RAIN+

Baseline Survey Report

2015

REALIGNING AGRICULTURE TO IMPROVE NUTRITION PLUS (RAIN+)

Baseline Survey Report

Coordination and implementing agencies

Mumbwa Child

Development Agency (MCDA)

Partners

Mumbwa District Nutrition Coordinating Committee (DNCC)

Ministry of Agriculture & Livestock

REPUBLIC OF ZAMBIA

Funding

Technical support

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INVESTIGATORS AND INSTITUTIONAL AFFILIATIONS

Survey Coordinator	
Fred Chitalu	Concern Worldwide – Zambia
Co-Investigators	
James P Wirth	GroundWork LLC
Bradley A Woodruff	GroundWork LLC
Fabian Rohner	GroundWork LLC
Richard Mwape	Concern Worldwide – Zambia
Marjolein Mwanamwenge	Concern Worldwide – Zambia
Danny Harvey	Concern Worldwide – Zambia
Bernadette Crawford	Concern Worldwide
Gretta Fitzgerald	Concern Worldwide

Coordination and implementing agencies:
Concern Worldwide Zambia
Mumbwa Child Development Agency (MCDA)
Women for Change (WfC)

Partners:
Mumbwa District Nutrition Coordinating Committee (DNCC)
Ministry of Agriculture and Livestock (MAL)
Ministry of Community Development Mother and Child Health (MCDMCH)

Technical support:
GroundWork

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ABBREVIATIONS

CI	Confidence Interval
DHS	Demographic and Health Survey
IYCF	Infant and young child feeding
SEA	Supervisory Enumeration Area
MICS	Multiple Indicator Cluster Survey
MIYCF	Maternal, infant, and young child feeding
UNICEF	United Nations Children's Fund
WDDS	Women's Dietary Diversity Score
WHO	World Health Organization

1. INTRODUCTION

1.1. Background

In Zambia, the prevalence of stunting is a severe public health problem. Approximately 40% of children <5 years of age are stunted, and stunting increases consistently by age; 14% of children <6 months of age are stunted compared to 54% of children 18-23 months [1] – the typical period of growth faltering. From 2007-2013, the national stunting prevalence in Zambia has decreased only slightly, from 45% to 40%, indicating only a 0.7 percentage point annual decrease.

Child growth in Zambia has been associated with sub-optimal maternal, infant and young child feeding (MIYCF) practices [2, 3] and maternal nutritional status [4]. Multi-sectoral programs that enhanced home gardening, agricultural production, access to health care, and maternal health have resulted in more appropriate feeding behaviours and reductions in stunting prevalence in Sub-Saharan Africa [5].

1.2. RAIN+ Project Overview

To address stunting and other forms of malnutrition in Zambia, Concern Worldwide implemented the Realigning Agriculture to Improve Nutrition (RAIN) project from 2012-2015, which focuses on integrating agricultural, nutrition and health interventions at the district and community level. The RAIN+ project, which began in April 2015, aims to improve MIYCF practices using a similar model to the RAIN project, but with a strengthened women's empowerment component. It also attempts to increase farmers' access to markets. The RAIN+ project focuses on; homestead gardening and small-scale animal husbandry, behaviour change communication (BCC) to MIYCF practices and use of the health system and gender equality and women's empowerment activities.

Over a 3-year period, the RAIN+ project aims to cover nearly all of the approximately 6,000 pregnant women and mothers/care givers of children <18 months old in each of the four project wards of Mumbwa District (Chisalu, Nakasaka, Nangoma, Shimbihzi). The RAIN+ project consists of five main components: 1) homestead food production and market linkages, 2) promotion of optimal MIYCF practices, 3) improvements in WASH infrastructure and practices, 4) women's empowerment, and 5) an element of social accountability. These approaches will be undertaken via the provision of training and agricultural inputs (e.g. seeds and tools), behaviour change communication via women's groups, community-level media campaign, and rehabilitation of boreholes. While the RAIN+ project is coordinated by Concern Worldwide-Zambia, it will be implemented in cooperation with multiple agencies, including the Mumbwa Child Development Agency (MCDA), Women for Change (WfC), and the Ministry of Agriculture and Livestock (MAL) and the Ministry of Community Development Mother and Child Health (MCDMCH).

1.3. Survey objectives and indicators

The objective of the baseline survey was to collect information on priority outcome and output indicators of the RAIN+ project related to agriculture; MIYCF; gender equality; and water, sanitation, and hygiene (WASH). Key outcome and output indicators presented in Table 1 for children were based on the World Health Organization and UNICEF's infant and young child feeding (IYCF) guidelines [6] and the women's dietary diversity scale (MDDS) approach developed by FANTA [7]. The various indicators to be tracked by the RAIN+ project are provided in APPENDIX 1.

Table 1.   Priority outcome and output indicators of the RAIN+ Baseline Survey, Mumbwa District, Zambia 2015.

Category	Indicators
Agriculture	• % target households producing micronutrient-rich plant and animal foods • % of mothers/caregivers of children aged <2 years who know that fruits and vegetables can be preserved by drying • % of mothers/caregivers selling agricultural produce (excluding cotton or maize) • % of mothers/caregivers growing fruits or vegetables
Gender Equality	• % of men sharing responsibility for at least three household tasks • Women's composite autonomy index • Increased average score on the Gender Attitudes Scale
MIYCF	• % of children 6-23 months fed a minimum adequate diet • % of children 6-23 months fed with minimum meal frequency • % of children 6-23 months with minimum dietary diversity • % of new-borns with early initiation of breastfeeding • % of children <6 months exclusively breastfed • % of children 0-23 months with diarrhoea in the past 2 weeks • % of mothers/caregivers with minimum dietary diversity • Average individual diet diversity score of mother/care givers
WASH	• % of respondents who can name at least three out of five critical times for handwashing with soap.

In addition to the aforementioned indicators, the RAIN+ baseline survey also collected data on additional variables that may potentially influence or cause various types of nutritional deficiencies, including socio-economic status, access to health care, and receipt of antenatal care.

2. METHODOLOGY

2.1. Survey design and sampling procedure

The RAIN+ Baseline Survey was designed as a one-stratum cross-sectional survey, designed to cover all four wards included in the RAIN+ project. To establish representative baseline prevalence of various indicators, all census units, called in Zambia Supervisory Enumeration Areas (SEAs), contained within the four wards were included in the sampling frame. Multi-stage sampling was applied: in the first sampling stage, 25 SEAs were randomly selected with probability proportional to size. In the second stage, children <24 months of age were selected using simple random sampling via a random number table. A detailed list of SEAs selected is presented in Appendix 2.

2.2. Study populations

Of note, the RAIN+ project will initially recruit children <18 months of age; however, the decision to include children 18-23 months of age in the baseline survey was made because the World Health Organization's standard IYCF guidelines include indicators that cover children <24 months [6]. Specifically, indicators such as minimum dietary diversity, minimum meal frequency, and minimum acceptable diet are calculated only for children 6-23 months of age. The assumption was that for the endline evaluation, the same age range will be applied and that it will consistent to do so because children 18-23 months should have benefited from the project during the first 18 months of their

live. Although pregnant women are also direct beneficiaries of the RAIN+ project, they were not included as a separate population group in the baseline due to the small numbers of pregnant women in each SEA.

2.3. Sample size determination

To determine the sample size required for the baseline survey, Fleiss' formula (see below) was used for estimating the minimum sample size required to enable the comparison of a one-stratum baseline survey to a future endline survey.

$$n_1 = n_2 = \frac{\left(Z_{1-\frac{\alpha}{2}}\sqrt{2\bar{p}(1-\bar{p})} + Z_{1-\beta}\sqrt{p_1(1-p_1) + p_2(1-p_2)}\right)^2}{(p_1 - p_2)^2}$$

The sample size (see Appendix 3) for the baseline survey was calculated using the estimated prevalence of key indicators at baseline, estimated prevalence at endline, and a maximum non-response rate of 20% (including absences and refusals). The estimated baseline prevalence estimates are for Central Region and are taken from RAIN Baseline Survey Report [8]; where available, the design effect for each indicator was taken from the province-specific results of Zambia's 2013 Demographic and Health Survey (DHS) [1]. Where no estimated baseline prevalence could be found, a prevalence of 50% was assumed as this would result in the largest sample size. The estimated endline prevalence for each indicator was determined based on feasible and measurable improvements following 2-3 year's successful implementation of the RAIN+ project .An estimated 500 children <24 months of age had to be selected in order to detect with statistical significance the minimum expected change between baseline and endline surveys. Considering that 20 children were selected in each SEA (a similar sample size to that used by the DHS)[1], 25 SEAs were randomly selected from all SEAs that comprise the four wards of the RAIN+ project.

2.4. Approvals and ethical considerations

The baseline survey was conducted under a memorandum of understanding between Concern Worldwide andthe, Ministry of Community Development, Mother and Child Health. Subjects were all potential project beneficiaries and this exercise was designed to collect project monitoring and evaluation data rather than for research purposes. Oral consent was requested from all interviewees following an explanation of the survey's objectives. No identifying information (e.g. name, high-precision GPS data) was collected during the interviews.

2.5. Training of survey teams

One week prior to the start of the RAIN+ Baseline Survey, all field workers (supervisors, team leaders, interviewers, and listers) were trained on random selection of participants and data collection procedures. The training consisted of 2 days of theoretical training and one day of role play to familiarize field workers with the survey procedures, instruments, and equipment. As part of the role play, interviewers conducted several "mock interviews" using the Digital Data Gathering (DDG) devices. As interviewers were required to translate questions from English to local languages (Tonga, Ila, Nyanja, Kaonde), attention was given to translating complex and sensitive questions.Following classroom training, one day of field testing was undertaken in the project area but in SEAs that were not included in the RAIN+ Baseline Survey sample. The questionnaire and

DDGs were pilot-tested with future mothers/caregivers and children beneficiaries of the RAIN+ project. Based on this pilot testing, the questionnaire was updated.

2.6. Field work

The baseline survey data collection was conducted from 30 June – 31 July 2015, a period in Zambia corresponding to the dry season in Mumbwa District during which maize and cotton are harvested[1].

Data collection was conducted by two teams, each of which was comprised of one team leader, two listers, four or five interviewers, and one driver. One to two days prior to the arrival of the interviewers in each selected SEA, the listers from each team conducted a "mini-census" of each SEA, listing all children <24 months of age in the selected SEA. This listing consisted of visiting all households residing within each SEA. SEA boundaries were identified using maps provided by the Central Statistical Office of Zambia, and local headmen and headwomen provided assistance to ensure that all households were visited. In households with at least one child <24 months, the name, age, and mother's or caregiver's name of each child <24 months was recorded. A sample of 20 children < 2 years of age was selected at random using a random number table.

Interviews were conducted with the mother or caretaker of each selected child using DDGs (Samsung Galaxy 2 or 3, Samsung Electronics, Seoul, Republic of Korea). Interviewers were instructed to request that interviews were conducted in privacy to enable mothers/caregivers to respond candidly to sensitive questions.

2.7. Data management and analysis

2.7.1.   Data analysis

Data analysis was done using SPSS version 22.0 with the complex survey module. Standardized statistical weights were calculated to account for the difference between the estimated size of the SEAs before sampling and the actual size of the SEAs as measured by the survey listers.

Data analysis included calculation of proportions to derive the prevalence of nutrition and health outcomes and mean and median as average measures of continuous variables. These measures were calculated in aggregate (i.e. for the entire sample), for each ward separately, by sex (for children only), and by specific age and educational sub-groups for mothers and female caregivers.

For selected variables, the statistical precision of prevalence estimates were assessed using 95% confidence intervals which were calculated accounting for the complex sampling used in this survey. The statistical significance of differences between subgroups was assessed using Chi square using weighted analysis and adjusted for complex sampling.

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[1] Though the maize harvest typically occurs between May and June, late rains in 2015 resulted in a delayed harvest season.

2.7.2.   Calculation of wealth and gender indices

A wealth index was calculated from characteristics of the dwelling, water and sanitation facilities, and ownership of durable goods using the principal component analysis method commonly employed by UNICEF Multiple Indicator Cluster Surveys (MICS), the World Bank, and the World Food Programme [9, 10]. The wealth index was calculated for each household and split into quintiles on unweighted data to permit the cross-tabulation of various nutrition indicators by wealth in report tables.

Gender attitudes indices related to attitudes toward girl children, violence against women, and social and sexual relations at home (a.k.a GEM scale) were calculated according to Concern Worldwide's gender indicator guidelines [11]. In addition, all three attitudes indices were merged into a composite gender attitudes index using equal weights. A women's autonomy index was also developed by combining information related to income, financial decisions, purchase of household goods, communications with partner/spouse, and membership in any community group. As decision making indicators were only asked to married women[2], the women's autonomy index was only calculated for married women. Gender equality and autonomy indices range from 0 – 1 irrespective of the raw score range of the index; higher scores represent more equitable attitudes related to gender or greater autonomy. Further details of how the various gender indices and composite indices are calculated are presented in Appendix 4.

2.7.3.   Infant and young child feeding indicators

Indicators related to infant and young child feeding, such as exclusive breastfeeding, minimum dietary diversity, minimum meal frequency, and minimum dietary adequacy, were calculated using methods recommended in the WHO/UNICEF IYCF guidelines [6]. In addition, because WHO/UNICEF IYCF indicators may relate to different age groups, a composite IYCF score was calculated for all children <24 months of age following the approach detailed by Guevarra and colleagues [12]. The IYCF score is a six-point scale and is used to classify IYCF practices as "good" or "not good". For children <6 months of age, breastfeeding practices (i.e. exclusive or non-exclusive) is the only indicator included, whereas for older children, breastfeeding practice, dietary diversity, and meal frequency are considered.

2.7.4.   Minimum dietary diversity in women

Dietary diversity in mothers/caregivers was measured using the women's dietary diversity score (WDDS) developed by the UN Food and Agriculture Organization [13]. Data were collected on foods in 13 distinct food groups and aggregated to nine separate food groups. Consuming four food groups in the 24 hours prior to the interview was used as the threshold for minimum dietary diversity among women.

2.7.5.   Water and sanitation

Case definitions from the WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation were used classify households with improved/unimproved sanitation facilities and safe/unsafe drinking water [14]. In Mumbwa, a household was considered to use an improved

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[2] Decision-making indicators pertain to a woman's decision making with her spouse and other members of the household, and were thus only asked to married women.

sanitation facility if the facility was a ventilated improved pit (VIP) latrine or a pit latrine with slab and the facility was not shared with other households. Though flush or pour flush toilets are considered improved, they are not present in the study areas. Unimproved sanitation facilities included any facility shared with another household, an open pit, bucket latrine, no facility, bush, field. Drinking water was considered safe if it came from a "safe" source (e.g. water from piped system, tube well or borehole, protected well, protected spring, rainwater collection, or bottled water) or was treated with bleach or boiled prior drinking. Unimproved drinking water sources include water from unprotected well, unprotected spring, tanker truck or cart, surface water.

3. RESULTS

This results section contains multiple tables related to the descriptive characteristics of the children and caretakers surveyed and tables that relate to the RAIN+ project's key performance indicators, such as gender equality, agriculture, WASH, and MIYCF. Associations between gender equality and MIYCF outcomes are also presented. Data on other topics were also collected as part of this baseline survey, and additional tables are presented in Appendix 5.

To ensure the brevity of this report, no narrative is provided for the results tables and graphs. Rather, brief summaries of the major findings and relevant comparisons are provided in the report's discussion section (Section 4).

3.1. Demographic characteristics of sampled children and women

Table 2.   **Description of sampled children, Mumbwa District, Zambia 2015.**

Characteristic	n	% [a]	(95% CI)[b]
Child Sex			
Male	238	51.8	(47.1, 56.5)
Female	224	48.2	(43.5, 52.9)
Child age in months			
0-5	140	29.6	(25.2, 34.4)
6-11	120	26.7	(21.5, 32.6)
12-17	90	18.1	(14.9, 21.7)
18-23	112	25.7	(21.6, 30.2)
Household size			
Mean	462	7.8	(7.26, 8.25)
Median	462	7.0	--
Ward			
Shimbizhi	59	18.0	(5.3, 46.2)
Nakasaka	108	25.1	(10.5, 48.8)
Nangoma	140	24.8	(11.1, 46.6)
Chisalu	155	32.1	(15.1, 55.5)
TOTAL CHILDREN	462	100.0	--

Note: The n's are un-weighted numbers in each subgroup; the sum of subgroups may not equal the total because of missing data.
[a] All figures are proportions except for mean and median of household size. Percentages are weighted for inaccurate SEA size used during the first stage of sampling.
[b] CI=confidence interval, calculated taking into account the complex sampling design.

