1 NO....2 DON'T KNOW....8
H39	Have you ever eaten this special orange-fleshed sweet potato, for example, roasted or in a stew?	YES....1 NO....2 DON'T KNOW....8 GO TO MODULE I	YES....1 NO....2 DON'T KNOW....8 GO TO MODULE I	YES....1 NO....2 DON'T KNOW....8 GO TO MODULE I	YES....1 NO....2 DON'T KNOW....8 GO TO MODULE I	YES....1 NO....2 DON'T KNOW....8 GO TO MODULE I
H40	When was the last time you ate this special orange-fleshed sweet potato, or foods made with orange-fleshed sweet potato?	IN PAST DAY....1 IN PAST WEEK....2 IN PAST MONTH....3 IN PAST YEAR....4 MORE THAN ONE YEAR AGO....5 DON'T KNOW....8	IN PAST DAY....1 IN PAST WEEK....2 IN PAST MONTH....3 IN PAST YEAR....4 MORE THAN ONE YEAR AGO....5 DON'T KNOW....8	IN PAST DAY....1 IN PAST WEEK....2 IN PAST MONTH....3 IN PAST YEAR....4 MORE THAN ONE YEAR AGO....5 DON'T KNOW....8	IN PAST DAY....1 IN PAST WEEK....2 IN PAST MONTH....3 IN PAST YEAR....4 MORE THAN ONE YEAR AGO....5 DON'T KNOW....8	IN PAST DAY....1 IN PAST WEEK....2 IN PAST MONTH....3 IN PAST YEAR....4 MORE THAN ONE YEAR AGO....5 DON'T KNOW....8

MODULE I. Child Anthropometry and Infant and Young Child Feeding

HOUSEHOLD IDENTIFICATION (IN DATA FILE, EACH RESPONDENT MUST BE MATCHED WITH THE HH ID) | | | | | | |

IDENTIFY THE PRIMARY CAREGIVER OF EACH CHILD AGE 0-59 MONTHS IN THE HOUSEHOLD. ASK THESE QUESTIONS OF THE PRIMARY CAREGIVER OF EACH CHILD AGED 0–59 MONTHS IN THE HOUSEHOLD. CHECK THE INFORMED CONSENT REGISTER AND ENSURE THAT THE RESPONDENT(S) TO MODULE I HAVE PREVIOUSLY PROVIDED INFORMED CONSENT; IF NOT, ADMINISTER THE MODULE I INFORMED CONSENT PROCEDURE (ANNEX 7) TO THE RESPONDENT(S) (THE PRIMARY CAREGIVER OF EACH CHILD AGED 0–59 MONTHS IN THE HOUSEHOLD).

YOU SHOULD CARRY DUPLICATE COPIES OF THIS MODULE IN CASE THERE ARE MORE THAN 5 CHILDREN 0-59 MONTHS OLD IN THE HOUSEHOLD.

"In order to learn more about child nutrition in our country, we would like to measure your child(ren)'s growth – their height and their weight – and we'd also like to learn more about what kinds of foods they eat."

NO.	QUESTION	CHILD 1	CHILD 2	CHILD 3	CHILD 4	CHILD 5
I01	CAREGIVER'S ID CODE FROM THE HOUSEHOLD ROSTER	|__|__|	|__|__|	|__|__|	|__|__|	|__|__|
I02	CHILD'S ID CODE AND FIRST NAME FROM THE HOUSEHOLD ROSTER	|__|__| ________ CHILD'S NAME	|__|__| ________ CHILD'S NAME	|__|__| ________ CHILD'S NAME	|__|__| ________ CHILD'S NAME	|__|__| ________ CHILD'S NAME
I03	What is [CHILD'S NAME]'s sex?	MALE.......................... 1 FEMALE 2	MALE.......................... 1 FEMALE 2	MALE ....1 FEMALE......................2	MALE ....1 FEMALE......................2	MALE .... 1 FEMALE 2
I04	I would like to ask you some question about [CHILD'S NAME]. What is [his/her] birthday? In what month and year was [CHILD'S NAME] born?	|__|__| DAY DK DAY….98 |__|__| MONTH DK MONTH….98 |__|__|__|__| YEAR DK YEAR….9998	|__|__| DAY DK DAY….98 |__|__| MONTH DK MONTH….98 |__|__|__|__| YEAR DK YEAR….9998	|__|__| DAY DK DAY….98 |__|__| MONTH DK MONTH….98 |__|__|__|__| YEAR DK YEAR….9998	|__|__| DAY DK DAY….98 |__|__| MONTH DK MONTH….98 |__|__|__|__| YEAR DK YEAR….9998	|__|__| DAY DK DAY….98 |__|__| MONTH DK MONTH….98 |__|__|__|__| YEAR DK YEAR….9998
I04A	CHECK I04: IS THE INFORMATION ON THE CHILD'S DAY, MONTH, AND YEAR OF BIRTH COMPLETE?	YES..... 1 → SKIP TO I05 NO 2	YES .....1 → SKIP TO I05 NO 2	YES .....1 → SKIP TO I05 NO....... 2	YES..... 1 → SKIP TO I05 NO....... 2	YES..... 1 → SKIP TO I05 NO 2

