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

Feed the Future Rwanda 2014-2015

Zone of Influence Interim Assessment Report

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FROM THE AMERICAN PEOPLE

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Table of Contents

Contents (continued)

List of Appendixes

List of Tables

List of Tables (continued)

List of Figures

List of Acronyms

5DE	Five Domains of Empowerment
BFS	Bureau for Food Security
BMI	Body Mass Index
CAADP	Comprehensive Africa Agriculture Development Programme
CESS	Centre for Economic and Social Studies
CI	Confidence Interval
COLI	Cost of Living Index
CPI	Consumer Price Index
DEFF	Design Effect
DHS	Demographic and Health Survey
EA	Enumeration Area
EICV3	Integrated Household Living Conditions Survey, 2011
EICV4	Integrated Household Living Conditions Survey, 2013-2014 Enquête Intégrale sur les Conditions de Vie des Ménages 2013-2014
FANTA	Food and Nutrition Technical Assistance Project
FTF FEEDBACK	Feed the Future FEEDBACK
GOR	Government of Rwanda
GPI	Gender Parity Index
HHS	Household Hunger Scale
IF	Iron Biofortified
IFPRI	International Food Policy Research Institute
LSMS	Living Standards Measurement Survey
MAD	Minimum Acceptable Diet
MDD-W	Women's Minimum Dietary Diversity
MDG	Millennium Development Goals
MOH	Ministry of Health
NISR	National Institute of Statistics of Rwanda
NRVCC	Nutrient-Rich Value Chain Commodity
PPP	Purchasing Power Parity
PSTA-II	Strategic Plan for the Transformation of Agriculture
RWF	Rwandan Francs
SD	Standard Deviation
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
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 (PBS) 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 Rwanda.

In Rwanda, the ZOI covers the entire country excluding Kigali, encompassing rural, peri-urban and urban areas in 27 districts out of a total of 30. The ZOI includes four provinces – Northern, Southern, Eastern, and Western. The ZOI excludes only the three districts that comprise Kigali City province (Gasabo, Kicukiro, and Nyarugenge districts). A total of 1,080 households in the ZOI were interviewed for which Feed the Future FEEDBACK (FTF FEEDBACK) collected data. These households were spread across 54 clusters in the targeted districts.

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 regarding short-term progress of Feed the Future indicators within USAID/Rwanda's 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.[1]

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 three sources: the Rwanda ZOI Interim Survey (data collection from December 29, 2014 to January 24, 2015), the Integrated Household Living Conditions Survey/Enquête Intégrale sur les Conditions de Vie des Ménages (EICV4) (data collection from October 2013 to October 2014), and the Demographic Health Survey (DHS) (data collection from November 2014 to April 2015).

The Rwanda ZOI Interim Survey was conducted by FTF FEEDBACK in conjunction with its data collection partner, Centre for Economic and Social Studies (CESS). Fieldwork for the ZOI interim survey took place between December 29, 2014 and January 24, 2015.

Summary of Key Findings

Household Economic Status

The Rwanda interim assessment shows that average daily per capita expenditures in the ZOI is $1.64 (2010 USD). The prevalence of poverty, defined as the percentage of people living below $1.25 per day (2005 purchasing power parity [PPP]), is 62.0 percent. The depth of poverty (the mean percent shortfall relative to the $1.25 per day poverty line) is 23.2 percent. The

[1] Although the interim assessments were not intended to present comparisons over time, for a subset of indicators shown below in Table ES.1 significance tests were conducted to compare baseline and interim estimates. These indicators include *Daily per capita expenditures*, *Prevalence of poverty*, *Depth of poverty*, *Prevalence of stunted children under 5 years of age*, *Prevalence of wasted children under 5 years of age*, and *Prevalence of underweight children under 5 years of age*. The baseline/interim significance test results are discussed in the "Measuring Changing Over Time" section below.

comparable baseline values were $1.51 (2010 USD), 67.0 percent, and 27.3 percent, respectively.

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. **Table ES.2**, on page xiv, is the Feed the Future ZOI indicator estimates table for the three indicators for which the baseline sample design excluded urban areas; these indicators include WEAI, Household Hunger and Women's Dietary Diversity. This table shows indicator estimates for "Rural Baseline," "Rural Interim" (for comparison to the baseline estimates), and "All Interim" (both rural and urban, the full ZOI). In Table ES.2, the "All Interim" WEAI uncensored headcounts with the highest levels of surveyed women's achievement include control over the use of income (99.4 percent), input in productive decisions (96.2 percent), and ownership of assets (95.8 percent). The WEAI uncensored headcount with the lowest level of achievement among primary adult female decisionmakers is workload (47.2 percent).[2]

Hunger and Dietary Intake

Table ES.2, specifically the "All Interim" trio of columns shown on the right side of the table, shows that the prevalence of households in the Rwanda ZOI with moderate or severe hunger is 32.2 percent — nearly one in every three households in the ZOI experiences hunger. This table also shows that 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 years), is 3.95 food groups. Women of reproductive age in the Rwanda ZOI consumed nearly four of the nine food groups in the prior 24 hours. At baseline, rural women consumed 3.34 food groups; the comparable interim estimate (for rural women only) was 3.86 food groups. For additional context, the interim WDDS estimate in the Uganda ZOI was 3.70 food groups.

Table ES.1 on pages xii-xiii, which is the ZOI indicator estimates table for all indicators other than women's dietary diversity score (WDDS), household hunger, and WEAI, shows that the prevalence of exclusive breastfeeding among children under 6 months is 86.3 percent; the great majority of all infants in the Rwanda ZOI were exclusively breastfed in the prior day. Among children 6-23 months, however, only 16.5 percent received a MAD in the prior day.

[2] As noted in the footnotes in Table ES.2, interim estimates for the full ZOI (including both rural and urban areas) are found in the far right set of columns (labeled "All Interim"). Footnotes 1-3 in the table explain that baseline estimates (shown in the far left set of columns, labeled "Rural Baseline") excluded urban areas. Therefore, a set "Rural Interim" estimates is presented in the middle set of columns in Table ES.2. These "Rural Interim" estimates are comparable to the "Rural Baseline" estimates because both sets of estimates exclude urban EAs (and include only rural and peri-urban EAs); these comparisons are discussed further below in the Executive Summary, when discussing change in indicator estimates over time.

Table ES.1 also presents the targeted NRVCC for women age 15-49 in the Rwanda ZOI; the Rwandan NRVCC foods are chicken, milk and milk products, and iron-fortified (IF) beans. For children, however, data on consumption of IF beans were not collected; the targeted NRVCC for children 6-23 months in the Rwanda ZOI are chicken and milk/milk products (see Chapter 6 for more detail).

Among women of reproductive age in the Rwanda ZOI, 19.2 percent consumed at least one of the three NRVCC foods in the prior day, with milk or milk products most commonly consumed (17.3 percent of women), followed distantly by chicken (only 1.4 percent of women), and IF beans (1.2 percent).

Table ES.1. Feed the Future zone of influence indicator estimates: Rwanda

Feed the Future indicator	Baseline (2012-2013)			Interim (2014-2015)		
	Estimate	95% CI[1,2]	n	Estimate	95% CI	n
Daily per capita expenditures (as a proxy for income) in USG-assisted areas (2010 USD) (2011-2012, 2013-2014)[3]						
All households*	1.51	1.42-1.61	12,960	1.64	1.56-1.71	13,056
Male and female adults	1.50	1.40-1.61	10,170	1.63	1.55-1.70	10,301
Female adult(s) only	1.28	1.20-1.35	2,255	1.33	1.27-1.39	2,146
Male adult(s) only	3.70	3.07-4.34	523	3.87	3.38-4.35	594
Prevalence of Poverty: Percent of people living on less than $1.25/day (2005 PPP) (2011-2012, 2013-2014)[3]						
All households***	67.0	65.3-68.6	12,960	62.0	60.7-63.3	13,056
Male and female adults***	66.9	65.1-68.7	10,170	61.6	60.2-63.0	10,301
Female adult(s) only	71.5	69.2-73.9	2,255	70.1	67.7-72.4	2,146
Male adult(s) only	37.3	31.8-42.8	523	32.2	27.1-37.8	594
Depth of Poverty: Mean percent shortfall relative to the $1.25/day (2005 PPP) poverty line (2011-2012, 2013-2014)[3]						
All households***	27.3	26.4-28.2	12,960	23.2	22.5-23.9	13,056
Male and female adults***	27.1	26.1-28.1	10,170	22.7	22.0-23.4	10,301
Female adult(s) only	30.9	29.5-32.3	2,255	29.0	27.6-30.4	2,146
Male adult(s) only	12.7	10.3-15.1	523	11.1	8.8-13.3	594
Prevalence of exclusive breastfeeding among children under 6 months of age (2010-2011, 2014-2015)[3]						
All children	86.5	83.4-89.5	628	86.3	83.0-89.0	615
Male children	83.8	79.3-88.4	311	87.1	82.4-90.6	314
Female children	89.0	85.4-92.7	317	85.5	80.8-89.2	301

Table ES.1. Feed the Future zone of influence indicator estimates: Rwanda (continued)

Feed the Future indicator	Baseline (2012-2013)			Interim (2014-2015)		
	Estimate	95% CI[1,2]	n	Estimate	95% CI	n
Prevalence of children 6-23 months receiving a minimum acceptable diet (2010-2011, 2014-2015)[3]						
All children	17.3	17.3-19.1	2,087	16.5	14.9-18.2	2,102
Male children	17.2	14.8-19.6	1,016	16.4	14.2-18.9	1,058
Female children	17.4	14.8-19.9	1,071	16.5	14.3-19.1	1,044
Prevalence of women of reproductive age who consume targeted nutrient-rich value chain commodities (n/a, 2014-2015)[3,4]						
Chicken: All women age 15-49	n/a	n/a	n/a	1.4	0.8-2.8	1,155
Milk and milk products: All women age 15-49	n/a	n/a	n/a	17.3	13.9-21.2	1,155
IF beans: All women age 15-49	n/a	n/a	n/a	1.2	0.5-2.6	1,155
Prevalence of women of reproductive age who consume at least one targeted nutrient-rich value chain commodity (n/a, 2014-2015)[3,4]						
All women age 15-49	n/a	n/a	n/a	19.2	15.7-23.4	1,155
Prevalence of children 6-23 months who consume targeted nutrient-rich value chain commodities (n/a, 2014-2015)[3,4]						
Chicken: All children	n/a	n/a	n/a	2.7	1.0-7.1	229
Milk and milk products: All children	n/a	n/a	n/a	38.0	29.2-47.5	229
Prevalence of children 6-23 months who consume at least one targeted nutrient-rich value chain commodity (n/a, 2014-2015)[3,4]						
All children	n/a	n/a	n/a	38.2	29.4-47.9	229
Male children	n/a	n/a	n/a	39.8	29.8-50.8	121
Female children	n/a	n/a	n/a	36.4	25.0-49.6	108
Prevalence of underweight women (2010-2011, 2014-2015)[3]						
All non-pregnant women age 15-49	7.4	6.6-8.3	5,489	6.8	6.1-7.5	5,199
Prevalence of stunted children under 5 years of age (2010-2011, 2014-2015)[3]						
All children***	46.3	44.3-48.3	3,864	39.7	37.8-41.6	3,352
Male children*	49.4	46.8-51.9	1,934	44.5	41.9-47.1	1,706
Female children***	43.3	40.7-45.8	1,930	34.9	32.5-37.3	1,646
Prevalence of wasted children under 5 years of age (2010-2011, 2014-2015)[3]						
All children	2.7	2.1-3.2	3,864	2.2	1.8-2.7	3,352
Male children	3.1	2.3-4.0	1,934	2.3	1.7-3.1	1,706
Female children	2.2	1.5-2.9	1,930	2.1	1.5-3.0	1,646
Prevalence of underweight children under 5 years of age (2010-2011, 2014-2015)[3]						
All children*	11.8	10.7-13.0	3,864	9.8	8.8-10.9	3,352
Male children**	13.0	11.4-14.6	1,934	9.8	8.4-11.4	1,706
Female children	10.7	9.2-12.1	1,930	9.8	8.5-11.4	1,646

n/a – Not available.

[1] 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. For the following indicators, it cannot be concluded that there are significant differences in estimates over time: *Prevalence of exclusive breastfeeding, Prevalence of MAD,* and *Prevalence of underweight women*.

[2] Significance tests were run to compare the baseline and interim estimates for *Daily per capita expenditures*, *Prevalence of poverty*, *Depth of poverty*, *Prevalence of stunted children under 5 years of age, Prevalence of wasted children under 5 years of age, and Prevalence of underweight children under 5 years of age.* The level of significance is noted to the right of each indicator: * p<0.05, ** p<0.01, *** p<0.001.

[3] Dates in parentheses indicate when baseline and interim data were collected for each indicator. Because different data sources were used for different indicators, these dates vary.

[4] The indicators for women's and children's consumption of targeted NRVCC were not collected during the baseline round of data collection. In Rwanda, women have three NRVCCs (chicken, milk/milk products, and IF beans). Unlike standard NRVCC indicators, the IF beans indicator was collected through a series of knowledge and practice questions in Module H (e.g., *ever heard, ever consumed, consumed in prior day*). For children, no data on consumption of IF beans were collected, and thus children have only two NRVCC indicators (chicken, and milk/milk products). Therefore the children's "at least one" NRVCC indicator measures consumption of one or more of *two* NRVCCs, whereas the women's "at least one" NRVCC indicator measures consumption of one or more of *three* NRVCCs.

Source(s): *Baseline*: FTF FEEDBACK ZOI Baseline Survey, Rwanda 2012-2013; 2010-2011 Rwanda DHS; 2011-2012 EICV3. *Interim*: FTF FEEDBACK ZOI Interim Survey, Rwanda 2014-2015; 2014-2015 Rwanda DHS; 2013-2014 EICV4.

Table ES.2. Feed the Future zone of influence indicator estimates, by residence type: Rwanda

Feed the Future Indicator	Rural baseline[1]			Rural interim[2]			All interim[3]		
	Estimate	95% CI[4]	n	Estimate	95% CI[4]	n	Estimate	95% CI[4]	n
Percent of women achieving adequacy on Women's Empowerment in Agriculture Index Indicators (i.e., WEAI raw headcounts) (2012-2013, 2014-2015)[5,6]									
Input in productive decisions†	92.9	91.5-94.2	1,605	96.3	94.4-97.6	848	96.2	94.3-97.4	969
Ownership of assets	96.6	95.7-97.4	1,605	95.7	93.4-97.2	848	95.8	93.7-97.3	969
Purchase, sale or transfer of assets	86.9	85.2-88.4	1,605	90.4	86.7-93.2	848	89.7	86.3-92.3	969
Access to and decisions on credit†	46.8	44.3-49.2	1,605	78.7	74.1-82.6	848	78.9	74.7-82.6	969
Control over use of income†	91.6	90.1-92.9	1,605	99.4	98.6-99.7	848	99.4	98.7-99.7	969
Group member†	73.5	71.3-75.6	1,605	83.0	78.2-87.0	848	83.0	78.3-86.8	969
Speaking in public	81.9	79.8-83.7	1,605	86.4	82.8-89.4	848	86.4	83.0-89.2	969
Workload	45.0	42.7-47.3	1,605	47.9	43.6-52.1	848	47.2	43.3-51.3	969
Leisure	87.7	85.8-89.5	1,605	82.7	78.3-86.3	848	83.1	79.0-86.6	969
Autonomy in production	92.2	90.8-93.4	1,605	n/a	n/a	n/a	n/a	n/a	n/a
Prevalence of households with moderate or severe hunger (2012-2013, 2014-2015)[6]									
All households†	43.1	40.6-45.5	1,910	32.2	27.5-37.3	910	32.2	27.9-36.9	1,064
Male and female adults†	40.5	37.7-43.4	1,368	29.1	24.1-34.8	726	29.2	24.5-34.5	830
Female adult(s) only	49.8	44.9-54.7	457	47.2	36.0-58.7	147	47.3	36.7-58.1	174
Male adult(s) only	48.6	37.7-59.6	84	34.1	20.5-51.0	37	31.2	20.5-44.3	60
Women's Dietary Diversity: Mean number of food groups consumed by women of reproductive age (2012-2013, 2014-2015)[6]									
All women age 15-49†	3.34	3.27-3.41	1,825	3.86	3.70-4.02	972	3.95	3.80-4.10	1,155

n/a – Not available.

[1] The Rwanda ZOI baseline survey, which was used to calculate three Feed the Future standard indicators of WEAI, Household Hunger, and Women's Dietary Diversity, included only rural and peri-urban EAs in the ZOI; urban EAs were excluded from the Rwanda ZOI baseline survey sample design.

[2] The Rwanda ZOI interim survey included both rural (which now includes peri-urban) and urban EAs in the Rwanda ZOI. The "Rural Interim" columns in this table present the WEAI uncensored headcounts, household hunger, and women's dietary diversity indicator estimates, confidence intervals, and unweighted sample sizes for rural (and peri-urban) EAs only; urban EAs are excluded. This is the set of interim estimates to compare with baseline estimates (including rural and peri-urban EAs only).

[3] The Rwanda ZOI interim survey included both rural (which includes peri-urban) and urban EAs in the Rwanda ZOI. The "All Interim" columns in this table present the WEAI raw headcounts, household hunger, and women's dietary diversity indicator estimates, confidence intervals, and unweighted sample sizes for all EAs, both rural and urban, in the Rwanda ZOI. These are the indicator estimates presented in the main body of the report, although baseline/interim indicator comparisons (discussed here in the Executive Summary as well as in Chapter 8) refer to the "Rural Baseline" and "Rural Interim" columns in this table.

[4] 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. "†" to the right of the indicator name denotes non-overlapping CIs between rural baseline and rural interim estimates. However, if CIs do overlap, the reader cannot conclude whether there is or is not a significant difference between baseline and interim estimates. For the following indicators, it cannot be concluded that there are significant differences in estimates over time: the five WEAI indicators of *Ownership of assets*, *Purchase, sale or transfer of assets*, *Speaking in public*, *Workload*, and *Leisure*.

[5] See Appendix 2.3 for the criteria for achieving adequacy in each WEAI indicator. Note that the full WEAI score cannot be calculated with ZOI interim survey data because data were collected from women only, and the "Autonomy in production" indicator (which, along with the "Input in productive decisions" indicator comprises the "Production" domain of 5DE) was omitted.

[6] Dates in parentheses indicate when baseline and interim data were collected for each indicator.

Source(s): FTF FEEDBACK ZOI Baseline Survey, Rwanda 2012-2013; FTF FEEDBACK ZOI Interim Survey, Rwanda 2014-2015.

Among children in the Rwanda ZOI, Table ES.1 shows that 38.2 percent (more than one-third) consumed at least one of the two children's NRVCC foods in the prior day, with milk and milk products most commonly consumed (38.0 percent of children age 6-23 months). Chicken was consumed in the prior day by only 2.7 percent of children age 6-23 months.

Country-Specific Findings: Iron-Fortified Beans

In addition to IF beans' inclusion among the women's NRVCC indicators for Rwanda, Chapter 6 of this report also presents women's "knowledge and use" data for IF beans. In a sub-module unique to the Rwanda ZOI interim survey, women age 15-49 were asked whether they had ever heard of IF beans. About 13.4 percent of women in the ZOI reported having heard of IF beans. Among that subgroup of women with knowledge of IF beans, women were asked whether they had every obtained IF beans, had ever planted IF beans (or whether anyone in their household had ever planted IF beans), and had ever eaten IF beans. Among the sub-group of women with knowledge of IF beans (n=175, see Table 6.8), 24.5 percent (about one-quarter) reported having ever obtained IF beans, 29.3 percent reported that either they themselves or someone in their household had ever planted IF beans, and 33.0 percent (about one-third) reported that they had ever eaten IF beans.

Nutritional Status of Women and Children

Table ES.1 also shows that the ZOI prevalence of non-pregnant women's underweight (defined as a body mass index (BMI) below 18.5) is 6.8 percent. Among children less than 5 years, 39.7 percent are stunted; nearly two in every five children under age 5 in the Rwanda ZOI have low height-for-age, indicating long-term, chronic undernutrition in young children. However, only 2.2 percent of children under age 5 are wasted, or have low weight-for-height. Wasting is an indicator of acute malnutrition. Finally, 9.8 percent of ZOI 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 Rwanda ZOI interim assessment was not designed to measure change from baseline indicator values, for a few indictors, non-overlapping confidence intervals (CIs) between baseline indicators and comparable interim indicators point to a statistically significant change over time. When CIs do overlap, however, conclusions cannot be made regarding statistically significant change from baseline to interim unless a statistical test of differences is conducted.

For a subset of indicators shown in Table ES.1 on pages xii-xiii, significance tests were conducted to compare baseline and interim estimates. The indicators which were tested include both the poverty- and expenditure-related indicators (per capita expenditures,

prevalence of poverty, and depth of poverty) as well as the children's anthropometry indicators (stunting, wasting, and underweight among children under 5 years of age). As denoted by the asterisks (and footnote 2) in the table that follows, all of these expenditure and children's anthropometry indicators exhibited a statistically significant change ($p<0.05$) between baseline and interim – with the sole exception of children's wasting, which was well below levels at baseline, but was not statistically significant.

In the Rwanda ZOI, daily per capita expenditures for all households increased significantly from $1.51 (2010 USD) at baseline to $1.64 (2010 USD) at interim. (There were no statistically significant baseline/interim differences among the disaggregate estimates for per capita expenditures.) Similarly, prevalence of poverty and depth of poverty declined over time for all households, as well as for male and female adult households. At baseline (2011-2012) the prevalence of poverty for all households in the Rwanda ZOI was 67.0 percent, declining to 62.0 percent at interim (2013-2014).[3] The depth of poverty among all households in the Rwanda ZOI has also declined over time, from 27.3 percent at baseline to 23.2 percent at interim.

In addition, Table ES.1 shows that the prevalence of children's stunting in the Rwanda ZOI has declined from the baseline (2010-2011) estimate of 46.3 percent to the interim (2014-2015) estimate of 39.7 percent.[4] This significant decline in children's stunting in the ZOI over time is apparent for all children, as well as for male and female children separately.

Although, as mentioned above, there is no statistically significant difference in children's wasting over time, the table also shows that the prevalence of children's underweight has declined significantly from the baseline estimate of 11.8 percent (for all children) to the interim estimate of 9.8 percent. This significant difference in baseline/interim estimates for underweight is also evident for male children, but not for female children.