Table 3.   Description of mothers/caretakers, Mumbwa District, Zambia 2015.

Characteristic	n	% [a]	(95% CI) [b]
Caretaker relation to child			
Mother	450	96.9	(92.5, 98.8)
Grandmother	10	2.4	(1.1, 5.3)
Female relative	2	0.7	(0.2, 2.7)
Caretaker age in years [c]			
<20	81	19.1	(15.3, 23.5)
20-29	230	47.7	(43.3, 52.2)
30-39	116	25.2	(22.3, 28.3)
≥40	35	8.0	(5.8, 10.9)
Language of caretaker			
Tonga	155	34.1	(27.4, 41.6)
Ila	38	9.6	(5.8, 15.5)
Nyanja	210	43.5	(38.1, 49.1)
Kaonde	8	1.8	(0.7, 4.7)
Other	51	10.9	(7.2, 16.1)
Education of caretaker			
None	25	5.7	(3.3, 9.8)
Attended primary	259	56.0	(50.6, 61.3)
Attended secondary or higher	178	38.2	(33.5, 43.3)
Marital status of caretaker			
Married	381	81.1	(75.9, 85.4)
Separated	3	0.7	(0.2, 2.3)
Divorced	8	1.9	(0.9, 3.9)
Widowed	4	0.9	(0.3, 3.0)
Abandoned	1	0.2	(0.0, 1.4)
Unmarried	65	15.2	(11.7, 19.5)
Currently Pregnant			
Yes	23	4.2	(2.5, 7.0)
No	435	95.0	(92.3, 96.9)
Don't know	4	0.7	(0.2, 2.6)
Currently breastfeeding			
Yes	379	81.7	(77.1, 85.5)
No	83	18.3	(14.5, 22.9)
TOTAL MOTHERS/CARETAKERS	462	100.0	

Note: The n's are un-weighted numbers in each subgroup; the sum of subgroups may not equal the total because of missing data.
[a] Percentages are weighted for inaccurate SEA size used during the first stage of sampling.
[b] CI=confidence interval, calculated taking into account the complex sampling design.
[c] Caretaker includes mothers and adult females only

3.2. Gender Equality

3.2.1.   Sharing responsibility of household tasks
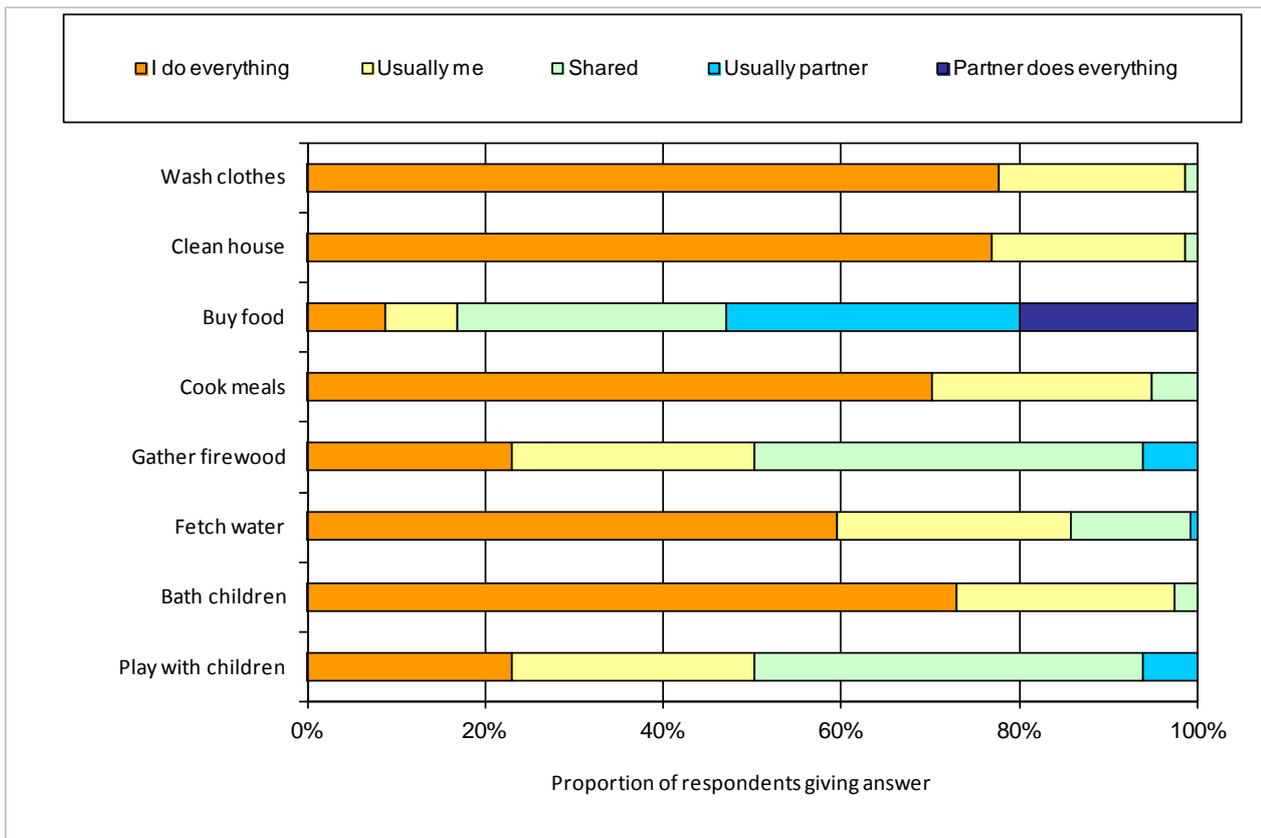
Figure 1. Sharing of household tasks of married women c, Mumbwa District, Zambia 2015.

3.2.2. Attitudes towards gender

Table 4.   Individual and composite gender attitudes index scores, Mumbwa District, Zambia 2015.

Characteristic	n	mean[a]	(95% CI)[b]
Attitudes toward girl children index[c]	462	0.52	(0.49,0 .54)
Attitudes toward violence against women index [c]	462	0.42	(0.38, 0.47)
Attitudes toward social and sexual relations at home index (GEM scale) [c]	462	0.36	(0.32, 0.37)
Composite gender attitudes index [f]	462	0.43	(0.40, 0.45)
Age (in years)			
<20	81	0.41	(0.39, 0.45)
20-29	230	0.43	(0.40, 0.46)
30-39	116	0.43	(0.39, .047)
≥40	35	0.44	(0.37, 0.51)
Education			
None	25	0.44	(0.36, 0.53)
Attended primary	259	0.41	(0.38, 0.44)
Attended secondary or higher	178	0.45	(0.42, 0.48)
Marital Status			
Married	381	0.42	(0.39, 0.45)
Unmarried	3	0.36	(0.09, 0.62)
Household adult composition			
Male and female adult(s)	442	0.42	(0.39, 0.45)
Female adult(s) only	20	0.54	(0.45, 0.63)
Wealth quintile			
Lowest	79	.40	(0.36, 0.44)
Second	77	.43	(0.39, 0.48)
Middle	80	.42	(0.38, 0.46)
Fourth	78	.41	(0.36, 0.46)
Highest	77	.43	(0.39, 0.47)
Ward			
Shimbizhi	59	0.44	(0.39, 0.49)
Nakasaka	108	0.44	(0.41, 0.46)
Nangoma	140	0.45	(0.42, 0.48)
Chisalu	155	0.39	(0.33, 0.46)

Note: The n's are un-weighted numbers in each subgroup; subgroups that do not sum to the total have missing data.

[a] Percentages are weighted for inaccurate SEA size used during the first stage of sampling.

[b] CI=confidence interval, calculated taking into account the complex sampling design.

[c] Gender equality indices are range from 0 – 1 irrespective of the raw score range of the index; higher scores represent more equitable attitudes related to gender.

[d] Composite gender attitudes index is comprised of the attitudes toward girl children index, attitudes toward violence against women index, attitudes toward social and sexual relations at home index (GEM scale). The individual scales were not weighted when creating the composite scale.

3.2.3. Women's autonomy

Table 5. **Composite women's autonomy index, Mumbwa District, Zambia 2015.**

Characteristic	n	% or mean[a]	(95% CI)[b]
Caretaker received income in the past 12 months	462	74.0%	65.8, 80.8
Caretaker involved in decisions about large investments (score 0-1)[c]	381	0.27	0.21, 0.33
Caretaker is involved in decisions about *purchasing* household appliances or equipment	381	2.16	2.08, 2.23
Caretaker is involved in decisions about *selling* household appliances or equipment	381	2.16	2.06, 2.25
Caretaker has input into households clothes and food purchases [c]	381	38.3%	32.3, 44.8
Caretaker talks with spouse about problems [c]	381	0.42	0.38, 0.46
Talked with partner	381	3.29	3.13, 3.45
Partner came to you to talk	381	3.37	3.20, 3.55
Caretaker participates in at least 1 community group	462	23.0%	18.7, 28.0
Composite women's autonomy index	381	0.41	(0.39, 0.43)
Age (in years)			
<20	81	0.37	(0.30, 0.44)
20-29	230	0.39	(0.37, 0.43)
30-39	116	0.46	(0.42, 0.51)
≥40	35	0.42	(0.34, 0.49)
Education			
None	25	0.45	(0.37, 0.53)
Attended primary	259	0.40	(0.37, 0.43)
Attended secondary or higher	178	0.44	(0.40, 0.48)
Wealth quintile			
Lowest	79	0.42	(0.36, 0.49)
Second	77	0.39	(0.34, 0.44)
Middle	80	0.42	(0.37, 0.46)
Fourth	78	0.43	(0.39, 0.47)
Highest	77	0.45	(0.38, 0.52)
Ward			
Shimbizhi	48	0.42	(0.39, 0.45)
Nakasaka	90	0.41	(0.35, 0.47)
Nangoma	111	0.43	(0.40, 0.46)
Chisalu	132	0.40	(0.37, 0.44)

Note: The n's are un-weighted numbers in each subgroup; subgroups that do not sum to the total have missing data.

[a] Means are weighted for inaccurate SEA size used during the first stage of sampling.

[b] CI=confidence interval, calculated taking into account the complex sampling design.

[c] Includes only married women

3.3. Agriculture

3.3.1.   Agricultural production

Table 6.   Proportion of children <24 months of age living in households where fruits and/or vegetables were grown in the past year, Mumbwa District, Zambia 2015.

Characteristic	n	% [a]	(95% CI)[b]
Education of caretaker			
None	17	73.6	(46.3, 90.0)
Attended primary	132	62.8	(54.2, 70.6)
Attended secondary or higher	99	67.4	(58.8, 74.9)
Caretaker received agriculture training in last year			
Yes	46	68.4	(53.8, 80.0)
No	202	64.4	(56.7, 71.4)
Composite gender autonomy index of caretaker			
<mean value	123	65.9	(59.5, 71.9)
≥mean value	88	67.9	(55.9, 77.8)
Composite gender attitudes index caretaker			
<mean value	126	65.7	(55.5, 74.7)
≥mean value	122	64.7	(57.6, 71.1)
Household adult composition			
Male and female adult(s)	240	65.4	(57.9, 72.3)
Female adult(s) only	8	57.9	(27.7, 83.2)
Wealth quintile			
Lowest	42	55.6	(44.3, 66.4)
Second	43	55.3	(43.2, 66.8)
Middle	54	71.9	(58.2, 82.5)
Fourth	55	70.2	(58.5, 79.8)
Highest	53	72.1	(60.2, 81.6)
Ward			
Shimbizhi	39	75.8	(63.5, 84.9)
Nakasaka	53	59.0	(48.0, 69.2)
Nangoma	73	63.5	(51.8, 73.9)
Chisalu	83	64.8	(52.1, 75.7)
TOTAL	248	65.2	(58.2, 71.6)

Note: The n's are un-weighted numbers in each subgroup; subgroups that do not sum to the total have missing data.

[a] Percentages are weighted for inaccurate SEA size used during the first stage of sampling.

[b] CI=confidence interval, calculated taking into account the complex sampling design.

Table 7. **Proportion of children <24 months of age living in households where vitamin A or iron-rich foods were produced in past year[c], Mumbwa District, Zambia 2015.**

Characteristic	n	%[a]	(95% CI)[b]
Iron and vitamin A rich crops			
Orange maize	5	1.6	(0.5, 5.6)
Orange-flesh sweet potato	5	1.9	(0.4, 8.7)
Mbeleshi beans	4	1.3	(0.5, 3.3)
Dark leafy greens	229	59.9	(51.8, 67.5)
Vitamin A-rich fruits and vegetables	94	26.3	(21.6, 31.6)
Animal products	357	94.8	(83.8, 98.5)
Any iron or vitamin A rich food			
Education of caretaker			
None	21	100.0	(100.0, 100.0)
Attended primary	220	99.2	(96.7, 99.8)
Attended secondary or higher	152	99.5	(95.9, 99.9)
Caretaker received training in last year			
Yes	69	98.9	(91.6, 99.9)
No	324	99.5	(97.8, 99.9)
Composite gender autonomy index of caretaker			
<mean value	186	99.5	(96.4, 99.9)
≥mean value	137	99.4	(95.5, 99.9)
Composite gender attitudes index caretaker			
<mean value	184	99.5	(96.4, 99.9)
≥mean value	209	99.2	(96.6, 99.8)
Household adult composition			
Male and female adult(s)	377	99.3	(97.0, 99.9)
Female adult(s) only	16	100.0	(100.0, 100.0)
Wealth quintile			
Lowest	68	100.0	(100.0, 100.0)
Second	68	100.0	(100.0, 100.0)
Middle	73	97.8	(84.3, 99.7)
Fourth	75	100.0	(100.0, 100.0)
Highest	71	98.9	(91.8, 99.9)
Ward			
Shimbizhi	55	97.9	(85.2, 99.7)
Nakasaka	88	100.0	(100.0, 100.0)
Nangoma	112	100.0	(100.0, 100.0)
Chisalu	138	99.3	(95.1, 99.9)
TOTAL	393	99.4	(97.1, 99.9)

Note: The n's are un-weighted numbers in each subgroup; the sum of subgroups may not equal the total because of missing data.
[a] Percentages are weighted for inaccurate SEA size used during the first stage of sampling.
[b] CI=confidence interval, calculated taking into account the complex sampling design.
[c] Vitamin A and iron-rich foods include orange-flesh sweet potatoes, orange maize, mbeleshi beans, dark leafy greens, vitamin A-rich fruits (pumpkin, pawpaw, mango, granadilla, and green leafy vegetables.

Table 8.   **Household fruit and vegetable growing characteristics for selected children <24 months of age, Mumbwa District, Zambia 2015.**

Characteristic	n	%[a]	(95% CI)[b]
Household member grew fruits or vegetables last year			
Yes	248	65.2	(58.2, 71.6)
No	144	34.8	(28.4, 41.8)
Seasons when fruits and vegetables were grown [c]			
Dry season only	68	26.4	(19.1, 35.3)
Rainy season only	135	55.1	(46.4, 63.5)
Both rainy and dry seasons	45	18.5	(13.1, 25.6)
Fruits and vegetables planted last year [c]			
Tomato	76	29.4	(20.7, 39.9)
Pumpkin	91	39.0	(33.0, 45.4)
Pawpaw	3	1.4	(0.4, 4.7)
Mango	8	3.6	(1.5, 8.3)
Grenadilia (i.e. passion fruit)	0	--	--
Green leafy vegetables (Rape, Bondwe, cassava leaf)	229	92.0	(85.5, 95.7)
Okra	93	39.1	(33.0, 45.6)
Onion	24	9.9	(6.6, 14.5)
Cabbage	23	10.1	(6.8, 14.8)
Water melon	23	9.8	(4.8, 18.7)
Impwa (i.e. eggplant)	41	15.5	(10.8, 21.9)
Other	27	12.6	(7.3, 20.9)

Note: The n's are un-weighted numbers in each subgroup; the sum of subgroups may not equal the total because of missing data.