NO.	QUESTION	CHILD 1	CHILD 2	CHILD 3	CHILD 4	CHILD 5
I04B	Does [CHILD'S NAME] have a health or vaccination card with the birth date recorded?	YES............ 1 NO .... 2 DK............. 8 → SKIP TO I05	YES .... 1 NO .... 2 DK............ 8 → SKIP TO I05	YES ....1 NO..............2 DK ....8 → SKIP TO I05	YES............1 NO..............2 DK ....8 → SKIP TO I05	YES............ 1 NO .... 2 DK............. 8 → SKIP TO I05
I04C	May I please see the card?	YES............. 1 NO .... 2 CARD NOT AVAILABLE . 8 → SKIP TO I05	YES ....1 NO ....2 CARD NOT AVAILABLE ..8 → SKIP TO I05	YES ....1 NO................2 CARD NOT AVAILABLE ..8 → SKIP TO I05	YES............. 1 NO............... 2 CARD NOT AVAILABLE . 8 → SKIP TO I05	YES............. 1 NO .... 2 CARD NOT AVAILABLE . 8 → SKIP TO I05
I04D	CONFIRM WITH THE RESPONDENT THAT THE INFORMATION ON THE CARD IS CORRECT. IF THE HEALTH/VACCINATION CARD IS SHOWN AND THE RESPONDENT CONFIRMS THE INFORMATION IS CORRECT, RECORD THE DATE OF BIRTH AS DOCUMENTED ON THE CARD.	DAY DK DAY….98 MONTH DK MONTH….98 YEAR DK YEAR….9998	DAY DK DAY….98 MONTH DK MONTH….98 YEAR DK YEAR….9998	DAY DK DAY….98 MONTH DK MONTH….98 YEAR DK YEAR….9998	DAY DK DAY….98 MONTH DK MONTH….98 YEAR DK YEAR….9998	DAY DK DAY….98 MONTH DK MONTH….98 YEAR DK YEAR….9998
I05	How old was [CHILD'S NAME] at [his/her] last birthday? RECORD AGE IN COMPLETED YEARS	YEARS	YEARS	YEARS	YEARS	YEARS
I06	How many months old is [CHILD'S NAME]? RECORD AGE IN COMPLETED MONTHS	MONTHS	MONTHS	MONTHS	MONTHS	MONTHS

NO.	QUESTION	CHILD 1	CHILD 2	CHILD 3	CHILD 4	CHILD 5
I07	CHECK I04, I04D, I05, AND I06 TO VERIFY CONSISTENCY					
I07A	CHECK: IS THE YEAR RECORDED IN I04 OR I04D CONSISTENT WITH THE AGE IN YEARS RECORDED IN I05?	YES.....1 NO 2	YES .....1 NO.....2	YES .....1 NO 2	YES.....1 NO 2	YES.....1 NO.....2
107B	ARE YEAR AND MONTH OF BIRTH RECORDED IN I04 OR I04D CONSISTENT WITH AGE IN MONTHS RECORDED IN I06?	YES.....1 NO 2	YES .....1 NO.....2	YES .....1 NO 2	YES.....1 NO 2	YES.....1 NO.....2
107C	CHECK 107A AND 107B: IF THE ANSWER TO A OR B IS 'NO,' RESOLVE ANY INCONSISTENCIES. IF THE BIRTHDATE WAS RECORDED ON A HEALTH CARD, THIS MAY BE USED AS THE CORRECT DATA SOURCE.					
I08	CHECK I06. IS THE CHILD UNDER 60 MONTHS?	YES.....1 NO .....2 DON'T KNOW .....8 PROCEED TO NEXT CHILD OR, IF THERE ARE NO OTHER CHILDREN, END MODULE	YES .....1 NO.....2 DON'T KNOW .....8 PROCEED TO NEXT CHILD OR, IF THERE ARE NO OTHER CHILDREN, END MODULE	YES .....1 NO .....2 DON'T KNOW .....8 PROCEED TO NEXT CHILD OR, IF THERE ARE NO OTHER CHILDREN, END MODULE	YES.....1 NO .....2 DON'T KNOW.....8 PROCEED TO NEXT CHILD OR, IF THERE ARE NO OTHER CHILDREN, END MODULE	YES.....1 NO.....2 DON'T KNOW.....8 PROCEED TO NEXT CHILD OR, IF THERE ARE NO OTHER CHILDREN, END MODULE
	"Now I would like to assess your child for a condition called "edema," which occurs when too much fluid is retained by the body. It can be related to nutrition. To perform the test, I need to gently press my thumbs on [NAME]'s feet."					
I09	DOES CHILD HAVE EDEMA?	YES.....1 NO .....2 NOT PRESENT .....4 OTHER.....6 REFUSED 9	YES .....1 NO.....2 NOT PRESENT.....4 OTHER.....6 REFUSED 9	YES .....1 NO .....2 NOT PRESENT .....4 OTHER.....6 REFUSED 9	YES.....1 NO .....2 NOT PRESENT .....4 OTHER .....6 REFUSED.....9	YES.....1 NO.....2 NOT PRESENT .....4 OTHER .....6 REFUSED.....9
I10	WEIGHT IN KILOGRAMS: WEIGH THE CHILD	KG ☐☐☐.☐ NOT PRESENT .....9994 OTHER .....9996 REFUSED 9999	KG ☐☐☐.☐ NOT PRESENT.....9994 OTHER.....9996 REFUSED 9999	KG ☐☐☐.☐ NOT PRESENT .....9994 OTHER.....9996 REFUSED 9999	KG ☐☐☐.☐ NOT PRESENT .....9994 OTHER .....9996 REFUSED.....9999	KG ☐☐☐.☐ NOT PRESENT .....9994 OTHER .....9996 REFUSED.....9999