Notwithstanding the six indicators discussed above for which a significance test for change over time was conducted, non-overlapping baseline and interim CIs in the Feed the Future indicator estimates tables also indicate significant differences. Significant differences were found over time between the baseline and interim estimates for the four WEAI indicators of *input in productive decisions*, *access to and decisions on credit*, *control over use of income*, and *group member* (see the "Rural Baseline" and comparable "Rural Interim" columns in Table ES.2). For these four WEAI indicators, interim estimates are significantly higher than baseline estimates.

[3] Note that for the expenditure and poverty indicators in Rwanda, the baseline data source was the 2011-2012 EICV3, and the interim data source was the 2013-2014 EICV4. Data source dates for each indicator are noted in Tables ES.1 and ES.2.

[4] Note that for the children's anthropometry indicators, the baseline data source was the 2010-2011 Rwanda DHS, whereas the interim data source was the 2014-2015 Rwanda DHS.

Non-overlapping CIs in Table ES.2 also reveal that the household hunger indicator is significantly different between baseline and interim – for all households as well male and female adult households. In the Rwanda ZOI, the prevalence of moderate to severe household hunger (for all households) has declined from 43.1 percent at baseline to 32.2 percent at interim.

Finally, women's dietary diversity has also changed significantly over time, as shown in the "Rural Baseline" and comparable "Rural Interim" columns in Table ES.2. The mean number of food groups (of nine possible groups) consumed by women of reproductive age in the Rwanda ZOI has increased significantly from 3.34 food groups at baseline, to 3.86 food groups at interim.

The Rwanda ZOI Interim Indicator Assessment report is a product of the 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 Table ES.1, "Feed the Future zone of influence indicator estimates," and Table ES.2, "Feed the Future zone of influence indicator estimates, by residence type."

1. Background

This section provides background information on Feed the Future in Rwanda, 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

Strategic Objectives for Feed the Future in the ZOI

The main Feed the Future goal in Rwanda is to "sustainably reduce poverty and hunger." Under this main goal are two first-level objectives: (1) improved nutritional status, especially of women and children, and (2) inclusive agriculture sector growth. In Rwanda, these first-level objectives have two corresponding strategic objectives: (a) strengthened capacity for sustained and improved health outcomes and (b) expanded economic opportunities in rural areas.[5]

To reduce hunger and poverty in Rwanda, Feed the Future is tackling major constraints to agricultural investment. This includes core investments committed to building market linkages, increasing agricultural productivity, and improving infrastructure and nutrition. Core investments are coupled with capacity building and strengthening the policy environment to facilitate the expansion of the private sector and its contribution to the overall growth of the Rwandan economy. Specific Rwandan value chains have been identified including beans, maize, and dairy.[6]

Aligning With Government of Rwanda Investments

The Government of Rwanda (GOR) has demonstrated a strong commitment to agricultural development and reducing poverty and chronic malnutrition. GOR officials signed a Comprehensive Africa Agriculture Development Programme (CAADP) agreement, committing the government to generate sustained agricultural growth of 6 percent per year, and work toward increasing the percentage of the national budget allocated to agriculture to 10 percent per year. Since the signing of the CAADP contract in 2007, the national budget for agriculture has grown from 3 to 7 percent.[7] The government has also established clear targets for its Strategic Plan for the Transformation of Agriculture (PSTA-II), and the GOR has linked the PSTA-II with its Economic Development and Poverty Reduction Strategy and the long-term Rwanda Vision 2020.[8]

[5] USAID. (2011b) p. 11.
[6] Ibid. p. 13.
[7] Ibid. p. 6.
[8] Ibid. p. 7.

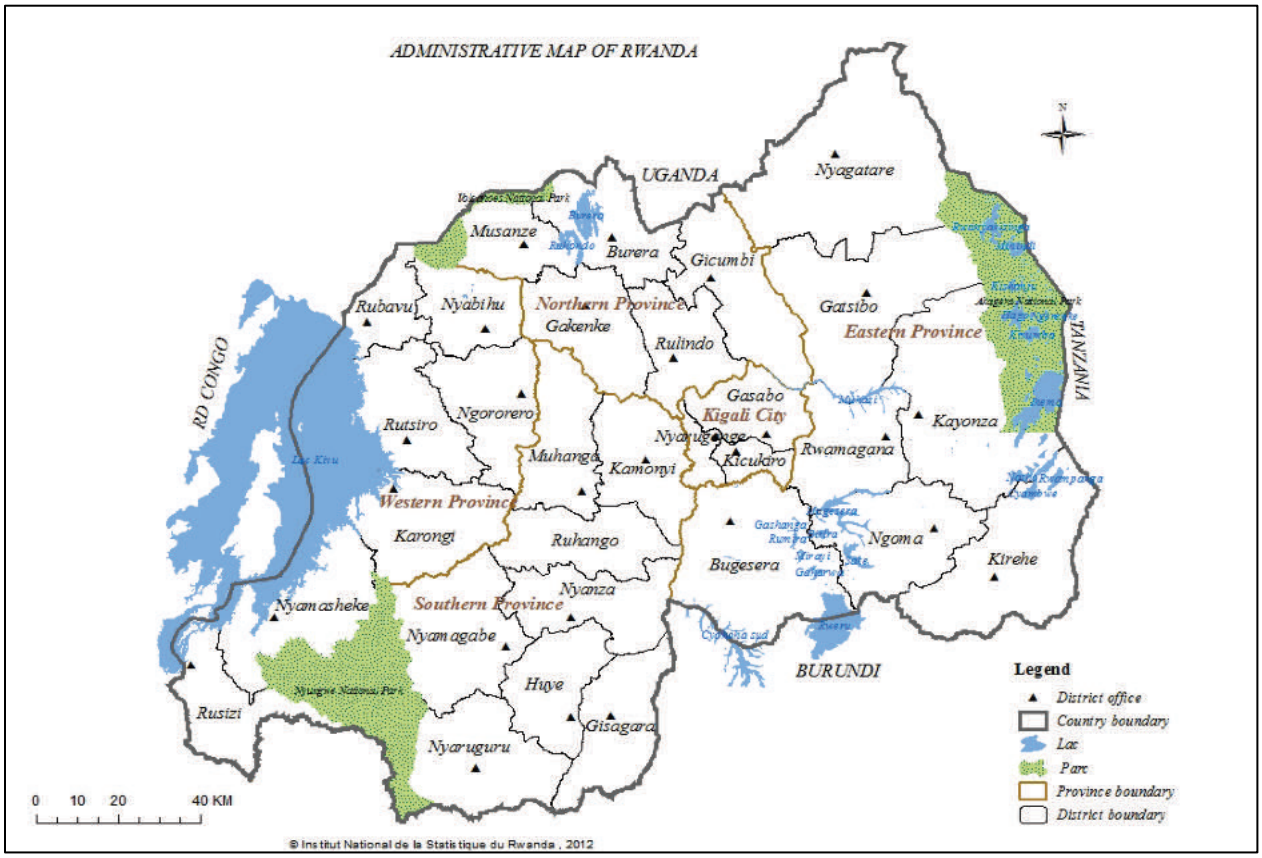
The USAID Feed the Future strategy in Rwanda directly supports the GOR's Rwanda Vision 2020 national development strategy, which is promoting a transformation from subsistence farming to a market-oriented agriculture sector. In all, the Feed the Future strategic approach is coordinated with existing value chains, supports Rwanda's 5-year Strategic Plan for the Transformation of Agriculture II, and is aligned with the CAADP framework and other African Union-driven growth strategies.

1.2 Feed the Future ZOI Profile

In Rwanda, the ZOI covers the entire country excluding Kigali, encompassing rural, peri-urban and urban areas in 27 districts out of a total of 30. The ZOI includes four provinces – Northern, Southern, Eastern, and Western. The ZOI excludes only the three districts that comprise Kigali City province (Gasabo, Kicukiro, and Nyarugenge districts). The ZOI at interim is the same as the ZOI at baseline.

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

Figure 1.1. Map of Rwanda: Feed the Future ZOI



Source: NISR. (2012e).

1.2.1 Rationale for ZOI Selection

Rwanda has made significant progress in reducing poverty, particularly between 2006 and 2014, during which time the country saw a reduction in poverty at the national poverty line from 57 percent to 39 percent of the total population.[9] However, the country continues to face substantial challenges in continuing to reduce poverty as well as improving food security and nutrition. More than one-third of the rural population (39 percent) remains poor earning less than 159,375 Rwandan francs (RWF) per adult equivalent per year and 16.3 percent live in extreme poverty, earning less 105,064 RWF per adult equivalent per year.[10,11]

Rwanda is a country of high population density with a primarily household-level agrarian economy, and farming households face challenges of poverty and low productivity. Rwanda is the most densely populated country in Africa (416 people per square kilometer)[12] with 83 percent of the population living in rural areas[13] and nearly all arable land is under cultivation. Agriculture accounts for an estimated 33 percent of the gross domestic product and 72 percent of the working population mainly work in subsistence farming.[14] According to the GOR, "Despite notable increases in economic activity over time in industries such as trade and construction, the majority of Rwandese work in their main job on their own farm."[15]

Although employment in the agriculture sector has grown in recent years, this growth has been in jobs in agricultural labor, not the independent farming sector. Agricultural laborers are amongst the poorest people in the country.[16] In addition, agricultural productivity is low, and 90 percent of those who make their living from agriculture remain at a subsistence level. Sixty percent of subsistence farmers live in poverty. Furthermore, households depending on subsistence farming face low productivity because of limited arable land. Nationally, 84 percent of agricultural households cultivate less than 0.9 hectares of land, and there is an indication that in at least one province land-sharing has reached its limit.[17]

[9] NISR. (2015c). p. 21.
[10] Ibid.
[11] The national poverty threshold was updated to 159,375 RWF per adult equivalent per year using the EICV4, 2013-2014 in January 2014 prices. This translates to 436.64 RWF or $1.02 2005 PPP per adult equivalent per day. The national extreme poverty threshold was updated to 105,064 per adult equivalent per year using the EICV4, 2013-2014 in January 2014 prices. This translates to 287.85 RWF or $0.68 2005 PPP per adult equivalent per day.
[12] NISR. (2012d). p. 22.
[13] NISR. (2015a). p. 4.
[14] NISR. (2015c). p. 4.
[15] NISR. (2012a). p. 2.
[16] NISR. (2012b). p. 30.
[17] NISR. (2012a). p. 3.

Gender

More women than men primarily depend on agriculture for their livelihood. Women are also more likely than men to practice subsistence farming and to be impoverished. Nearly half of all Rwandan agricultural households experience food insecurity, and female-headed households, which represent slightly less than one-third (28 percent) of all Rwandan households, are more likely to be food insecure.[18] These conditions make increasing agricultural productivity a critical component of reducing poverty and promoting development in Rwanda.

Women's income-earning and employment opportunities are overwhelmingly in the agriculture sector, with 85 percent of women working in agricultural occupations compared with 61 percent of men.[19] Most female-headed households work in agriculture (90 percent) compared with 62 percent of male-headed households. Women are also much less likely to have paid non-farm work, though the opportunities that are open to them are primarily in sales and commerce. There are almost 2 million female small-scale farm workers compared with just more than 1.1 million men. Since 2005, the number of men working in agriculture has declined while the number of women has risen, indicating that men have benefited more from the growth in non-farming jobs but also may be unemployed, and that there are fewer income-earning opportunities outside of farming for women.[20]

Child Malnutrition

Chronic malnutrition in children under 5 years of age remains very high, 41 percent in rural areas, compared to the national average of 38 percent in 2014/2015.[21] Reduction in poverty and increases in agricultural productivity in recent years have not had an impact on bringing down the rate of chronic child malnutrition. The persistence of chronic child malnutrition is strongly linked to poor feeding practices, shocks, household vulnerabilities, and limited access to quality health care.[22]

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

[18] NISR. (2012c). p. 2.
[19] NISR. (2015b). p. 29.
[20] NISR. (2012c). p. vi.
[21] NISR, MOH, and ICF. (2015). p. 149.
[22] USAID. (2011b). p. 6.

households). The ZOI estimates for the total population of individuals as well as households are also disaggregated by gendered household type.[23]

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

Category of individuals	Estimated population	Percent of total population
Total population	10,049,586	100.0
Total population, by sub-population		
Women of reproductive age (15-49 years)	2,398,997	23.9
Children 0-59 months	1,397,818	13.9
Children 0-5 months	142,900	1.4
Children 6-23 months	422,949	4.2
Children 6-59 months	1,254,918	12.5
Youth 15-29 years	2,673,863	26.6
Total population, by area type		
Urban	888,350	8.8
Rural	9,161,236	91.2
Total population, by gendered household type		
Male and female adult(s)	8,696,519	86.5
Female adult(s) only	1,164,695	11.6
Male adult(s) only	188,372	1.9
Child(ren) only (no adults)	0	0.0
Women of reproductive age, by pregnancy status		
Pregnant	188,343	1.9
Non-pregnant	2,210,654	22.0
Children 0-59 months, by child sex		
Male	696,160	6.9
Female	701,658	7.0
Children 0-5 months, by child sex		
Male	70,969	0.7
Female	71,931	0.7
Children 6-23 months, by child sex		
Male	209,886	2.1
Female	213,063	2.1
Children 6-59 months, by child sex		
Male	625,191	6.2
Female	629,727	6.3
Youth 15-29 years, by sex		
Male	1,320,541	13.1
Female	1,353,322	13.5

Source: Population projections for the Rwanda ZOI (2015) were prepared and published in the *Population Projections* report prepared by the NISR. We subtracted roughly 8.8 percent of the population from the country-wide projection to remove the Kigali population and produce a projection of the ZOI. The projected population was then disaggregated into the subgroups reported here using the population characteristics recorded in the FTF FEEDBACK ZOI Interim Survey, Rwanda 2014-2015 and the 2014-2015 Rwanda DHS.

[23] See Section 2.2.1 Standard Disaggregates for the definition of gendered household type.

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

Category of households	Estimated population	Percent of households
Total number of households in ZOI	2,356,520	100.0
Number of households, by gendered household type		
Male and female adult(s)	1,853,631	78.7
Female adult(s) only	378,138	16.0
Male adult(s) only	124,751	5.3
Child(ren) only, (no adults)[1]	-	-

[1] The number of households for the categories within gendered household type were based on the distribution of these categories in the FTF FEEDBACK ZOI survey. Because this survey did not find any child only households and because it is expected that such households exist in the ZOI, the number of households is not reported here for this category.

Source: The number of households in the Rwanda ZOI was calculated based on the estimated number of individuals in the ZOI living in private households and average household size. The number of individuals in private households was estimated to be roughly 98.7 percent based on the figures reported in the *Characteristics of Households and Housing* report published by the NISR. Taking 98.7 percent of the total ZOI population and dividing by an average household size of 4.2 (from the NISR's *Population Projections* report) produced the final estimate of households in the ZOI. This number was then disaggregated by gendered household type using data from the FTF FEEDBACK ZOI Interim Survey, Rwanda 2014-2015.

The 2015 population estimates for the ZOI are based on published Rwandan national population projections from the National Institute of Statistics of Rwanda (NISR).[24] (As the Rwanda ZOI contains all areas of the country except Kigali City, the projected population of Kigali City was subtracted from the national projection.) Generally, the number of individuals and households in the different subgroups is estimated using the proportions in these subgroups from the FTF FEEDBACK ZOI Interim Survey, Rwanda 2014-2015. Specifically, the percentages of individuals or households in certain groups were estimated and then applied to the total projected population of the ZOI. Child survival curves were generated with data from the 2014-2015 Rwanda DHS for children younger than 59 months. These survival curves were used to create ZOI population estimates for children 0-5 months, 6-23 months, and 6-59 months.

As shown in Table 1.1, the Rwanda ZOI contains just over 10 million people (10,049,586). The great majority of ZOI residents (about 91 percent) reside in rural areas, with the remaining 9 percent in urban areas. There are an estimated 2.4 million women of reproductive age, and 1.4 million children under age 5 in the ZOI.

Table 1.2 indicates that the Rwanda ZOI has an estimated 2,356,520 households, which is based on the average household size of 4.2 persons from the ZOI interim survey. The estimated percentages of households in male and female adult(s), female adult(s) only, and male adult(s) only household types are 78.7 percent, 16.0 percent, and 5.3 percent, respectively.

[24] NISR. (2014b).

1.2.3 Agriculture in the ZOI

The main agricultural activity among farming households in Rwanda is crop production. Most households produce at least one staple crop along with a wide variety of fruits and vegetables. The percentage of households that cultivate staple crops of maize, cassava, and potatoes for cooking has increased since 2010, while the percentage of households growing sweet potatoes and sorghum has decreased slightly.[25]

Feed the Future supports bean, maize, and dairy value chains through investing in sustainable market linkages, infrastructure, and nutrition. Feed the Future also provides limited support to Rwanda's traditional high-value exports of coffee and pyrethrum. These specific crops supported by Feed the Future are included in **Table 1.3**, which shows production, yields, and prices for major staple and export crops in Rwanda.

As detailed in Table 1.3 the production of cassava, maize, and cow milk have increased along with large increases in market prices since 2010. The overall production of coffee has remained relatively stable since 2010 (decreasing slightly in 2014).

Table 1.3. Agricultural yields, marketed volumes, and prices at the national level

Crop	Production (T)			Yield (hg/ha)			Market price-producer (local currency/T)		
	2010	2012	2014	2010	2012	2014	2010	2012	2014
Beans, dry	327,497	432,857	422,590	10,258	9,020	9,303	282,507	324,096	392,728
Cassava	2,377,213	2,716,421	3,161,470	120,430	149,026	161,374	182,031	183,219	229,707
Coffee, green[2]	19,319	19,995	19,574[1]	5,686	4,788	4,359[1]	800,000	n/a	n/a
Maize	432,404	573,038	667,834[^]	23,416	22,587	19,200	182,735	252,145	246,568
Plantains[2]	2,749,152	3,219,465	3,263,462[1]	82,366	92,235	87,224[1]	110,915	129,643	n/a
Potatoes	1,789,404	2,337,706	2,225,080	118,679	141,869	133,759	131,042	181,539	176,675
Pyrethrum, dried[2]	7	16	16[1*]	4,667	4,571	4,571[1]	n/a	n/a	n/a
Sweet potatoes	840,072	1,005,305	1,080,780	74,877	91,903	100,304	86,130	127,700	148,356
Rice, paddy	67,253	84,079	90,000[*]	51,833	57,193	56,250	570,877	604,793	620,537
Milk, whole fresh cow[3]	183,700	186,000	188,000[1*]	6,507	6,549	6,620[1]	277,259	298,481	325,065

[1] Datum is for 2013 (2014 unavailable).

[2] No price data in FAO Stat Database = n/a.

[3] For milk: Unit of production is Tonne. Unit of yield is Hg/An. Unit price is local currency annually per Tonne.

[^] NISR 2015 Rwanda Statistical Yearbook.

[*] FAO Estimate (not official).

Source: FAO 2016.

[25] NISR. (2015a). p. 113-115.

Feed the Future's promotion of agriculture sector growth also includes the expansion of market-oriented crop production. According to NISR, the share of crops sold increased from 16 percent in 2005 to 21 percent in 2012 but remained stable in 2014 at 21 percent.[26] The overall percentage of crops sold for sweet potatoes, cassava, and sorghum increased slightly in 2014 compared to 2010. Coffee and tea remain the highest commercialized crops in Rwanda with producers selling more than 90 percent of their harvest.[27]

The percentage of cultivating households that purchased organic or chemical fertilizers has increased from approximately 33 percent in 2010 to 41 percent in 2014, an indication of intensification of agricultural activities.[28] In addition, the percentage of rural households processing some of their agricultural raw materials into basic products increased from 2010 to 2014, particularly in the production of maize flour (22 to 45 percent), cassava leaves (35 to 57 percent), and sorghum flour (22 percent to 32 percent), indicating an increase in crop processing that adds value to the harvested crop.[29]

1.3 Purpose of This Report

The purpose of this interim assessment is to provide the U.S. Government interagency partners, United States Agency for International Development (USAID) Bureau for Food Security (BFS), 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.

[26] NISR. (2012a). p. 16-17, NISR. (2015a). p. 111-112.
[27] NISR. (2015a). p. 119-120.
[28] Ibid. p. 121-122.
[29] Ibid. p. 124.

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	EICV 3	Nov 2010 – Oct 2011	EICV4	Oct 2013 – Oct 2014
Prevalence of Poverty: Percent of people living on less than $1.25/day	EICV 3	Nov 2010 – Oct 2011	EICV4	Oct 2013 – Oct 2014
Depth of Poverty: Mean percent shortfall relative to the $1.25/day poverty line	EICV 3	Nov 2010 – Oct 2011	EICV4	Oct 2013 – Oct 2014
Women's Empowerment in Agriculture Index indicators*	FTF FEEDBACK ZOI Survey	Dec 2012 – Jan 2013	FTF FEEDBACK ZOI Survey	Dec 2014 – Jan 2015
Prevalence of households with moderate or severe hunger	FTF FEEDBACK ZOI Survey	Dec 2012 – Jan 2013	FTF FEEDBACK ZOI Survey	Dec 2014 – Jan 2015
Women's Dietary Diversity: Mean number of food groups consumed by women of reproductive age	FTF FEEDBACK ZOI Survey	Dec 2012 – Jan 2013	FTF FEEDBACK ZOI Survey	Dec 2014 – Jan 2015
Prevalence of exclusive breastfeeding among children under 6 months of age	DHS	Sep 2010 – Mar 2011	DHS	Nov 2014 – April 2015
Prevalence of children 6-23 months receiving a minimum acceptable diet	DHS	Sep 2010 – Mar 2011	DHS	Nov 2014 – Apr 2015
Prevalence of women of reproductive age who consume targeted nutrient-rich value chain commodities	N/A	N/A	FTF FEEDBACK ZOI Survey	Dec 2014 – Jan 2015
Prevalence of children 6-23 months who consume targeted nutrient-rich value chain commodities	N/A	N/A	FTF FEEDBACK ZOI Survey	Dec 2014 – Jan 2015
Prevalence of underweight women	DHS	Sep 2010 – Mar 2011	DHS	Nov 2014 – Apr 2015
Prevalence of stunted children under 5 years of age	DHS	Sep 2010 – Mar 2011	DHS	Nov 2014 – Apr 2015
Prevalence of wasted children under 5 years of age	DHS	Sep 2010 – Mar 2011	DHS	Nov 2014 – Apr 2015
Prevalence of underweight children under 5 years of age	DHS	Sep 2010 – Mar 2011	DHS	Nov 2014 – Apr 2015

* For the interim population-based survey, FTF FEEDBACK collected the streamlined version of the Women's Empowerment in Agriculture Index in accordance with what is recommended in the Feed the Future M&E Series Volume 11 Guidance.