[a] Percentages are weighted for inaccurate SEA size used during the first stage of sampling.

[b] CI=confidence interval, calculated taking into account the complex sampling design.

[c] Of those responding with 'yes' to preceding question.

3.3.2.   Agricultural training

Table 9.   Agricultural training characteristics for caretakers of selected children <24 months of age, Mumbwa District, Zambia 2015.

Characteristic	n	%[a]	(95% CI)[b]
Caretaker received training in last year			
Yes	78	18.4	(13.8, 24.2)
No	384	81.6	(75.8, 86.2)
Agricultural training providers [c]			
GRZ (Ministry of Agriculture)	33	39.5	(25.4, 55.7)
Through RAIN+	1	2.4	(0.4, 13.6)
Religious group	0	--	--
Private group	36	44.7	(32.2, 57.9)
Business group	1	1.5	(0.2, 10.8)
Community organization	7	9.2	(4.4, 18.1)
Family/friend	4	6.4	(2.5, 15.0)
Other (specify)	4	6.8	(2.4, 17.8)
Agricultural training received [c]			
Crop selection or rotation advice	53	66.2	(52.1, 77.9)
Improved seeds or crop varieties	23	29.6	(15.1, 49.8)
Pest management	13	17.1	(10.3, 27.0)
Soil improvement	39	49.4	(36.0, 63.0)
Veterinary/animal training	4	5.5	(1.9, 14.9)
Seed preservation	15	19.4	(11.9, 30.0)
Food preservation (drying of vegetables etc.)	12	19.5	(8.6, 38.3)
Marketing	5	7.0	(2.0, 21.6)
Other	7	11.4	(5.6, 22.0)

Note: The n's are un-weighted numbers in each subgroup; the sum of subgroups may not equal the total because of missing data.

[a] Percentages are weighted for inaccurate SEA size used during the first stage of sampling.

[b] CI=confidence interval, calculated taking into account the complex sampling design.

[c] Of those that received training in the past year. Multiple responses permitted, thus the sum of the subgroups exceeds 78.

3.3.3.   Agricultural knowledge and practices

Table 10.   Agricultural knowledge variables of caretakers of selected children <24 months of age, Mumbwa District, Zambia 2015.

Characteristic	n	%[a]	(95% CI)[b]
Foods reported by caretaker to be rich in micronutrients			
Dark leafy greens	286	64.0	(59.8, 68.0)
Papaya	18	3.4	(1.6, 7.0)
Mango	47	9.9	(6.8, 14.0)
Orange flesh Sweet potato	48	9.7	(6.7, 13.9)
Beans	231	50.2	(44.4, 55.9)
Meat	75	16.1	(11.2, 22.5)
Offal	3	0.8	(0.3, 2.5)
Other	87	18.6	(15.1, 22.7)
Don't know	111	23.8	(20.2, 27.9)
Approaches reported by caretaker to preserve fruits and vegetables			
Boiling	135	27.2	(19.3, 36.8)
Drying/dehydrating	401	86.6	(80.5, 90.9)
Preserving in salt	18	3.7	(1.4, 9.2)
Pickling	6	0.9	(0.3, 2.5)
Don't know	40	9.2	(6.3, 13.2)

Note: The n's are un-weighted numbers in each subgroup; the sum of subgroups may not equal the total because of missing data.
[a] Percentages are weighted for inaccurate SEA size used during the first stage of sampling.
[b] CI=confidence interval, calculated taking into account the complex sampling design.

Table 11.   Proportion of mothers/caretakers that know that fruits and vegetables can be preserved by drying, Mumbwa District, Zambia 2015.

Characteristic	n	%[a]	(95% CI)[b]	P value
Education of caretaker				
None	23	90.1	(71.8, 97.0)	.442
Attended primary	219	84.7	(77.2, 90.1)	
Attended secondary or higher	159	88.7	(80.4, 93.7)	
Caretaker received training in last year				
Yes	65	86.4	(76.9, 92.4)	.956
No	336	86.6	(80.2, 91.2)	
Composite gender autonomy index of caretaker				
<mean value	194	84.9	(75.3, 91.2)	.508
≥mean value	134	87.7	(79.6, 92.9)	
Composite gender attitudes index caretaker				
<mean value	195	91.2	(85.0, 95.0)	.037
≥mean value	206	82.7	(74.1, 88.9)	
Household adult composition				
Male and female adult(s)	384	86.7	(80.7, 91.0)	.810
Female adult(s) only	17	84.4	(52.3, 96.4)	
Wealth quintile				
Lowest	71	91.4	(82.3, 96.0)	.221
Second	65	81.1	(66.6, 90.2)	
Middle	73	90.5	(78.8, 96.1)	
Fourth	69	88.9	(76.3, 95.3)	
Highest	71	93.2	(84.6, 97.2)	
Ward				
Shimbizhi	50	83.2	(66.9, 92.3)	.049
Nakasaka	84	80.2	(67.4, 88.8)	
Nangoma	120	84.4	(71.6, 92.1)	
Chisalu	147	95.1	(90.8, 97.4)	
TOTAL	401	86.6	(80.5, 90.9)	--

Note: The n's are un-weighted numbers in each subgroup; subgroups that do not sum to the total have missing data.

[a] Percentages are weighted for inaccurate SEA size used during the first stage of sampling.

[b] CI=confidence interval, calculated taking into account the complex sampling design.

3.3.4.   Agricultural sales

Table 12.   Proportion of mothers/caretakers having sold any field crops (excluding maize and cotton) in the past year, Mumbwa District, Zambia 2015.

Characteristic	n	% [a]	(95% CI)[b]	P value
Education of caretaker				
None	9	49.8	(27.6, 72.1)	.314
Attended primary	70	40.1	(30.7, 50.2)	
Attended secondary or higher	37	33.7	(22.3, 47.3)	
Caretaker received training in last year				
Yes	28	48.8	(39.7, 58.1)	.007
No	88	35.3	(25.9, 46.0)	
Composite gender autonomy index of caretaker				
<mean value	54	39.9	(27.2, 54.1)	.252
≥mean value	39	31.5	(20.3, 45.3)	
Composite gender attitudes index caretaker				
<mean value	55	37.0	(24.8, 51.1)	.630
≥mean value	61	39.6	(31.8, 48.1)	
Household adult composition				
Male and female adult(s)	111	37.7	(28.6, 47.8)	.238
Female adult(s) only	5	62.5	(22.5, 90.5)	
Wealth quintile				
Lowest	23	44.8	(31.6, 58.9)	.511
Second	24	44.3	(29.6, 60.1)	
Middle	18	28.8	(13.3, 51.8)	
Fourth	24	35.4	(20.0, 54.6)	
Highest	26	39.5	(26.7, 53.9)	
Ward				
Shimbizhi	15	43.9	(28.2, 60.9)	.003
Nakasaka	45	54.9	(46.5, 63.0)	
Nangoma	38	40.9	(28.5, 54.5)	
Chisalu	18	18.2	(8.0, 36.4)	
TOTAL	116	38.4	(29.3, 48.3)	--

Note: The n's are un-weighted numbers in each subgroup; subgroups that do not sum to the total have missing data.

[a] Percentages are weighted for inaccurate SEA size used during the first stage of sampling.

[b] CI=confidence interval, calculated taking into account the complex sampling design.

Table 13a.   Proportion of mothers/caretakers having sold any meat, milk, or eggs in the past year, Mumbwa District, Zambia 2015.

Characteristic	n	% [a]	(95% CI)[b]	P value
Education of caretaker				
None	13	80.6	(42.9, 95.8)	.165
Attended primary	87	52.4	(43.9, 60.7)	
Attended secondary or higher	54	49.0	(38.5, 59.6)	
Caretaker received training in last year				
Yes	31	55.5	(40.7, 69.5)	.622
No	123	52.0	(45.8, 58.2)	
Composite gender autonomy index of caretaker				
<mean value	68	47.5	(37.2, 58.0)	.533
≥mean value	52	52.7	(40.1, 64.9)	
Composite gender attitudes index caretaker				
<mean value	71	52.0	(40.5, 63.2)	.821
≥mean value	83	53.3	(47.1, 59.4)	
Household adult composition				
Male and female adult(s)	146	51.7	(44.9, 58.5)	.085
Female adult(s) only	8	76.2	(47.9, 91.8)	
Wealth quintile				
Lowest	19	56.3	(37.9, 73.1)	.741
Second	25	56.9	(39.8, 72.5)	
Middle	31	59.7	(46.9, 71.3)	
Fourth	32	53.0	(36.1, 69.3)	
Highest	35	48.0	(35.2, 61.0)	
Ward				
Shimbizhi	21	48.5	(42.5, 54.5)	.793
Nakasaka	38	53.5	(42.6, 64.0)	
Nangoma	44	55.9	(45.4, 65.9)	
Chisalu	51	52.8	(36.5, 68.4)	
TOTAL	154	52.7	(46.3, 59.1)	--

Note: The n's are un-weighted numbers in each subgroup; subgroups that do not sum to the total have missing data.

[a] Percentages are weighted for inaccurate SEA size used during the first stage of sampling.

[b] CI=confidence interval, calculated taking into account the complex sampling design.

3.4. WASH

Table 14. **Distribution of water and sanitation variables for households with selected children <24 months of age, Mumbwa District, Zambia 2015.**

Characteristic	n	%[a]	(95% CI)[b]
Main source of water for drinking [c]			
Improved source	362	79.9	(69.1, 87.5)
Unimproved source	99	20.1	(12.5, 30.9)
Treat water to make safe to drink			
Yes	117	26.8	(20.0, 34.9)
No	341	73.2	(65.1, 80.0)
Drink safe water [d]			
Yes	402	88.5	(78.9, 94.0)
No	57	11.5	(6.0, 21.1)
Household sanitation [e]			
Improved	10	2.3	(1.0, 5.3)
Unimproved	452	97.7	(94.7, 99.0)

Note: The n's are un-weighted numbers in each subgroup; the sum of subgroups may not equal the total because of missing data.

[a] Percentages are weighted for inaccurate SEA size used during the first stage of sampling.

[b] CI=confidence interval, calculated taking into account the complex sampling design.

[c] Improved source = water from piped system, tube well or borehole, protected well, protected spring, rainwater collection, or bottled water. Unimproved source = water from unprotected well, unprotected spring, tanker truck or cart, surface water or other.

[d] Composite variable of main source of drinking water and treating water to make safe for drinking.

[e] Composite variable of toilet type and if toilet facilities are shared with non-household members; Adequate Sanitation = ventilated pit latrine and pit latrine with slab not shared with another household. Inadequate sanitation= open pit, bucket latrine, no facility, bush, field, burying in back yard

Table 15.   **Distribution of handwashing variables for households with selected children <24 months of age, Mumbwa District, Zambia 2015.**

Characteristic	n	% [a]	(95% CI) [b]
Location where household members usually wash hands			
Specific area of dwelling	168	36.7	(29.5, 44.5)
Anywhere around dwelling	284	61.4	(54.0, 68.3)
Not in dwelling / plot / yard	10	1.9	(0.9, 3.9)
Other			
Water is available at hand washing place [c]			
Yes	170	37.4	(31.0, 44.3)
No	282	62.6	(55.7, 69.0)
Product in household for washing hands			
Soap (bar, liquid, detergent)	284	61.6	(55.8, 67.1)
Ash / mud / sand	62	12.2	(9.2, 16.0)
None	116	26.2	(20.6, 32.7)

Note: The n's are un-weighted numbers in each subgroup; the sum of subgroups may not equal the total because of missing data.
[a] Percentages are weighted for inaccurate SEA size used during the first stage of sampling.
[b] CI=confidence interval, calculated taking into account the complex sampling design.
[c] Data available only if handwashing place observed

Table 16.   **Proportion of mothers/care takers of children <24 months of age <u>that can identify</u> at least 3 critical times for washing hands with soap, Mumbwa District, Zambia 2015.**

Characteristic	n	% [a]	(95% CI) [b]
Age (in years)			
<20	36	45.6	(29.2, 62.9)
20-29	134	55.9	(45.4, 65.9)
30-39	71	59.4	(47.2, 70.6)
≥40	19	52.6	(37.2, 67.6)
Education			
None	12	47.0	(23.7, 71.7)
Attended primary	146	54.5	(44.3, 64.2)
Attended secondary or higher	102	55.9	(47.4, 64.0)
Wealth quintile			
Lowest	35	44.0	(34.7, 53.8)
Second	44	57.2	(41.1, 71.9)
Middle	42	52.4	(39.9, 64.5)
Fourth	44	51.0	(37.3, 64.5)
Highest	50	61.9	(47.8, 74.2)
Ward			
Shimbizhi	33	54.3	(41.6, 66.4)
Nakasaka	58	51.5	(42.6, 60.3)
Nangoma	89	64.2	(55.1, 72.4)
Chisalu	80	49.7	(30.8, 68.7)
TOTAL	260	54.6	(46.6, 62.4)

Note: The n's are un-weighted numbers in each subgroup; subgroups that do not sum to the total have missing data.

[a] Percentages are weighted for inaccurate SEA size used during the first stage of sampling.

[b] CI=confidence interval, calculated taking into account the complex sampling design.

Table 17.   **Proportion of mothers/care takers of children <24 months of age <u>that usually wash their hands with soap</u> during at least 3 critical times for washing hands, Mumbwa District, Zambia 2015.**

Characteristic	n	% [a]	(95% CI) [b]
Age (in years)			
<20	51	62.8	(46.8, 76.4)
20-29	142	60.3	(48.8, 70.8)
30-39	82	68.5	(57.7, 77.6)
≥40	25	67.4	(43.8, 84.6)
Education			
None	15	60.1	(28.0, 85.4)
Attended primary	165	61.8	(51.0, 71.5)
Attended secondary or higher	120	66.3	(57.2, 74.2)
Wealth quintile			
Lowest	42	51.7	(40.2, 63.0)
Second	47	61.1	(45.0, 75.1)
Middle	52	65.2	(48.7, 78.8)
Fourth	46	57.0	(40.4, 72.2)
Highest	60	73.4	(60.4, 83.2)
Ward			
Shimbizhi	37	62.5	(60.3, 64.6)
Nakasaka	69	61.6	(45.1, 75.7)
Nangoma	100	74.3	(64.2, 82.4)
Chisalu	94	56.9	(36.1, 75.5)
TOTAL	300	63.4	(54.2, 71.7)

Note: The n's are un-weighted numbers in each subgroup; subgroups that do not sum to the total have missing data.

[a] Percentages are weighted for inaccurate SEA size used during the first stage of sampling.

[b] CI=confidence interval, calculated taking into account the complex sampling design.

3.5. Maternal and infant and young child feeding

3.5.1. Maternal dietary diversity

Table 18. **Proportion of mothers/caretakers with minimum dietary diversity [c] the day before the interview, Mumbwa District, Zambia 2015.**

Characteristic	n	%[a]	(95% CI)[b]	P value
Number of food groups consumed (out of 9 possible)				
1	9	2.4	(1.2, 4.6)	--
2	136	30.5	(24.7, 36.9)	
3	188	39.0	(32.3, 46.2)	
4	100	21.2	(16.8, 26.5)	
5	23	5.5	(3.7, 8.1)	
6	6	1.4	(0.5, 3.9)	
7	0	--	--	
8	0	--	--	
9	0	--	--	
Age (in years)				
<20	27	33.4	(22.6, 46.1)	.189
20-29	51	21.8	(15.8, 29.2)	
30-39	38	33.7	(23.3, 46.0)	
≥40	13	36.1	(16.0, 62.7)	
Education				
None	8	30.6	(19.3, 44.8)	.426
Attended primary	78	30.0	(23.8, 37.2)	
Attended secondary or higher	43	25.0	(17.6, 34.1)	
Wealth quintile				
Lowest	20	25.1	(16.7, 35.8)	.100
Second	13	15.3	(7.0, 30.1)	
Middle	22	32.0	(22.3, 43.5)	
Fourth	24	30.1	(21.8, 40.0)	
Highest	27	33.9	(23.0, 46.8)	
Ward				
Shimbizhi	11	19.5	(17.1, 22.1)	.020
Nakasaka	24	23.3	(18.4, 29.2)	
Nangoma	51	38.6	(26.4, 52.5)	
Chisalu	43	28.6	(21.6, 36.9)	
TOTAL	129	28.1	(23.0, 33.9)	--

Note: The n's are un-weighted numbers in each subgroup; subgroups that do not sum to the total have missing data.