NO.	QUESTION	CHILD 1	CHILD 2	CHILD 3	CHILD 4	CHILD 5
I11	CHILDREN UNDER 24 MONTHS SHOULD BE MEASURED LYING DOWN; CHILDREN 24 MONTHS OR OLDER SHOULD BE MEASURED STANDING UP. HEIGHT IN CENTIMETERS: MEASURE THE CHILD	CM ☐☐☐.☐ NOT PRESENT ..... 9994 OTHER ..... 9996 REFUSED 9999	CM ☐☐☐.☐ NOT PRESENT ..... 9994 OTHER ..... 9996 REFUSED 9999	CM ☐☐☐.☐ NOT PRESENT ..... 9994 OTHER ..... 9996 REFUSED 9999	CM ☐☐☐.☐ NOT PRESENT ..... 9994 OTHER ..... 9996 REFUSED 9999	CM ☐☐☐.☐ NOT PRESENT ..... 9994 OTHER ..... 9996 REFUSED 9999
I11A	WAS THE CHILD MEASURED LYING DOWN OR STANDING UP?	LYING DOWN ..... 1 STANDING UP ..... 2 NOT MEASURED ... 6	LYING DOWN ..... 1 STANDING UP ..... 2 NOT MEASURED 6	LYING DOWN ..... 1 STANDING UP ..... 2 NOT MEASURED ... 6	LYING DOWN ..... 1 STANDING UP ..... 2 NOT MEASURED ... 6	LYING DOWN ..... 1 STANDING UP ..... 2 NOT MEASURED ... 6
	EXCLUSIVE BREASTFEEDING AND MINIMUM ACCEPTABLE DIET					
I15	CHECK QUESTION I05. IS THE CHILD UNDER 2 YEARS OF AGE?	YES ..... 1 NO ..... 2 → PROCEED TO NEXT CHILD OR END MODULE	YES ..... 1 NO ..... 2 → PROCEED TO NEXT CHILD OR END MODULE	YES ..... 1 NO ..... 2 → PROCEED TO NEXT CHILD OR END MODULE	YES ..... 1 NO ..... 2 → PROCEED TO NEXT CHILD OR END MODULE	YES ..... 1 NO ..... 2 → PROCEED TO NEXT CHILD OR END MODULE

NO.	QUESTION	CHILD 1	CHILD 2	CHILD 3	CHILD 4	CHILD 5
I16	Has [CHILD'S NAME] ever been breastfed?	YES.....1 NO.....2 DON'T KNOW.....8 REFUSED.....9 SKIP TO I18	YES .....1 NO .....2 DON'T KNOW .....8 REFUSED .....9 SKIP TO I18	YES .....1 NO .....2 DON'T KNOW .....8 REFUSED .....9 SKIP TO I18	YES.....1 NO.....2 DON'T KNOW.....8 REFUSED.....9 SKIP TO I18	YES.....1 NO.....2 DON'T KNOW.....8 REFUSED.....9 SKIP TO I18
I17	Was [CHILD'S NAME] breastfed yesterday during the day or at night?	YES.....1 → SKIP TO I19 NO.....2 DON'T KNOW.....8	YES .....1 → SKIP TO I19 NO .....2 DON'T KNOW 8	YES .....1 → SKIP TO I19 NO .....2 DON'T KNOW 8	YES.....1 → SKIP TO I19 NO.....2 DON'T KNOW.....8	YES.....1 → SKIP TO I19 NO.....2 DON'T KNOW.....8
I18	Sometimes babies are fed breast milk in different ways, for example by spoon, cup, or bottle. This can happen when the mother cannot always be with her baby. Sometimes babies are breastfed by another woman or given breast milk from another woman by spoon, cup, bottle, or some other way. This can happen if a mother cannot breastfeed her own baby. Did [CHILD'S NAME] consume breast milk in any of these ways yesterday during the day or at night?	YES.....1 NO.....2 DON'T KNOW.....8 REFUSED.....9	YES .....1 NO .....2 DON'T KNOW .....8 REFUSED 9	YES .....1 NO .....2 DON'T KNOW .....8 REFUSED 9	YES.....1 NO.....2 DON'T KNOW.....8 REFUSED.....9	YES.....1 NO.....2 DON'T KNOW.....8 REFUSED.....9
I19	Now I would like to ask you about some medicines and vitamins that are sometimes given to infants. Was [CHILD'S NAME] given any vitamin drops or other medicines as drops yesterday during the day or at night?	YES.....1 NO.....2 DON'T KNOW.....8 REFUSED.....9	YES .....1 NO .....2 DON'T KNOW .....8 REFUSED 9	YES .....1 NO .....2 DON'T KNOW .....8 REFUSED 9	YES.....1 NO.....2 DON'T KNOW.....8 REFUSED.....9	YES.....1 NO.....2 DON'T KNOW.....8 REFUSED.....9
I20	Was [CHILD'S NAME] given manzi a moyo yesterday during the day or at night?	YES.....1 NO.....2 DON'T KNOW.....8 REFUSED.....9	YES .....1 NO .....2 DON'T KNOW .....8 REFUSED 9	YES .....1 NO .....2 DON'T KNOW .....8 REFUSED 9	YES.....1 NO.....2 DON'T KNOW.....8 REFUSED.....9	YES.....1 NO.....2 DON'T KNOW.....8 REFUSED.....9
	READ THE QUESTIONS BELOW. READ THE LIST OF LIQUIDS ONE BY ONE AND MARK YES OR NO, ACCORDINGLY. Next I would like to ask you about some liquids that [CHILD'S NAME] may have had yesterday during the day or at night. Did [CHILD'S NAME] have any [ITEM FROM LIST]?:					
I21	Plain water?	YES.....1 NO.....2 DON'T KNOW.....8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES.....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8