2.1.1 Primary Data: The ZOI Interim Survey in Rwanda

This section describes the zone of influence (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 survey sample for the Rwanda ZOI interim assessment comprises 27 districts out of 30 total in all four provinces – Northern, Southern, Eastern, and Western. As mentioned in Section 1.2, the ZOI includes rural, peri-urban and urban areas of these 27 districts. The ZOI excludes only the three districts that comprise Kigali City (Gasabo, Kicukiro, and Nyarugenge districts).

Below we describe the sample size calculation, sample selection 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. Point estimates measure indicators for a point in time with a given amount of precision, whereas measuring change over time would compare differences in indicator values between baseline and interim. A sample size based on point estimates is preferable to a sample designed to measure change over time, because point estimates will require a smaller sample size.

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 (SD) and design effects (DEFF) for sample size calculation were estimated using baseline survey data. We calculated sample sizes using projected interim indicator values based on the Mission's 2015 targets in the Feed the Future Monitoring System. In cases where indicators have no targets, 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 the former either 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 and women of reproductive age for underweight women) in the

total population and the average number of household members were estimated based on baseline survey data, and used to calculate the number of households needed for an indicator.[30]

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. Collecting data on at least 70 children was chosen in order to be large enough to provide some precision in measurement, but not so large as to require a large number of households. Exclusive breastfeeding in general requires a large sample size because there are few children of breastfeeding age.

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 minimum number of households required to capture 70 infants aged 0-5 months is 1,308 households. The exclusive breast feeding data is obtained from the Demographic and Health Survey (DHS). The minimum sample size of 1,308 households is met in the DHS sample. The sample size requirements for stunted and underweight children are also met in the DHS sample.

The interim population-based survey (PBS) collected information on three indicators as indicated in Table 2.2: the Household Hunger Scale (HHS), women's dietary diversity score (WDDS), and the Women's Empowerment in Agriculture Index (WEAI). The number of households needed for these indicators is 111. However there is a minimum number of clusters that should be included in the survey for it to be considered valid. Specifically, DEFF increases rapidly with smaller number of clusters. Taking into consideration the trade-off between precision and survey cost, 54 clusters were selected in the interim survey, and a sample take of 20 households per cluster. This gave us a sample size of 1,080 households.

[30] Stukel and Deitchler. (2012).

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

Indicator	Interim data source	Baseline value	DEFF	Std. dev.	Estimated interim value	Sample size	Number of households needed
Prevalence of poverty	EICV4	66.96	4.0		58.96	372	413
Prevalence of underweight children	DHS	11.83	1.23		9.47	<100	<100
Prevalence of stunted children	DHS	46.32	1.6		37.06	143	344
Per capita expenditures (as a proxy for incomes)	EICV4	1.51	4.1	1.98	2.38	1,090	1,211
Household hunger	FTF FEEDBACK Interim Survey	43.08	1.19		39.72	109	111
Women's dietary diversity	FTF FEEDBACK Interim Survey	3.34	1.17	1.37	4.03	<100	<100
Prevalence of exclusive breastfeeding (minimum sample size)	DHS	86.46	1.29		100.00	70	1,308
WEAI	FTF FEEDBACK Interim Survey	91	2		94	<100	<100

Sample Selection

Sampling was based on a two-stage design, with stratification by province and urban/rural. In the first stage, 54 enumeration areas (EAs) were selected in 27 districts of four provinces from a master sample developed from the 2012 Population and Housing Census. The master sample was created by probability proportional to size sampling, and the 54 EAs of the FTF FEEDBACK Interim Survey sample were selected with equal selection probability from this master sample. Each stratum was allocated a minimum of two EAs.

In the second stage, 20 households within each selected EA were selected randomly from a list of eligible households.

Sample Weights

Data required for statistical weighting of survey data were collected throughout the sampling process. These data included, but were not limited to: (1) number of households from the sampling frame used for selection of EAs; (2) population of strata (i.e., region, urban/rural) from

which EAs are drawn; (3) number of households in 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 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 Rwanda was based on the population-based survey instrument for Feed the Future ZOI indicators for the interim assessments. The expenditures module was removed from the Rwanda-specific questionnaire because secondary data were used for the corresponding indicators. Questions relating to targeted nutrient-rich value chain commodities (NRVCC) (iron-fortified [IF] beans, milk and dairy products, and poultry) were added to address Feed the Future programming in those commodities in Rwanda.

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

The questionnaire was translated into one native language spoken by 10 percent or more of the population in the ZOI. In Rwanda, the questionnaire was translated into Kinyarwanda. The quality of the translation(s) was assured by 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, the pilot, and the initial days of fieldwork.

Fieldwork

Preparation for fieldwork began with thorough training of the CESS specialists to conduct and supervise fieldwork. A senior FTF FEEDBACK trainer trained 20 CESS trainers.

The CESS trainers then trained the field staff from December 11 to December 21, 2014. 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, CESS 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 CESS 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 65 individuals conducted fieldwork from December 29, 2014 to January 24, 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 CESS 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 CESS headquarters to review data and case completion regularly. These reviews informed fieldwork where necessary to improve data quality.

Limitations of the Survey

The interim survey was not powered to show change in indicators from the baseline. This interim survey is intended to provide point estimates with an acceptable level of precision. In general, seasonality of data collection is not an issue for this assessment, since all data collection for each indicator occurred at approximately the same time of year at baseline and interim. Data for indicators were collected by the same type of survey (FTF FEEDBACK, DHS or the Integrated Household Living Conditions Survey [EICV]) at baseline and interim. Data collection was completed in the December to January timeframe for both the FTF FEEDBACK baseline and interim surveys. The baseline DHS survey occurred from September 2010 to March 2011 and the interim DHS survey occurred from November 2014 to April 2015. The baseline for the EICV survey occurred from November 2010 to October 2011 and the interim occurred from October 2013 to October 2014.

For the household hunger indicator, however, seasonality could be an issue. Data collection for that indicator at baseline and interim took place during the non-lean season when household hunger is the lowest. The result is that household hunger may be underestimated making it difficult to show change over time, because household hunger generally would be low when those data were collected.

The values for the WDDS and Women's Minimum Dietary Diversity (MDD-W) indicators may be affected by the inadvertent omission in the questionnaire of the nuts and seeds food group. The result would be a downward bias in the indicator values, although it is expected that this

food group would have at most a limited contribution to the values of these indicators. Of note is the result that WDDS increased significantly between baseline and interim without the contribution of this food group. In addition, there was a question in the questionnaire for other foods eaten and none of the women mentioned nuts and seeds. Because the MDD-W indicator explicitly includes nuts and seeds as a separate food group, when that indicator is calculated at the next interim assessment there should be a calculation of MDD-W done without nuts and seeds, in order to provide a comparison with the indicator value from this current interim assessment.

The indicators for children's NVRCC do not include an indicator for IF beans. The exclusion of this indicator is because the questionnaire was not designed to collect this information for children. Because IF beans were just being introduced in Rwanda, it was seen as a potentially problematic area of questioning during the survey. For women, questions were designed to first detect knowledge of IF beans before asking questions on consumption. If questions had been directly asked on consumption, it was believed that women may respond yes to a question about consumption of IF beans, even if they were unfamiliar with IF beans, but had consumed some sort of beans. The result would have been an overestimate for this indicator. Since there were already questions for women on the knowledge of IF beans, it was thought it would be an undue burden to ask these women the same questions again on behalf of the children. When reviewing the results for the women for this indicator, only 1.2 percent of the women consumed IF beans. It is expected that the value for the children would have been the same or lower.

ZOI Interim Survey Response Rates

Table 2.3 presents the response rates for the ZOI interim survey for Rwanda. The components and the response rates for the sampled households, women of reproductive age (15-49), primary adult female decisionmakers (for the WEAI module), as well as children under 3 years are presented. Response rates are presented by rural/urban residence as well as for the total sample.

Table 2.3. Results of the household and individual interviews for the ZOI interim survey in Rwanda 2014-2015

Response rates and components	Residence		Total
	Urban	Rural	
Households			
Households selected	161	921	1,082
Households occupied	156	912	1,068
Households interviewed	155	911	1,066
Household response rate[1]	99.4	99.9	99.8
Women of reproductive age (15-49 years)			
Number of eligible women	184	1003	1,187
Number of eligible women interviewed	183	972	1,155
Eligible women response rate[2]	99.5	96.9	97.3
Primary adult female decisionmakers (age 18+ years)			
Number of eligible women	131	871	1,002
Number of eligible women interviewed	131	867	998
Primary adult female response rate[2]	100.0	99.5	99.6
Children under 3 years of age[3]			
Number of eligible children	65	375	440
Number of caregivers of eligible children interviewed	65	373	438
Eligible children response rate[2]	100.0	99.5	99.5

[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 3 years of age [Module I], the primary caregivers of the children served as the respondents, not the children directly.)

[3] In contrast to other FTF FEEDBACK ZOI interim surveys, which generally collected data on children under 5 years of age, the Rwanda ZOI interim survey collected data for children under 3 years of age. This was sufficient because, data from the children's module were only used to calculate the percent of children 6-23 months consuming targeted nutrient-rich value chain commodities (NRVCC). All other children's indicators in the Rwanda ZOI were calculated with secondary DHS data, which has data for children under 5 years of age.

Source: FTF FEEDBACK ZOI Interim Survey, Rwanda 2014-2015.

2.1.2 Secondary Data

This section discusses the use of secondary data sources for the calculation of interim indicators. The Rwanda interim assessment utilizes two secondary data sources: the 2014-2015 Rwanda DHS, and the 2013-2014 EICV4 as shown in **Table 2.4**. DHS data were used for six standard Feed the Future indicators in the Rwanda ZOI: prevalence of exclusive breastfeeding, prevalence of receiving a minimum acceptable diet (MAD), prevalence of underweight women, and prevalence of stunting, wasting and underweight among children. EICV4 data were used for the expenditures, poverty, and depth of poverty indicators.

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

Name of data source	Indicators	Fieldwork dates	Sample size in the ZOI
2014-2015 Demographic and Health Survey (DHS)	Prevalence of exclusive breastfeeding among children under 6 months of age	November 2014 – April 2015	615
2014-2015 Demographic and Health Survey (DHS)	Prevalence of children 6-23 months receiving a minimum acceptable diet	November 2014 – April 2015	2,102
2014-2015 Demographic and Health Survey (DHS)	Prevalence of underweight women	November 2014 – April 2015	5,199
2014-2015 Demographic and Health Survey (DHS)	Prevalence of stunted children under 5 years of age	November 2014 – April 2015	3,352
2014-2015 Demographic and Health Survey (DHS)	Prevalence of wasted children under 5 years of age	November 2014 – April 2015	3,352
2014-2015 Demographic and Health Survey (DHS)	Prevalence of underweight children under 5 years of age	November 2014 – April 2015	3,352
2013-2014 Integrated Household Living Conditions Survey (EICV4)	Daily per capita expenditures	October 2013 – October 2014	13,056
2013-2014 Integrated Household Living Conditions Survey (EICV4)	Prevalence of poverty	October 2013 – October 2014	13,056
2013-2014 Integrated Household Living Conditions Survey (EICV4)	Depth of poverty	October 2013 – October 2014	13,056

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.

Seasonality

Rwanda has two lean seasons and two main harvest (non-lean) seasons. The lean seasons run from October to early December (main lean season) and from April to June (minor lean season). The non-lean seasons run from mid-December to mid-February (non-lean season A) and from June to late August (non-lean season B). Rwanda also has two rainy seasons that run from mid-February to the beginning of May (main rainy season) and from the beginning of September to the end of November (short rainy season). The rainy seasons overlap with the lean seasons.

Table 2.5 below shows a summary of seasons during which each of the indicators were collected in Rwanda for the ZOI interim assessment. Data for nine of the 12 indicators were collected during lean and non-lean seasons. Data for three indicators were collected during the

non-lean season. The indicator for prevalence of households with moderate or severe hunger should be interpreted with caution keeping in mind that it was collected during the non-lean season. As discussed in the limitations of the survey subsection of Section 2.1.1, data collection for household hunger occurred during the non-lean season, which would result in lower values at baseline and interim for this indicator than would have been found if the indicator was collected during the lean season.

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

Indicator	Season of data collection for interim
Daily per capita expenditures	Lean and non-lean seasons
Prevalence of Poverty	Lean and non-lean seasons
Depth of Poverty	Lean and non-lean seasons
Women's Empowerment in Agriculture Index (WEAI)	Non-lean season
Prevalence of households with moderate or severe hunger	Non-lean season
Women's Dietary Diversity	Non-lean season
Prevalence of exclusive breastfeeding among children under 6 months of age	Lean and non-lean seasons
Prevalence of children 6-23 months receiving a minimum acceptable diet	Lean and non-lean seasons
Prevalence of underweight children under 5 years of age	Lean and non-lean seasons
Prevalence of stunted children under 5 years of age	Lean and non-lean seasons
Prevalence of wasted children under 5 years of age	Lean and non-lean seasons
Prevalence of underweight women	Lean and non-lean seasons

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, the DHS, and the EICV4, 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 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 is comprised of 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 is comprised of 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;[31] (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.[32]

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 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. For tables presenting indicators calculated with secondary DHS data (e.g., the tables presenting women and children's nutritional status in Chapter 7), the household hunger disaggregate has been excluded because it is not available in DHS data.

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 other household survey programs may use a slightly different definition of household member from that used in the ZOI surveys.

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

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 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]	4.7	5.1	3.4	1.6	-
Mean number of adult female household members[1,2,a]	1.3	1.3	1.5	0.0	-
Mean number of children (<2 years)[1,a]	0.3	0.3	0.2	0.0	-
Mean number of children (0-4 years)[1,a]	0.6	0.7	0.4	0.0	-
Mean number of children (5-17 years)[1,a]	1.7	1.8	1.5	0.3	-
Mean percentage of adults who are female[1,2]	55.3	49.9	100.0	0.0	-
Highest education level attained[a]					
No education	4.6	2.0	12.8	18.9	-
Less than primary	11.4	9.0	20.5	20.1	-
Primary	63.5	67.4	53.1	37.3	-
Secondary or more	20.5	21.6	13.6	23.8	-
n[3]	**1,066**	**832**	**174**	**60**	**0**

[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, Rwanda 2014-2015.

Among all households in the Rwanda ZOI, the average household size is 4.7 people. Male and female adult households have an average of 5.1 members, whereas female adult-only households have an average of 3.4 people, and male adult-only households have an average of 1.6 people. (There were no child-only households, those without any adults – age 18 years or

older, in the Rwanda ZOI interim survey.) As shown in the superscripts in Table 3.1, household size varies significantly by gendered household type.

The average number of adult females in ZOI households is 1.3. Regarding children, the average number of children under 2 years is 0.3; the average number of children 0-4 years is 0.6; and the average number of school-age children, those 5-17 years, is 1.7. As denoted by the superscripts in Table 3.1, all of these household demographic characteristics – mean number of adult females, children under 2 years, children 0-4 years, and children 5-17 years – vary significantly by gendered household type.

Over half (55.3 percent) of adults in ZOI households are female. About 4.6 percent of ZOI households have no education at all, and 11.4 percent have less than primary education. The large majority (63.5 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, about one in every five households (20.5 percent) in the Rwanda ZOI has 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) 12.8 percent have no education at all, and among male adult-only households (those households with no adult females) 18.9 percent (nearly one in every five male adult-only households) have no schooling. Among male and female adult households, however, only 2.0 percent have no schooling at all.

In comparison, at the other end of the educational spectrum, only 13.6 percent of female adult-only households have secondary or more education, whereas the percentages among male and female adult households and among male adult-only households are 21.6 percent and 23.8 percent, respectively.

Table 3.2 shows characteristics of the primary adult male and female decisionmakers in the sampled households in the ZOI. The primary adult male and primary adult female 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 (29.8 percent) of decisionmakers are within that age group. In Rwanda, in contrast to other

Feed the Future countries, the age of household decisionmakers does not vary significantly by sex.

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						
18-24	9.3	1,840	9.6	838	9.1	1,002
25-29	13.5	1,840	13.2	838	13.7	1,002
30-39	29.8	1,840	30.8	838	29.1	1,002
40-49	19.2	1,840	20.0	838	18.5	1,002
50-59	15.3	1,840	15.2	838	15.5	1,002
60+	12.8	1,840	11.3	838	14.1	1,002
Literacy[a]						
Percent literate[1]	64.7	1,840	72.3	838	58.4	1,002
Educational attainment[a]						
No education	27.9	1,839	22.0	837	32.9	1,002
Less than primary	17.1	1,839	17.1	837	17.2	1,002
Primary	47.4	1,839	52.1	837	43.4	1,002
Secondary or more	7.5	1,839	8.8	837	6.5	1,002

[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, Rwanda 2014-2015.

With respect to literacy and educational attainment among primary adult decisionmakers in the Rwanda ZOI, nearly two-thirds (64.7 percent) are literate (i.e., report they can read and write). Literacy among primary adult decisionmakers is significantly associated with sex; significantly more male decisionmakers (72.3 percent) than female decisionmakers (58.4 percent) are literate.

The modal educational category among primary decisionmakers in the Rwanda ZOI is completed primary. Nearly half (47.4 percent) of primary decisionmakers have completed primary school. However, 27.9 percent of primary decisionmakers have no education at all, and an additional 17.1 percent have less than primary. Only 7.5 percent of primary decisionmakers have secondary or more schooling.

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. While 22.0 percent of male primary decisionmakers have no education, among females, the percentage rises to 32.9 (nearly one-third). Similarly, fewer female decisionmakers than male decisionmakers have completed primary school, 43.4 percent and 52.1 percent, respectively. Finally, while the overall prevalence is quite low,

fewer female decisionmakers than male decisionmakers have secondary or more schooling, 6.5 percent and 8.8 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]	81.7	1,066
Percent with improved sanitation[2]	49.3	1,066
Mean persons per sleeping room[3]	2.2	1,066
Percent using solid fuel for cooking[4]	99.7	1,063
Percent with access to electricity	18.6	1,066
Household roof materials (%)[5]		
Natural	0.4	1,065
Rudimentary	0.2	1,065
Finished	99.3	1,065
Household exterior wall materials (%)[6]		
Natural	0.2	1,064
Rudimentary	70.2	1,064
Finished	29.5	1,064
Household floor materials (%)[7]		
Natural	81.1	1,066
Rudimentary	0.0	1,066
Finished	18.9	1,066

[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, thatch/palm lea/grass,* and *sod.* Rudimentary roofs include *rustic mat, palm/bamboo, wood planks,* and *cardboard.* Finished roofs include *metal/iron sheets, wood, calamine/cement fiber/asbestos, local tiles, industrial tiles/sheets, cement/concrete,* and *roofing shingles.* The *other* category is removed from percentages.

[6] Natural walls include *no walls, cane/palm/trunks,* and *dirt.* Rudimentary walls include *wood with mud, stone with mud, uncovered adobe, plywood, cardboard, reused wood,* and *metal sheeting.* Finished walls include *cement, stone with lime/cement, burnt bricks, cement blocks, covered adobe,* and *wood planks/shingles.* The *other* category is removed from percentages.

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

Source: FTF FEEDBACK ZOI Interim Survey, Rwanda 2014-2015.

Table 3.3 reveals that the majority of households (81.7 percent) in the Rwanda ZOI have access to improved water. This is slightly higher than the national value from the 2014-2015 Rwanda Demographic and Health Survey (DHS); nationally, 72.9 percent of Rwandan households have improved sources of drinking water.[33]

Relative to improved water, a smaller share of Rwandan ZOI households has access to improved sanitation. As shown in Table 3.3, about half (49.3 percent) have access to improved sanitation facilities. The 2014-2015 Rwanda DHS improved sanitation estimate for all households (nationally) is similar, at 54.1 percent.[34]

Households in the Rwanda ZOI have an average of 2.2 people per sleeping room. Nearly all households in the ZOI (99.7 percent) report using solid cooking fuel, an MDG indicator, and only 18.6 percent of ZOI households have access to electricity. In the 2014-2015 Rwanda DHS report, for comparison, 98.1 percent of households nationally rely on solid cooking fuels, and 22.8 percent of households have access to electricity.[35]

As shown in Table 3.3, the great majority of Rwandan ZOI households (99.3 percent) have finished roofs, defined as roofs made of metal or iron sheets, wood, calamine or cement fiber or asbestos, local tiles, industrial tiles or sheets, cement or concrete, or roofing shingles. Less than 1 percent of Rwandan ZOI households have natural (0.4 percent) or rudimentary (0.2 percent) roofs.

Table 3.3 also shows that most ZOI households (70.2 percent) have rudimentary exterior walls, or walls made with wood with mud, stone with mud, uncovered adobe, plywood, cardboard, reused wood, or metal sheeting. A smaller percentage (29.5 percent) have finished walls, or walls made of cement, stone with lime or cement, burnt bricks, cement blocks, covered adobe, or wood planks or shingles. Less than 1 percent (0.2 percent) have natural walls.

Most ZOI households (81.1 percent) have natural floors (floors of earth, sand, or dung); and 18.9 percent have finished floors (floors of parquet or polished wood, ceramic tiles, cement or carpet). Virtually no ZOI households (0.0 percent) have rudimentary floors.[36]

[33] NISR, MOH, and ICF International. (2015). p. 21.
[34] Ibid. p. 22.
[35] Ibid. p. 24.
[36] Note that the 2014-2015 Rwanda DHS report does not present estimates for natural/rudimentary/finished roofs, walls, or 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.

In Rwanda, primary school consists of six years of school, beginning at age 7 through age 12. This is followed by 3 years of lower secondary school (age 13-15), and then an additional 3 years of upper secondary school (age 16-18). The Rwandan academic year begins in January and extends through November.[37]

Table 3.4 reveals that the age group where school attendance is most prevalent is age 10-14; nearly all (92.6 percent) 10-14 year old children in the Rwanda ZOI are currently attending school. This is followed by age 5-9; 62.9 percent (about two-thirds) of ZOI children age 5-9 are currently attending school. By the ages of 15-19, however, current school attendance has declined to 55.8 percent, and by 20-24, the majority of youth in this age group are no longer attending school. About 22.2 percent of ZOI youth aged 20-24 are currently attending school. As denoted by superscript "a" in Table 3.4, current school attendance varies significantly by age, but not by sex. This "non-finding" is important; in other Feed the Future countries, school attendance varies by sex, yet in Rwanda that is not the case.

Attainment of a primary level of education in the Rwanda ZOI, as shown in the third column in Table 3.4, also varies significantly by age group, but not by sex. This is denoted by superscript "b" in the table. Attainment of primary school peaks in the 15-19 year-old age group; 81.2 percent of ZOI residents age 15-19 have attained primary education. However, the prevalence of primary school attainment declines with increasing age; among the oldest age group, those age 55 or more, only 31.6 percent (fewer than one-third of ZOI residents aged 55 or more) have attained a primary level of education.