[a] Percentages are weighted for inaccurate SEA size used during the first stage of sampling.

[b] CI=confidence interval, calculated taking into account the complex sampling design.

[c] Minimum dietary diversity defined as consuming foods from ≥4 food groups in the past 24 hours

3.5.2.   Infant and young child feeding

Table 19.   Proportion of children with various infant and young child feeding indicators in children 0-23 months of age, Mumbwa District, Zambia 2015.

Characteristic	n	%[a]	(95% CI)[b]
Early initiation of breastfeeding [c]			
Initiated breastfeeding in first hour after birth	361	80.8	(76.8, 84.2)
Initiated breastfeeding in 1-23 hours after birth	66	14.5	(11.1, 18.7)
Initiated breastfeeding in ≥24 hours after birth	6	1.6	(0.6, 4.0)
Exclusive breastfeeding under 6 months[d]			
Exclusively breastfed the day before the interview	116	82.2	(73.2, 88.6)
Continued breastfeeding at 1 year[e]			
Breastfed the day before the interview	57	92.9	(81.6, 97.5)
Introduction of solid, semi-solid or soft foods[f]			
Eating complementary food the day before the interview	41	69.8	(55.7, 81.0)
Minimum dietary diversity[g]			
Adequate dietary diversity the day before the interview	74	23.1	(19.3, 27.4)
Minimum meal frequency[g]			
Adequate meal frequency the day before the interview	69	34.7	(26.5, 44.0)
Minimum acceptable diet[g]			
Acceptable diet the day before the interview	12	6.8	(3.3, 13.2)
Good IYCF Score			
<6 months	116	82.2	(73.2, 88.6)
6-23 months	24	12.6	(7.4, 20.7)

Note: The n's are un-weighted numbers in each subgroup; the sum of subgroups may not equal the total because of missing data.

[a] Percentages are weighted for inaccurate SEA size used during the first stage of sampling.
[b] CI=confidence interval, calculated taking into account the complex sampling design.
[c] Results presented for all children <24 months of age
[d] Results presented for all children <6 months of age
[e] Results presented for children 12-15 months of age
[f] Results presented for children 6-8 months of age
[g] Results presented for children 6-23 months of age

Table 20.   **Proportion of children with minimum dietary diversity the day before the interview, children 6-23 months of age, Zambia 2015. (WHO/UNICEF recommendations- Indicator #5: Minimum dietary diversity)**

Characteristic	n	%[a]	(95% CI)[b]	P value
Child's age (in months)				
6-11	22	16.8	(10.5, 25.7)	.080
12-23	52	27.0	(21.5, 33.3)	
Child Sex				
Male	40	25.1	(18.7, 32.7)	.513
Female	34	21.2	(14.6, 29.6)	
Caretaker's age				
<20	12	27.5	(17.6, 40.3)	.695
20-29	33	20.1	(14.7, 26.9)	
30-39	21	25.5	(17.2, 36.0)	
≥40	8	25.4	(8.9, 54.2)	
Education of caretaker				
None	3	16.0	(7.3, 31.7)	.053
Attended primary	36	20.2	(15.5, 25.8)	
Attended secondary or higher	35	28.8	(22.7, 35.8)	
Composite gender autonomy index of caretaker				
<mean value	31	20.1	(14.9, 26.7)	.061
≥mean value	37	32.2	(23.1, 42.9)	
Composite gender attitudes index caretaker				
<mean value	35	23.9	(18.5, 30.2)	.773
≥mean value	39	22.4	(16.3, 30.1)	
Wealth quintile				
Lowest	15	25.0	(17.2, 34.9)	.140
Second	8	16.5	(8.7, 29.2)	
Middle	10	19.2	(9.3, 35.4)	
Fourth	15	32.2	(23.9, 41.7)	
Highest	18	32.8	(23.8, 43.3)	
Ward				
Shimbizhi	10	23.7	(18.6, 29.7)	.732
Nakasaka	16	19.9	(12.9, 29.3)	
Nangoma	22	25.0	(15.5, 37.6)	
Chisalu	26	24.3	(19.0, 30.5)	
TOTAL	74	23.1	(19.3, 27.4)	--

Note: The n's are un-weighted numbers in each subgroup; subgroups that do not sum to the total have missing data.

[a] Percentages are weighted for inaccurate SEA size used during the first stage of sampling.

[b] CI=confidence interval, calculated taking into account the complex sampling design.

Table 21.   Distribution of children with minimum meal frequency the day before the interview, children 6-23 months of age, Zambia 2015. (WHO/UNICEF recommendations- Indicator #6: Minimum meal frequency)

Characteristic	n	%[a]	(95% CI)[b]	P value
Child's age (in months)				
6-11	35	48.6	(35.6, 61.7)	.007
12-23	34	25.9	(17.1, 37.2)	
Child Sex				
Male	29	33.0	(23.5, 44.1)	.601
Female	40	36.1	(26.0, 47.6)	
Caretaker's age				
<20	8	31.3	(14.7, 54.7)	.397
20-29	40	39.1	(28.6, 50.7)	
30-39	13	24.9	(15.2, 38.0)	
≥40	8	40.6	(19.1, 66.4)	
Education of caretaker				
None	2	14.4	(2.3, 54.3)	.162
Attended primary	41	39.4	(29.2, 50.6)	
Attended secondary or higher	26	32.8	(24.5, 42.5)	
Composite gender autonomy index of caretaker				
<mean value	40	39.6	(31.1, 48.9)	.017
≥mean value	17	25.1	(15.9, 37.3)	
Composite gender attitudes index caretaker				
<mean value	38	35.4	(26.7, 45.2)	.866
≥mean value	31	34.0	(21.6, 49.2)	
Wealth quintile				
Lowest	14	34.8	(21.7, 50.8)	.263
Second	11	24.1	(13.2, 39.8)	
Middle	13	47.9	(26.5, 70.2)	
Fourth	9	29.0	(15.9, 46.8)	
Highest	7	24.8	(10.0, 49.6)	
Ward				
Shimbizhi	15	55.6	(31.5, 77.4)	.074
Nakasaka	15	27.7	(18.6, 39.0)	
Nangoma	15	26.5	(13.7, 44.8)	
Chisalu	24	34.3	(24.7, 45.4)	
TOTAL	69	34.7	(26.5, 44.0)	

Note: The n's are un-weighted numbers in each subgroup; the sum of subgroups may not equal the total because of missing data.

[a] Percentages are weighted for inaccurate SEA size used during the first stage of sampling.

[b] CI=confidence interval, calculated taking into account the complex sampling design.

Table 22. **Proportion of children with minimum acceptable diet the day before the interview, children 6-23 months of age, Zambia 2015. (WHO/UNICEF recommendations- Indicator #7: Minimum acceptable diet)**

Characteristic	n	%[a]	(95% CI)[b]	P value
Child's age (in months)				
6-11	8	14.5	(5.4, 33.3)	.025
12-23	4	3.1	(1.1, 8.2)	
Child Sex				
Male	4	5.2	(2.1, 12.6)	.310
Female	8	8.0	(3.7, 16.5)	
Caretaker's age				
<20	1	4.6	(0.6, 28.3)	.859
20-29	6	6.5	(2.4, 16.6)	
30-39	3	6.5	(1.9, 20.3)	
≥40	2	12.6	(1.5, 56.9)	
Education of caretaker				
None	0	--	--	
Attended primary	6	6.9	(2.7, 16.5)	.581
Attended secondary or higher	6	8.0	(3.6, 16.8)	
Composite gender autonomy index of caretaker				
<mean value	6	6.8	(3.1, 14.3)	.393
≥mean value	6	9.3	(4.2, 19.4)	
Composite gender attitudes index caretaker				
<mean value	9	10.8	(4.5, 23.6)	.099
≥mean value	3	3.0	(0.8, 10.2)	
Wealth quintile				
Lowest	3	8.3	(1.9, 30.1)	.244
Second	1	2.9	(0.4, 20.2)	
Middle	2	9.6	(2.1, 34.9)	
Fourth	4	15.3	(6.2, 33.1)	
Highest	0	--	--	
Ward				
Shimbizhi	1	5.9	(1.0, 27.2)	.933
Nakasaka	3	6.1	(1.3, 23.8)	
Nangoma	3	5.6	(1.9, 15.3)	
Chisalu	5	8.5	(2.6, 24.1)	
TOTAL	12	6.8	(3.3, 13.2)	

Note: The n's are un-weighted numbers in each subgroup; the sum of subgroups may not equal the total because of missing data.

[a] Percentages are weighted for inaccurate SEA size used during the first stage of sampling.

[b] CI=confidence interval, calculated taking into account the complex sampling design.

Table 23. **Proportion of children exclusively breastfed the day before the interview, children < 6 months of age, Mumbwa District, Zambia 2015. (WHO/UNICEF recommendations- Indicator #2: Exclusive breastfeeding under 6 months)**

Characteristic	n	%[a]	(95% CI)[b]	P value
Child Sex				
Male	68	85.3	(74.1, 92.1)	.341
Female	48	77.9	(61.3, 88.7)	
Caretaker's age				
<20	27	81.9	(58.1, 93.7)	.057
20-29	57	85.1	(69.9, 93.4)	
30-39	29	85.1	(70.4, 93.3)	
≥40	3	31.9	(7.6, 72.7)	
Education of caretaker				
None	3	72.3	(34.5, 92.8)	.551
Attended primary	65	84.4	(73.7, 91.3)	
Attended secondary or higher	48	79.9	(66.7, 88.8)	
Composite gender autonomy index of caretaker				
<mean value	53	75.7	(60.2, 86.5)	.055
≥mean value	40	93.3	(77.6, 98.2)	
Composite gender attitudes index caretaker				
<mean value	47	81.6	(62.5, 92.2)	.910
≥mean value	69	82.6	(71.5, 90.0)	
Wealth quintile				
Lowest	18	83.6	(59.1, 94.7)	.224
Second	14	82.6	(54.3, 95.0)	
Middle	21	68.9	(47.4, 84.5)	
Fourth	25	81.3	(61.5, 92.2)	
Highest	20	95.9	(74.1, 99.5)	
Ward				
Shimbizhi	14	85.3	(77.4, 90.8)	.899
Nakasaka	20	81.0	(47.1, 95.3)	
Nangoma	42	83.9	(67.9, 92.8)	
Chisalu	40	79.6	(62.2, 90.3)	
TOTAL	116	82.2	(73.2, 88.6)	

Note: The n's are un-weighted numbers in each subgroup; the sum of subgroups may not equal the total because of missing data.

[a] Percentages are weighted for inaccurate SEA size used during the first stage of sampling.

[b] CI=confidence interval, calculated taking into account the complex sampling design.

Table 24.   **Distribution of various times of breastfeeding initiation after birth, children < 24 months of age, Zambia 2015. (WHO/UNICEF recommendations- Indicator #1: Early initiation of breastfeeding)**

Characteristic	First hour			1-23 hours			> 12 hours		
	N	%[a]	(95% CI)[b]	n	%[a]	(95% CI)[b]	n	%[a]	(95% CI)[b]
Child's age (in months)									
0-11	210	84.3	(77.6, 89.3)	39	15.2	(10.4, 21.6)	1	0.5	(0.1, 3.6)
12-23	151	82.1	(75.8, 87.0)	27	14.7	(10.8, 19.8)	5	3.2	(1.1, 9.1)
Child Sex									
Male	177	81.0	(74.7, 86.1)	38	17.0	(12.6, 22.6)	4	2.0	(0.7, 5.1)
Female	184	85.8	(79.1, 90.6)	28	12.9	(7.9, 20.4)	2	1.3	(0.2, 8.9)
Caretaker's age									
<20	62	81.6	(71.8, 88.5)	13	16.6	(10.3, 25.6)	1	1.8	(0.3, 11.8)
20-29	187	87.0	(81.4, 91.0)	25	11.7	(8.0, 16.8)	3	1.4	(0.4, 4.2)
30-39	86	79.1	(70.5, 85.7)	21	18.4	(12.0, 27.0)	2	2.5	(0.3, 17.1)
≥40	26	79.8	(53.4, 93.2)	7	20.2	(6.8, 46.6)	0	--	--
Education of caretaker									
None	17	67.8	(52.3, 80.2)	6	26.8	(14.9, 43.3)	1	5.4	(1.0, 23.7)
Attended primary	197	83.4	(77.2, 88.2)	41	15.9	(11.3, 22.1)	2	0.6	(0.1, 2.7)
Attended secondary or higher	147	85.7	(78.2, 90.9)	19	11.8	(6.9, 19.5)	3	2.5	(0.9, 7.0)
Composite gender autonomy index of caretaker									
<mean value	187	88.8	(82.7, 92.9)	21	10.1	(6.1, 16.2)	2	1.1	(0.3, 4.5)
≥mean value	111	76.5	(69.3, 82.4)	32	20.3	(14.4, 27.8)	4	3.2	(1.2, 8.5)
Composite gender attitudes index caretaker									
<mean value	168	83.8	(78.1, 88.3)	29	14.3	(9.7, 20.4)	3	1.9	(0.6, 6.0)
≥mean value	193	83.0	(77.2, 87.6)	37	15.6	(11.1, 21.5)	3	1.4	(0.5, 4.1)

Table continued from previous page

Wimaltry quintile

Wealth quintile									
Lowest	58	80.0	(62.7, 90.5)	15	18.8	(8.5, 36.6)	1	1.1	(0.1, 8.6)
Second	59	78.3	(63.2, 88.3)	11	17.3	(8.3, 32.7)	3	4.4	(1.5, 12.2)
Middle	66	85.4	(69.2, 93.8)	11	14.6	(6.2, 30.8)	0	--	
Fourth	61	83.7	(71.6, 91.3)	12	16.3	(8.7, 28.4)	0	--	
Highest	57	82.0	(68.0, 90.8)	11	14.1	(7.7, 24.5)	2	3.9	(1.0, 13.8)
Ward									
Shimbizhi	46	81.0	(71.6, 87.8)	8	17.9	(9.8, 30.6)	1	1.1	(0.1, 7.9)
Nakasaka	83	83.2	(70.4, 91.2)	17	13.7	(6.2, 27.6)	3	3.1	(0.7, 12.2)
Nangoma	109	85.7	(80.0, 90.0)	20	14.3	(10.0, 20.0)	0	--	
Chisalu	123	83.1	(77.7, 87.4)	21	14.9	(11.0, 20.0)	2	2.0	(0.7, 5.6)
TOTAL	361	80.8	(76.8, 84.2)	66	14.5	(11.1, 18.7)	6	1.6	(0.6, 4.0)

Note: The n's are un-weighted numbers in each subgroup; the sum of subgroups may not equal the total because of missing data.
[a] Percentages are weighted for inaccurate SEA size used during the first stage of sampling.
[b] CI=confidence interval, calculated taking into account the complex sampling design.

Table 25.   **Proportion of children < 24 months of age with good infant and young child feeding score, Mumbwa District, Zambia 2015.**

Characteristic	n	% [a]	(95% CI) [b]	P value
Child Sex				
Male	78	45.0	(38.7, 51.4)	.102
Female	62	33.3	(23.2, 45.3)	
Caretaker's age				
<20	31	47.8	(35.8, 60.0)	.272
20-29	69	36.7	(28.9, 45.2)	
30-39	32	40.0	(29.9, 51.0)	
≥40	8	28.5	(13.4, 50.8)	
Education of caretaker				
None	4	23.2	(6.9, 55.3)	.333
Attended primary	79	42.1	(35.1, 49.4)	
Attended secondary or higher	57	37.7	(28.7, 47.6)	
Composite gender autonomy index of caretaker				
<mean value	67	38.0	(31.2, 45.3)	.607
≥mean value	48	41.4	(30.2, 53.6)	
Composite gender attitudes index caretaker				
<mean value	64	38.7	(31.9, 45.9)	.862
≥mean value	76	39.5	(31.3, 48.3)	
Wealth quintile				
Lowest	23	33.5	(21.5, 48.2)	.321
Second	18	32.2	(21.4, 45.2)	
Middle	24	36.8	(27.0, 47.9)	
Fourth	30	49.7	(35.9, 63.4)	
Highest	23	39.9	(24.1, 58.2)	
Ward				
Shimbizhi	19	45.0	(28.9, 62.1)	.320
Nakasaka	25	31.1	(19.4, 45.9)	
Nangoma	46	44.6	(38.7, 50.6)	
Chisalu	50	37.9	(29.3, 47.2)	
TOTAL	140	39.1	(33.1, 45.4)	

Note: The n's are un-weighted numbers in each subgroup; the sum of subgroups may not equal the total because of missing data.