NO.	QUESTION	CHILD 1	CHILD 2	CHILD 3	CHILD 4	CHILD 5
I22	Infant formula such as S26, Nan, Lactogen, Promil, etc.?	YES.....1 NO .....2 DON'T KNOW.....8 SKIP TO I24	YES .....1 NO .....2 DON'T KNOW .....8 SKIP TO I24	YES .....1 NO .....2 DON'T KNOW .....8 SKIP TO I24	YES.....1 NO .....2 DON'T KNOW.....8 SKIP TO I24	YES.....1 NO .....2 DON'T KNOW.....8 SKIP TO I24
I23	How many times yesterday during the day or at night did [CHILD'S NAME] consume any formula?	TIMES DON'T KNOW 98	TIMES DON'T KNOW 98	TIMES DON'T KNOW.....98	TIMES DON'T KNOW 98	TIMES DON'T KNOW 98
I24	Did [CHILD'S NAME] have any milk such as tinned, powdered, or fresh animal milk?	YES.....1 NO .....2 DON'T KNOW.....8 SKIP TO I26	YES .....1 NO .....2 DON'T KNOW .....8 SKIP TO I26	YES .....1 NO .....2 DON'T KNOW .....8 SKIP TO I26	YES.....1 NO .....2 DON'T KNOW.....8 SKIP TO I26	YES.....1 NO .....2 DON'T KNOW.....8 SKIP TO I26
I25	How many times yesterday during the day or at night did [CHILD'S NAME] consume any milk?	TIMES DON'T KNOW 98	TIMES DON'T KNOW 98	TIMES DON'T KNOW.....98	TIMES DON'T KNOW 98	TIMES DON'T KNOW 98
I26	Did [CHILD'S NAME] have any juice or juice drinks?	YES.....1 NO .....2 DON'T KNOW.....8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES.....1 NO .....2 DON'T KNOW.....8	YES.....1 NO .....2 DON'T KNOW.....8
I27	Clear broth?	YES.....1 NO .....2 DON'T KNOW.....8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES.....1 NO .....2 DON'T KNOW.....8	YES.....1 NO .....2 DON'T KNOW.....8
I28	Yogurt?	YES.....1 NO .....2 DON'T KNOW.....8 SKIP TO I30	YES .....1 NO .....2 DON'T KNOW .....8 SKIP TO I30	YES .....1 NO .....2 DON'T KNOW .....8 SKIP TO I30	YES.....1 NO .....2 DON'T KNOW.....8 SKIP TO I30	YES.....1 NO .....2 DON'T KNOW.....8 SKIP TO I30
I29	How many times yesterday during the day or at night did [CHILD'S NAME] consume any yogurt?	TIMES DON'T KNOW 98	TIMES DON'T KNOW 98	TIMES DON'T KNOW.....98	TIMES DON'T KNOW 98	TIMES DON'T KNOW 98
I30	Did [CHILD'S NAME] have any thin porridge?	YES.....1 NO .....2 DON'T KNOW.....8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES.....1 NO .....2 DON'T KNOW.....8	YES.....1 NO .....2 DON'T KNOW.....8

NO.	QUESTION	CHILD 1	CHILD 2	CHILD 3	CHILD 4	CHILD 5
I31	Any other liquids such as sugar water, thin soup made from sweet potatoes, thin soup made from pumpkins, thin soup made from groundnuts, or thin soup made from rice?	YES.....1 NO .....2 DON'T KNOW.....8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES.....1 NO.....2 DON'T KNOW.....8	YES.....1 NO .....2 DON'T KNOW.....8
I32	Any other liquids?	YES.....1 NO .....2 DON'T KNOW.....8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES.....1 NO.....2 DON'T KNOW.....8	YES.....1 NO .....2 DON'T KNOW.....8
I32A	CHECK RESPONDENT LINE NUMBER FOR MODULES H & I FOR THE RESPONDENT FOR THIS CHILD. DID THE RESPONDENT FOR THIS CHILD ALSO RESPOND TO QUESTIONS IN MODULE H?	YES.....1 NO .....2 SKIP TO I32D	YES .....1 NO .....2 SKIP TO I32D	YES .....1 NO .....2 SKIP TO I32D	YES.....1 NO.....2 SKIP TO I32D	YES.....1 NO .....2 SKIP TO I32D
I32B	CHECK QUESTION H31. HAS RESPONDENT EVER HEARD OF ORANGE MAIZE (H31 = YES (1))?	YES.....1 NO .....2 SKIP TO I32F	YES .....1 NO .....2 SKIP TO I32F	YES .....1 NO .....2 SKIP TO I32F	YES.....1 NO.....2 SKIP TO I32F	YES.....1 NO .....2 SKIP TO I32F
I32C	Earlier, I asked you about a special kind of orange maize that is sometimes called vitamin A maize. Yesterday, during the day or night, did [CHILD'S NAME] eat this special orange maize, for example, roasted or prepared as porridge?	YES.....1 NO .....2 DON'T KNOW.....8 SKIP TO I32F	YES .....1 NO .....2 DON'T KNOW .....8 SKIP TO I32F	YES .....1 NO .....2 DON'T KNOW .....8 SKIP TO I32F	YES.....1 NO.....2 DON'T KNOW.....8 SKIP TO I32F	YES.....1 NO .....2 DON'T KNOW.....8 SKIP TO I32F
I32D	Have you ever heard of a special kind of maize that is orange in color and more nutritious than other kinds of maize? This special orange maize is sometimes called vitamin A maize.	YES.....1 NO .....2 DON'T KNOW.....8 SKIP TO I32F	YES .....1 NO .....2 DON'T KNOW .....8 SKIP TO I32F	YES .....1 NO .....2 DON'T KNOW .....8 SKIP TO I32F	YES.....1 NO.....2 DON'T KNOW.....8 SKIP TO I32F	YES.....1 NO .....2 DON'T KNOW.....8 SKIP TO I32F
I32E	Yesterday, during the day or night, did [CHILD'S NAME] eat this special orange maize, for example, roasted or prepared as porridge?	YES.....1 NO .....2 DON'T KNOW.....8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES.....1 NO.....2 DON'T KNOW.....8	YES.....1 NO .....2 DON'T KNOW.....8