In addition to current school attendance and achievement of primary education, Table 3.4 also shows the percent literate in the Rwanda ZOI by age group and sex. Both of these variables are significantly associated with literacy (denoted by superscript "c"). Literacy is highest among the older child and youth age groups (e.g., 10-14 years [75.9 percent], 15-19 years [87.6 percent], and 20-24 years [84.0 percent]). Indeed, the majority of ZOI residents between the ages of 10 and 54 are literate. However, by the oldest age group, those age 55 or more, just over one-third (36.6 percent) are literate.

[37] EPDC. (2014).

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	62.9	n/a[1]	18.6	1.1	n/a[1]	1.3	706
10-14	92.6	50.3	75.9	1.0	1.3	1.1	717
15-19	55.8	81.2	87.6	1.0	1.1	1.1	531
20-24	22.2	76.8	84.0	1.0	1.1	1.0	433
25-29	n/a[2]	67.0	78.3	n/a[2]	1.0	1.0	356
30-34	n/a[2]	58.5	72.1	n/a[2]	0.9	0.9	361
35-54	n/a[2]	57.4	67.3	n/a[2]	0.8	0.9	756
55+	n/a[2]	31.6	36.6	n/a[2]	0.5	0.4	385
Sex[c]							
Female							
Age group							
5-9	65.8	n/a[1]	21.0	n/a[3]	n/a[3]	n/a[3]	355
10-14	92.7	55.8	79.6	n/a[3]	n/a[3]	n/a[3]	358
15-19	55.3	84.4	90.2	n/a[3]	n/a[3]	n/a[3]	260
20-24	22.3	79.4	84.1	n/a[3]	n/a[3]	n/a[3]	219
25-29	n/a[2]	67.3	76.6	n/a[3]	n/a[3]	n/a[3]	192
30-34	n/a[2]	55.0	69.3	n/a[3]	n/a[3]	n/a[3]	185
35-54	n/a[2]	52.9	63.1	n/a[3]	n/a[3]	n/a[3]	410
55+	n/a[2]	21.3	21.9	n/a[3]	n/a[3]	n/a[3]	225
Male							
Age group							
5-9	59.9	n/a[1]	16.1	n/a[3]	n/a[3]	n/a[3]	351
10-14	92.6	44.5	72.0	n/a[3]	n/a[3]	n/a[3]	359
15-19	56.2	78.2	85.2	n/a[3]	n/a[3]	n/a[3]	271
20-24	22.1	74.1	84.0	n/a[3]	n/a[3]	n/a[3]	214
25-29	n/a[2]	66.7	80.2	n/a[3]	n/a[3]	n/a[3]	164
30-34	n/a[2]	62.3	75.1	n/a[3]	n/a[3]	n/a[3]	176
35-54	n/a[2]	63.0	72.3	n/a[3]	n/a[3]	n/a[3]	346
55+	n/a[2]	46.0	56.9	n/a[3]	n/a[3]	n/a[3]	160

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.

[1] The ZOI interim survey in Rwanda took place from December 29, 2014 to January 24, 2015. The school year in Rwanda typically starts in early January and ends in November. During the 2015 school year, however, the Rwandan government delayed the start of classes to January 26. Therefore, the ZOI interim survey did not overlap with the school year (The New Times [Rwanda], 2014).

[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.

Source: FTF FEEDBACK ZOI Interim Survey, Rwanda 2014-2015.

With respect to sex differences in literacy, an interesting crossover is apparent in Table 3.4. More females than males are literate at the younger age groups (age 5-9 through age 15-19), but among the older age groups (age 30-34 through 55+) more males than females are literate. The female disadvantage is particularly pronounced at the oldest age group. Among Rwandan ZOI residents age 55 or more, only 21.9 percent of females are literate, relative to 56.9 percent of males. In Rwanda, older adults – particularly older *female* adults – are disadvantaged on literacy and education.

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 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 Rwanda ZOI, the greatest disparities between males and females are with primary school attainment and literacy at the oldest age groups (e.g., age 55 and above), with ZOI females exhibiting disadvantage on these measures relative to similarly-aged males (sex ratios of 0.5 and 0.4, for primary education and literacy, respectively among those age 55 or above).

4. Household Economic Status

This section includes a background discussion of monetary poverty in Rwanda, including the logic of the Living Standards Measurement Survey (LSMS)[38] and consumption expenditure methodology. The National Institute of Statistics of Rwanda (NISR) estimated national poverty rates at 58.9 percent in 2000-2001, and by 2013-2014, this number has declined to 39.1 percent.[39]

The national poverty prevalence estimates were derived from a series of surveys called the Integrated Household Living Conditions Survey (EICV). For the Feed the Future zones of influence (ZOI) interim assessments, the poverty prevalence, depth of poverty, and per capita expenditures estimates were derived from the data collected by the fourth EICV, i.e., EICV4, collected from October 2013 to October 2014.

The EICV4 collects data on households' consumption of and expenditures on various food and non-food items in order to infer household income and well-being, similar to other LSMS surveys. Individuals' per capita expenditures are then derived by dividing total household expenditures by the number of household members. 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.[40]

4.1 Daily Per Capita Expenditures

Table 4.1 presents daily per capita expenditures, the Feed the Future indicator that measures average daily expenditures within the ZOI per person in 2010 U.S. dollars (USD) after adjusting for 2005 PPP.[41] Daily per capita expenditures serve as a proxy for income. This table includes the mean per capita expenditures and percentile distribution of per capita expenditures. The percentiles are interpreted as the percentage of the population that consumes less than the listed value. For example, the cut-off point for the 50th percentile is 1.16. This means that 50 percent of individuals consume less than $1.16 (2010 USD) per day. The 50th percentile is also the median. The percentiles are shown to provide information on the distribution of expenditures. As is typical of expenditure and income data, these estimates are positively

[38] Grosh and Glewwe. (1995).
[39] NISR. (2015c). p. 21.
[40] Deaton. (2008).
[41] Purchasing power parity is a measure of the value of a local currency (Rwandan francs in this case) based on a common basket of goods across countries. Purchasing power parity (PPP) measures the value of those goods for a given year (in this case 2005) in francs relative to USD. This establishes an exchange rate that can compare the value of the local currency to other currencies.

skewed, with the majority of the population consuming/spending very little, and a small portion consuming much more. This is apparent because the median per capita expenditure of $1.16 (2010 USD) is much lower than the average per capita expenditure of $1.64 (2010 USD).

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 expenditures of the different categories of gendered household type, household size, and household educational attainment. In general, male-adult only households and households with 11 or more members have the highest levels of expenditures. Households with a member who has at least a secondary education also have the highest level of per capita expenditures.

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

Characteristic	Estimate (weighted)						
	Mean[a]	Percentile[2]					n[3]
		10th	25th	50th	75th	90th	
Total (All households)	1.64	0.56	0.79	1.16	1.77	2.79	13,056
Gendered household type[a]							
Male and female adults	1.63	0.57	0.80	1.18	1.78	2.78	10,301
Female adult(s) only	1.33	0.49	0.69	1.00	1.55	2.30	2,146
Male adult(s) only	3.87	0.76	1.25	2.10	4.39	8.86	594
Child(ren) only (no adults)	^	^	^	^	^	^	15
Household size[a]							
Small (1-5 members)	1.82	0.62	0.87	1.26	1.92	3.08	9,184
Medium (6-10 members)	1.40	0.52	0.71	1.06	1.58	2.50	3,805
Large (11+ members)	2.22	0.57	0.85	1.13	2.32	4.71	67
Household educational attainment[a]							
No education	1.23	0.46	0.67	1.02	1.52	2.31	618
Less than primary	1.16	0.48	0.67	0.97	1.39	1.97	5,297
Primary	1.54	0.62	0.85	1.22	1.80	2.66	6,035
Secondary or more	4.22	1.04	1.52	2.56	4.75	8.03	1,106

^ Results not statistically reliable, n<30.

[1] Per capita expenditures measured in Rwandan francs (RWF) 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 RWF/2014 CPI RWF) * 1/(PPP 2005) * (2010 USD CPI/2005 USD CPI) where PPP 2005 = 236.75, 2014 CPI RWF = 179.95, 2005 CPI RWF = 100, 2010 USD CPI =111.65, and 2005 USD CPI = 100. The conversion factor was 0.00262.

[2] The percentile value is the amount of per capita expenditure, in 2010 US dollars, that marks the percentile. For example, the 10th percentile is $0.56. This means that 10 percent of individuals consume less than $0.56 per day.

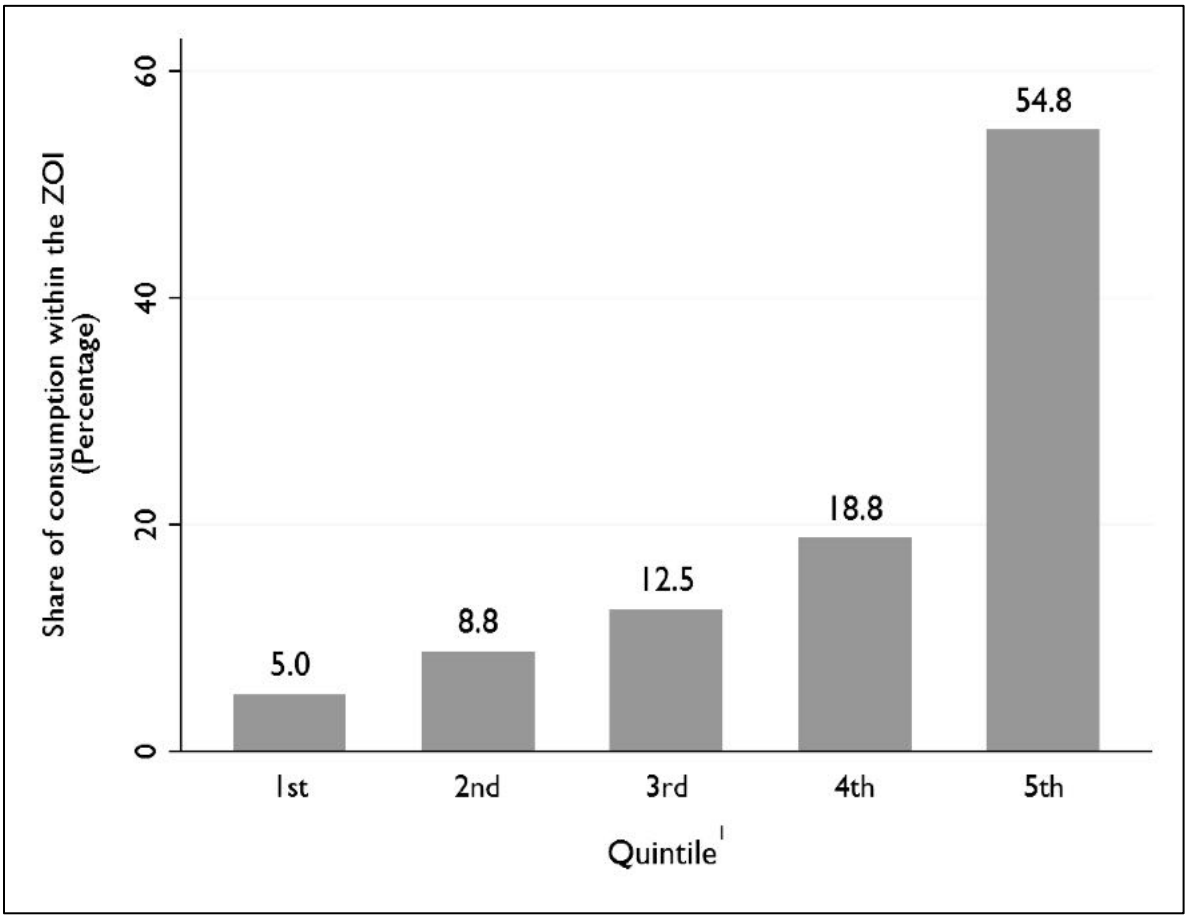
[3] Records missing information for the disaggregate variables have been excluded from the disaggregated estimates. The unweighted sample size reflects this loss in observations; therefore disaggregates' sample sizes may not total to the aggregated sample size.

[a] Significance tests were performed for associations between per capita expenditures and household characteristics. For example, a test was done between per capita expenditures 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: Rwanda Integrated Household Living Conditions Survey (EICV4), 2013-2014.

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, and a Millennium Development Goal (MDG). This figure shows that the poorest 20 percent within the ZOI consumes only 5.0 percent of the total consumption within the ZOI. Conversely, the wealthiest 20 percent within the ZOI consumes nearly 54.8 percent of the total consumption within the ZOI.

Figure 4.1. Share of consumption 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: Rwanda Integrated Household Living Conditions Survey (EICV4), 2013-2014.

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.[42] 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[43] 2005 USD is used to track global changes in poverty across countries and over time, including for the purpose of monitoring 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.[44] Poverty estimates are also presented for Rwanda's own poverty and extreme 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 consumption 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 consumption 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 expenditures 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.

[42] Note that expenditure data are not collected at the individual level but rather at the level of the household; individuals' per capita expenditures are then derived by dividing total household expenditures by the number of household members.

[43] 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.

[44] The World Bank. (2011). Poverty and Equality Data FAQs. Retrieved from http://go.worldbank.org/PYLADRLUN0. Accessed 15 April 2015.

Poverty Prevalence

Sixty-two percent (62.0) of individuals in the ZOI live below the $1.25 poverty threshold. Gendered household type, household size, and household educational attainment have significant relationships with poverty. Male-adult only households and households with five or fewer members show the lowest rates of poverty. Households with the highest level of education (secondary or more) have lower poverty than households with lower levels of education.

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 popula-tion[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)	62.0	13,056	23.2	13,056	0.47	37.4	7,515
Gendered household type[a,b,c]							
Male and female adults	61.6	10,301	22.7	10,301	0.46	36.8	6,023
Female adult(s) only	70.1	2,146	29.0	2,146	0.52	41.4	1,340
Male adult(s) only	32.2	594	11.1	594	0.43	34.4	145
Child(ren) only (no adults)	^	15	^	15	^	^	7
Household size[a,b,c]							
Small (1-5 members)	56.6	9,184	19.8	9,184	0.44	35.0	4,849
Medium (6-10 members)	68.6	3,805	27.3	3,805	0.50	39.7	2,626
Large (11+ members)	59.6	67	22.8	67	0.48	38.2	40
Household educational attainment[a,b,c]							
No education	71.0	618	29.8	618	0.52	42.0	355
Less than primary	75.3	5,297	30.7	5,297	0.51	40.8	3,669
Primary	59.3	6,035	20.6	6,035	0.43	34.7	3,302
Secondary or more	20.9	1,106	5.7	1,106	0.34	27.5	189

^ Results not statistically reliable, n<30.

[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: Rwanda Integrated Household Living Conditions Survey (EICV4), 2013-2014.

Depth of Poverty

The depth of poverty in the ZOI is 23.2 percent, which indicates that the average gap between consumption levels of the population and the poverty line is $0.29 (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 10.05 million, a poverty threshold of $1.25 per day, and a poverty gap of 23.2 percent, approximately $2.9 million (2005 PPP) per day would need to be transferred to the poor to bring their income or expenditures up to the poverty threshold.

Like poverty, depth of poverty has significant relationships with gendered household type, household size, and household educational attainment. Male-adult only households, households with one to five members, and households with the highest level of education (secondary or more) have the lowest depths of poverty.

Average Consumption Shortfall of the Poor

The average *poor* person within the ZOI lives at 62.6 percent of the poverty line, or 37.4 percent below the poverty line. The average value of consumption of a *poor* person is $0.78 (2005 PPP) per day, or stated differently, the average person living in poverty consumes $0.47 (2005 PPP) less than the $1.25 poverty threshold.

The average consumption shortfall of the poor is significantly different among the categories of gendered household type, household size, and household educational attainment. Despite the statistical significance, which is due primarily to large sample sizes, the differences between categories are more modest than differences noted in the prevalence of poverty and the depth of poverty. Male-adult only households, small households with one to five members, and the households with the highest level of educational attainment have the lowest estimated shortfall among poor households.

4.2.2 The National Poverty Threshold

Table 4.3 presents poverty estimates at the national poverty threshold for Rwanda. Similar to the $1.25 per day poverty 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.

The national poverty line in Rwanda was identified using data from the EICV4. The poverty line was estimated using a cost-of-basic-needs approach. Unlike the $1.25 poverty per person per day threshold, the national poverty line was created for adult equivalents and was developed as an annual amount. The national poverty line is 159,375 RWF per adult equivalent per year

(January 2014 prices).[45] This is 436.64 RWF per day ($1.02 2005 PPP). The *average,*[46] national poverty threshold per person per day is 394.69 RWF ($0.93 2005 PPP).

Table 4.3. Poverty at the national threshold of 159,375 RWF per adult equivalent per year[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[c]	Percent of poverty line[c]	n[5]
Total (All households)	41.4	13,056	12.7	13,056	0.28	30.6	4,799
Gendered household type[a,b,c]							
Male and female adults	40.6	10,301	12.2	10,301	0.28	30.2	3,789
Female adult(s) only	51.3	2,146	17.1	2,146	0.31	33.3	916
Male adult(s) only	20.3	594	6.5	594	0.31	32.0	88
Child(ren) only (no adults)	^	15	^	15	^	^	6
Household size[a,b,c]							
Small (1-5 members)	34.4	9,184	9.8	9,184	0.26	28.4	2,866
Medium (6-10 members)	49.7	3,805	16.2	3,805	0.30	32.5	1,904
Large (11+ members)	41.5	67	12.4	67	^	^	29
Household educational attainment[a,b,c]							
No education	48.3	618	15.4	618	0.27	32.0	214
Less than primary	52.7	5,297	17.5	5,297	0.30	33.2	2,439
Primary	38.3	6,035	10.9	6,035	0.27	28.4	2,052
Secondary or more	11.0	1,106	2.5	1,106	0.22	22.9	94

^ Results not statistically reliable, n<30.

[1] The national poverty threshold was updated to 159,375 per adult equivalent per year using the EICV4, 2013-2014 in January 2014 prices. This translates to 436.64 RWF or $1.02 2005 PPP per adult equivalent per day.

[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: Rwanda Integrated Household Living Conditions Survey (EICV4), 2013-2014.

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 based on one's age and/or sex whereas per capita thresholds do not vary based on age or sex. The difference between *adult equivalents* and *per capita* thresholds are further discussed in Appendix 2.2.

[45] NISR. (2015a). p. 20.

[46] These averages are based on the sample of 13,056 households included in the ZOI analysis.

As seen in Table 4.3, 41.4 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. Despite the lower rates of poverty recorded while using the national threshold, the relationships between poverty and household characteristics (gendered household type, household size, and household educational attainment) are similar to those observed in Table 4.2. In Table 4.3, the prevalence of poverty, depth of poverty, and average consumption shortfall of the poor are significantly different among the categories of all background characteristics.

4.2.3 The National Extreme Poverty Threshold

Table 4.4 presents poverty estimates at the extreme poverty threshold for Rwanda. Similar to prior expenditures and poverty tables, 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.

The national extreme poverty line used in this analysis is the food poverty line developed in conjunction with the national poverty line using the ECIV4. The food poverty line is the minimum amount required to provide a minimum caloric intake for an adult equivalent. The food poverty line is 105,064 RWF (January 2014 prices) per adult equivalent per year.[47] This is 287.85 RWF per day ($0.68 2005 PPP). The *average*,[48] national extreme poverty threshold per person per day is 260.19 RWF ($0.61 2005 PPP).

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 based one's age and sex whereas per capita thresholds do not vary based on age and sex. The difference between *adult equivalents* and *per capita* thresholds are further discussed in Appendix 2.2.

Over 17 percent (17.2 percent) of individuals in the ZOI live below the national extreme threshold. These individuals do not have access to enough resources to meet daily caloric requirements.

The prevalence of poverty, the depth of poverty and the average consumption shortfall of the poor are significantly different among the categories of gendered household type, household size, and household educational attainment with the one exception that the average consumption shortfall of the poor is not statistically different between the categories of household size.

[47] NISR. (2015a). p. 20.
[48] These averages are based on the sample of 13,056 households included in the ZOI analysis.

Table 4.4. Poverty at the national extreme threshold of 105,064 RWF per adult equivalent per year[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)	17.2	13,056	4.1	13,056	0.15	23.8	1,872
Gendered household type[a,b,c]							
Male and female adults	16.6	10,301	3.8	10,301	0.14	23.1	1,454
Female adult(s) only	23.5	2,146	6.3	2,146	0.16	27.0	381
Male adult(s) only	8.2	594	2.3	594	0.18	28.5	34
Child(ren) only (no adults)	^	15	^	15	^	^	3
Household size[a,b]							
Small (1-5 members)	12.3	9,184	2.8	9,184	0.14	23.0	987
Medium (6-10 members)	23.0	3,805	5.6	3,805	0.15	24.3	871
Large (11+ members)	18.6	67	4.0	67	^	^	14
Household educational attainment[a,b,c]							
No education	20.8	618	5.4	618	0.14	25.9	79
Less than primary	25.0	5,297	6.3	5,297	0.15	25.2	1,071
Primary	13.8	6,035	3.0	6,035	0.14	21.8	695
Secondary or more	3.2	1,106	0.6	1,106	^	^	27

^ Results not statistically reliable, n<30.

[1] The national extreme poverty threshold was updated to 105,064 per adult equivalent per year using the EICV4, 2013-2014 in January 2014 prices. This translates to 287.85 RWF or $0.68 2005 PPP per adult equivalent per day.

[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: Rwanda Integrated Household Living Conditions Survey (EICV4), 2013-2014.

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 (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.[49] For more information, the WEAI questionnaires and manual can be found online.[50]

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 decisionmakers 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.[51] 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

[49] Alkire, S. Malapit, H., et al. (2013).
[50] IFPRI. (2013). Retrieved from http://feedthefuture.gov/lp/womens-empowerment-agriculture-index.
[51] 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).[52] The criteria for determining adequacy in each domain are provided in Appendix A2.3.

Among surveyed women in the Rwanda 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 (99.4 percent); (2) input in productive decisions (96.2 percent); and (3) ownership of assets (95.8 percent). The 5DE indicators with the lowest levels of achievement are (1) workload (47.2 percent), (2) access to and decisions on credit (78.9 percent), and (3) group membership (83.0 percent).

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

[52] See Appendix 2.3 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	96.2	969
		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	95.8	969
		Purchase, sale or transfer of assets	89.7	969
		Access to and decisions on credit	78.9	969
Income	Sole or joint control over income and expenditures	Control over use of income	99.4	969
Leadership	Membership in economic or social groups and comfort in speaking in public	Group member	83.0	969
		Speaking in public	86.4	969
Time	Allocation of time to productive and domestic tasks and satisfaction with the available time for leisure activities	Workload	47.2	969
		Leisure	83.1	969

[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, Rwanda 2014-2015.