[a] Percentages are weighted for inaccurate SEA size used during the first stage of sampling.

[b] CI=confidence interval, calculated taking into account the complex sampling design.

3.5.3.   Child illness

Table 26.   Proportion of children < 24 months of age with caregiver-reporting diarrhea in past 2 weeks, Mumbwa District, Zambia 2015

Characteristic	n	%[a]	(95% CI)[b]	P value[c]
Child's age (in months)				
0-11	75	30.1	(23.1, 38.1)	.021
12-23	84	41.6	(37.1, 46.3)	
Child Sex				
Male	89	37.3	(31.2, 43.7)	.429
Female	70	32.8	(25.5, 41.1)	
Caretaker's age				
<20	22	25.6	(15.6, 38.9)	.223
20-29	87	41.1	(34.8, 47.7)	
30-39	39	32.7	(22.0, 45.4)	
≥40	11	30.1	(13.4, 54.5)	
Education of caretaker				
None	8	30.2	(18.0, 45.9)	.343
Attended primary	85	33.2	(27.7, 39.2)	
Attended secondary or higher	66	38.7	(31.7, 46.3)	
Composite gender autonomy index of caretaker				
<mean value	77	34.7	(29.7, 40.1)	.105
≥mean value	61	40.3	(34.2, 46.8)	
Composite gender attitudes index caretaker				
<mean value	79	37.3	(29.3, 46.1)	.475
≥mean value	80	33.3	(27.7, 39.3)	
Wealth quintile				
Lowest	34	42.8	(32.2, 54.0)	.511
Second	32	39.9	(29.7, 51.0)	
Middle	23	30.3	(20.3, 42.7)	
Fourth	27	36.9	(27.0, 47.9)	
Highest	25	34.9	(24.5, 46.9)	
Ward				
Shimbizhi	17	29.7	(27.1, 32.5)	.079
Nakasaka	33	30.8	(22.8, 40.1)	
Nangoma	50	36.0	(32.4, 39.9)	
Chisalu	59	40.9	(32.8, 49.5)	
TOTAL	159	35.1	(30.9, 39.6)	

Note: The n's are un-weighted numbers in each subgroup; the sum of subgroups may not equal the total because of missing data.

[a] Percentages are weighted for inaccurate SEA size used during the first stage of sampling.

[b] CI=confidence interval, calculated taking into account the complex sampling design.

[c] Chi-square p-value <0.05 indicates that the variation in the values of the subgroup are significantly different from all other subgroups

3.6. Associations between gender equality and MIYCF

Table 27.   **Associations between proportion of women with minimum dietary diversity[c] and gender indices, Mumbwa District, Zambia 2015.**

Characteristic	n	%[a]	(95% CI)[b]	P value
Composite gender attitudes index				
<mean value	55	26.3	(20.4, 33.1)	.561
≥mean value	74	29.7	(21.3, 39.7)	
Attitudes toward girl children				
<mean value	83	30.9	(24.5, 38.2)	.118
≥mean value	46	24.4	(18.3, 31.6)	
Attitudes toward violence against women				
<mean value	65	24.8	(19.2, 31.4)	.184
≥mean value	64	32.0	(23.3, 42.2)	
Composite gender autonomy index				
<mean value	52	22.6	(16.4, 30.3)	.038
≥mean value	55	36.0	(27.1, 45.9)	

Note: The n's are un-weighted numbers in each subgroup; subgroups that do not sum to the total have missing data.

[a] Percentages are weighted for inaccurate SEA size used during the first stage of sampling.

[b] CI=confidence interval, calculated taking into account the complex sampling design.

[c] Minimum dietary diversity in women is classified as a dietary diversity score ≥4.

Table 28.   **Associations between the proportion of children < 24 months of age with good infant and young child feeding score and gender indices, Mumbwa District, Zambia 2015.**

Characteristic	n	%[a]	(95% CI)[b]	P value
Composite gender attitudes index of caretaker				
<mean value	64	38.7	(31.9, 45.9)	.862
≥mean value	76	39.5	(31.3, 48.3)	
Attitudes toward girl children of caretaker				
<mean value	81	38.4	(31.7, 45.6)	.700
≥mean value	59	40.0	(32.3, 48.2)	
Attitudes toward violence against women of caretaker				
<mean value	80	39.1	(31.1, 47.8)	.989
≥mean value	60	39.1	(32.3, 46.2)	
Attitudes towards social and sexual relations at home of caretaker				
<mean value	75	40.9	(33.8, 48.5)	.387
≥mean value	65	37.0	(29.3, 45.5)	
Composite gender autonomy index of caretaker				
<mean value	67	38.0	(31.2, 45.3)	.607
≥mean value	48	41.4	(30.2, 53.6)	

Note: The n's are un-weighted numbers in each subgroup; subgroups that do not sum to the total have missing data.

[a] Percentages are weighted for inaccurate SEA size used during the first stage of sampling.

[b] CI=confidence interval, calculated taking into account the complex sampling design.

4. DISCUSSION

Gender equality

Using multiple indicators of gender equality, the baseline survey found that attitudes and practices related to gender were often inequitable and generally poor. The attitudes toward girl children index indicated that approximately half of all mothers/caregivers give higher priority to giving birth to boys and providing for boy children. The attitudes towards violence against women index and the attitudes toward social and sexual relations at home index (GEM scale) showed that mothers/caretakers generally agree that beating a woman is justified and that inequality pervades issues of reproductive health and sexual relations. Due to the relatively high prevalence (19%) of low birthweight in Mumbwa and positive associations between physical violence during pregnancy and low birthweight and preterm birth [15], improving attitudes toward physical violence could be seen as a valid approach to reductions domestic violence and potentially contributing to improved birth outcomes.

There was little difference in composite gender attitudes by respondent age, marital status, household wealth, or Ward. In contrast, the average composite gender attitudes index was significantly higher ($p < 0.05$) among respondents living in households without men than among respondents living with men. This finding is not unexpected because women residing in female-headed households could reasonably have more equitable views toward gender. Nonetheless, the mean score among women in households without men suggests that, even in this group, gender attitudes are quite poor. Moreover, these findings overall suggest that societal attitudes to gender inequality are widespread, and that household-level factors only contribute marginally to gender equality. The societal effects of gender equality have been explored previously by Smith et al [16] using DHS data from multiple countries (including Zambia). This study found that child growth was better when in more gender-equal communities in sub-Saharan Africa.

Similar to attitudes on gender, the gender autonomy index illustrated inequality related to a range of financial decision, intra-marital communication, and participation in community groups. As gender autonomy was measured only for married women, no comparison of gender autonomy index scores could be made by marital status or household composition (i.e. respondents live in households with adult men). Moreover, interview responses related to the division of labor showed that the majority of household tasks were the responsibility of women. While some tasks, such as collecting firewood and playing with children, were sometimes jointly conducted by mothers/caregivers and their spouses, woman were involved in nearly all households tasks. The spouses of the mothers/caretakers were only primarily responsible for one of eight tasks included in the interview questionnaire, buying food, whereas mothers/caretakers were largely responsible for the remaining seven tasks. In bivariate analysis, no significant differences were found in child dietary diversity and infant and young child feeding scores between children with mothers/caretakers with different values for gender equality indices . This is not at all unexpected because of the general difficulty in demonstrating associations in cross-sectional surveys and the limited sample size of this particular survey. Links between gender equality and child feeding practices and

growth have been observed in other studies in Zambia, including the baseline survey of the RAIN project [17] which had a much larger sample size, and thus greater precision. Therefore, a continued focus of the RAIN+ project on gender equality is worthwhile considering the low status held by women in Mumbwa and the existing evidence base.

Indeed, gender equality can only indirectly influence nutrition status by establishing conditions where optimal feeding and caretaking practices can be pursued. Women's workload may be a key limiting factor, as women are involved in nearly all household tasks, and for many of these tasks, such as washing clothes, cleaning the house, cooking meals, and fetching water, women are largely unassisted by their partners. Thus, even if attitudes were different toward gender equality, sub-optimal practices linked to gender equality may limit women's ability to pursue optimal feeding and care practices for themselves and their children.

Agriculture
While most children resided in households with access to agricultural land, the average size of agricultural land was quite small (3.0 acres). Of households with access to land, nearly two-thirds grew fruits or vegetables in the last year. Of these households, nearly 60% produced dark leafy greens, which contain substantial amounts of iron and vitamin A. Approximately 26% produced vitamin A-rich (only) fruits or vegetables.

Despite a relatively high proportion of households producing fruits or vegetables, few grew iron or vitamin A rich fruits or vegetables other than dark-leafy greens. Nearly all (94%) mother/caretakers reported that a household member owned poultry/birds, and 62% of households owned goats. Ownership of other animals was rare. Poultry/birds and goats account primarily for the milk and eggs produced by household. While most of the milk produced was consumed by household members, about 85% of households sold some of their eggs.

While dark-leafy greens contain high-concentrations of iron and pro-vitamin A, their ability to increase and sustain retinol concentrations in blood has been questioned. In Indonesia, researchers observed that increased consumption of dark-leafy greens did not result in improvements in vitamin A status in women [18], and that orange-flesh fruit may be more effective at improving vitamin A status in school children [19]. While micronutrient status was not collected as part of the RAIN+ baseline survey, the relatively low proportion of households producing vitamin A-rich fruits may suggest that some women and children have vitamin A deficiency. While other sources of bio-available vitamin A (e.g. fortified sugar) may be available, promoting the production of vitamin A-rich fruits should be considered as an approach to both diversify agricultural production and increase intake of pro-vitamin A.

Few (18%) mothers/caretakers received any agricultural training in the past year. The agricultural training received focused predominantly on crop selection and soil improvement. While important aspects of agricultural production, training on other topics (e.g. improved seeds or crop varieties, pest management, food preservation) was limited.

Notably, the sales of field crops differed significantly by receipt of agricultural training. Specifically, a greater proportion of women who received in agricultural training in the past year sold field crops than women who did not received agricultural training. While agricultural training may have enabled the sale of field crops because of excess production, agricultural training can nonetheless serve as an entry point for training on the marketing and sales of agricultural products.

Water, sanitation, and hygiene
The RAIN+ baseline survey found that knowledge and practices of handwashing are satisfactory, but could be further improved. While 63% of mother/caregivers reported usually washing their hands during at least three critical handwashing moments, fewer mothers/caregivers (55%) could name at least three critical moments for washing hands. This discrepancy between knowledge and practices suggests that some mothers/caregivers have optimal handwashing practices but are unaware that situations which may be more critical for washing hands.

Objective measures of handwashing suggest that few households have optimal handwashing facilities. Only 37% of households had a specific place for handwashing or water available for handwashing when they were interviewed. Conversely, nearly 62% of households had soap or detergent available, showing that water is a more substantial barrier to optimal handwashing practices than access to soap.

Almost 90% of children lived in households in which safe drinking water was available, either by having a safe source or by adequate home water treatment. On the other hand, very few children lived in households with adequate sanitary facilities. Although safe drinking water helps prevent infection through contaminated water, the home environment is still contaminated because of unimproved sanitation facilities. Approximately 83% of mothers/caretakers reported using open pit latrines without slabs, and 13% reported defecating in the open. In no cluster did more than 11% of children live in households with adequate sanitation.

In the surveyed wards, appropriate disposal of feces may be more important than the provision of clean drinking water, which only interrupts the transmission of water-borne pathogens. It may also be more effective in preventing fecal-oral pathogens than handwashing as proper disposal of stool isolates pathogens and prevents transmission by water, food, and person-to-person contact.

Morbidity
The baseline survey found that morbidity in children <2 years of age was high. In the two weeks prior to the survey, mothers/caretakers reported that 35%, 31%, and 13% of children had diarrhea, fever, and acute lower respiratory infection, respectively. These proportions are consistently higher than those reported by the RAIN baseline in 2011 and Zambia's 2013 DHS results for the Central Province. The RAIN baseline was conducted between June and August, and as this corresponds with the data collection of this baseline survey, seasonal differences between the two surveys are likely minimal. This suggests that morbidity in

infants and young children in the wards surveyed for this baseline survey is higher than found in the neighboring wards. As the RAIN+

Maternal, infant and young child feeding
Dietary diversity was relatively poor among mothers/caretakers. The number of food groups ranged from one to six despite that there was data on nine food groups collected. There was little difference in the proportion of women with minimum dietary diversity by age, education, and household wealth, but significant differences (p<0.05) were found by Ward, with the lowest proportion of women with minimum dietary diversity in Shimbizhi (20%) and the highest proportion in Nangoma (39%).

Among children, some IYCF practices were optimal while others need considerable improvement. Exclusive breastfeeding of children <6 months of age was very high (82%) and nearly all children (93%) were continually breastfeed at 1 year of age. On the contrary, complementary feeding practices were generally poor; only 23% and 35% of children 6-23 months of age had minimum dietary diversity and meal frequency, respectively. Only 7% of children 6-23 months had a minimum acceptable diet, and only 13% had a good IYCF score.

These findings suggest that mothers/caretakers in the surveyed Wards already have optimal breastfeeding practices but should improve various aspects of complementary feeding. However, as the quality of a mother's diet influences the quality of her breastmilk, poor maternal dietary diversity may be result in micronutrient deficiencies and low micronutrient (e.g. vitamin A) content of breastmilk.

5. RECOMMENDATIONS

Increase gender equality at community and household levels: The focus of the RAIN+ project on improving gender equality is clearly justified by that fact that mothers/caretakers in the surveyed wards generally perceive themselves as unequal across multiple gender topics. While overall promotion of gender equality is needed, stress should be given to issues of domestic and sexual violence as these domains showed the greatest amount of inequality and reductions in violence may result in improved birth outcomes. To reduce domestic violence, men should be engaged and messages related to gender equality should be targeted specifically to men. Further messaging can be targeted to women, as many women believed domestic violence was justifiable in certain circumstances. Messages encouraging men to assist with household chores should also be promoted because women currently undertake the majority of household tasks.

As attitudes to gender are only marginally affected by most of the investigated household demographic variables, activities to improve gender equality should be conducted both at the community and households levels. The current design of the RAIN+ project already contains both types of gender equality promotion activities, and specific outreach activities (e.g. agricultural training) can potentially be used to impart gender equality messages. As

few mothers/caretakers received agricultural training in the past year or participated in community groups, groups formed around agricultural training can be used to help improve household food production while simultaneously improving gender attitudes at the community level.

Expand agricultural training to mothers/caretakers: The receipt of agricultural training by mothers/caretakers was low. Due to the importance of agriculture in the surveyed communities, expanding agricultural trainings to mothers/caretakers is a valid approach to increasing women's knowledge and involvement in agricultural activities. As most households with access to agricultural land already produce dark-leafy greens, trainings related to other food crops should be stressed in order to diversify the fruits/vegetables planted and (ideally) consumed by mothers and their children. The promotion of micronutrient-dense crops such as mbeleshi beans, orange-flesh sweet potatoes, and orange maize should be promoted while encouraging mothers/caretakers to continue production of dark-leafy greens. Fruit production is also generally low, and promotion of granadilla, mango and pawpaw should also be promoted, and parents/caretakes encouraged to feed children vitamin A-rich fruits. In addition to trainings related to agricultural production, training related to marketing of agricultural produce should also be conducted.

Improve existing latrines and dissuade open defecation: Latrines with slabs are easier to clean than those without, and the use of latrine slabs provides a more secure and hygienic barrier between feces and human contact [14]. The RAIN+ project should promote such improvements of existing latrines via the use of slabs and other hygienic construction materials. In addition, attention should be given to reducing open defecation. As open defecation is posited to lead to chronic exposure to feces and pathogens, encouraging individuals/household that openly defecate to use latrines may lead to reduced exposure to pathogens.