NO.	QUESTION	CHILD 1	CHILD 2	CHILD 3	CHILD 4	CHILD 5
I32F	CHECK RESPONDENT LINE NUMBER FOR MODULES H & I FOR THE RESPONDENT FOR THIS CHILD. DID THE RESPONDENT FOR THIS CHILD ALSO RESPOND TO QUESTIONS IN MODULE H?	YES.....1 NO .....2 → SKIP TO I32I	YES .....1 NO .....2 → SKIP TO I32I	YES .....1 NO .....2 → SKIP TO I32I	YES.....1 NO.....2 → SKIP TO I32I	YES.....1 NO .....2 → SKIP TO I32I
I32G	CHECK QUESTION H36. HAS RESPONDENT EVER HEARD OF ORANGE-FLESHED SWEET POTATO (H36 = YES (1))?	YES.....1 NO .....2 → SKIP TO CHILD DIETARY INTAKE RECALL	YES .....1 NO .....2 → SKIP TO CHILD DIETARY INTAKE RECALL	YES .....1 NO .....2 → SKIP TO CHILD DIETARY INTAKE RECALL	YES.....1 NO.....2 → SKIP TO CHILD DIETARY INTAKE RECALL	YES.....1 NO .....2 → SKIP TO CHILD DIETARY INTAKE RECALL
I32H	Earlier, I asked you about a special kind of orange-fleshed sweet potato that is sometimes called vitamin A sweet potato. Yesterday, during the day or night, did [CHILD'S NAME] eat this special orange-fleshed sweet potato, for example, roasted or in a stew?	YES.....1 NO .....2 DON'T KNOW.....8 → SKIP TO CHILD DIETARY INTAKE RECALL	YES .....1 NO .....2 DON'T KNOW ..... 8 → SKIP TO CHILD DIETARY INTAKE RECALL	YES .....1 NO .....2 DON'T KNOW ..... 8 → SKIP TO CHILD DIETARY INTAKE RECALL	YES.....1 NO.....2 DON'T KNOW.....8 → SKIP TO CHILD DIETARY INTAKE RECALL	YES.....1 NO .....2 DON'T KNOW.....8 → SKIP TO CHILD DIETARY INTAKE RECALL
I32I	Have you ever heard of a special kind of sweet potato that is orange in color and more nutritious than other kinds of sweet potatoes? This special orange-fleshed sweet potato is sometimes called vitamin A sweet potato.	YES.....1 NO .....2 DON'T KNOW.....8 → SKIP TO CHILD DIETARY INTAKE RECALL	YES .....1 NO .....2 DON'T KNOW ..... 8 → SKIP TO CHILD DIETARY INTAKE RECALL	YES .....1 NO .....2 DON'T KNOW ..... 8 → SKIP TO CHILD DIETARY INTAKE RECALL	YES.....1 NO.....2 DON'T KNOW.....8 → SKIP TO CHILD DIETARY INTAKE RECALL	YES.....1 NO .....2 DON'T KNOW.....8 → SKIP TO CHILD DIETARY INTAKE RECALL
I32J	Yesterday, during the day or night, did [CHILD'S NAME] eat this special orange-fleshed sweet potato, for example, roasted or in a stew?	YES.....1 NO .....2 DON'T KNOW.....8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES.....1 NO.....2 DON'T KNOW.....8	YES.....1 NO .....2 DON'T KNOW.....8

CHILD DIETARY INTAKE RECALL

Now I'd like to ask you to describe everything that [CHILD'S NAME] ate yesterday during the day or night, whether [he/she] ate it while at home, or while somewhere else.

A) Think about when [CHILD'S NAME] first woke up yesterday. Did [CHILD'S NAME] eat anything at that time?
IF YES: Please tell me everything [child's name] ate at that time. PROBE: Anything else? CONTINUE TO PROBE UNTIL RESPONDENT SAYS "NOTHING ELSE." THEN CONTINUE TO PART B).
IF NO, CONTINUE TO PART B).

B) What did [CHILD'S NAME] do after that? Did [CHILD'S NAME] eat anything at that time?
IF YES: Please tell me everything [CHILD'S NAME] ate at that time. PROBE: Anything else? CONTINUE TO PROBE UNTIL RESPONDENT SAYS "NOTHING ELSE."
REPEAT QUESTION B) UNTIL THE RESPONDENT SAYS THE CHILD WENT TO SLEEP UNTIL THE NEXT DAY.

IF RESPONDENT MENTIONS MIXED DISHES LIKE A PORRIDGE, SAUCE, OR STEW, PROBE:
C) What ingredients were in that [MIXED DISH]? PROBE: Anything else? CONTINUE TO PROBE UNTIL RESPONDENT SAYS "NOTHING ELSE."

AS THE RESPONDENT RECALLS FOODS, UNDERLINE THE CORRESPONDING FOOD AND ENTER '1' IN THE RESPONSE BOX NEXT TO THE FOOD GROUP. IF THE FOOD IS NOT LISTED IN ANY OF THE FOOD GROUPS BELOW, WRITE THE FOOD IN THE BOX LABELED 'OTHER FOODS.' IF FOODS ARE USED IN SMALL AMOUNTS FOR SEASONING OR AS A CONDIMENT, INCLUDE THEM UNDER THE CONDIMENTS FOOD GROUP.

ONCE THE RESPONDENT FINISHES RECALLING FOODS EATEN, READ EACH FOOD GROUP WHERE '1' WAS NOT ENTERED IN THE RESPONSE BOX, ASK THE FOLLOWING QUESTION AND ENTER '1' IF RESPONDENT SAYS YES, '0' IF NO, AND '8' IF DON'T KNOW:
Yesterday, during the day or night, did [CHILD'S NAME] drink/eat any [FOOD GROUP ITEMS]?

NO.	QUESTION	CHILD 1	CHILD 2	CHILD 3	CHILD 4	CHILD 5
	OTHER FOODS: PLEASE WRITE DOWN OTHER FOODS (TO THE RIGHT OF THIS BOX) THAT RESPONDENT MENTIONED BUT ARE NOT IN THE LIST BELOW. THIS WILL ALLOW THE SURVEY SUPERVISOR OR OTHER KNOWLEDGEABLE INDIVIDUAL TO CLASSIFY THE FOOD LATER.	WRITE FOODS MENTIONED HERE:	WRITE FOODS MENTIONED HERE:	WRITE FOODS MENTIONED HERE:	WRITE FOODS MENTIONED HERE:	WRITE FOODS MENTIONED HERE:
I33	Food made from grains, such as bread, rice, or noodles; dry corn, porridge such as nshima, or maize-based drinks such as munkoyo, chibuku beer, opaque maize beer, tobwa, or maheu?	YES.....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8
I34	Any foods that are yellow or orange inside such as pumpkin, carrots, red pepper, or squash including dishes made with these foods such as stew or other local dishes?	YES.....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8
I35	White potatoes, white sweet potatoes, white yams, manioc, cassava, other local root crops such as ubusala or mumbu, or any other foods made from roots?	YES.....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8
I36	Any local dark green leafy vegetables such as amaranthus, nightshade, spider plant, black jack, or moringa leaves?	YES.....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8