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 (99.1 percent) in the Rwanda ZOI report participating in a productive activity, and of these women, nearly all (99.4 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 95.7 percent of surveyed women in the ZOI. In addition to food crop farming, smaller percentages of women report livestock raising (66.4 percent) and wage or salaried employment (41.2 percent). The economic activity with the lowest participation in the Rwanda ZOI is fishing or fishpond culture (only 0.3 percent of surveyed women).

Women who participate in the specific economic activities shown in Table 5.2 report very high levels of input into decisions regarding the activities. For each respective economic activity, nearly all women (more than 94 percent across each of the five activities for which there is sufficient sample size), report having input into decisionmaking. The activity with women's greatest reported input into decisionmaking is non-farm economic activities, such as running a small business, self-employment, or trading. Of the subgroup of women who reported non-farm economic activities, 100.0 percent reported input into decisionmaking about these activities.

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)	99.1	969	99.4	958
Type of activity				
Food crop farming	95.7	969	98.2	921
Cash crop farming	27.8	969	96.9	273
Livestock raising	66.4	969	94.4	639
Fishing or fishpond culture	0.3	969	^	3
Non-farm economic activities	21.8	969	100.0	209
Wage or salaried employment	41.2	969	99.8	403

^ 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, Rwanda 2014-2015.

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 (99.3 percent) report having input into the use of income generated from the economic activities in which they participate. Similar to the findings shown above in Table 5.2 (which was about input in decisions about specific activities), across all the activities presented in Table 5.3 for which there is sufficient sample size, over 94 percent of women report having input in the use of income from the activity. The activity with the greatest income-related input is non-farm economic activities; 99.6 percent of the sub-group of women participating in this economic activity report having input into the use of income generated from their non-farm economic activities.

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)	99.3	960
Type of activity		
Food crop farming	97.5	923
Cash crop farming	94.9	272
Livestock raising	95.5	645
Fishing or fishpond culture	^	3
Non-farm economic activities	99.6	208
Wage or salaried employment	99.5	403

^ 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, Rwanda 2014-2015.

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.

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 livestock raising; 8.8 percent of women report having no decisionmaking ability in this area. This is followed closely by decisionmaking regarding major household expenditures (such as for a large appliance), at 8.4 percent of women reporting they have no decisionmaking ability at all.

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 (74.4 percent). About three of every four 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, only 43.2 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.

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	5.8	8.1	28.3	57.3	0.6	969
The types of crops to grow	4.6	6.1	26.6	62.1	0.6	969
Whether to take crops to the market	6.7	10.1	25.0	55.7	2.5	969
Livestock raising	8.8	12.1	26.0	45.0	8.2	969
Her own wage or salary employment	5.4	6.4	19.9	57.4	10.9	969
Major household expenditures	8.4	11.0	24.7	43.2	12.6	968
Minor household expenditures	3.3	4.4	17.9	74.4	0.0	968

[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, Rwanda 2014-2015.

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 Rwanda (technically, only the subsample of ZOI households with a primary adult female decisionmaker) include non-mechanized farm equipment such as hand tools, animal-drawn plows, etc. (owned by 94.9 percent of households), and agricultural land (owned by 90.3 percent of households). These assets were reported to be owned by the great majority of the households in the WEAI sample in the Rwanda ZOI. The least commonly-owned resources are fish pond or fishing equipment (0.5 percent) and mechanized farm equipment (e.g., tractor-drawn plows, power tillers, etc.), owned by 1.4 percent of households.

For the first seven resources shown in Table 5.5, women were asked the extent of their decisionmaking ability to purchase items (the middle set of columns), or to sell, give away, or rent the specific-owned item. The purchase of agricultural land was the item with the greatest percentage of women's decisionmaking, at 88.0 percent of women in households who owned this item. This was followed by the purchase of non-mechanized farm equipment, at 86.4 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 non-mechanized farm equipment (93.6 percent) and agricultural land (91.5 percent).

In other words, to use the estimates for poultry/fowl as an example, among the approximately one-quarter (25.4 percent) of ZOI households which own poultry/fowl, nearly three-quarters (72.9 percent) 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 (73.0 percent) report any decisionmaking ability to sell, give away, or rent the poultry/fowl.

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	90.3	969	88.0	867	91.5	864
Large livestock	40.0	969	78.0	389	79.8	390
Small livestock	47.6	969	79.2	463	78.4	462
Chickens, ducks, turkeys, and pigeons	25.4	969	72.9	245	73.0	245
Fish pond or fishing equipment	0.5	969	^	5	^	5
Non-mechanized farm equipment	94.9	969	86.4	913	93.6	896
Mechanized farm equipment	1.4	969	^	14	^	14
Nonfarm business equipment	4.4	969	n/a		n/a	
House or other structures	64.7	969	n/a		n/a	
Large consumer durables	12.6	968	n/a		n/a	
Small consumer durables	52.5	969	n/a		n/a	
Cell phone	62.6	969	n/a		n/a	
Non-agricultural land	15.2	968	n/a		n/a	
Means of transportation	17.3	969	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, Rwanda 2014-2015.

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.

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)	82.0	3.5	4.7	10.0	65.9	42.3
Type of loan						
Any loan	82.0	3.5	4.7	10.0	65.9	42.3
In-kind loan	16.0	0.2	1.1	0.2	14.4	0.3
Cash loan	73.8	3.3	3.7	9.8	52.6	42.0
n[2]	**969**	**967**	**967**	**967**	**968**	**966**
Total contributing to a credit decision (All surveyed women)	96.3	87.6	88.9	92.5	95.4	92.4
Type of decisions						
On whether to borrow	92.4	78.5	81.6	84.8	90.6	89.7
On how to use loan	94.4	87.6	83.3	89.8	93.8	89.3
n[2]	**795**	**31**	**44**	**102**	**637**	**412**

[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, Rwanda 2014-2015.

In the Rwanda ZOI, more than four of every five households in the WEAI module (82.0 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 (65.9 percent). When examining type of loans, the most common type by far is cash loans; nearly three-quarters (73.8 percent) of households received a cash loan, and 16.0 percent reported receiving an in-kind loan in the prior 12 months.

Among the subsample of women living in households which received a loan in the prior year (n=795), 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, 96.3 percent of women report contributing to at least one of the credit decisions. Similar percentages of women reported contributing to the decisions on whether to borrow the loan (92.4 percent) and on how to use the loan (94.4 percent).

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, 86.4 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, women appear to be most comfortable speaking up in public to help decide on infrastructure to be built in the community; 79.5 percent of women report being comfortable speaking up in public about this topic. Similar percentages of women report being comfortable speaking up in public about the remaining two topics: to ensure proper payment of wages for public works or other similar programs (66.3 percent of women feel comfortable), and to protest the misbehavior of authorities or elected officials (64.7 percent of women).

Table 5.7. Comfort with speaking in public among surveyed women

Topics for public discussion	Percent	n[1]
	Comfortable speaking in public about selected topics	
Total (All surveyed women)	86.4	969
Topics		
To help decide on infrastructure to be built in the community	79.5	967
To ensure proper payment of wages for public works or other similar programs	66.3	944
To protest the misbehavior of authorities or elected officials	64.7	969

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

Source: FTF FEEDBACK ZOI Interim Survey, Rwanda 2014-2015.

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 Rwanda ZOI, the majority of surveyed women (83.0 percent) report membership in at least one group. (This is also the uncensored headcount for this indicator; 83.0 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 credit or microfinance groups, at 50.7 percent (just over half) of surveyed women. Other group types in the ZOI with active participation among surveyed women, albeit at lower percentages, include mutual help or insurance groups (43.0 percent of women), and religious groups (33.2 percent).

Table 5.8. Group membership among surveyed women

Group type	Percent[1] Is an active group member	n[2]
Total (All surveyed women)	83.0	969
Group type		
Agricultural producers' group	14.5	969
Water users' group	7.7	969
Forest users' group	0.4	969
Credit or microfinance group	50.7	969
Mutual help or insurance group	43.0	969
Trade and business association	2.5	969
Civic or charitable group	5.1	969
Local government	5.7	969
Religious group	33.2	969
Other	29.3	969

[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, Rwanda 2014-2015.

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, 83.1 percent of women reported being satisfied with their leisure time. (This is the uncensored headcount. See Table 5.1.)

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 10.7 hours), eating and drinking (98.1 percent, mean 1.0 hours), and cooking (82.3 percent, mean 2.1 hours). Least common activities include school and homework (only reported by 0.3 percent of surveyed women) and exercising (0.5 percent). Beyond activities of daily life such as sleeping and eating, other common work activities include domestic work such as fetching food or water (73.2 percent) and farming, livestock care, or fishing (67.6 percent).

In the Rwanda ZOI, relatively few women reported secondary activities, as shown in the second set of columns in Table 5.9. Thus, the average time spent in secondary activities across all the women is less than one hour. The most commonly reported secondary activity is caring for children or other adults or elderly, reported by 18.5 percent of women.

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	10.7	8.1	0.1
Eating and drinking	98.1	1.0	3.0	0.0
Personal care	77.3	0.6	3.9	0.0
School and homework	0.3	0.0	0.1	0.0
Work as employed	5.7	0.3	0.1	0.0
Own business work	8.7	0.4	0.0	0.0
Farming/livestock/fishing	67.6	3.2	2.6	0.0
Shopping/getting services	28.4	0.6	0.0	0.0
Weaving, sewing, textile care	4.4	0.1	0.3	0.0
Cooking	82.3	2.1	2.4	0.0
Domestic work (fetching food and water)	73.2	1.5	15.3	0.2
Care for children/adults/elderly	38.7	0.4	18.5	0.2
Travel and commuting	67.6	1.4	0.7	0.0
Watching TV/listening to radio/reading	8.4	0.1	16.9	0.3
Exercising	0.5	0.0	0.5	0.0
Social activities and hobbies	46.1	0.9	9.2	0.1
Religious activities	34.2	0.6	1.5	0.0
Other	1.6	0.0	0.0	0.0
n	**969**	**969**	**969**	**969**

[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, Rwanda 2014-2015.

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 Rwanda 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.).[53,54]

Rwanda has two lean seasons during the year. The main lean season typically occurs from the beginning of October to early December, while the minor lean season typically occurs from the beginning of April through the end of May.[55] The fieldwork for the 2014-2015 ZOI Interim Survey in Rwanda took place from December 29, 2014 to January 24, 2015, which did not overlap with the lean season.

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.

The majority (67.8 percent) of the households in the Rwanda ZOI report that they experience no or little hunger. About 28.8 percent, more than one-quarter, experience moderate hunger, and a much smaller proportion (3.5 percent) experience severe hunger. As shown in the Feed the Future ZOI indicator estimates by residence type table in the Executive Summary (as well as the appendix Table A1.1), 32.2 percent of ZOI households in Rwanda – just under one in every three – experience either moderate or severe hunger, which is the Feed the Future standard indicator.

[53] Ballard, Coates, Swindale, and Deitchler. (2011).
[54] For further description of the household hunger indicator and its calculation, refer to the Feed the Future Indicator Handbook (USAID. [2013].), available at http://feedthefuture.gov/resource/feed-future-handbook-indicator-definitions.
[55] FEWS NET. (2016).

Significance tests were performed for relationships between little to no hunger and household characteristics. This is equivalent to a significance test for moderate and severe hunger combined. As denoted by the superscripts in Table 6.1, experiencing little to no hunger is significantly associated with gendered household type and household educational attainment (i.e., the highest level of schooling attained by any member of the household). The prevalence of experiencing little to no hunger is lowest among female adult-only households (those with no adult males, 52.7 percent) and highest among households with both male and female adults (70.8 percent). In addition, the prevalence of experiencing little to no hunger increases with increasing levels of household education, from only 50.8 percent among households whose members have no education, to 73.1 percent among households with at least one member with secondary or more schooling.

Table 6.1. Household hunger

Characteristic	Percent			n[1]
	Little to no hunger[a]	Moderate hunger	Severe hunger	
Total (All households)	67.8	28.8	3.5	1,064
Gendered household type[a]				
Male and female adults	70.8	25.7	3.5	830
Female adult(s) only	52.7	43.5	3.8	174
Male adult(s) only	68.8	29.3	1.9	60
Child(ren) only (no adults)	-	-	-	0
Household size				
Small (1-5 members)	68.9	27.8	3.3	712
Medium (6-10 members)	65.4	30.7	3.9	342
Large (11+ members)	^	^	^	10
Household educational attainment[a]				
No education	50.8	43.5	5.7	50
Less than primary	48.6	45.9	5.6	116
Primary	70.7	26.4	2.9	671
Secondary or more	73.1	23.2	3.7	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 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, Rwanda 2014-2015.

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: women's dietary diverstity score (WDDS) and the 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 Rwanda ZOI, the WDDS indicator value is 3.95; in other words, women consume an average of 3.95 food groups – nearly four groups – of the nine possible groups. The median value in the ZOI is four food groups. Mean WDDS varies significantly by women's age, educational attainment, gendered household type, and household hunger. As shown in Table 6.2, mean WDDS generally appears to decline with increasing age – from 4.13 among women age 15-19 to 3.52 among women age 45-49 – although the pattern is not completely linear (there is a slight increase for the 30-34 and 35-39 age groups). In addition, WDDS rises with increasing levels of women's education. Women with no education consume an average of 3.39 food groups, while women with secondary or more schooling consume an average of 4.61 food groups.

Table 6.2 also shows that women residing in male and female adult households have significantly higher WDDS scores than women in female adult-only households, 4.00 versus 3.64 food groups, respectively. In addition, women residing in households reporting little to no household

hunger have significantly higher WDDS values (4.06 food groups) than women residing in households with moderate or severe hunger (3.71 food groups).

Table 6.2. Women's dietary diversity score

Characteristic	Mean[a]	Median	n[1]
Total (All women 15-49)	3.95	4	1,155
Age[a]			
15-19	4.13	4	249
20-24	3.96	4	201
25-29	3.85	4	189
30-34	4.03	4	183
35-39	4.08	4	137
40-44	3.73	4	111
45-49	3.52	4	85
Educational attainment[a]			
No education	3.39	3	177
Less than primary	3.75	4	183
Primary	4.02	4	653
Secondary or more	4.61	5	142
Gendered household type[a]			
Male and female adults	4.00	4	973
Female adult(s) only	3.64	4	181
Male adult(s) only	^	^	1
Child(ren) only (no adults)	-	-	0
Household size			
Small (1-5 members)	3.85	4	606
Medium (6-10 members)	4.01	4	525
Large (11+ members)	^	^	24
Household hunger[a]			
Little to no hunger	4.06	4	785
Moderate or severe hunger	3.71	4	368

^ 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 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, Rwanda 2014-2015.

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.[56] Achievement 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.[57]

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.

In the Rwanda ZOI, nearly two in every five women (37.5 percent) meet the MDD-W threshold of five of the 10 food groups. Of the disaggregates presented in Table 6.3, women's educational attainment 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 22.4 percent among women with no education, to 55.6 percent among women with secondary or more schooling. In addition and as shown in Table 6.3, the prevalence of MDD-W is significantly higher among women who reside in households with little or no hunger than among women in households with moderate or severe hunger, 40.2 percent and 31.7 percent, respectively.

[56] 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.

[57] For more information, refer to 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. Women's minimum dietary diversity

Characteristic	Percent[a]	n[1]
Total (All women 15-49)	37.5	1,155
Age		
15-19	45.8	249
20-24	34.0	201
25-29	34.1	189
30-34	40.5	183
35-39	37.0	137
40-44	33.8	111
45-49	27.4	85
Educational attainment[a]		
No education	22.4	177
Less than primary	31.0	183
Primary	39.6	653
Secondary or more	55.6	142
Gendered household type		
Male and female adults	38.2	973
Female adult(s) only	33.5	181
Male adult(s) only	^	1
Child(ren) only (no adults)	-	0
Household size		
Small (1-5 members)	34.9	606
Medium (6-10 members)	39.3	525
Large (11+ members)	^	24
Household hunger[a]		
Little to no hunger	40.2	785
Moderate or severe hunger	31.7	368

^ 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, Rwanda 2014-2015.

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.

Among the majority sub-group of women who do not achieve a minimum dietary diversity (n=711), only two of the 10 food groups are consumed by at least half of the women: grains, roots, and tubers (consumed by 95.2 percent of women in this "not achieving MDD-W" group), and legumes and beans (consumed by 89.8 percent of women in this group). For the other eight food groups, the percentage of women consuming each group falls below 50 percent (ranging from 47.6 percent of women consuming vitamin A-rich dark green leafy vegetables) down to only 0.3 percent of women in this group consuming eggs.

As shown in the superscripts in Table 6.4, achievement of minimum dietary diversity is significantly associated with consumption of nine of the 10 specific food groups. For all food groups except nuts and seeds, consumption of the food group is significantly associated with women's achievement of MDD-W. This includes: grains, roots and tubers; legumes and beans; dairy products; meat and organ meats; eggs; vitamin A-rich dark green leafy vegetables; other vitamin A-rich vegetables and fruits; other fruits; and other vegetables. For example, among the 37.5 percent of ZOI women who achieve a MDD-W (see Table 6.3), over one-third (34.4 percent) consume dairy products; yet among the majority of women who do not achieve a MDD-W (62.5 percent), only 7.0 percent consume dairy projects.

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

Category	Percent of women according to achievement of minimum dietary diversity[a]	
	Achieving	Not achieving
Women consuming a specific food group		
Grains, roots and tubers[a]	100.0	95.2
Legumes and beans[a]	97.8	89.8
Nuts and seeds[1]	-	-
Dairy products[a]	34.4	7.0
Meat and organ meats[a]	41.6	6.8
Eggs[a]	4.7	0.3
Vitamin A-rich dark green leafy vegetables[a]	86.5	47.6
Other Vitamin A-rich vegetables and fruits[a]	80.5	35.2
Other fruits[a]	64.9	16.8
Other vegetables[a]	46.3	10.7
n	**444**	**711**

[1] Women's consumption of nuts and seeds was not directly asked in the ZOI survey questionnaire. Women were allowed to specify other foods during their recall of the foods that they consumed during the prior day. No women reported consuming nuts or seeds.

[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, Rwanda 2014-2015.

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 minimum acceptable diet (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 biological mother. The mother's' educational categories include no education, less than primary, completed primary, and completed secondary or more.

Among all infants less than 6 months of age in the Rwanda ZOI, 86.3 percent are exclusively breastfed. The national prevalence of exclusive breastfeeding for all of Rwanda, as reported in the 2014-2015 Rwanda DHS report, is very similar to the ZOI estimate; nationally, 87.3 percent of infants less than 6 months were exclusively breastfed.[58]

Neither of the disaggregate variables presented in Table 6.5 (child sex or mothers' educational attainment) are significantly associated with prevalence of exclusive breastfeeding.

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

Characteristic	Percent[a]	n[1]
Total (All children under 6 months)	86.3	615
Child sex		
Male	87.1	314
Female	85.5	301
Mother's educational attainment[2]		
No education	82.0	72
Less than primary	85.7	319
Primary	88.3	181
Secondary or more	90.5	43

[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] Breastfeeding and dietary information are collected of the youngest biological child of sampled women of reproductive age in the DHS. Educational attainment is thus reported for the biological mother.

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

Source: 2014-2015 Rwanda DHS.

Minimum Acceptable Diet

The prevalence of children 6-23 months receiving a 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

[58] NISR, MOH, and ICF International. (2015). p. 153.

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, mothers, and households. Children's characteristics include children's sex and age group. Mothers' characteristics include educational attainment. Household characteristics include gendered household type and household size.

In the Rwanda ZOI, 16.5 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, mothers' educational attainment, gendered household type, and household size. Child's age group, mothers' educational attainment, gendered household type, and household size are all significantly associated with prevalence of a MAD. Children's MAD increases with increasing age, rising from 12.4 percent among children age 6-11 months to 19.5 percent among children age 18-23 months. Similarly, MAD increases with increasing levels of mothers' education. Only 9.3 percent of children whose caregivers have no education receive a MAD, whereas among children whose caregivers have secondary or more schooling, 42.7 percent receive a MAD.

In addition, and as shown in Table 6.6, children in male and female adult households are significantly more likely to receive a MAD than children in female adult-only households (i.e., household with no male adults), 17.3 percent and 12.6 percent, respectively. Finally, children in medium-sized households (those with 6-10 members) have a greater prevalence of MAD than children in small households (those with 1-5 members), at 18.7 percent and 15.1 percent, respectively.

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)	16.5	2,102
Child sex		
Male	16.4	1,058
Female	16.5	1,044
Child age[a]		
6-11 months	12.4	807
12-17 months	18.5	683
18-23 months	19.5	612
Mother's educational attainment[2,a]		
No education	9.3	316
Less than primary	14.0	1,074
Primary	20.8	602
Secondary or more	42.7	110
Gendered household type[a]		
Male and female adults	17.3	1,722
Female adult(s) only	12.6	379
Male adult(s) only	-	0
Child(ren) only (no adults)	^	1
Household size[a]		
Small (1-5 members)	15.1	1,315
Medium (6-10 members)	18.7	777
Large (11+ members)	^	10

^ 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] Breastfeeding and dietary information are collected for the youngest biological child of sampled women of reproductive age in the DHS. Educational attainment is thus reported for the 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: 2014-2015 Rwanda DHS.

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 the subsample of breastfed children age 6-23 months in the Rwanda ZOI, 46.8 percent receive a minimum meal frequency and 26.4 percent receive a minimum dietary diversity. The food group with the highest consumption (by breastfed children age 6-23 months in the ZOI) is vitamin A-rich fruits and vegetables (69.5 percent of children), and the food group with the lowest consumption is eggs (3.4 percent). Only three of the seven food groups (i.e., vitamin A-rich fruits and vegetables; grains, roots, and tubers; and legumes and nuts) are consumed by more than half of breastfed children.