Promote handwashing and investigate household hygiene and exposure to pathogens from animals: As multiple aspects of handwashing can be improved, the handwashing promotion messages used by the RAIN+ project should focus on the entire handwashing process; knowledge of critical times for handwashing, establishment of handwashing stations at the household, storage of water, and use of soap. Storage of water at the households is a notable barrier to effective handwashing in Mumbwa, and promotion of fixed handwashing stations, such as tippy taps, may be an effective strategy to improve handwashing practices.

In addition to pathogens transmitted by human feces, pathogens such as E. coli can be transferred by animal feces. A recent study in Zimbabwe found that infants were regularly exposed to E. coli via the objects in their immediate environment and items that entered their mouths. These items included drinking water, their caregiver's hands, the kitchen floor, soil, and chicken feces [20]. Due to the high proportion of households owning poultry or other birds, the potential for children to be exposed to harmful pathogens during routine

contact with their household environment should be further investigated. Though regular handwashing practices can likely reduce exposure to harmful pathogens, a better understanding of if and where pathogens are most common is needed.

As the agricultural component of the RAIN+ project will promote the use of improved livestock housing, attention should also be given to livestock defecation. While the location of where livestock defecate cannot easily be controlled when livestock are kept at the household, the project should raise the awareness that animal feces may contain pathogens that are particularly harmful to infants and young children.

Increase dietary diversity of women and dietary diversity and meal frequency in young children: Dietary diversity of women should be stressed to improve maternal nutrition and breastmilk quality. Both dietary diversity and meal frequency should be stressed for children 6-23 months of age. As breastfeeding practices are currently relatively good, MIYCF messages should be designed to maintain current levels of early initiation of breastfeeding and exclusive breastfeeding while addressing the introduction, quality, and frequency of complementary feeding.

Nutrition information and messages should be targeted at both women and men because men are predominantly responsible for buying food and women are responsible for cooking meals. Therefore, nutrition-related messages should promote both the purchase and preparation of nutrient-rich foods, particularly in households containing pregnant women and/or children.

Furthermore, the production of nutrient-rich foods and household consumption should be linked. While increased production of fruits and vegetables can be sold on the market, nutritional messages should encourage families to reserve a portion of fruits and vegetables for consumption by women and children household members.

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APPENDIX 1. INDICATOR FRAMEWORK OF THE RAIN+ PROJECT

Level	In Logframe (Y/N)	Indicator Category	Indicator	Definition	Data Source	Frequency of data collection
Outcome	Yes	MIYCF	% of children 6-23 months fed a minimum adequate diet	Composite indicator: Proportion of children 6-23 months both minimum dietary diversity AND minimum meal frequency	Baseline/Endline Surveys	Year 1 & Year 3
Outcome	Yes	MIYCF	% of children 6-23 months fed minimum meal frequency	# of children 6–23 months of age who receive solid, semi-solid, or soft foods the minimum number of times* / # of children 6-23 months * 2 times for breastfed infants 6–8 months * 3 times for breastfed children 9–23 months * 4 times for non-breastfed children 6–23 months	Baseline/Endline Surveys	Year 1 & Year 3
Outcome	No	MIYCF	% of children 6-23 months with minimum dietary diversity	# of children 6–23 who received foods from ≥ 4 food groups during previous day/ # children 6–23	Baseline/Endline Surveys	Year 1 & Year 3
Outcome	No	MIYCF	% of newborn children with early initiation of breastfeeding	# of children 0-23 months put to breast in <1 h / # of children 0-23 months	Baseline/Endline Surveys	Year 1 & Year 3
Outcome	Yes	MIYCF	% of children <6 months exclusively breastfed	# of children 0-6 who received only breastmilk during previous day /# of children 0-6 months	Baseline/Endline Surveys	Year 1 & Year 3
Outcome	No	MIYCF	% of children 0-23 months with diarrhea	# of children with reported diarrhoea in past 2 weeks/# of children interviewed	Baseline/Endline Surveys	Year 1 & Year 3
Outcome	Yes	MIYCF	% of women with minimum dietary diversity	# of women with children < 2 years eating from 4 or more food groups during the previous 24 hours / # of women with children <2 years	Baseline/Endline Surveys	Year 1 & Year 3
Outcome	Yes	MIYCF	Average individual diet diversity score of mother/care givers	Mean number of food groups consumed in past 24 hours of the mother/caregiver of children < 2 years Using Food Group Diversity Indicator Score (FGI) with a total of 13 food groups included. Oils/fats, sweets, condiments, and beverages (e.g. tea, alcohol) not included in the FGI score.	Baseline/Endline Surveys	Year 1 & Year 3
Output	Yes	Agriculture	% target households producing micronutrient rich plant and animal foods	# of target households producing foods rich in vitamin A or iron /# of target households Foods rich in vitamin A or iron include: orange flesh sweet potato, orange maize, mbeleshi beans, dark leafy greens, vitamin A-rich fruits (pawpaw, mango, etc), and animal products	Baseline/Endline Surveys	Year 1 & Year 3
Output	Yes	Gender Equality	% of men sharing responsibility for at least 3 household tasks	# of target households where men have sole or joint responsibilty of ≥3 houshold tasks / # of target households	Baseline/Endline Surveys Stories of Change	Year 1 & Year 3
Output	Yes	Agriculture	% of women with children aged <2 years who know that fruits and vegetables can be preserved by drying	# of women with children aged <2 years who know that fruits and vegetables can be preserved by drying/ # women with children < 2 years	Baseline/Endline Surveys Monitoring - post training	Year 1 & Year 3

Level	In Logframe (Y/N)	Indicator Category	Indicator	Definition	Data Source	Frequency of data collection
Output	Yes	Agriculture	% of women with children aged <2 years who preserve fruits and vegetables by drying	# of women with children aged <2 years who preserve fruits and vegetables by drying/ # women with children < 2 years	Monitoring - post training	Every 2 months
Output	Yes	Agriculture	% of women selling agricultural produce (excluding cotton or maize)	# of women with children < 2 years selling agricultural produce other than cotton or maize in past years / # of women with children < 2 years	Baseline/Endline Surveys	Year 1 & Year 3
Output	Yes	Agriculture	% of women growing fruits or vegetables	# of women growing fruits or vegetables in past years/ # of women beneficiaries	Baseline/Endline Surveys	Year 1 & Year 3
Output	Yes	Agriculture	Women's autonomy (measured through composite women's autonomy index which includes dimensions of 1. whether women are income earners 2. and/or can make financial decisions 3. whether women purchase household food and other items, 4. the level of communication with their spouse, 5. access to media and social networks	Mean women's autonomy score, ranging from 0-1	Baseline/Endline Surveys	Year 1 & Year 3
Output	Yes	Gender Equality	Increased average score on the Gender Attitudes Scale	Sum of three of Concern's gender scales: 1)Attitudes toward girl children 2) Attitudes toward violence against women 3) GEM scale	Baseline/Endline Surveys	Year 1 & Year 3
Output	Yes	Agriculture	% of women who are producing diverse and micronutrient rich foods based on seed pack and revised SMF Agriculture Manual	# of women producing micronutrient rich foods using seed packs / # of women who received seed packs	Monitoring	Every 2 months
Output	Yes	Agriculture	% women who have completed the training course on agriculture in line with the revised manual and established gardens	# women who have completed the training course on agriculture / # of women beneficiaries	Monitoring	Every 2 months
Output	Yes	WASH	% of respondents who can name at least 3 out of 5 critical times for handwashing with soap.	# of women with children < 2 years who can name at least 3 out of 5 critical times for handwashing with soap/ # of women with children <2 years	Baseline/Endline Surveys	Year 1 & Year 3
Input	Yes	MIYCF	% women's groups trained and counselled on MIYCF by the Community Health Volunteers (CHVs)	# women's groups trained and counselled on MIYCF in past 2 months / # total women's groups	Monitoring	Monthly
Input	Yes	Gender Equality	Activities to promote gender equality included in the District Nutrition Plan 2017	Qualitative information from progress reports	Monitoring	Every 6 months
Input	Yes	Gender Equality	DNCC discuss and agree actions to address gender issues in their regular meetings	Qualitative information from progress reports and key-informant interviews	Monitoring	Every 6 months
Input	Yes	Gender Equality	MAL staff at district level mainstreamed gender in their agricultural training in line with the gender mainstreaming in agriculture manual	Qualitative information from progress reports and key-informant interviews	Monitoring	Every 6 months
Input	Yes	All categories	Community dialogues held regularly in line with project methodology	# of community dialogues	Monitoring	Monthly
Input	Yes	Gender Equality	Network of male peer educators established and trained to increase male participation in household and childcare tasks.	# of male peer educators trained Qualitative information from focus groups	Monitoring Stories of change	Monthly Every 6 months
Input	No	WASH	% of boreholes rehabilitated	% of boreholes rehabilitated / 75 boreholes targeted for rehabilitation	Monitoring	Monthly

APPENDIX 2. LIST OF SELECTED ENUMERATION AREAS

CLUSTER NUMBER	DISTRICT	WARD	CSA	SEA	CENSUS GEOID
1	Mumbwa	Shimbizhi	01	2	10105010091012
2	Mumbwa	Shimbizhi	02	2	10105010091022
3	Mumbwa	Shimbizhi	04	1	10105010091041
4	Mumbwa	Nakasaka	01	1	10105011101011
5	Mumbwa	Nakasaka	03	1	10105011101031
6	Mumbwa	Nakasaka	04	1	10105011101041
7	Mumbwa	Nakasaka	05	3	10105011101053
8	Mumbwa	Nakasaka	06	3	10105011101063
9	Mumbwa	Nakasaka	08	3	10105011101083
10	Mumbwa	Nangoma	01	1	10105011111011
11	Mumbwa	Nangoma	02	2	10105011111022
12	Mumbwa	Nangoma	02	3	10105011111023
13	Mumbwa	Nangoma	04	1	10105011111041
14	Mumbwa	Nangoma	06	1	10105011111061
15	Mumbwa	Nangoma	07	3	10105011111073
16	Mumbwa	Nangoma	09	3	10105011111093
17	Mumbwa	Nangoma	11	1	10105011111111
18	Mumbwa	Chisalu	02	1	10105011161021
19	Mumbwa	Chisalu	03	2	10105011161032
20	Mumbwa	Chisalu	04	3	10105011161043
21	Mumbwa	Chisalu	06	1	10105011161061
22	Mumbwa	Chisalu	06	3	10105011161063
23	Mumbwa	Chisalu	08	1	10105011161081
24	Mumbwa	Chisalu	09	1	10105011161091
25	Mumbwa	Chisalu	10	2	10105011161102

APPENDIX 3. A PRIORI SAMPLE SIZE CALCULATIONS

Table A3-1. Sample sizes for households (HH), Pre-SAC, non-pregnant women and pregnant women, and the expected precision with this minimum sample size (assuming a 94% household response rate)

Target group	Indicator	Estimated prevalence at baseline (%)	Estimated prevalence at endline (%)	Design effect	Subjects with data	P-value for difference in prevalence (baseline-endline)
Women with children 0-23 months of age	% minimum dietary diversity	50.0%	60.0%	2.0	405	0.086
	% with ≥4 ANC visits during last pregnancy	55.2%	65.0%	2.0	405	0.088
Children 0-5 months	% Exclusively breastfed	74.3%	85.0%	1.5	102	0.242
	% Predominantly breastfed	80.7%	90.0%	1.5	102	0.250
Children 6-23 months	% minimum dietary diversity	27.3%	37.0%	1.5	304	0.073
	% minimum meal frequency	51.7%	62.0%	1.5	304	0.073
	% minimum acceptable diet	16.4%	30.0%	1.5	304	0.002
Children 0-23 months	% Diarrhea in past 2 weeks	21.5%	12.0%	1.2	405	0.002
	% Fever in past 2 weeks	17.9%	10.0%	1.2	405	0.006
	% Lower respiratory infection in past 2 weeks (cough/fever/ difficulty breathing in chest)	4.3%	3.0%	1.2	405	0.736
	% children 0-23 months in HHs with safe drinking water	75.7%	85.0%	3.0	405	0.109
	% children 0-23 months in HHs with improved sanitation facility	20.0%	30.0%	3.0	405	0.116

APPENDIX 4. GENDER INDICES

Index name	Questions included in index	Scoring
Attitudes toward girl children index	Concern Worldwide's 2 standardized questions [11].	Question response codes 1 (strongly agree), 2 (agree), 3 (disagree), and 4 (strongly disagree) were recoded to the values 0, 1, 2, and 3, respectively. Each respondent's values for all questions comprising the index were summed and divided by maximum possible total score to yield a summary index score between 0 and 1. Higher scores represent more equitable attitudes towards gender.
Attitudes toward violence against women index	Concern Worldwide's 4 standardized questions [11]	
Attitudes toward social and sexual relations at home index (GEM scale)	Concern Worldwide's 8 standardized questions [11].	
Composite gender attitudes index	This is a composite of the three indices above; no additional questions were asked for this index.	Each respondent's score for the three indices above were summed and divided by three to yield summary gender attitudes index with a range from 0 to 1.
Composite gender autonomy	This index based on six questions, recoded to have binary outcome, 1 or 0, where a score of 1 represents a more autonomous situation for women.	The five individual responses and sub-indices listed below were summed and divided by the maximum possible total score to yield a summary index score for gender autonomy with values between 0 and 1. Higher scores represent greater gender autonomy.
	• Have you earned any income in the last 12 months? (Yes/No)	Value equal 1 for response of 'yes' and 0 for response of 'no'.
	• Who in your family usually has the final say about large investments, such as *purchasing* household appliances or equipment? • Who in your family usually has the final say about the *selling* of large investments, such as household appliances or equipment?	Value equals 1 if respondent has influence (response is 'self', 'your self and partern jointly', or 'you and someone else jointly'). Value equals 0 if respondent has no influence (response is 'spouse or partner' or 'someone else'). These two responses were summed and divided by 2 to define a subindex for investment decision making with possible values of 0, 0.5, or 1.
	• Who in your family usually has the final say about <u>food and clothing</u> purchases?	Value equals 1 if respondent has input (response is 'self', 'your self and partner jointly', or 'you and someone else jointly'). Value equals 0 if respondent has no input (response is 'spouse or partner' or 'someone else').
	• When was the last time you talked to your partner about the problems you are facing in your life? • When was the last time your partner came to talk to you to	Question response codes 1 (within this week), 2 (1-2 weeks ago), 3 (2-4 weeks ago), 4 (>4 weeks ago but <6 months ago), and 5 (longer or never) were recoded to values 0, 1, 2, 3, and 4, respectively. The values of the two

explain her (or his) problems?	questions were summed and divided by the maximum possible total score to define a sub-index for talking with partner which ranges from 0 to 1 .
• Women is an active member of at least one group in the community.	Value is 1 if respondent reports being a member of any community group. The value is 0 if the respondent fails to report membership in any community group.

APPENDIX 5. ADDITIONAL TABLES

Table A5-1. Proportion of children with low birth weight (<2.5 kg), Mumbwa District, Zambia 2015

Characteristic	n	%[a]	(95% CI)[b]
Mother's age at birth			
<20	18	26.1	(17.4, 37.2)
20-29	33	16.7	(11.6, 23.3)
30-39	16	18.9	(11.3, 30.1)
40+	4	17.2	(5.4, 43.2)
Sex			
Male	30	14.8	(9.4, 22.4)
Female	41	23.9	(18.1, 30.9)
Ward			
Shimbizhi	8	14.5	(7.9, 24.9)
Nakasaka	16	18.6	(12.8, 26.4)
Nangoma	23	21.0	(14.0, 30.1)
Chisalu	24	20.6	(15.4, 26.8)
Education of caretaker			
None	3	16.8	(4.2, 48.0)
Attended primary	39	19.3	(15.0, 24.5)
Attended secondary or higher	29	19.1	(12.9, 27.4)
TOTAL	71	19.1	(15.6, 23.2)

Note: The n's are un-weighted numbers in each subgroup; the sum of subgroups may not equal the total because of missing data.

[a] Percentages are weighted for inaccurate SEA size used during the first stage of sampling.

[b] CI=confidence interval, calculated taking into account the complex sampling design.

[c] Chi-square p-value <0.05 indicates that the variation in the values of the subgroup are significantly different from all other subgroups

Table A5-2. Proportion of children <2 years of age with caregiver-reporting diarrhea, fever, and lower respiratory infection, Mumbwa District, Zambia 2015.