NO.	QUESTION	CHILD 1	CHILD 2	CHILD 3	CHILD 4	CHILD 5
I36A	Any other dark green leafy vegetables such as kale, spinach, pumpkin leaves, cassava leaves, sweet potato leaves, cowpea leaves, bean leaves, rape, Chinese cabbage, or other dark green leafy vegetables?	YES.....1 NO.....2 DON'T KNOW.....8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8
I36B	Any other vegetables such as okra, cabbage, onion, tomatoes?	YES.....1 NO.....2 DON'T KNOW.....8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8
I37	Ripe mangoes, ripe papayas, apricots, passionfruit, or wild loquat?	YES.....1 NO.....2 DON'T KNOW.....8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8
I37A	Any other fruits such as guava, banana, apple, grapes, watermelon, or oranges?	YES.....1 NO.....2 DON'T KNOW.....8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8
I38	Any liver, kidney, heart, or other organ meats from domesticated animals such as beef, pork, lamb, goat, chicken, or duck?	YES.....1 NO.....2 DON'T KNOW.....8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8
I38A	Any meat from domesticated animals, such as beef, pork, lamb, goat, chicken, or duck?	YES.....1 NO.....2 DON'T KNOW.....8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8
I39	Any liver, kidney, heart, or other organ meats from wild animals such as elephant, buffalo, hippo, rhino, duiker, hare, or mice?	YES.....1 NO.....2 DON'T KNOW.....8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8
I39A	Any flesh from wild animals, such as elephant, buffalo, hippo, rhino, duiker, hare, or mice?	YES.....1 NO.....2 DON'T KNOW.....8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8
I41	Eggs?	YES.....1 NO.....2 DON'T KNOW.....8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8
I42	Fresh or dried fish, shellfish, or seafood?	YES.....1 NO.....2 DON'T KNOW.....8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8
I43	Any soybeans or dishes made with soybeans such as soymilk, nyamasoya, soya chunks, high energy protein supplements, or other soy foods?	YES.....1 NO.....2 DON'T KNOW.....8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8
I43A	Any pigeon peas or dishes made with pigeon peas such as nyandolo?	YES.....1 NO.....2 DON'T KNOW.....8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8
I43B	Any cowpeas or dishes made with cow peas such as nyemba?	YES.....1 NO.....2 DON'T KNOW.....8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8
I43C	Any groundnuts or foods made from groundnuts such as chalimbana groundnuts, peanut butter, or groundnut porridge?	YES.....1 NO.....2 DON'T KNOW.....8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8

NO.	QUESTION	CHILD 1	CHILD 2	CHILD 3	CHILD 4	CHILD 5
I43D	Any other beans, peas, or lentils, such as kabulangeti beans, or bambara nuts, or dishes made from other beans, peas or lentils?	YES.....1 NO.....2 DON'T KNOW.....8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8
I43E	Any nuts, such as cashews, or seeds such as pumpkin seeds, avocado seeds, sunflower seeds, or watermelon seeds, or any foods made from nuts or seeds?	YES.....1 NO.....2 DON'T KNOW.....8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8
I44	Cheese, yogurt, or other milk products?	YES.....1 NO.....2 DON'T KNOW.....8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8
I45	Any oil, fats, or butter, or foods made with any of these?	YES.....1 NO.....2 DON'T KNOW.....8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8
I46	Any sugary foods such as chocolates, sweets, candies, pastries, cakes, or biscuits?	YES.....1 NO.....2 DON'T KNOW.....8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8
I47	Condiments for flavor, such as chilies, spices, herbs, fish powder or salt?	YES.....1 NO.....2 DON'T KNOW.....8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8
I48	Grubs, snails or insects such as caterpillars, flying ants like inswa or mafulufute, or grasshoppers?	YES.....1 NO.....2 DON'T KNOW.....8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8
I49	Foods made with red palm oil, red palm nut, or red palm nut pulp sauce?	YES.....1 NO.....2 DON'T KNOW.....8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO .....2 DON'T KNOW 8	YES .....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8

NO.	QUESTION	CHILD 1	CHILD 2	CHILD 3	CHILD 4	CHILD 5
	CHECK CATEGORIES 33-49 IF ALL 'NO,' GO TO I50 IF AT LEAST ONE 'YES' OR ALL 'DON'T KNOW,' GO TO I51					
I50	Did [CHILD'S NAME] eat any solid, semi-solid, or soft foods yesterday during the day or at night? IF 'YES' PROBE: What kind of solid, semi-solid, or soft foods did [CHILD'S NAME] eat?	YES........................1 GO BACK TO I33–I49 AND RECORD FOODS EATEN. THEN CONTINUE WITH I51. NO..........................2 DON'T KNOW.......8 PROCEED TO NEXT CHILD OR END MODULE	YES........................1 GO BACK TO I33–I49 AND RECORD FOODS EATEN. THEN CONTINUE WITH I51. NO ....2 DON'T KNOW.......8 PROCEED TO NEXT CHILD OR END MODULE	YES .... 1 GO BACK TO I33–I49 AND RECORD FOODS EATEN. THEN CONTINUE WITH I51. NO .... 2 DON'T KNOW ...... 8 PROCEED TO NEXT CHILD OR END MODULE	YES .... 1 GO BACK TO I33–I49 AND RECORD FOODS EATEN. THEN CONTINUE WITH I51. NO........................ 2 DON'T KNOW...... 8 PROCEED TO NEXT CHILD OR END MODULE	YES........................1 GO BACK TO I33–I49 AND RECORD FOODS EATEN. THEN CONTINUE WITH I51. NO..........................2 DON'T KNOW.......8 PROCEED TO NEXT CHILD OR END MODULE
I51	How many times did [child's name] eat solid, semi-solid, or soft foods other than liquids yesterday during the day or at night?	[ ][ ] TIMES DON'T KNOW 98	[ ][ ] TIMES DON'T KNOW 98	[ ][ ] TIMES DON'T KNOW.....98	[ ][ ] TIMES DON'T KNOW.....98	[ ][ ] TIMES DON'T KNOW 98

CONCLUDE THE INTERVIEW:

"Thank you very much for your time in responding to this survey. Your contributions are greatly appreciated."