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	46.8	38.7	49.0	55.7
Achieving minimum dietary diversity	26.4	20.1	30.2	31.0
Consuming				
Grains, roots, and tubers	69.0	50.5	79.9	82.4
Legumes and nuts	65.8	46.5	75.6	81.8
Dairy products[a]	20.5	22.8	20.0	17.9
Flesh foods[a]	15.3	11.4	18.3	17.1
Eggs[a]	3.4	3.7	3.2	3.2
Vitamin A-rich fruits and vegetables	69.5	53.9	78.7	80.8
Other fruits and vegetables	23.5	23.1	22.5	25.3
n	**1,976**	**786**	**648**	**542**
Non-breastfed children				
Achieving minimum meal frequency	55.7	^	61.7	46.3
Achieving minimum milk feeding frequency	32.7	^	47.7	28.2
Achieving minimum dietary diversity	27.0	^	27.0	30.5
Consuming				
Grains, roots, and tubers	78.1	^	75.4	86.5
Legumes and nuts	73.1	^	70.7	88.1
Dairy products[a]	40.2	^	51.6	38.4
Flesh foods[a]	24.6	^	20.3	30.2
Eggs[a]	7.3	^	13.9	5.7
Vitamin A-rich fruits and vegetables	70.7	^	67.5	78.2
Other fruits and vegetables	25.5	^	24.4	27.8
n	**126**	**21**	**35**	**70**

^ 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: 2014-2015 Rwanda DHS.

Among non-breastfed children, the subgroup of children shown in the bottom half of Table 6.7, 55.7 percent achieve a minimum meal frequency, 32.7 percent achieve a minimum milk feeding frequency, and 27.0 percent achieve a minimum dietary diversity. (Note that there were no significance differences between breastfed and non-breastfed children with respect to the MAD component measures of achievement of a minimum meal frequency or achievement of a minimum dietary diversity.)

The food group with the highest consumption among non-breastfed children is grains, roots and tubers (78.1 percent of children), and the food group with the lowest consumption is eggs (7.3 percent). Similar to breastfed children, only three of the seven food groups are consumed by more than half of the subgroup of non-breastfed children: grains, roots and tubers; legumes and nuts; and vitamin A-rich fruits and vegetables.

As denoted by the superscripts in Table 6.7, consumption of three of the seven food groups varies by breastfeeding status: dairy products; flesh foods (i.e., meat and organ meat); and eggs. For all three of these foods, non-breastfed children age 6-23 months in the ZOI are more likely to consume them than their breastfed counterparts.

6.2.3 Knowledge and Use of Iron-Fortified Beans

The Rwanda ZOI interim survey included a country-specific sub-module on knowledge, use and consumption of iron-fortified (IF) beans for women of reproductive age. Women were asked if they had ever heard of "a special kind of bean that is higher in iron than other kinds of beans." Among those who had ever heard of IF beans, they were then asked if they had ever obtained IF beans, ever planted IF beans (or anyone in the woman's household ever planted IF beans), and ever eaten IF beans.

The results of the Rwanda-specific IF beans sub-module are presented in **Table 6.8**. The IF bean measures are disaggregated by characteristics of women (age, educational attainment) and households (gendered household type, household size, and household hunger). About 13.4 percent of women of reproductive age in the Rwanda ZOI have heard of IF beans. Among those who have heard of IF beans (n=175), 24.5 percent have obtained IF beans, 29.3 percent have planted IF beans, and 33.0 percent have eaten IF beans.

As denoted by the superscripts in Table 6.8, knowledge of IF beans is associated with women's age group, although the pattern is not linear. About 7.2 percent of women age 15-19 have heard of IF beans, rising to 18.2 percent among women age 35-39, and declining to 13.5 percent among women age 45-49. In addition, the percentage of women who have obtained IF beans varies by level of education; more than twice as many women with primary education have obtained IF beans than women with less than primary education (29.3 percent versus 10.5 percent, respectively).

Table 6.8 also shows that the percentage of women who have themselves (or anyone in their household), planted IF beans varies by household hunger status. More than twice as many women living in households with little to no hunger have planted IF beans than women in households with moderate or severe hunger, 34.9 percent and 16.4 percent, respectively. Finally, significantly more women with primary education have eaten IF beans than women with less than primary education, 40.3 percent and 15.5 percent, respectively.

Table 6.8. Women's knowledge and use of IF beans

Characteristic	Percent ever heard of If beans[a]	n[1]	If yes, ever heard: Percent ever obtain If beans[b]	Percent ever planted If beans[c]	Percent ever eaten If beans[d]	n[1]
Total (All Women 15-49)	13.4	1,155	24.5	29.3	33.0	175
Age[a]						
15-19	7.2	249	^	^	^	19
20-24	12.7	201	27.3	21.0	35.7	31
25-29	17.8	189	14.0	23.3	21.4	35
30-34	14.0	183	^	^	^	27
35-39	18.2	137	18.0	25.8	23.8	31
40-44	14.3	111	^	^	^	18
45-49	13.5	85	^	^	^	14
Educational attainment[b,d]						
No education	12.6	177	^	^	^	25
Less than primary	18.0	183	10.5	19.9	15.5	35
Primary	12.4	653	29.3	33.5	40.3	92
Secondary or more	12.3	142	^	^	^	23
Gendered household type						
Male and female adults	13.2	973	22.7	29.1	33.5	148
Female adult(s) only	14.1	181	^	^	^	27
Male adult(s) only	^	1	-	-	-	0
Child(ren) only (no adults)	-	0	-	-	-	0
Household size						
Small (1-5 members)	13.8	606	20.8	23.5	29.1	93
Medium (6-10 members)	13.0	525	29.0	35.7	37.3	78
Large (11+ members)	^	24	^	^	^	4
Household hunger[c]						
Little to no hunger	13.7	785	27.7	34.9	34.9	124
Moderate or severe hunger	12.3	368	17.3	16.4	29.2	50

^ 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 IF beans 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, Rwanda 2014-2015.

6.2.4 Consumption of Targeted Nutrient-Rich Value Chain Commodities

U.S. Government (USG)-funded programming supports nutrition-sensitive agricultural value chain[59] 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.

There are three criteria for a food commodity to be considered a targeted nutrient-rich value chain commodity (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 biofortified; 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 Rwanda include: chicken, milk and milk products, and IF beans for women, and chicken and milk and milk products for children.[60]

[59] 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)."

[60] In the Rwanda ZOI interim survey, data on consumption the of IF beans were collected for women only, and not children, due to the need to ask a "knowledge and use" series of questions about this relatively little-known food item.

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

Table 6.9 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 6.9, 19.2 percent – or just under one in every five – women of reproductive age in the Rwanda ZOI consumed at least one NRVCC food in the prior day.[61] As denoted by the superscripts in Table 6.9, the "any targeted commodity" indicator varies significantly by women's age, education, household size and household hunger. Although the pattern by age group is not linear, Table 6.9 shows that consumption of at least one of the three NRVCC commodities is greatest among women with secondary or more schooling (30.3 percent), among women in medium-sized households (22.4 percent, as opposed to 15.6 percent of small households), and among women in households with little or no hunger (23.4 percent).

Table 6.9 reveals that of the three NRVCC foods for women, milk and milk products are most commonly consumed. Approximately 17.3 percent of women of reproductive age consumed milk or milk products in the prior day. This is followed distantly by chicken (1.4 percent of women) and finally IF beans (1.2 percent of women).[62]

A few of the disaggregates presented in Table 6.9 are significantly associated with women's consumption of the individual commodities of chicken and milk or milk products. (Note that women's IF bean consumption does not vary significantly by any of the disaggregates presented in Table 6.9.)

The consumption of chicken varies by gendered household type. While overall levels of chicken consumption are very small, a greater proportion of women in male and female adult households than women in female adult-only household report consuming chicken, 1.6 percent versus 0.3 percent, respectively.

Dairy consumption varies by women's age, education, and household hunger status. As shown in Table 6.9, the oldest age groups (e.g., 40-44 at 9.0 percent and 45-49 at 11.0 percent) consume less dairy than the younger age groups (e.g., 15-19 and 20-24 at 21.6 percent and 20.9 percent respectively). In addition, milk consumption increases four-fold from the lowest educational category to the highest; 7.3 percent of women with no education consume milk,

[61] Please note that the "any targeted commodity" indicator shown in Tables 6.9 and 6.10 is sensitive to the total number of commodities identified by the USAID Mission for that country. For example, Nepal has six NRVCC foods although Rwanda has only three for women (and only two for children). 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.

[62] Consumption of IF beans is identified as those women who had heard of IF beans and also reported that they last ate IF beans in the "past day."

compared to 28.9 percent of women with secondary or more schooling. Finally, women in households with little or no hunger are more than twice as likely to consume milk as women in households with moderate or severe hunger, 20.9 percent versus 9.3 percent, respectively.

Table 6.9. Women's consumption of targeted nutrient-rich value chain commodities

Characteristic	Percent				n[3]
	Any targeted commodity[1,a]	Chicken[b]	Milk and milk products[c]	IF beans[2,d]	
Total (All women 15-49)	19.2	1.4	17.3	1.2	1,155
Age[a,c]					
15-19	23.9	2.8	21.6	0.4	249
20-24	22.4	2.0	20.9	1.4	201
25-29	11.9	0.7	10.6	0.6	189
30-34	20.5	2.0	18.4	0.6	183
35-39	24.2	0.0	21.7	2.4	137
40-44	11.7	0.5	9.0	2.6	111
45-49	12.9	0.0	11.0	1.9	85
Educational attainment[a,c]					
No education	9.1	0.0	7.3	1.7	177
Less than primary	17.4	1.5	15.9	0.0	183
Primary	20.2	1.7	17.9	1.6	653
Secondary or more	30.3	1.9	28.9	0.4	142
Gendered household type[b]					
Male and female adults	20.7	1.6	18.4	1.3	973
Female adult(s) only	11.0	0.3	10.7	0.6	181
Male adult(s) only	^	^	^	^	1
Child(ren) only (no adults)	-	-	-	-	0
Household size[a]					
Small (1-5 members)	15.6	1.1	14.1	1.0	606
Medium (6-10 members)	22.4	1.5	20.1	1.4	525
Large (11+ members)	^	^	^	^	24
Household hunger[a,c]					
Little to no hunger	23.4	1.9	20.9	1.3	785
Moderate or severe hunger	10.2	0.5	9.3	1.0	368

^ Results not statistically reliable, n<30.

[1] In Rwanda, the women's "any targeted commodity" indicator measures consumption of one or more of *three* NRVCCs, whereas the children's "any targeted commodity" indicator (shown below in Table 6.10) measures consumption of one or more of only *two* NRVCCs. (Data on IF beans were not collected for children.)

[2] The NRVCC foods consumption indicators are typically identified by the recall of food consumption "yesterday, during the day or night." For the purposes of the NRVCC assessment indicator, consumption of IF beans is identified as those who last ate the IF beans in the "past day."

[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-d] 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, Rwanda 2014-2015.

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

Table 6.10 presents children's consumption of targeted NRVCC. As noted earlier in this report, in Rwanda the children's NRVCC indicators include two foods: chicken and milk or milk products (in contrast to women, the Rwanda ZOI interim survey did not include questions regarding knowledge, use, and consumption of IF beans for children). Therefore, for children, the "any targeted commodity" indicator measures consumption of at least one of the two NRVCC foods. 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 6.10, 38.2 percent – nearly two in every five – children age 6-23 months in the Rwanda ZOI consumed at least one of the two NRVCC foods in the prior day. As denoted by the superscripts in Table 6.10, the "any targeted commodity" indicator differs significantly by only the household hunger disaggregate variable. Children in households with little or no hunger are significantly more likely to consume at least one NRVCC food than children in households with moderate or severe hunger, 44.1 percent versus 27.0 percent, respectively.

Table 6.10 reveals that, of the two NRVCC foods for children, milk, and milk products are most commonly consumed; 38.0 percent of children age 6-23 months consumed milk or milk products in the prior day. This is followed distantly by chicken (2.7 percent of children in the Rwanda ZOI).

Only one of the disaggregates presented in Table 6.10 – which include child's sex, age group, caregiver's educational attainment, gendered household type, household size, and household hunger – is significantly associated with children's consumption of the individual commodity of milk or milk products. Children's consumption of dairy is significantly higher in households with little or no hunger (44.1 percent) than children residing in households with moderate or severe hunger (26.3 percent).

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

Characteristic	Percent			n[2]
	Any targeted commodity[1,a]	Chicken[b]	Milk and milk products[c]	
Total (All children 6-23 months)	38.2	2.7	38.0	229
Child sex				
Male	39.8	1.0	39.8	121
Female	36.4	4.7	35.9	108
Child age				
6-11 months	36.4	0.0	36.4	74
12-17 months	37.8	3.6	37.0	79
18-23 months	40.3	4.4	40.3	76
Caregiver's educational attainment[2]				
No education	38.2	0.0	38.2	36
Less than primary	25.9	1.9	25.9	47
Primary	38.5	1.0	38.5	125
Secondary or more	^	^	^	21
Gendered household type				
Male and female adults	38.4	3.1	38.1	204
Female adult(s) only	^	^	^	25
Male adult(s) only	-	-	-	0
Child(ren) only (no adults)	-	-	-	0
Household size				
Small (1-5 members)	37.6	2.1	37.2	140
Medium (6-10 members)	38.1	3.8	38.1	86
Large (11+ members)	^	^	^	3
Household hunger[a,c]				
Little to no hunger	44.1	3.8	44.1	150
Moderate or severe hunger	27.0	0.7	26.3	79

^ Results not statistically reliable, n<30.

[1] In Rwanda, the children's "any targeted commodity" indicator measures consumption of one or more of *two* NRVCCs, whereas the women's "any targeted commodity" indicator (shown in Table 6.9) measures consumption of one or more of *three* NRVCCs. (Data on IF beans were collected for women, but not for children.)

[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 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, Rwanda 2014-2015.

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 and household size.

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

Characteristic	Mean BMI[a]	Body Mass Index (BMI) category (percent)[b]				n[l]
		Under-weight[c]	Normal weight	Over-weight	Obese	
Total (All women age 15-49)	22.6	6.8	74.4	16.0	2.8	5,199
Age[a,b,c]						
15-19	21.8	11.6	76.4	11.3	0.7	1,159
20-24	22.8	2.6	78.4	17.4	1.6	885
25-29	22.8	4.7	75.8	17.5	2.0	849
30-34	23.0	5.5	72.0	18.6	3.8	755
35-39	23.0	6.4	70.2	17.5	5.8	608
40-44	22.9	5.3	72.3	17.8	4.6	512
45-49	22.4	10.9	71.0	13.9	4.1	431
Educational attainment[a,b]						
No education	22.4	7.9	76.4	13.3	2.4	655
Less than primary	22.3	6.8	77.8	13.4	2.0	2,253
Primary	22.7	6.8	71.5	18.8	2.9	1,945
Secondary or more	24.0	4.4	62.4	24.4	8.8	346
Gendered household type[a,b]						
Male and female adults	22.7	6.8	73.2	16.9	3.1	3,880
Female adult(s) only	22.3	6.7	77.9	13.5	1.9	1,299
Male adult(s) only	^	^	^	^	^	16
Child(ren) only (no adults)	^	^	^	^	^	4
Household size[b,c]						
Small (1-5 members)	22.6	5.9	76.1	15.4	2.6	3,046
Medium (6-10 members)	22.6	8.0	72.1	16.8	3.1	2,120
Large (11+ members)	22.7	6.3	68.5	22.7	2.4	33

^ 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-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: 2014-2015 Rwanda DHS.

Among non-pregnant women age 15-49 in the Rwanda zone of influence (ZOI), the average BMI is 22.6, or normal weight. The 2014-2015 Rwanda Demographic and Health Survey (DHS) report shows that for all of Rwanda, the national mean BMI value for women age 15-49 is very similar, at 22.8.[63] As shown in Table 7.1, 6.8 percent of women in the Rwandan ZOI are underweight (BMI <18.5), the Feed the Future standard indicator. Nationally, the percentage of non-pregnant women age 15-49 who are underweight is 6.6 percent.[64]

Nearly three-quarters (74.4 percent) of women in the Rwanda ZOI are normal weight, and 16.0 percent and 2.8 percent are overweight and obese, respectively. For context, the comparable national values for all women in Rwanda, are 72.6 percent (normal weight), 17.1 percent (overweight), and 3.7 percent (obese).[65]

As shown in Table 7.1, average BMI in the ZOI varies significantly by women's age group, educational attainment, and gendered household type. Women's average BMI values appear to generally follow an inverse "U" shape pattern, initially increasing with age and then declining somewhat at the oldest age groups. In addition, mean BMI varies by levels of education, with the most educated women, those with secondary or more schooling, exhibiting the highest average BMI values (24.0). Finally, BMI also varies by categories of gendered household type, with women in male and female adult households exhibiting higher mean BMI values than women in female adult-only households, 22.7 versus 22.3, respectively.

In addition, and as denoted by the superscript letter "b" in the Table 7.1, BMI category (underweight, normal weight, overweight, and obese) varies significantly by age group, educational attainment, gendered household type, and household size. Finally, the prevalence of women's underweight, the Feed the Future standard indicator, varies by age group and household size. Women at the youngest age group (15-19) exhibit the highest prevalence of underweight (11.6 percent), as do women in medium-sized households, those with 6-10 members; 8.0 percent of women in medium-sized households are underweight.

[63] NISR, MOH, and ICF International. (2015). p. 166.
[64] Ibid.
[65] Ibid.

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 SD below the median of the 2006 World Health Organization (WHO) Child Growth Standard (<-2SD).[66] 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 and household size.

In the Rwanda ZOI, 39.7 percent of children under age 5 are stunted. This is similar to the national estimate for Rwanda shown in the 2014-2015 DHS report, which is 37.9 percent.[67] As shown in Table 7.2, 14.5 percent of ZOI children are severely stunted. The national estimate for severe stunting (< -3SD) among Rwandan children is 13.5 percent.[68] The mean height-for-age Z-score in the ZOI is -1.6, which indicates that the average height-for-age among children in the Rwanda ZOI is lower than that of the WHO global reference population. This ZOI height-for-age Z-score estimate is identical to the national mean height-for-age Z-score in the DHS report (also -1.6).[69]

[66] WHO and UNICEF. (2006).
[67] NISR, MOH, and ICF International. (2015). p. 149.
[68] Ibid.
[69] 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)	39.7	14.5	-1.6	3,352
Child sex[a,b]				
Male	44.5	16.8	-1.8	1,706
Female	34.9	12.1	-1.5	1,646
Child age[a,b]				
0-11 months	15.9	6.4	-0.7	663
12-23 months	47.8	16.7	-1.8	673
24-35 months	49.7	19.6	-2.0	690
36-47 months	44.5	15.4	-1.8	743
48-59 months	39.7	13.9	-1.8	583
Caregiver's educational attainment[2,a,b]				
No education	46.3	18.3	-1.9	571
Less than primary	42.5	15.6	-1.7	1,695
Primary	34.0	10.9	-1.5	909
Secondary or more	14.3	7.4	-0.7	175
Gendered household type[b]				
Male and female adults	39.1	13.8	-1.6	2,699
Female adult(s) only	43.0	17.4	-1.8	627
Male adult(s) only	^	^	^	25
Child(ren) only (no adults)	^	^	^	1
Household size				
Small (1-5 members)	39.4	14.2	-1.6	2,075
Medium (6-10 members)	40.5	15.0	-1.6	1,261
Large (11+ members)	^	^	^	16

^ 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] When the biological mother resides in the household, her educational attainment is used. If the biological mother is not in the household, then the respondent caregiver's educational attainment is used.

[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: 2014-2015 Rwanda DHS.

As denoted by the superscripts in the column headings of 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 sex, age group, and caregivers' education. For example, male children are significantly more likely to be stunted than female children, 44.5 percent versus 34.9 percent, respectively. Similarly, stunting increases with increasing children's age until peaking at the middle age group (24-35 months, where nearly half [49.7 percent] of children are stunted) and then decreases at the oldest age groups. Likewise, the prevalence of stunting is also significantly associated with caregivers' education. Nearly half (46.3 percent) of children whose caregivers have no

education are stunted compared to only 14.3 percent of children whose caregivers have secondary or more schooling.

In addition, as shown in Table 7.2, children's mean height-for-age Z-scores are significantly associated with children's sex, age group, caregivers' education, and gendered household type. The patterns for this variable are consistent to the patters for stunting prevalence described above. In addition, mean Z-scores vary by the children's gendered household type, with lower mean Z-scores among children in female adult-only households than among children in male and female adult households (-1.8 and -1.6, respectively).

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 and household size.

In the Rwanda ZOI, 2.2 percent of children under age 5 are wasted, and 0.6 percent are severely wasted. National estimates from the 2014-2015 DHS report are the same, at 2.2 percent and 0.6 percent, respectively, for all of Rwanda.[70]

With respect to overweight (> +2SD) and obese (> +3SD), in the Rwanda ZOI, 7.4 percent of children under age 5 are overweight, and 1.7 percent are obese. The national estimate for overweight from the 2014-2015 Rwanda DHS is 7.7 percent.[71] (Children's obesity estimates were not presented in the 2014-2015 Rwanda DHS report.) The mean weight-for-height Z-score for children under age 5 in the Rwanda ZOI is 0.4, which indicates that, on average, the weight-for-height of children in the ZOI is slightly higher than that for the WHO global reference population.

[70] Ibid.
[71] Ibid.

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)	2.2	0.6	7.4	1.7	0.4	3,352
Child sex						
Male	2.3	0.8	8.2	2.1	0.5	1,706
Female	2.1	0.3	6.7	1.2	0.4	1,646
Child age[a,b,c]						
0-11 months	4.7	1.6	13.1	4.8	0.5	663
12-23 months	3.6	0.7	7.8	1.6	0.4	673
24-35 months	0.9	0.2	7.6	1.0	0.5	690
36-47 months	0.7	0.0	5.4	0.6	0.5	743
48-59 months	1.2	0.3	2.8	0.3	0.4	583
Caregiver's educational attainment[2]						
No education	2.5	0.8	6.8	1.8	0.5	571
Less than primary	2.2	0.5	7.1	1.7	0.4	1,695
Primary	2.0	0.6	8.1	1.4	0.4	909
Secondary or more	1.7	0.0	9.1	2.7	0.5	175
Gendered household type						
Male and female adults	2.4	0.7	7.5	1.7	0.4	2,699
Female adult(s) only	1.5	0.2	7.0	1.4	0.4	627
Male adult(s) only	^	^	^	^	^	25
Child(ren) only (no adults)	^	^	^	^	^	1
Household size						
Small (1-5 members)	1.9	0.5	7.2	1.6	0.4	2,075
Medium (6-10 members)	2.7	0.7	7.8	1.8	0.4	1,261
Large (11+ members)	^	^	^	^	^	16

^ 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] When the biological mother resides in the household, her educational attainment is used. If the biological mother is not in the household, then the respondent caregiver's educational attainment is used.

[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: 2014-2015 Rwanda DHS.

Table 7.3 also includes the results of significance tests for the children's wasting measure (< -2SD, the Feed the Future standard indicator), the overweight measure (> +2SD), and mean weight-for-height Z-scores. All three measures – wasting, overweight, and mean weight-for-height Z-scores – are significantly associated with children's age group. Wasting generally appears to decline with increasing age, from 4.7 percent among children age 0-11 months, to 0.7 percent among children age 36-47 months, and then a slight increase to 1.2 percent among children age 48-59 months. The pattern for overweight appears more linear, declining from 13.1 percent of children age 0-11 months to 2.8 percent among children age 48-59 months.