Characteristic	n	%[a]	(95% CI)[b]
Diarrhea in the past 2 weeks			
Yes	159	35.1	(30.9, 39.6)
No	303	64.9	(60.4, 69.1)
Diarrhea with blood in the past 2 weeks			
Yes	23	4.7	(2.7, 8.0)
No	439	95.3	(92.0, 97.3)
Fever in the past 2 weeks			
Yes	147	31.9	(27.8, 36.4)
No	315	68.1	(63.6, 72.2)
Lower respiratory infection [c]			
Yes	55	12.8	(9.5, 17.2)
No	395	87.2	(82.8, 90.5)

Note: The n's are un-weighted numbers in each subgroup; the sum of subgroups may not equal the total because of missing data.
[a] Percentages are weighted for inaccurate SEA size used during the first stage of sampling.
[b] CI=confidence interval, calculated taking into account the complex sampling design.
[c] LRI defined as cough, fever, and difficulty breathing due to problem in chest

Table A5-3. Distribution of treatment of fever variables in children 0-23months, Mumbwa District, Zambia, 2015.

Characteristic	n	%[a]	(95% CI)[b]
Malaria test given if child was ill with fever			
Yes	69	48.1	(38.8, 57.6)
No	78	51.9	(42.4, 61.2)
Malaria status if child was ill with fever and tested for malaria			
Positive	13	20.5	(12.3, 32.3)
Negative	56	79.5	(67.7, 87.7)

Note: The n's are un-weighted numbers in each subgroup; the sum of subgroups may not equal the total because of missing data.
[a] Percentages are weighted for inaccurate SEA size used during the first stage of sampling.
[b] CI=confidence interval, calculated taking into account the complex sampling design.

Table A5-4. Distribution of cooking variables for participating households, Zambia 2015.

Characteristic	n	%[a]	(95% CI)[b]
Type of fuel used for cooking			
Charcoal	18	4.0	(1.9, 8.2)
Wood	443	95.7	(90.7, 98.0)
Other	1	0.3	(0.0, 2.3)

Note: The n's are un-weighted numbers in each subgroup; the sum of subgroups may not equal the total because of missing data.

[a] Percentages are weighted for inaccurate SEA size used during the first stage of sampling.

[b] CI=confidence interval, calculated taking into account the complex sampling design.

[c] Question only asked to households cooking with stove type = open fire, open stove, or other

Table A5-5. Proportion of agriculture variables for participating child/caretaker pairs, Mumbwa District, Zambia 2015.

Characteristic	n	%[a]	(95% CI)[b]
Member of household had access to land in last agricultural season			
Yes	392	86.4	(81.3, 90.3)
No	70	13.6	(9.7, 18.7)
Median amount (in acres)	392	3.0	--
Irrigation used in dry season			
Permanent irrigation	238	59.8	(50.7, 68.4)
Treadle pump	3	0.7	(0.2, 2.2)
Hip pump	0	--	--
Petrol-powered pump	15	4.9	(2.1, 10.9)
Other	1	0.2	(0.0, 1.4)
Manure used on cash crops			
Yes	203	51.0	(44.1, 57.9)
No	189	49.0	(42.1, 55.9)
Mulch used on cash crops			
Yes	47	11.1	(7.6, 15.9)
No	345	88.9	(84.1, 92.4)
Pesticides and herbicides used on field crops			
Yes	224	57.8	(51.9, 63.6)
No	168	42.2	(36.4, 48.1)

Note: The n's are un-weighted numbers in each subgroup; the sum of subgroups may not equal the total because of missing data.

[a] Percentages are weighted for inaccurate SEA size used during the first stage of sampling.

[b] CI=confidence interval, calculated taking into account the complex sampling design.

Table A5-6. Proportion of field crop variables for participating child/caretaker pairs, Mumbwa District, Zambia 2015.

Characteristic	n	%[a]	(95% CI)[b]
Member of household had grew field crops last year [c]			
Yes	301	77.7	(70.5, 83.5)
No	91	22.3	(16.5, 29.5)
Main field crops cultivated			
Groundnuts	244	81.9	(76.2, 86.4)
Mixed beans	33	12.0	(7.7, 18.3)
Cowpeas	50	17.5	(12.1, 24.6)
White sweet potatoes	110	36.7	(29.7, 44.3)
Cassava	10	3.5	(1.5, 8.1)
Soyabeans	124	40.7	(28.0, 54.7)
Any field crops sold in last year			
Yes	116	38.4	(29.3, 48.3)
No	185	61.6	(51.7, 70.7)
Approximate quantity of field crops sold			
All / almost all	40	34.0	(24.6, 44.9)
More than half	35	27.8	(18.1, 40.2)
Half	17	16.2	(9.2, 27.2)
Less than half	19	16.8	(10.8, 25.3)
None / almost	5	5.1	(2.2, 11.6)

Note: The n's are un-weighted numbers in each subgroup; the sum of subgroups may not equal the total because of missing data.
[a] Percentages are weighted for inaccurate SEA size used during the first stage of sampling.
[b] CI=confidence interval, calculated taking into account the complex sampling design.
[c] Field crops include groundnuts, mixed beans, cowpeas, white sweet potatoes, cassava, soyabeans

Table A5-7. Livestock variables for participating child/caretaker pairs, Mumbwa District, Zambia 2015.

Characteristic	n	%[a]	(95% CI)[b]
Member of household owned any livestock last year			
Yes	386	83.4	(79.6, 86.5)
No	76	16.6	(13.5, 20.4)
Animals owned last year			
Poultry/birds	361	94.0	(89.9, 96.5)
Cattle	171	43.2	(36.2, 50.5)
Goat	232	61.9	(54.0, 69.2)
Sheep	1	0.2	(0.0, 1.5)
Pig	17	4.5	(2.3, 8.5)
Donkey, mule, or horse	4	0.7	(0.2, 2.6)
Average animal owned last year (mean)			
Poultry/birds	361	16.4	--
Cattle	171	10.1	--
Goats	232	11.3	--
Sheep	1	--	--
Pigs	17	7.8	--
Donkeys, mules, or horses	4	3.3	--

Note: The n's are un-weighted numbers in each subgroup; the sum of subgroups may not equal the total because of missing data.

[a] Percentages are weighted for inaccurate SEA size used during the first stage of sampling.

[b] CI=confidence interval, calculated taking into account the complex sampling design.

Table A5-8. Animal food production and sale variables for participating child/caretaker pairs, Mumbwa District, Zambia 2015.

Characteristic	n	%[a]	(95% CI)[b]
Household produced any animal meat/poultry/offal			
Yes	256	68.4	(59.7, 76.0)
No	118	31.6	(24.0, 40.3)
Household sold any animal meat/poultry/offal			
Yes	133	52.1	(42.9, 61.2)
No	123	47.9	(38.8, 57.1)
Household produced any milk/milk products			
Yes	134	44.2	(34.0, 54.9)
No	151	55.8	(45.1, 66.0)
Household sold any milk/milk products			
Yes	21	13.9	(7.8, 23.4)
No	113	86.1	(76.6, 92.2)
Estimated quantity of milk/milk product consumed by household			
All / almost all	106	81.9	(72.2, 88.7)
More than half	10	6.5	(3.8, 10.8)
Half	10	6.8	(3.1, 14.1)
Less than half	6	3.4	(1.1, 9.6)
None / almost none	2	1.5	(0.3, 6.9)
Main consumers of milk in the household			
Everyone in the household	118	89.0	(81.7, 93.6)
Mainly men	2	1.2	(0.3, 5.1)
Mainly women	1	1.0	(0.1, 7.1)
Mainly children 2-5 years	10	8.0	(4.0, 15.2)
Mainly children <2 years	1	0.8	(0.1, 6.2)
Household produced eggs			
Yes	320	86.8	(77.9, 92.4)
No	47	13.2	(7.6, 22.1)
Household sold any eggs			
Yes	12	4.6	(2.6, 7.9)
No	306	95.4	(92.1, 97.4)
Quantity of eggs consumed by household			
All / almost all	19	6.4	(3.9, 10.3)
More than half	32	9.2	(6.3, 13.1)
Half	77	22.9	(16.7, 30.7)
Less than half	144	46.3	(37.3, 55.6)
None / almost none	46	15.2	(9.9, 22.6)

Note: The n's are un-weighted numbers in each subgroup; the sum of subgroups may not equal the total because of missing data.
[a] Percentages are weighted for inaccurate SEA size used during the first stage of sampling.
[b] CI=confidence interval, calculated taking into account the complex sampling design.

APPENDIX 6. SURVEY QUESTIONNAIRE CODEBOOK

SID	QID	Position	Question	Report Code	Question Type	Option	Option Code	Option Score	Conditions
11298	171759	100	Ward	Q1_LOCATION_WARD	Choice(single)	Shimbizhi Nakasaka Nangoma Chisalu	1 2 3 4		
11298	171760	200	NOTE THE SEA IN SHIMBIZHI USE LIST OF SEA PROVIDED DURING TRAINING	Q2A_LOCATION_SEA_CODE	Choice(single)	SEA 1 SEA 2 SEA 3	1 2 3	0.00 0.00 0.00	If ALL the following Questions/Options are answered show Question 171760: Question 171759 and Option 468822
11298	171761	300	NOTE THE SEA IN NAKASAKA USE LIST OF SEA PROVIDED DURING TRAINING	Q2B_LOCATION_SEA_NAKASAKA	Choice(single)	SEA 4 SEA 5 SEA 6 SEA 7 SEA 8 SEA 9	1 2 3 4 5 6	0.00 0.00 0.00 0.00 0.00 0.00	If ALL the following Questions/Options are answered show Question 171761: Question 171759 and Option 468823
11298	171762	400	NOTE THE SEA IN NANGOMA USE LIST OF SEA PROVIDED DURING TRAINING	Q2C_LOCATION_SEA_NANGOMA	Choice(single)	SEA 10 SEA 11 SEA 12 SEA 13 SEA 14 SEA 15 SEA 16 SEA 17	1 2 3 4 5 6 7 8	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	If ALL the following Questions/Options are answered show Question 171762: Question 171759 and Option 468824
11298	171763	500	NOTE THE SEA IN CHISALU USE LIST OF SEA PROVIDED DURING TRAINING	Q2D_LOCATION_SEA_CHISALU	Choice(single)	SEA 18 SEA 19 SEA 20 SEA 21 SEA 22 SEA 23 SEA 24 SEA 25	2 3 4 5 6 7 8 9	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	If ALL the following Questions/Options are answered show Question 171763: Question 171759 and Option 468825
11298	171764	550	Language of the respondent	Q7_RESPONDENT_LANGUAGE	Choice(single)	Tonga Ila Nyanja Kaonde	1 2 3 8	0.00 0.00 0.00 0.00	

							Other (specify)	5	0.00	
11298	171765	600	My name is _____ and I work for Mumbwa Child Development Agency. I am here today to conduct a household survey on agricultural practices in your village. The purpose of this survey is to obtain information related to agriculture, nutrition, health, and gender equality prior to starting our project. The results will help us to understand how best to implement our project. This survey is voluntary and the information you give will be confidential and will not be shared with any other organisations operating in your community. The information will be used purely for project monitoring purposes and will not have any impact on whether your household will receive any assistance in the future.	Q3_INTRO	Information				
11298	171766	700	Could you please spare 45__ minutes for this survey?	Q4_CONSENT	Choice(single)	Yes No	1 2	0.00 0.00	If this question AND Option 468857 is selected then Move to Question 171989
11298	171767	900	Sex of the respondent THE RAIN+ BASELINE WILL INTERVIEW THE MOTHERS OR CARETAKERS OF SELECTED CHILDREN. IN A SMALL NUMBER OF CASES, THE MOTHER MAY HAVE PASSED AWAY, AND THE CARETAKER MAY BE MALE. IF THE CHILD'S CARETAKER IS MALE, STOP SURVEY.	Q6_RESPONDENT_SEX	Choice(single)	Male Female	1 2	0.00 0.00	If this question AND Option 468858 is selected then Move to Question 171989
11298	171768	1100	What age are you (in years?)	Q8_RESPONDENT_AGE	Number				
11298	171769	1200	Have you ever attended school?	Q9_RESPONDENT_SCHOOL	Choice(single)	Yes No	1 2	0.00 0.00	
11298	171770	1300	What is the highest level of school you attended: primary, secondary, or higher?	Q10_RESPONDENT_SCHOOL_HIGHEST	Choice(single)	Primary Secondary Higher	1 2 3		If ALL the following Questions/Options are answered show Question

									171770: Question 171769 and Option 468860
11298	171771	1400	What is your marital status?	Q11_RESPONDENT_MARITAL		Choice(single)	Married Separate Divorced Widowed Abandoned Unmarried	1 2 3 4 5 6	0.00 0.00 0.00 0.00 0.00 0.00	
11298	171772	1500	What is the sex of the adults in this household? READ OPTIONS TO RESPONDENT. ADULTS ARE CONSIDERED PEOPLE OVER 18 YEARS OF AGE	Q12_HHH_SEX		Choice(single)	Male and female adult(s) Female adult(s) only	1 2	0.00 0.00	
11298	171773	1600	Household Composition The following questions are about all the people currently living in this household.	Q13_HH_COMP		Information				
11298	171774	1700	Under 5 Yrs Male	Q14_HH_COMP_U5_M		Number				
11298	171775	1800	Under 5 Yrs Female	Q15_HH_COMP_U5_F		Number				
11298	171776	1900	[sum][answer]171774[/answer]: [answer]171775[/answer][/sum]	Q16_HH_COMP_U5_TOTAL		Auto Answer				
11298	171777	2000	6 – 14 Yrs Male	Q17_HH_COMP_6_14_M		Number				
11298	171778	2100	6 – 14 Yrs Female	Q18_HH_COMP_6_14_F		Number				
11298	171779	2200	[sum][answer]171777[/answer]: [answer]171778[/answer][/sum]	Q19_HH_COMP_6_14_TOTAL		Auto Answer				
11298	171780	2300	15 – 50 Yrs Male	Q20_HH_COMP_15_50_M		Number				
11298	171781	2400	15 – 50 Yrs Female	Q21_HH_COMP_15_50_F		Number				
11298	171782	2500	[sum][answer]171780[/answer]: [answer]171781[/answer][/sum]	Q22_HH_COMP_15_50_TOTAL		Auto Answer				
11298	171783	2600	Above 50yrs old Male	Q23_HH_COMP_50_M		Number				
11298	171784	2700	Above 50yrs old Female	Q24_HH_COMP_50_F		Number				
11298	171785	2800	[sum][answer]171783[/answer]: [answer]171784[/answer][/sum]	Q25_HH_COMP_50_TOTAL		Auto Answer				
11298	171786	2900	[sum][answer]171776[/answer]: [answer]171779[/answer]: [answer]171782[/answer]: [answer]171785[/answer][/sum]	Q26_HH_COMP_TOTAL		Auto Answer				

11298	171787	3000	Therefore the total size of your households is [answer]171786[/answer] If this is correct proceed If it is incorrect please go back to the start of the family composition questions and repeat.	Q27_HH_COMP_VERIFICATION	Information			
11299	171788	100	OBSERVE MAIN MATERIAL USED FOR WALLS:	Q28_ASSETS_WALLS	Choice(single)	No walls Cane/palm/trunks Mud Bamboo/pole with mud Stone with mud Plywood Mud bricks Reused wood Cement Stone with lime/cement Burnt bricks Cement blocks Wood planks Other (specify)	1 2 3 4 5 6 7 8 9 10 11 12 13 14	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
11299	171789	200	OBSERVE MAIN MATERIAL USED FOR ROOF:	Q29_ASSETS_ROOF	Choice(single)	No roof Thatch/palm/leaf Rustic mat Palm/Bamboo Wood planks Cardboard Metal/iron sheets Wood Calamine/Cement Fibre (Asbestos) Ceramic tiles/Harvey Tiles Cement Roofing shingles Mud tiles Other (specify)	1 2 3 4 5 6 7 8 9 10 11 12 13 14	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
11299	171790	300	OBSERVE MAIN MATERIAL USED FOR FLOORS:	Q30_ASSETS_FLOORS	Choice(single)	Earth/sand Dung Wood planks Palm/Bamboo/Leeds Parquet or polished wood Vinyl (PVC) or asphalt strips Ceramic/Terrazzo tiles Concrete cement Carpet Other (specify)	1 2 3 4 5 6 7 8 9 10	