Annex 1. Events Calendar for Zambia

The purpose of this event calendar template is to assist in ascertaining dates of birth (month and year) for children identified as age 6 or under in the household roster.

Month	Event/Festival	2010	2011	2012	2013	2014	2015
January	New Year's Day	1-Jan	1-Jan	1-Jan	1-Jan	1-Jan	1-Jan
	The new currency becomes legal tender (Currency is rebased)				1-Jan		
	Edgar Lungu is inaugurated as Zambia's sixth president						25-Jan
February	Bus operated by the postal service was involved in accident in which at least 53 people were killed				7-Feb		
	The Zambia national football team wins the African Cup of Nations Final after beating Ivory coast in Libreville, Gabon			12-Feb			
	Valentine's Day	14-Feb	14-Feb	14-Feb	14-Feb	14-Feb	14-Feb
	N'CWALA festival of the Ngoni people of Eastern province is held	24-Feb	24 Feb	24-Feb	24-Feb	24-Feb	24-Feb
March	International Women's Day	8-Mar	8-Mar	8-Mar	8-Mar	8-Mar	8-Mar
	Youth Day	12-Mar	12-Mar	12-Mar	12-Mar	12-Mar	12-Mar
	Good Friday				29-Mar		
	Holy Saturday				30-Mar		
	Easter Sunday				31-Mar		
April	Good Friday	2-Apr	22-Apr	6-Apr		18-Apr	3-Apr
	Holy Saturday	3-Apr	23-Apr	7-Apr		19-Apr	4-Apr
	Easter Sunday	4-Apr	24-Apr	8-Apr		20-Apr	5-Apr
	Easter Monday	5-Apr	25-Apr	9-Apr	1-Apr	21-Apr	6-Apr
May	Labour Day	1-May	1-May	1-May	1-May	1-May	1-May
	Africa Freedom Day	25-May	25-May	25-May	25-May	25-May	25-May
June	Former President Frederick Chiluba dies		18-Jun				
July	Heroes' Day	5-Jul	4-Jul	2-Jul	1-Jul	7-Jul	7-Jul
	Unity Day	6-Jul	5-Jul	3-Jul	2-Jul	8-Jul	6-Jul
August	Farmer's Day	4 Aug	4 Aug	4 Aug	4 Aug	4 Aug	4 Aug
	Kulamba traditional ceremony of the Chewa people	28 Aug	27 Aug	25 Aug	30 Aug	30 Aug	
September	Michael Sata is sworn in as Zambia's Fifth Republican President		23-Sep				
October	Independence celebrations	24-Oct	24-Oct	24-Oct	24-Oct	24-Oct	24-Oct
October	President Michael Sata dies					28-Oct	
November	Dozens of Zambian separatists appeared in court on charges of treason for trying to create a new state called Barotseland in the west of the country				1-Nov		
December	Christmas Day Celebrations	25 Dec	25 Dec	25 Dec	25 Dec	25 Dec	25 Dec

Annex 2. Age/Birth Date Consistency Chart for Survey in 2015

The purpose of this chart is to check the consistency of reported ages and dates, and to help resolve any apparent inconsistencies. Please refer to the Interviewer's Manual for instructions on how to use the chart.

AGE/BIRTH-DATE CONSISTENCY CHART FOR SURVEY IN 2015

Current	Year of birth			Current	Year of birth	
Age	Has not had birthday in	Has already had birthday in		Age	Has not had birthday in	Has already had birthday in
	2015	2015			2015	2015
	Don't know				Don't know	
0	2014	--		30	1984	1985
1	2013	2014		31	1983	1984
2	2012	2013		32	1982	1983
3	2011	2012		33	1981	1982
4	2010	2011		34	1980	1981
5	2009	2010		35	1979	1980
6	2008	2009		36	1978	1979
7	2007	2008		37	1977	1978
8	2006	2007		38	1976	1977
9	2005	2006		39	1975	1976
10	2004	2005		40	1974	1975
11	2003	2004		41	1973	1974
12	2002	2003		42	1972	1973
13	2001	2002		43	1971	1972
14	2000	2001		44	1970	1971
15	1999	2000		45	1969	1970
16	1998	1999		46	1968	1969
17	1997	1998		47	1967	1968
18	1996	1997		48	1966	1967
19	1995	1996		49	1965	1966
20	1994	1995		50	1964	1965
21	1993	1994		51	1963	1964
22	1992	1993		52	1962	1963
23	1991	1992		53	1961	1962
24	1990	1986		54	1960	1961
25	1989	1990		55	1959	1960
26	1988	1989		56	1958	1959
27	1987	1988		57	1957	1958
28	1986	1987		58	1956	1957
29	1985	1986		59	1955	1956

Annex 4. Informed Consent Form for Respondents Answering Module F Who Were Not Consented for Prior Modules

STATEMENT TO BE READ TO THE RESPONDENT:
Thank you for the opportunity to speak with you. We are a research team from Palm Associates. We are conducting a survey to learn about agriculture, food security, food consumption, nutrition and wellbeing of households in this area. Your household has been selected to participate in an interview that includes questions on topics such as your family background, dwelling characteristics, household expenditures and assets, food consumption and nutrition of women and children. This part of the survey includes questions about availability of food in the household. The questions for this part of the survey will take about 5 minutes to complete. If additional questions are relevant for you to answer, the interview in total will take approximately 1-2 hours to complete. Your participation is entirely voluntary. If you agree to participate, you can choose to stop at any time or skip any questions you do not want to answer. Your answers will be completely confidential; we will not share information that identifies you with anyone. After entering the questionnaire into a data base, we will destroy all information such as your name that could link these responses to you.