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 and household size.

In the Rwanda ZOI, 9.8 percent of children under age 5 are underweight, and 2.2 percent are severely underweight. National estimates for the prevalence of children's underweight and severe underweight from the 2014-2015 Rwanda DHS are 9.3 percent and 2.2 percent, respectively.[72]

The mean weight-for-age Z-score in the ZOI is -0.6, which indicates that on average the weight-for-age for children in the ZOI is below that for the global reference population. The national mean weight-for-age Z-score is also -0.6.[73]

[72] Ibid.
[73] 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)	9.8	2.2	-0.6	3,352
Child sex				
Male	9.8	2.8	-0.7	1,706
Female	9.8	1.7	-0.6	1,646
Child age[a,b]				
0-11 months	7.2	1.8	-0.2	663
12-23 months	10.9	2.7	-0.6	673
24-35 months	11.5	2.0	-0.8	690
36-47 months	8.4	1.3	-0.7	743
48-59 months	11.4	3.6	-0.9	583
Caregiver's educational attainment[2,a,b]				
No education	11.9	3.2	-0.8	571
Less than primary	10.1	2.4	-0.7	1,695
Primary	9.0	1.6	-0.6	909
Secondary or more	2.5	0.8	0.0	175
Gendered household type[a,b]				
Male and female adults	9.2	2.1	-0.6	2,699
Female adult(s) only	12.8	2.9	-0.7	627
Male adult(s) only	^	^	^	25
Child(ren) only (no adults)	^	^	^	1
Household size				
Small (1-5 members)	9.5	2.4	-0.6	2,075
Medium (6-10 members)	10.5	2.1	-0.6	1,261
Large (11+ members)	^	^	^	16

^ 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] When the biological mother resides in the household, her educational attainment is used. If the biological mother is not in the household, then the respondent caregiver's educational attainment is used.

[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: 2014-2015 Rwanda DHS.

As shown in the column headings 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 children's age group, caregivers' educational attainment, and gendered household type. Although the pattern by children's age groups is not linear, the pattern by caregiver education is more clear; underweight declines from 11.9 percent among children whose caregivers have no education to only 2.5 percent among children whose caregivers have secondary or more schooling. In addition, children's underweight is significantly higher among children residing in households

with no male adults (i.e., the female adult-only household type) than among children residing in households with both male and female adults, 12.8 percent and 9.2 percent, respectively.

Similar to the findings for the prevalence of underweight indicator, Table 7.4 shows that mean weight-for-age Z-scores also vary significantly by children's age group, caregivers' education, and gendered household type. Z-scores improve noticeably with greater levels of caregivers' education, from -0.8 among children whose caregivers have no education to 0.0 (the global reference population mean) among children whose caregivers have secondary or more schooling.

8. Summary and Conclusion

This report presents the results of the first interim assessment for the Feed the Future Rwanda zone of influence (ZOI). The Rwanda ZOI encompasses rural and urban areas in the 27 districts across Northern, Southern, Eastern, and Western provinces. The ZOI excludes the three districts that comprise Kigali City province. Both primary 2014-2015 ZOI interim survey, secondary 2014-2015 Rwanda Demographic and Health Survey (DHS), and 2013-2014 Integrated Household Living Conditions Survey/Enquête Intégrale sur les Conditions de Vie des Ménages (EICV4) data were used for the Rwanda interim assessment.

Sample size from these data is sufficient to provide point estimates in the Rwanda ZOI for the standard Feed the Future indicators, but the ZOI interim survey was not designed to be large enough to measure change in indicator values from the baseline assessment. Thirteen Feed the Future indicators are included in this assessment: (1) Daily per capita expenditures (as a proxy for income) in U.S. 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 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.

In addition to the standard Feed the Future indicators, the Women's Empowerment in Agriculture Index (WEAI) uncensored headcounts, or the percentages of women who achieved adequacy on each of the nine WEAI indicators, are also included; however the full WEAI index (and its component Five Domains of Empowerment [5DE] and Gender Parity Index [GPI] sub-indices) cannot be tabulated with interim survey data.

As shown in Table 2.1 earlier in this report, the three poverty indicators – per capita expenditures, prevalence of poverty, and depth of poverty – were calculated from secondary data in the Rwanda ZOI, the 2013-2014 EICV4. Six indicators were calculated with the 2014-2015 Rwanda DHS: women's underweight, exclusive breastfeeding, MAD, and children's stunting, wasting, and underweight. The remaining indicators were calculated from primary data collected in the Rwanda ZOI in late 2014 and early 2015 by FTF FEEDBACK.

8.1 Summary of Key Findings

8.1.1 Household Economic Status

In the 27 districts of the Rwanda ZOI, average daily per capita expenditures is $1.64 (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 62 percent. The depth of poverty, the mean percent shortfall relative to the $1.25 per day poverty line, is 23.2 percent.

8.1.2 WEAI Indicators

While neither the full 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. As mentioned above, 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. As shown in Table ES.2 in the Executive Summary, the interim WEAI uncensored headcounts (i.e., the "All Interim" estimates for the full ZOI presented in the right-hand set of columns) with the highest levels of achievement include control over the use of income (99.4 percent), input in productive decisions (96.2 percent), and ownership of assets (95.8 percent). The WEAI uncensored headcount with the lowest level of achievement among primary adult female decisionmakers is workload (47.2 percent).[74]

8.1.3 Hunger and Dietary Intake

Nearly one-third of ZOI households (32.2 percent) experience moderate or severe hunger, the Feed the Future standard indicator. 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 3.95 food groups. The prevalence of exclusive breastfeeding among ZOI infants age 0-5 months is 86.3 percent; the majority of all infants in the Rwanda ZOI were exclusively breastfed in the prior 24 hours. Among ZOI children age 6-23 months, 16.5 percent received a MAD in the prior day.

The three NRVCC in for women in Rwanda are chicken, milk, and milk products, and IF beans. For children, however, data on consumption of IF beans were not collected; the targeted NRVCC for children 6-23 months in the Rwanda ZOI are chicken and milk/milk products.

[74] As noted in the footnotes in Table ES.2 in the Executive Summary, interim estimates for WEAI, household hunger, and women's dietary diversity score (WDDS) for the full ZOI (including both rural and urban areas) are found in the far right set of columns (labeled "All Interim") in this table. Footnotes 1-3 in the table explain that baseline estimates (shown in the far left set of columns, labeled "Rural Baseline") excluded urban areas. Therefore, a set "Rural Interim" estimates is presented in the middle set of columns in Table ES.2. These "Rural Interim" estimates are used to compare to the "Rural Baseline" estimates because both sets of estimates exclude urban enumeration areas (EAs) (and include only rural and peri-urban EAs). The "All Interim" indicators are the indicator estimates for the entire Rwandan ZOI, including both rural and urban areas.

Questions about the consumption of these foods in the prior 24 hours were incorporated into the women's and children's dietary intake modules in the ZOI interim survey (Modules H and I, respectively).

Among women of reproductive age in the Rwanda ZOI, 19.2 percent consumed at least one of the three NRVCC foods in the prior day, with milk or milk products most commonly consumed (17.3 percent of women), followed by chicken (1.4 percent of women), and IF beans (1.2 percent).

Among children in the Rwanda ZOI, 38.2 percent (more than one-third) consumed at least one of the two children's NRVCC foods in the prior day, with milk and milk products most commonly consumed (38.0 percent of children age 6-23 months). Chicken was consumed by only 2.7 percent of children age 6-23 months in the prior 24 hours.

8.1.4 Country-Specific Findings: IF Beans

In addition to iron-fortified (IF) beans' inclusion among the women's NRVCC indicators for Rwanda, Chapter 6 of this report also presented data for women's knowledge and use of IF beans. In a sub-module unique to the Rwanda ZOI interim survey, women age 15-49 were asked whether they had ever heard of IF beans. Only 13.4 percent of women in the ZOI reported having heard of IF beans. Among this subgroup of women with an awareness of IF beans, women were also asked whether they had ever obtained IF beans, had themselves (or anyone else in their household) ever planted IF beans, and had eaten IF beans. Among women with knowledge of IF beans, 24.5 percent reported having obtained IF beans, 29.3 percent reported that either they themselves or someone in their household had planted IF beans, and 33.0 percent reported that they had eaten IF beans.

8.1.5 Nutritional Status of Women and Children

About 6.8 percent of non-pregnant women of reproductive age in the Rwanda ZOI are underweight (BMI below 18.5). With respect to children's anthropometry, 39.7 percent of children under age 5 in the ZOI are stunted, i.e., have low height-for-age, indicating long term, chronic undernutrition; 2.2 percent of children under age 5 are wasted, or have low weight-for-height. Wasting is an indicator of acute malnutrition. Finally, 9.8 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 Rwanda ZOI interim assessment was not designed to measure change from baseline indicator values, nor was it designed to draw conclusions about attribution or causality. However, non-overlapping confidence intervals (CIs) for baseline and interim estimates point to

a statistically significant change over time. (It should be noted that baseline indicator estimates are shown in the two Executive Summary tables only.) When CIs do overlap, which is the case for most indicators, conclusions cannot be made regarding statistically significant change from baseline to interim unless a statistical test of differences is conducted.

For a subset of indicators shown in the Executive Summary Table ES.1, significance tests were conducted to compare baseline and interim estimates. The indicators which were tested include both the poverty- and expenditure-related indicators (per capita expenditures, prevalence of poverty, and depth of poverty) as well as the children's anthropometry indicators (stunting, wasting, and underweight among children under 5 years of age). As denoted by the asterisks (and footnote 2) in Table ES.1, nearly all of these indicators exhibited a statistically significant change ($p<0.05$) between baseline and interim; the exception was children's wasting.

In the Rwanda ZOI, daily per capita expenditures for all households increased significantly from $1.51 (2010 USD) at baseline to $1.64 (2010 USD) at interim. (There were no statistically significant baseline/interim differences among the disaggregate estimates for per capita expenditures.) Similarly, prevalence of poverty and depth of poverty declined over time for all households, as well as for male and female adult households. At baseline (2011-2012) the prevalence of poverty for all households in the Rwanda ZOI was 67.0 percent, declining to 62.0 percent at interim (2013-2014). The depth of poverty among all ZOI households has also declined from 27.3 percent at baseline to 23.2 percent at interim.

Table ES.1 also showed that the prevalence of children's stunting declined from the baseline (2010-2011) ZOI estimate of 46.3 percent to the interim (2014-2015) estimate of 39.7 percent. This significant decline in children's stunting in the ZOI over time is apparent for all children, as well as for male and female children separately.

Although there is no statistically significant difference in children's wasting over time, the prevalence of children's underweight has declined significantly from the baseline estimate of 11.8 percent (for all children) to the interim estimate of 9.8 percent. This significant difference in baseline/interim estimates for underweight is also evident for male children, but not for female children.

Notwithstanding the six indicators discussed above for which a baseline/interim significance test was conducted, non-overlapping baseline and interim CIs in the Feed the Future indicator estimates tables presented in the Executive Summary (i.e., Tables ES.1 and ES.2) also indicated significant differences. Significant differences were found over time between the baseline and interim estimates for the four WEAI indicators of input in productive decisions, access to and decisions on credit, control over use of income, and group member (see the "Rural Baseline" and comparable "Rural Interim" columns in Table ES.2). For these four WEAI indicators, interim estimates are higher than baseline estimates.

Table ES.2 also showed that the household hunger indicator is significantly different between baseline and interim – for all households as well as male and female adult households. In the rural areas of the Rwanda ZOI, the prevalence of moderate to severe household hunger has declined from 43.1 percent at baseline to 32.2 percent at interim.

Women's dietary diversity has also changed significantly over time, as evident by the non-overlapping CIs in the "Rural Baseline" and comparable "Rural Interim" columns in Table ES.2. The mean number of food groups (of nine possible groups) consumed by women of reproductive age in the Rwanda ZOI has increased from 3.34 food groups at baseline, to 3.86 food groups at interim.

Notwithstanding the description above regarding the specific Feed the Future indicators for which a baseline/interim significance test was conducted, or those which exhibit, via non-overlapping CIs, statistically significant change over time, this first interim assessment for the Rwanda ZOI was designed to present point estimates in the ZOI for the Feed the Future indicators. The second interim assessment for the Rwanda ZOI, planned for 2017, will explicitly explore change in indicator estimates over time.

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Appendix 1. Supplementary Data and Figures

A1.1 Interim Feed the Future Indicator Estimates

Unweighted sample sizes, point estimates, SDs, CIs, DEFFs, 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) in USG-assisted areas (2010 USD)[a]						
All households	1.64	2.35	1.56 – 1.71	3.1	n/a	13,056
Male and female adults	1.63	2.20	1.55 – 1.70	3.1	n/a	10,301
Female adult(s) only	1.33	1.95	1.27 – 1.39	0.6	n/a	2,146
Male adult(s) only	3.87	8.16	3.38 – 4.35	0.5	n/a	594
Child(ren) only (no adults)	^	^	^	^	n/a	15
Prevalence of Poverty: Percent of people living on less than $1.25/day (2005 PPP)[a]						
All households	62.0	-	60.7 – 63.3	2.4	n/a	13,056
Male and female adults	61.6	-	60.2 – 63.0	2.3	n/a	10,301
Female adult(s) only	70.1	-	67.7 – 72.4	1.0	n/a	2,146
Male adult(s) only	32.2	-	27.1 – 37.8	0.8	n/a	594
Child(ren) only (no adults)	^	-	^	^	n/a	15
Depth of Poverty: Mean percent shortfall relative to the $1.25/day (2005 PPP) poverty line[a]						
All households	23.2	24.5	22.5 – 23.9	2.6	n/a	13,056
Male and female adults	22.7	23.1	22.0 – 23.4	2.4	n/a	10,301
Female adult(s) only	29.0	31.6	27.6 – 30.4	1.1	n/a	2,146
Male adult(s) only	11.1	32.1	8.8 – 13.3	0.7	n/a	594
Child(ren) only (no adults)	^	^	^	^	n/a	15
Percent of women achieving adequacy on Women's Empowerment in Agriculture Index Indicators[2]						
Input in productive decisions	96.2	-	94.3 – 97.4	1.5	3.3	969
Autonomy in production	n/a	-	n/a	n/a	n/a	n/a
Ownership of assets	95.8	-	93.7 – 97.3	1.8	3.3	969
Purchase, sale or transfer of assets	89.7	-	86.3 – 92.3	2.3	3.3	969
Access to and decisions on credit	78.9	-	74.7 – 82.6	2.3	3.3	969
Control over use of income	99.4	-	98.7 – 99.7	0.9	3.3	969
Group member	83.0	-	78.3 – 86.8	3.1	3.3	969
Speaking in public	86.4	-	83.0 – 89.2	2.0	3.3	969
Workload	47.2	-	43.3 – 51.3	1.5	3.3	969
Leisure	83.1	-	79.0 – 86.6	2.4	3.3	969

Feed the Future indicator	Estimate					n
	Indicator[a]	SD	95% CI	DEFF	Non-response rate[l]	
Prevalence of households with moderate or severe hunger[a]						
All households	32.2	-	27.9 – 36.9	2.5	0.4	1,064
Male and female adults	29.2	-	24.5 – 34.5	2.5	0.4	830
Female adult(s) only	47.3	-	36.7 – 58.1	2.0	0.2	174
Male adult(s) only	31.2	-	20.5 – 44.3	0.9	0.2	60
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	3.95	1.40	3.80 – 4.10	3.3	2.7	1,155
Prevalence of exclusive breastfeeding among children under 6 months of age						
All children	86.3	-	83.0 – 89.0	1.2	n/a	615
Male children	87.1	-	82.4 – 90.6	1.2	n/a	314
Female children	85.5	-	80.8 – 89.2	1.1	n/a	301
Prevalence of children 6-23 months receiving a minimum acceptable diet						
All children	16.5	-	14.9 – 18.2	1.1	n/a	2,102
Male children	16.4	-	14.2 – 18.9	1.1	n/a	1,058
Female children	16.5	-	14.3 – 19.1	1.1	n/a	1,044
Prevalence of women of reproductive age who consume targeted nutrient-rich value chain commodities[3]						
Chicken	1.4	-	0.8 – 2.8	1.8	2.7	1,155
Milk and milk products	17.3	-	13.9 – 21.2	2.7	2.7	1,155
IF beans	1.2	-	0.5 – 2.6	2.1	2.7	1,155
Prevalence of women of reproductive age who consume at least one targeted nutrient-rich value chain commodity[3]						
All women age 15-49	19.2	-	15.7 – 23.4	2.7	2.7	1,155
Prevalence of children 6-23 months who consume specific targeted nutrient-rich value chain commodities[3]						
Chicken	2.7	-	1.0 – 7.1	1.5	0.4	229
Milk and milk products	38.0	-	29.2 – 47.5	2.1	0.4	229
Prevalence of children 6-23 months who consume at least one targeted nutrient-rich value chain commodity[3]						
All children	38.2	-	29.4 – 47.9	2.1	0.4	229
Male children	39.8	-	29.8 – 50.8	1.4	0.2	121
Female children	36.4	-	25.0 – 49.6	1.8	0.6	108
Prevalence of underweight women						
All non-pregnant women age 15-49	6.8	-	6.1 – 7.5	1.1	n/a	5,199
Prevalence of stunted children under 5 years of age[a]						
All children	39.7	-	37.8 – 41.6	1.3	n/a	3,352
Male children	44.5	-	41.9 – 47.1	1.2	n/a	1,706
Female children	34.9	-	32.5 – 37.3	1.1	n/a	1,646

Feed the Future indicator	Estimate					n
	Indicator[a]	SD	95% CI	DEFF	Non-response rate[1]	
Prevalence of wasted children under 5 years of age						
All children	2.2	-	1.8 – 2.7	0.9	n/a	3,352
Male children	2.3	-	1.7 – 3.1	0.9	n/a	1,706
Female children	2.1	-	1.5 – 3.0	1.1	n/a	1,646
Prevalence of underweight children under 5 years of age						
All children	9.8	-	8.8 – 10.9	1.1	n/a	3,352
Male children	9.8	-	8.4 – 11.4	1.1	n/a	1,706
Female children	9.8	-	8.5 – 11.4	1.0	n/a	1,646

^ 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] In Rwanda, women have three NRVCCs (chicken, milk/milk products, and IF beans). Unlike standard NRVCC indicators, the IF beans indicator was collected through a series of knowledge and practice questions (e.g., *ever heard*, *ever consumed*, *consumed in prior day*). For children, no data on consumption of IF beans were collected, and thus children have only two NRVCC indicators (chicken, and milk/milk products). Therefore the children's "at least one" NRVCC indicator measures consumption of one or more of *two* NRVCCs, whereas the women's "at least one" NRVCC indicator measure consumption of one or more of *three* NRVCCs.

[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 expenditures 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, Rwanda 2014-2015; 2013-2014 EICV4; 2014-2015 Rwanda DHS.

Appendix 2. Methodology

A2.1 Sampling and Weighting

Sampling

The sample of households for the interim survey followed a two-stage stratified cluster sampling design. In the first stage, 54 EAs were selected from a master sample developed from the 2012 Population and Housing Census in 27 districts of 4 provinces. The master sample was created by probability proportional to size sampling, and the 54 EAs of the FTF FEEDBACK interim survey sample were then selected systematically with equal selection probability. The stratification is by province and urban-rural. In the second stage, 20 households were selected for interview at random from a comprehensive list of households generated during a listing operation that was fielded from November 19 to November 28, 2014.

During the census mapping operation of the 2012 Rwanda Population and Housing Census, some villages of Rwanda were segmented in more than one EAs because of the big number of households in the village or because households were very scattered (distant from one another) in the village. Before household listing, segmented villages were identified and one of the EAs was randomly selected.

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 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 *h*.

P_{2hi} = second-stage sampling probability within the *i*-th cluster (household selection).

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

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

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

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

where:

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

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

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

b_i proportion of households in the *i*-th sample cluster compared to the total number of households in EA *i* in stratum *h* if the EA is segmented, otherwise b_i=1.

n_{hi} = number of sample households selected for the *i*-th sample cluster in stratum *h*.

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

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

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

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

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

The sampling weight was calculated with the design weight corrected for nonresponse for each 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 expenditure and poverty indicators calculated for the interim assessment were derived using the Integrated Household Living Conditions Survey 2013-2014 (EICV4) cross-sectional sample, collected by the National Institute of Statistics of Rwanda (NISR). These survey data were collected between October 2013 and October 2014. The cross-sectional data are nationally representative in 2013-2014 and includes data from two subsamples: (1) a panel of 2,108 households selected from 177 Integrated Household Living Conditions Survey, 2011 (EICV3) villages and (2) a new sample of 12,312 households sampled from the 2012 Rwanda Census. After excluding households with incomplete data, 14,419 households provided complete expenditure data. The nationally representative data were subset to the Southern, Western, Northern, and Eastern Provinces to produce estimates of the Feed the Future zone of influence (ZOI). This resulted in a final analysis sample size of 13,056 households.

Data Preparation

As a consumption survey, the EICV4 collected expenditure and consumption data for many food and non-food items over varying recall periods. The NISR cleaned and aggregated the data for various foods and consumer items following the same procedures used to calculate official poverty estimates, and as stated in the 2013-2014 Rwanda Poverty Profile Report.[75] The procedures followed the international standards established by Deaton and Zaidi (2002).

Price Adjustments

Spatial Price Adjustment

NISR calculated a Cost of Living Index (COLI).[76] The COLI was based on the prices of 42 food and 84 non-food items in January 2014 that are commonly consumed by households. The COLI was used to make the consumption levels comparable across different areas. Food prices vary markedly in different parts of the country, and those paying more to consume the same amount of food would appear to have higher consumption without the adjustment.

Intertemporal Price Adjustment

The EICV4 was collected between October 2013 and October 2014. Because prices vary across time, the NISR converted consumption aggregates from nominal prices to real prices in January 2014, based on the monthly Consumer Price Index (CPI) values.

[75] NISR. (2015c). p. 15.
[76] Ibid. p. 15-17.

Currency Conversions Using CPI and PPP

The spatial and temporal adjustments described above rendered the nominal consumption aggregates into aggregates reflective of real prices in January 2014. Additional currency conversions were necessary to prepare the figures presented in this report.

- The $1.25 2005 purchasing power parity (PPP) poverty threshold was converted to January 2014 prices by using the Rwanda 2005 PPP value of 236.75 and the January 2014 CPI of 179.95 (2005=100). The $1.25 2005 PPP threshold is equivalent to 295.94 Rwanda francs (RWF) per person per day in 2005 prices and 532.54, per person, per day in January 2014 prices.

- Consumption aggregates were converted to 2010 United States dollars (USD) by adjusting for 2005 PPP. We converted to 2010 USD by using the formula (2005 RWF CPI/January 2014 RWF CPI) * (1/PPP 2005) * (2010 USD CPI/2005 USD CPI) where January 2014 RWF CPI = 179.95, 2005 RWF CPI = 100, PPP 2005 = 236.75, 2010 USD CPI = 111.65, and 2005 USD CPI = 100. The conversion factor was 0.00262.

- The January 2014 CPI value was identified in a monthly report of the consumer price index.[77] All other CPI values used were taken from the World Bank's Databank.[78] CPI values were adjusted to a base year of 2005 from a base year of 2010.

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 usual household members in the household.

National and Extreme Poverty Thresholds[79]

The NISR updated national poverty lines using data collected from the ECIV4. The poverty lines were estimated using a cost-of-basic-needs approach. Unlike the $1.25 poverty per person per day threshold, the national poverty lines were created for adult equivalents. The national poverty line is 159,375 RWF per adult equivalent per year (January 2014 prices).[80] This is 436.65 RWF per day ($1.02 2005 PPP). The national extreme poverty line used in this analysis is the food poverty line developed in conjunction with the national poverty line. The food

[77] NISR. (2014a). p. 1.
[78] The World Bank. (2015a).
[79] Readers who seek a more thorough description of national poverty estimates and poverty thresholds should consult the *Rwanda Poverty Profile Report, 2013/2014* (NISR 2015c).
[80] NISR. (2015c). p. 20.

poverty line is the minimum amount required to provide a minimum caloric intake for an adult equivalent. The food poverty line is 105,064 RWF (January 2014 prices) per adult equivalent per year.[81] This is 287.85 RWF per day ($0.68 2005 PPP).

Estimation of the Poverty Lines

The national poverty lines were derived by first estimating a food poverty line based on the minimum costs needed to consume 2,500 kilocalories. The minimum costs were based on a food basket that was representative of households who consumption was at the bottom 40 percent of households (i.e., those who are the most poor).[82] The food basket formed the basis for the food poverty line.

Non-food requirements were determined by identifying the non-food expenses incurred by households living at or slightly above/below the food poverty line. The non-food requirements were added to the food poverty line to form the national poverty line.[83]

Adult Equivalents

As discussed, the national poverty lines are based on an adult equivalent. These poverty lines are not easily compared to a per capita poverty line. In order to estimate poverty according to national poverty thresholds, the number of adult equivalents per household was identified by the NISR using the equivalence scale presented in **Table A2.1.**[84]

To illustrate the difference between per capita and adult equivalent thresholds, assume that a household contains four household members age 29 (male), 26 (female), 12 (female), and 3 (female). The household size is four and the number of adult equivalents in the household is 3.64. Assume that a second household also has four household members, but the ages are 29 (male), 12 (female), 3 (female), and 1 (female). In both cases, there are four household members and both households would require $5.00 2005 PPP per day to meet the $1.25 per capita threshold. However, the two households require different daily consumption totals to meet the national absolute threshold because the households contain different adult equivalents. The first household has 3.64 adult equivalents and would require $3.71 2005 PPP to meet the national poverty line while the second household only has 3.20 adult equivalents and would require $3.26 2005 PPP to meet the same national absolute poverty line.

[81] Ibid.
[82] Ibid. p. 18–19.
[83] Ibid. p. 20.
[84] Ibid. p. 32.

Table A2.1. Adult equivalence scale

Age range	Gender	
	Male	Female
Less than 1 year	0.41	0.41
1 to 3 years	0.56	0.56
4 to 6 years	0.76	0.76
7 to 9 years	0.91	0.91
10 to 12 years	0.97	1.08
13 to 15 years	0.97	1.13
16 to 19 years	1.02	1.05
20 to 39 years	1.00	1.00
40 to 49 years	0.95	0.95
50 to 59 years	0.90	0.90
60 to 69 years	0.80	0.80
More than 70 years	0.70	0.70

Table A2.2 presents national thresholds as an *average* daily per capita measure to aid in the comparison of the national poverty thresholds and the international poverty thresholds. These are averages because households have different poverty thresholds, as shown in the example above. The thresholds for the households were determined by first calculating the amount required to meet the national threshold based on the number of adult equivalents in the household. This total household threshold was then divided by the number of household members. Finally, the averages presented in Table A2.2 are the averages of the households used in the assessment.

Table A2.2. National poverty thresholds

Threshold	Daily per adult equivalent			Average[1] daily per capita		
	2014 RWF	2005 PPP	2011 PPP	2014 RWF	2005 PPP	2011 PPP
National poverty line						
159,375 per adult equivalent per year	436.64	$1.02	$1.61	394.69	$0.93	$1.45
National extreme poverty line						
105,064 per adult equivalent per year	287.85	$0.68	$1.06	260.19	$0.61	$0.96

[1] The national thresholds in per capita terms are averages because households have different national thresholds depending on the sex and age composition of the individuals in the households. These averages were created by identifying the national threshold for a household and then dividing by the number of household members.

International Poverty Threshold of $1.90 2011 PPP

In 2011, the International Comparison Program collected data to update the PPP indexes that are used to standardize consumption across different economies.[85] In late 2015, The World Bank updated the $1.25 2005 PPP poverty threshold to a comparable $1.90 2011 PPP.[86] 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

[85] The World Bank. (2014).
[86] The World Bank. (2015b).

while the substantive level of poverty measured by the $1.25 2005 PPP measure. Because future assessments in Rwanda are likely to evaluate poverty using the $1.90 2011 PPP thresholds, **Table A2.3** has been prepared to provide a comparison for future assessments.

All indicators and analyses presented in his report have utilized the 2005 PPP to convert between RWF and USD. The only use of the 2011 PPP was to create Table A2.3. The $1.90 2011 PPP poverty threshold was converted to January 2014 RWF by using the Rwanda 2011 PPP value of 246.83.[87] The $1.90 2011 PPP threshold is equivalent to 468.98 RWF per person per day in 2011 prices. Using the 2011 CPI of 163.64 and the January 2014 CPI of 179.95, the $1.90 2011 PPP threshold is 515.72 RWF in January 2014 prices.

Table A2.3. 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)	60.2	13,056	22.0	13,056	0.69	36.5	7,269
Gendered household type[a,b,c]							
Male and female adults	59.8	10,301	21.5	10,301	0.68	35.9	5,822
Female adult(s) only	68.3	2,146	27.7	2,146	0.77	40.6	1,300
Male adult(s) only	31.2	594	10.4	594	0.63	33.4	140
Child(ren) only (no adults)	^	15	^	15	^	^	7
Household size[a,b,c]							
Small (1-5 members)	54.4	9,184	18.6	9,184	0.65	34.3	4,662
Medium (6-10 members)	67.1	3,805	25.9	3,805	0.73	38.7	2,567
Large (11+ members)	59.6	67	21.6	67	0.69	36.2	40
Household educational attainment[a,b,c]							
No education	70.1	618	28.5	618	0.77	40.7	348
Less than primary	73.3	5,297	29.3	5,297	0.76	40.0	3,562
Primary	57.4	6,035	19.3	6,035	0.64	33.7	3,180
Secondary or more	20.1	1,106	5.3	1,106	0.50	26.2	179

^ Results not statistically reliable, n<30.

[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: Rwanda Integrated Household Living Conditions Survey (EICV4), 2013-2014.

[87] The World Bank. (2015c).

The $1.90 2011 PPP poverty line in January 2014 prices is 515.72 RWF, which is lower than the 532.54 RWF ($1.25 2005 PPP) threshold. Because the 2011 PPP threshold is lower than the 2005 PPP threshold, poverty rates under the new threshold are slightly lower than the rates reported in Table 4.2. The poverty prevalence using the 2005 PPP threshold is 62.0 percent whereas the poverty prevalence under the 2011 PPP threshold is 60.2 percent.

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 Rwanda 2014-2015 Zone of Influence Interim Survey Questionnaire

Disclaimer: The Feed the Future Rwanda 2014-2015 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 Kinyarwanda 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. VILLAGE	
A04. SECTOR	
A05. DISTRICT	
A06. PROVINCE	
A07. GPS COORDINATES OF HOUSEHOLD	° ′ ″

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

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.

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 KINYARWANDA 2. FRENCH 3. ENGLISH 4. 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 the Centre for Economic and Social Studies. 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. 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 the Centre for Economic and Social Studies, by calling +250 551 10023. 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 HOUSEHOLD ROSTER:

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

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

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 the Centre for Economic and Social Studies. 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. 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.

If in the future you have any questions regarding the survey or the interview, or concerns or complaints, we welcome you to contact the Centre for Economic and Social Studies, by calling +250 551 10023. 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: _____

NAME OF SURVEY DIRECTOR:_____

PHONE NUMBER:_____

MAILING ADDRESS: _____

_____

_____

EMAIL ADDRESS: _____

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.

C01

C02 — What is [NAME's] sex? M = 1, F = 2

C03 — What is [NAME's] relationship to the primary male decision-maker? IF NO PRIMARY MALE DECISION-MAKER: What is [NAME's] relationship to the primary female decision-maker? SEE CODES BELOW. IF NO ADULT DECISION-MAKER: ENTER CODE 16

C04 — What is [NAME's] age? IN YEARS. IF 95 OR OLDER, ENTER '95'

C05 — Did [NAME] stay here last night? YES=1, NO=2

C06 — How long has it been since [NAME] has spent the night in this household? SEE CODES BELOW

C07 — CIRCLE LINE NUMBER OF ALL WOMEN AGE 15-49

C08 — CIRCLE LINE NUMBER OF ALL CHILDREN AGE 0-3

C09 — Has [NAME] ever attended school? YES=1, NO=2

C10 — Is [NAME] currently attending school? YES=1, NO=2

C11 — What is the highest grade of education completed by [NAME]? SEE CODES BELOW

C12 — Can [NAME] read and write? SEE CODES BELOW

IF AGE 3 OR OLDER

LINE	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 OVER AGE 18 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 P1 (OR NO SCHOOL).....01
PRIMARY LEVEL 1-3.....02
PRIMARY LEVEL 4-6.....03
SECONDARY 1-3.....04
SECONDARY 4-6.....05
UNIVERSITY OR ABOVE.....06
TECHNICAL OR VOCATIONAL.....07
ADULT LITERACY ONLY (NO FORMAL EDUCATION).....08
KORANIC/RELIGIOUS ONLY (NO FORMAL EDUCATION).....09
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

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] relationship to the primary male decision-maker? IF NO PRIMARY MALE DECISION-MAKER: What is [NAME's] relationship 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 0-3	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 OVER AGE 18 IN HOUSEHOLD	16
BROTHER/SISTER	07		
NEPHEW/NIECE	08	OTHER RELATIONSHIP	96
NEPHEW/NIECE OF SPOUSE	09		

C06. RESULT CODES: TIME SINCE HOME

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 P1 (OR NO SCHOOL)	01
PRIMARY LEVEL 1-3	02
PRIMARY LEVEL 4-6	03
SECONDARY 1-3	04
SECONDARY 4-6	05
UNIVERSITY OR ABOVE	06
TECHNICAL OR VOCATIONAL	07
ADULT LITERACY ONLY (NO FORMAL EDUCATION)	08
KORANIC/RELIGIOUS ONLY (NO FORMAL EDUCATION)	09
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 THATCH/PALM LEAF/GRASS ....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/ ASBESTOS....33 LOCAL TILES ....34 INDUSTRIAL TILES/SHEETS ....35 CEMENT/CONCRETE....36 ROOFING SHINGLES....37 OTHER 96
D02	**OBSERVE (DO NOT ASK)** FLOOR MATERIAL:	**D02. TYPE OF FLOOR** NATURAL FLOOR EARTH/SAND....11 DUNG....12 RUDIMENTARY FLOOR WOOD PLANKS ....21 PALM/BAMBOO ....22 FINISHED FLOOR PARQUET/POLISHED WOOD....31 CERAMIC TILES ....33 CEMENT....34 CARPET ....35 OTHER 96
D03	**OBSERVE (DO NOT ASK)** EXTERIOR WALLS:	**D03. TYPE OF WALLS** NATURAL WALLS NO WALLS....11 CANE/PALM/TRUNKS ....12 DIRT....13 RUDIMENTARY WALLS WOOD WITH MUD....21 STONE WITH MUD ....22 UNCOVERED ADOBE ....23 PLYWOOD....24 CARDBOARD ....25 REUSED WOOD ....26 METAL SHEETING....27 FINISHED WALLS CEMENT....31 STONE WITH LIME/CEMENT....32 BURNT BRICKS ....33 CEMENT BLOCKS ....34 COVERED ADOBE....35 WOOD PLANKS/SHINGLES....36 OTHER 96
D04	How many rooms in this dwelling are used for sleeping?	**D04. NUMBER OF ROOMS USED FOR SLEEPING:**		

QNO.	QUESTIONS	RESPONSE CODES
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
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
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
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 DECISION-MAKING 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 (that is, during the last two cropping seasons)?	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 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
B	Large livestock (oxen, cattle)	YES..1 NO…2→ SKIP TO 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
C	Small livestock (goats, pigs, sheep)	YES..1 NO…2→ SKIP TO 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
D	Chickens, ducks, turkeys, and pigeons	YES..1 NO…2→ SKIP TO 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
E	Fish pond or fishing equipment	YES..1 NO…2→ SKIP TO 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
F	Farm equipment (non-mechanized: hand tools, animal-drawn ploughs)	YES..1 NO…2→ SKIP TO 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
G	Farm equipment (mechanized: tractor-drawn plough, power tiller, treadle pump)	YES..1 NO…2→ SKIP TO 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

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 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 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 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)	YES..1 NO…2→ SKIP TO 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 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 (pieces/plots, residential or commercial land)	YES..1 NO…2→ SKIP TO 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 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	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	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 institution)	YES, CASH ..... 1 YES, IN-KIND ..... 2 YES, CASH AND IN-KIND ..... 3 NO ..... 4 → GO TO NEXT SOURCE DON'T KNOW 8	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	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 Village Savings and Loan Associations,, Savings And Credit Co-operatives, or merry-go-rounds	YES, CASH ..... 1 YES, IN-KIND ..... 2 YES, CASH AND IN-KIND ..... 3 NO ..... 4 → GO TO MODULE G4 DON'T KNOW 8	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 Village Savings and Loan Associations,, Savings And Credit Co-operatives, or merry-go-rounds)	YES.....1 NO.....2 → SKIP TO NEXT GROUP DON'T KNOW.....8	YES.....1 NO .....2 REFUSED.....9
E	Mutual help or insurance group (including burial societies)	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). DECISION MAKING

"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																																								
		16				17				18				19				20				21				22				23				24				1				2				3			
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 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'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 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, noodles, porridge, or maize, sorghum, wheat, or millet?	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	Pumpkin, carrots, squash, or sweet potatoes that are yellow or orange inside?	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 yams, manioc, cassava, 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 dark green leafy vegetables such as spinach, bean leaves, or cassava 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 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
H18	Ripe mangoes or ripe papayas**?**	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?	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 foods made with chicken, such as chicken stew or rice and chicken?	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
H20B	Any liver, kidney, heart, or other organ meats from domesticated animals such as beef, pork, lamb, goat, 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
H20C	Any meat from domesticated animals, such as beef, pork, lamb, goat, 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
H20D	Any liver, kidney, heart, or other organ meats from wild animals such as bushbuck, duiker, hyrax or any other wild animals?	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
H20E	Any flesh from wild animals, such as bushbuck, duiker, hyrax or any other wild animals?	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 foods made from beans, peas, or lentils, such as soya or other beans?	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 pepper?	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 white ants or grasshopper?	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
IRON-BIOFORTIFIED BEAN						
H31	Have you ever heard of a special kind of bean that is higher in iron than other kinds of beans? These are sometimes called iron beans, and they are intended to increase the iron in your blood.	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
H32	Did you ever obtain these higher-iron beans 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 these higher-iron beans?	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
IRON-BIOFORTIFIED BEAN						
H34	Have you ever eaten these higher-iron beans?	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
H35	When was the last time you ate these higher-iron beans?	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. INFANT AND YOUNG CHILD FEEDING

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

CHECK MODULE C, ITEM C08, TO SEE IF THERE ARE ANY CHILDREN AGE 0-3. IDENTIFY THE PRIMARY CAREGIVER OF EACH CHILD AGE 0-35 MONTHS IN THE HOUSEHOLD. ASK THESE QUESTIONS OF THE PRIMARY CAREGIVER OF EACH CHILD AGED 0–35 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 0–35 MONTHS IN THE HOUSEHOLD).

YOU SHOULD CARRY DUPLICATE COPIES OF THIS MODULE IN CASE THERE ARE MORE THAN 5 CHILDREN 0-35 MONTHS OLD IN THE HOUSEHOLD.

“In order to learn more about child nutrition in our country, we would like to learn more about certain foods your child may 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

NO.	QUESTION	CHILD 1	CHILD 2	CHILD 3	CHILD 4	CHILD 5
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
I04B	Does [CHILD'S NAME] have a health or vaccination card with the birth date recorded?	YES..... 1 NO ..... 2 → SKIP TO I05 DK..... 8 → SKIP TO I05	YES ..... 1 NO ..... 2 → SKIP TO I05 DK..... 8 → SKIP TO I05	YES .....1 NO .....2 → SKIP TO I05 DK .....8 → SKIP TO I05	YES.....1 NO.....2 → SKIP TO I05 DK .....8 → SKIP TO I05	YES..... 1 NO ..... 2 → SKIP TO I05 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
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

NO.	QUESTION	CHILD 1	CHILD 2	CHILD 3	CHILD 4	CHILD 5
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 36 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
I24	Yesterday, during the day or night, did [CHILD'S NAME] have any milk such as tinned, powdered, or fresh animal milk?	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	Any 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
I39A	Any foods made with chicken, such as chicken stew or rice and chicken?	YES....1 NO....2 DON'T KNOW....8 PROCEED TO NEXT CHILD; IF NO OTHER CHILDREN, END MODULE	YES....1 NO....2 DON'T KNOW....8 PROCEED TO NEXT CHILD; IF NO OTHER CHILDREN, END MODULE	YES....1 NO....2 DON'T KNOW....8 PROCEED TO NEXT CHILD; IF NO OTHER CHILDREN, END MODULE	YES....1 NO....2 DON'T KNOW....8 PROCEED TO NEXT CHILD; IF NO OTHER CHILDREN, END MODULE	YES....1 NO....2 DON'T KNOW....8 PROCEED TO NEXT CHILD; IF NO OTHER CHILDREN, END MODULE

CONCLUDE THE INTERVIEW:

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

Annex 1. Template for Country-Specific Event Calendar

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. The local events calendar should be developed in conjunction with local key informants who have a good knowledge of past events in the areas to be surveyed; the events should be specific to the survey area and population at the [province/district] level. The final calendars should be tested by interviewers during the pilot to ensure that the calendar is appropriate for the local population.

Official Holidays in Rwanda

Month	Event	2009	2010	2011	2012	2013	2014
January	New Year's Day	1 Jan	1 Jan	1 Jan	1 Jan	1 Jan	1 Jan
February	National Heroes' Day	1 Feb	1 Feb	1 Feb	1 Feb	1 Feb	1 Feb
April	Commemoration of the Genocide against the Tutsi	7 Apr	7 Apr	7 Apr	7 Apr	7 Apr	7 Apr
	Good Friday	12 Apr	4 Apr	24 Apr	8 Apr	31 Mar	20 Apr
May	Labor Day	1 May	1 May	1 May	1 May	1 May	1 May
July	Independence Day	1 Jul	1 Jul	1 Jul	1 Jul	1 Jul	1 Jul
	Liberation Day	4 Jul	4 Jul	4 Jul	4 Jul	4 Jul	4 Jul
August	Assumption Day	15 Aug	15 Aug	15 Aug	15 Aug	15 Aug	15 Aug
September	Eid Ul Fitr	20 Sep	9 Sep	30 Aug	18 Aug	7 Aug	28 Jul
December	Christmas Day	25 Dec	25 Dec	25 Dec	25 Dec	25 Dec	25 Dec
	Boxing Day	26 Dec	26 Dec	26 Dec	26 Dec	26 Dec	26 Dec

Annex 2a. Age/Birth Date Consistency Chart for Survey in 2014

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 2014

Current Age	Year of birth			Current Age	Year of birth	
	Has not had birthday in	Has already had birthday in			Has not had birthday in	Has already had birthday in
	2014	2014			2014	2014
	Don't know				Don't know	
0	2013	–		30	1983	1984
1	2012	2013		31	1982	1983
2	2011	2012		32	1981	1982
3	2010	2011		33	1980	1981
4	2009	2010		34	1979	1980
5	2008	2009		35	1978	1979
6	2007	2008		36	1977	1978
7	2006	2007		37	1976	1977
8	2005	2006		38	1975	1976
9	2004	2005		39	1974	1975
10	2003	2004		40	1973	1974
11	2002	2003		41	1972	1973
12	2001	2002		42	1971	1972
13	2000	2001		43	1970	1971
14	1999	2000		44	1969	1970
15	1998	1999		45	1968	1969
16	1997	1998		46	1967	1968
17	1996	1997		47	1966	1967
18	1995	1996		48	1965	1966
19	1994	1995		49	1964	1965
20	1993	1994		50	1963	1964
21	1992	1993		51	1962	1963
22	1991	1992		52	1961	1962
23	1990	1991		53	1960	1961
24	1989	1990		54	1959	1960
25	1988	1989		55	1958	1959
26	1987	1988		56	1957	1958
27	1986	1987		57	1956	1957
28	1985	1986		58	1955	1956
29	1984	1985		59	1954	1955

Annex 2b. 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 Age	Year of birth			Current Age	Year of birth	
	Has not had birthday in	Has already had birthday in			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 the Centre for Economic and Social Studies. 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 the Centre for Economic and Social Studies, by calling +250 551 10023. 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 the Centre for Economic and Social Studies. 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 the Centre for Economic and Social Studies, by calling +250 551 10023. 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 the Centre for Economic and Social Studies. 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 the Centre for Economic and Social Studies, by calling +250 551 10023. 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 0-35 Months)

STATEMENT TO BE READ TO THE RESPONDENT:
Thank you for the opportunity to speak with you. We are a research team from the Centre for Economic and Social Studies. 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 the Centre for Economic and Social Studies, by calling +250 551 10023. 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 – RWANDA

Line Number	First and Last Name	Age	Sex	Interviewer Notes