Do you have any questions about the survey or what I have said? If in the future you have any questions regarding the survey or the interview, or concerns or complaints we welcome you to contact Palm Associates, by calling +260977722280. We will leave a copy of this statement and our organization's complete contact information with you so that you may contact us at any time.

Do you have any questions?
May I begin the interview now?

SIGNATURE OF INTERVIEWER: _____

DATE: _____

RESPONDENT AGREES TO BE INTERVIEWED….1 ⟶ CONTINUE WITH MODULE F:

RESPONDENT DOES NOT AGREE TO BE INTERVIEWED…….2 ⟶ END. "Thank you very much for your time."

Annex 5. Informed Consent Form for Respondents Answering Module G Who Were Not Consented for Prior Modules

STATEMENT TO BE READ TO THE RESPONDENT:
Thank you for the opportunity to speak with you. We are a research team from Palm Associates. We are conducting a survey to learn about agriculture, food security, food consumption, nutrition and wellbeing of households in this area. Your household has been selected to participate in an interview that includes questions on topics such as your family background, dwelling characteristics, household expenditures and assets, food consumption and nutrition of women and children. This part of the survey includes questions on how you make decisions about the work you do, and how you spend your time during the day. The questions for this part of the survey will take about 30 minutes to complete. If additional questions are relevant for you to answer, the interview in total will take approximately 1-2 hours to complete. Your participation is entirely voluntary. If you agree to participate, you can choose to stop at any time or skip any questions you do not want to answer. Your answers will be completely confidential; we will not share information that identifies you with anyone. After entering the questionnaire into a data base, we will destroy all information such as your name that could link these responses to you.

Do you have any questions about the survey or what I have said? If in the future you have any questions regarding the survey or the interview, or concerns or complaints we welcome you to contact Palm Associates, by calling +260977722280. We will leave a copy of this statement and our organization's complete contact information with you so that you may contact us at any time.

Do you have any questions?
May I begin the interview now?

SIGNATURE OF INTERVIEWER: _____

DATE: _____

RESPONDENT AGREES TO BE INTERVIEWED….1 ⟶ CONTINUE WITH MODULE G:

RESPONDENT DOES NOT AGREE TO BE INTERVIEWED…….2 ⟶ END. "Thank you very much for your time."

Annex 6. Informed Consent Form for Respondents Answering Module H (Women 15-49) Who Were Not Consented for Prior Modules

STATEMENT TO BE READ TO THE RESPONDENT:
Thank you for the opportunity to speak with you. We are a research team from Palm Associates. We are conducting a survey to learn about agriculture, food security, food consumption, nutrition and wellbeing of households in this area. Your household has been selected to participate in an interview that includes questions on topics such as your family background, dwelling characteristics, household expenditures and assets, food consumption and nutrition of women and children. This part of the survey includes questions on the kinds of foods you eat, and your nutritional status, including measurement of your weight and height. The questions for this part of the survey will take about 20 minutes to complete. Your participation is entirely voluntary. If you agree to participate, you can choose to stop at any time or skip any questions you do not want to answer. Your answers will be completely confidential; we will not share information that identifies you with anyone. After entering the questionnaire into a data base, we will destroy all information such as your name that could link these responses to you.

Do you have any questions about the survey or what I have said? If in the future you have any questions regarding the survey or the interview, or concerns or complaints we welcome you to contact Palm Associates, by calling +260977722280. We will leave a copy of this statement and our organization's complete contact information with you so that you may contact us at any time.

Do you have any questions?
May I begin the interview now?

SIGNATURE OF INTERVIEWER: _____

DATE: _____

RESPONDENT AGREES TO BE INTERVIEWED….1 ⟶ CONTINUE WITH MODULE H:

RESPONDENT DOES NOT AGREE TO BE INTERVIEWED…….2 ⟶ END. "Thank you very much for your time."

Annex 7. Informed Consent Form for Parents or Primary Caregivers of Children Eligible for Module I (Children 0-59 Months)

STATEMENT TO BE READ TO THE RESPONDENT:
Thank you for the opportunity to speak with you. We are a research team from Palm Associates. We are conducting a survey to learn about agriculture, food security, food consumption, nutrition and wellbeing of households in this area. Your household has been selected to participate in an interview that includes questions on topics such as your family background, dwelling characteristics, household expenditures and assets, food consumption and nutrition of women and children. This part of the survey includes questions on the kinds of foods your child eats, and [his/her/their] nutritional status, including measurement of [his/her/their] weight and height. The questions for this part of the survey will take about 20 minutes to complete per child. Your participation is entirely voluntary. If you agree to participate, you can choose to stop at any time or skip any questions you do not want to answer. Your answers will be completely confidential; we will not share information that identifies you with anyone. After entering the questionnaire into a data base, we will destroy all information such as your name that could link these responses to you.

Do you have any questions about the survey or what I have said? If in the future you have any questions regarding the survey or the interview, or concerns or complaints we welcome you to contact Palm Associates, by calling +260977722280. We will leave a copy of this statement and our organization's complete contact information with you so that you may contact us at any time.

Do you have any questions?
May I begin the interview now?

SIGNATURE OF INTERVIEWER: _____

DATE: _____

RESPONDENT AGREES TO BE INTERVIEWED….1 ⟶ CONTINUE WITH MODULE I:

RESPONDENT DOES NOT AGREE TO BE INTERVIEWED…….2 ⟶ END. "Thank you very much for your time."

Annex 8. Informed Consent Register

INTERVIEWER INSTRUCTIONS: KEEP THIS SHEET IN A SECURE PLACE SO YOU CAN EASILY AND QUICKLY IDENTIFY ELIGIBLE RESPONDENTS FOR DIFFERENT PARTS OF THE SURVEY AND CONFIRM THAT RESPONDENTS HAVE PROVIDED INFORMED CONSENT. USE THE COLUMN FOR INTERVIEWER NOTES TO ADD COMMENTS, REMINDERS, QUESTIONS, OR CONCERNS.

INFORMED CONSENT REGISTER – ZAMBIA

Line Number	First and Last Name	Age	Sex	Interviewer Notes