11299	171791	400	Does your household have ____?	Q32_ASSETS_UTILITIES	Choice(multiple)	Electricity	1	0.00	
						A television	2	0.00	
						A refrigerator	3	0.00	
						Non-mobile telephone	4	0.00	
						Radio	5	0.00	
						None of these	6	0.00	
11299	171792	500	Does anyone in your household own a ____?	Q33_ASSETS_GOODS	Choice(multiple)	Watch	1	0.00	
						Mobile phone	2	0.00	
						Bicycle	3	0.00	
						Motorcycle	4	0.00	
						Car / Truck	5	0.00	
						Canoe	6	0.00	
						Mattress	7	0.00	
						Energy efficient stove	8	0.00	
						Wheel barrow	9	0.00	
						Sprayer	10	0.00	
						Motorized hammermill / thresher	11	0.00	
						Water pump	12	0.00	
						Shovel / Hoe	13	0.00	
						Plough	14	0.00	
						Generator	15	0.00	
						Solar panel()	16	0.00	
						None of these	17	0.00	
11299	171793	600	Do you or someone living in this household own this dwelling?	Q34_ASSETS_DWELLING_OWNERSHIP	Choice(single)	Yes	1	0.00	
						No	2	0.00	
11299	171794	700	How many rooms does your household use for sleeping (including rooms outside the main dwelling but excluding bathrooms)?	Q35_ASSETS_DWELLING_ROOMS	Number				
11299	171795	800	What type of fuel does your household MAINLY use for cooking?	Q36_ASSETS_FUEL_COOOKING	Choice(single)	Kerosene	1	0.00	
						Coal / Lignite	2	0.00	
						Charcoal	3	0.00	
						Wood	4	0.00	
						Straw / shrubs / grass	5	0.00	
						Animal dung	6	0.00	
						Agricultural crop residue	7	0.00	
						No food cooked in household	8	0.00	
						Other (specify)	9	0.00	
11300	171796	100	What is the MAIN source of drinking water for members of your household?	Q37_WASH_DRINKING_MAIN_SOURCE	Choice(single)	Tube well or borehole	1	0.00	
						Protected well	2	0.00	
						Unprotected well	3	0.00	
						Protected spring	4	0.00	
						Unprotected spring	5	0.00	
						Rainwater	6	0.00	

						Tanker truck Cart with small tank Surface water (river/dam/lake/pond/stream/canal/irrigation channel) Bottled water Other (specify)	7 8 9 10 11	0.00 0.00 0.00 0.00 0.00	
11300	171797	200	Where is this MAIN drinking water source located?	Q38_WASH_DRINKING_MAIN_SOURCE_LOCATION	Choice(single)	Located in own yard/plot Elsewhere but pumped into yard/plot Elsewhere	1 2 3	0.00 0.00 0.00	
11300	171798	300	How long does it take to go there, get water, and come back? (in minutes)	Q39_WASH_DRINKING_MAIN_SOURCE_JOURNY_MINS	Number				If ALL the following Questions/Options are answered show Question 171798: Question 171797 and Option 468958
11300	171799	400	Who usually goes to this source to fetch water for this household?	Q40_WASH_FETCH_WATER	Choice(single)	Adult female Adult male Female child (<12 yrs) Male child (<12 yrs) Anybody from the household Other (specify)	1 2 3 4 5 6		If ALL the following Questions/Options are answered show Question 171799: Question 171797 and Option 468958
11300	171800	500	Do you do anything to the water to make it safer to drink?	Q41_WASH_DRINKING_MAKE_SAFE_YN	Choice(single)	Yes No	1 2	0.00 0.00	
11300	171801	600	What do you usually do to make the water safer to drink?	Q42_WASH_DRINKING_MAKE_SAFE_HOW	Choice(multiple)	Boil Add bleach/chlorine/clorin Strain through cloth Use water filter (ceramic/sand/composite/etc.) Solar disinfection Let it stand and settle Other (specify) Don't know	1 2 3 4 5 6 7 8		If ALL the following Questions/Options are answered show Question 171801: Question 171800 and Option 468965
11300	171802	700	How do you store your drinking water?	Q43_WASH_DRINKING_STORAGE	Choice(single)	Closed container/jerry can Open container/bucket Does not store water Other (specify)	1 2 3 4		
11300	171803	800	What is the MAIN type of toilet facility	Q44_WASH_TOILET_MAIN	Choice(single)	Ventilated improved pit latrine	1	0.00	If this question

			for this household?			Pit latrine with slab	2	0.00	AND Option 468985 is selected then Move to Question 171807
						Pit latrine without slab/Open pit	3	0.00	
						Composting toilet	4	0.00	
						Bucket toilet	5	0.00	
						Hanging toilet/hanging latrine	6	0.00	
						No facility/bush/field	7	0.00	
						Other (specify)	8	0.00	
11300	171804	900	Do you share this toilet facility with other households?	Q45_WASH_TOILET_SHARE_YN	Choice(single)	Yes	1	0.00	
						No	2	0.00	
11300	171805	950	What are the most important moments to wash your hands?	Q50_WASH_HANDS_5_CRITICAL_TIMES	Choice(multiple)	After defecation	1	0.00	
						After cleaning a child who has defecated	2	0.00	
						Before preparing food,	3	0.00	
						Before feeding a child	4	0.00	
						Before eating food	5	0.00	
						After eating food	6	0.00	
						Don't know	7	0.00	
						Other (specify)	8	0.00	
11300	171806	960	When do you usually wash your hands?	Q50_WASH_HANDS_85_CRITICAL_TIMES	Choice(multiple)	After defecation	1	0.00	
						After cleaning a child who has defecated	2	0.00	
						Before preparing food,	3	0.00	
						Before feeding a child	4	0.00	
						Before eating food	5	0.00	
						After eating food	6	0.00	
						Don't know	7	0.00	
						Other (specify)	8	0.00	
11300	171807	1000	Where do members of your households usually wash their hands?	Q46_WASH_HANDS_WHERE	Choice(single)	Specific area of the dwelling (area near toilet, corner of compound, etc)	1	0.00	If this question AND Option 469008 is selected then Move to Question 171809
						Anywhere around the dwelling (using jars, basins, cups, etc)	2	0.00	
						Not in dwelling / plot / yard	3	0.00	
						Other reason (specify)	4	0.00	If this question AND Option 469007 is selected then Move to Question 171809
11300	171808	1100	OBSERVE PRESENCE OF WATER AT THE SPECIFIC PLACE FOR HANDWASHING. VERIFY BY CHECKING THE TAP/PUMP, OR BASIN, BUCKET, WATER CONTAINER OR SIMILAR OBJECTS FOR PRESENCE OF WATER.	Q47_WASH_HANDS_HANDS_OBSERVE_WATER	Choice(single)	Water is available	1		Show this question if ANY are answered show Question 171808: Question 171807 and Option 469006 Question 171807 and Option
						Water is not available	2		

									469005
11300	171809	1300	Do you have any bar soap, liquid soap, detergent or ash in your household for washing hands? ASK TO SEE THE SOAP/LIQUID SOAP/DETERGENT TO VERIFY IF THE HAVE SOAP AND ASH, SELECT "Yes (soap, liquid soap, detergent)"	Q49_WASH_HANDS_SOAP_YN	Choice(single)	Yes (soap, liquid soap, detergent) Yes (Ash only) No (No soap, no ash)	1 2 3	0.00 0.00 0.00	
11301	171810	100	In the last agricultural season (1st July 2014 – 30 June 2015) did you or anyone in your household have access to a piece of land where you could cultivate ANY crops?	Q51AG_LAND_CULTIVATE	Choice(single)	Yes No	1 2	0.00 0.00	If this question AND Option 469015 is selected then Move to Question 171831
11301	171811	300	What size is this land in Acres? 'USE A CONVERSION TABLE IF REPORTED IN METRES, LIMA OR HECTARES' APPROXIMATE IF RESPONDENT CAN DESCRIBE THE SIZE OF THE PLOT. IF DON'T KNOW, PUT '99'	Q53AGLAND_SIZE	Number				
11301	171812	400	What is the ownership status of this land?	Q54_AGLAND_STATUS	Choice(single)	Own(with title deed or without title deed) Rented Borrowed Own and rent/borrow multiple plots Allocated by some authority Other (Specify)	1 2 3 4 5 6	0.00 0.00 0.00 0.00 0.00 0.00	
11301	171813	500	What were the MAIN Cash and Staple crops your household grew in the last agricultural season? USE "OTHER" OPTION TO SPECIFY IF LAND WAS RENTED OUT, LEFT FALLOW, USED AS PASTURE, ETC.	Q55_AGLAND_USE	Choice(single)	Cultivated cotton only Cultivated maize only Cultivated cotton and/or white maize only Orchard (growing fruits) Garden (growing vegetables) Other (Specify)	1 2 3 4 5 6	0.00 0.00 0.00 0.00 0.00 0.00	
11301	171814	600	Who decides what to grow on the land?	Q56_AGLAND_DECISION	Choice(single)	Self Spouse Joint decision (1&2) Other adult in HH Non HH member	1 2 3 4 5	0.00 0.00 0.00 0.00 0.00	If ALL the following Questions/Options are answered show Question 171814: Question 171771 and Option 468865
11301	171815	700	During the last dry season, what type of irrigation did you use?	Q57_AGLAND_IRR	Choice(multiple)	Permanent Irrigation Treadle Pump Hip Pump	1 2 3	0.00 0.00 0.00	

					Petrol powered pump	4	0.00	
					Buckets	5	0.00	
					No Irrigation	6	0.00	
					Other (Specify)	7	0.00	
11301	171816	800	What is the MAIN water source for the land during the dry season?	Q58_AGLAND_WATERSOURCE	Choice(single)	River Well Pond Borehole Dam Rainwater Other(Please specify)	1 2 3 4 5 6 7	0.00 0.00 0.00 0.00 0.00 0.00 0.00	Show this question if ANY are answered show Question 171816: Question 171815 and Option 469037 Question 171815 and Option 469035 Question 171815 and Option 469034 Question 171815 and Option 469033
11301	171817	900	Was any manure used on the field crops during the last agricultural season?	Q59_AGLAND_MANURE	Choice(single)	Yes No Don't know	1 2 3	0.00 0.00 0.00	
11301	171818	1000	Was any mulch used on the field crops during the last agricultural season?	Q60_AGLAND_MULCH	Choice(single)	Yes No Don't know	1 2 3	0.00 0.00 0.00	
11301	171819	1100	Were any pesticides or herbicides used on field crops during the last agricultural season?	Q61_AGLAND_PESTICIDES	Choice(single)	Yes No Don't know	1 2 3	0.00 0.00 0.00	
11301	171820	1200	In the last agricultural season (1st July 2014 – 30 June 2015) did the household grow (whether harvested or not) any field crops (e.g groundnuts, mixed beans, cowpeas, white sweet potatoes, cassava, soyabeans)?	Q62_FIELDCROPS	Choice(single)	Yes No Don't know	1 2 3	0.00 0.00 0.00	If this question AND Option 469057 is selected then Move to Question 171826 If this question AND Option 469058 is selected then Move to Question 171826
11301	171821	1300	List all the field crops planted during the last agricultural season.	Q63_FIELDCROPS_LIST	Choice(multiple)	Groundnuts Mixed Beans Cowpeas White sweet potatoes Cassava	1 2 3 4 5	0.00 0.00 0.00 0.00 0.00	

						Soyabeans	6	0.00
						Other(please specify)	7	0.00
11301	171822	1400	Who was in charge of producing these crops?	Q64_FILEDCROPS_WHO_PRODUCED	Choice(single)	Self Spouse Joint decision (1&2) Other adult in HH Non HH member	1 2 3 4 5	0.00 0.00 0.00 0.00 0.00	If ALL the following Questions/Options are answered show Question 171822: Question 171771 and Option 468865
11301	171823	1500	Were any of these other field crops (e.g. groundnuts, mixed beans, cowpeas, white sweet potatoes, cassava, soyabeans) sold?	Q65_FILEDCROPS_SELLCROPS	Choice(single)	Yes No Don't know	1 2 3	0.00 0.00 0.00	If this question AND Option 469072 is selected then Move to Question 171828 If this question AND Option 469073 is selected then Move to Question 171828
11301	171824	1600	How much of the harvested field crops were sold?	Q66_FILEDCROPS_HOW_MUCH_SOLD	Choice(single)	All / almost all More than half Half Less than half None/Almost none	1 2 3 4 5	0.00 0.00 0.00 0.00 0.00	
11301	171825	1700	Who was in charge of selling these crops?	Q67_FIELDCROPS_WHOSOLD	Choice(single)	Self Spouse Joint decision(1 & 2) Other adult in HH Non HH member	1 2 3 4 5	0.00 0.00 0.00 0.00 0.00	
11301	171826	1800	In the last agricultural season (1st July 2014 – 30 June 2015), did the household grow any bio-fortified foods (e.g. orange maize, orange-flesh sweet potatoes, or Mbereshi beans)?	Q68_BIO_CROPS	Choice(single)	Yes No Don't know	1 2 3	0.00 0.00 0.00	If this question AND Option 469085 is selected then Move to Question 171828 If this question AND Option 469086 is selected then Move to Question 171828
11301	171827	1900	List all the biofortified foods planted during the last agricultural season.	Q69_BIO_CROPS_LIST	Choice(multiple)	Orange maize Orange-flesh sweet potatoes Mbeleshi beans	1 2 3	0.00 0.00 0.00	

11301	171828	2000	In the last agricultural season (1st July 2014 – 30 June 2015), did the household grow (whether harvested or not) any fruits or vegetables?	Q70_FR_VEG	Choice(single)	Yes No Don't know	1 2 3	0.00 0.00 0.00	If this question AND Option 469091 is selected then Move to Question 171831 If this question AND Option 469092 is selected then Move to Question 171831
11301	171829	2100	In what season(s) were the fruits and vegetables grown?	FR_VEG_SEASON	Choice(single)	Dry season Rainy season Both dry and rainy	1 2 3	0.00 0.00 0.00	
11301	171830	2200	List all the fruits and vegetables planted during the last agricultural season.	FR_VEG_LIST2	Choice(multiple)	Tomato Pumpkin Pawpaw Mango Grenadillia Green leafy vegetables (Bondwe, rape, cassava leaf) Okra Onion Cabbage Water melon Impwa Other(please specify)	1 2 3 4 5 6 7 8 9 10 11 12	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	
11301	171831	2300	In the last agricultural season (1st July 2014 – 30 June 2015), did the household own any animals?	ANIMAL_Y_N	Choice(single)	Yes No Don't know	1 2 3	0.00 0.00 0.00	If this question AND Option 469109 is selected then Move to Question 171855 If this question AND Option 469110 is selected then Move to Question 171842
11301	171832	2400	List all the animals owned in the last agricultural season.	ANIMAL_LIST	Choice(multiple)	Poultry/birds Cattle Sheep Pig Donkey, Mule or Horse Rabbits Beehives Goat	1 2 3 4 5 6 7 8	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	

					Other		9	0.00
11301	171833	2500	How many poultry/birds? LIST MAX NUMBER OWNED IN LAST AGRICULTURAL SEASON	Q75_ANIMAL_BIRDCOUNT	Number			If ALL the following Questions/Options are answered show Question 171833: Question 171832 and Option 469111
11301	171834	2600	How many cattle? LIST MAX NUMBER OWNED IN LAST AGRICULTURAL SEASON	Q76_ANIMAL_CATTLECOUNT	Number			If ALL the following Questions/Options are answered show Question 171834: Question 171832 and Option 469112
11301	171835	2700	How many sheep? LIST MAX NUMBER OWNED IN LAST AGRICULTURAL SEASON	Q77_ANIMAL_SHEEPCOUNT	Number			If ALL the following Questions/Options are answered show Question 171835: Question 171832 and Option 469113
11301	171836	2705	How many goat? LIST MAX NUMBER OWNED IN LAST AGRICULTURAL SEASON	GOATS	Number			If ALL the following Questions/Options are answered show Question 171836: Question 171832 and Option 469118
11301	171837	2800	How many pigs? LIST MAX NUMBER OWNED IN LAST AGRICULTURAL SEASON	Q78_ANIMAL_PIGCOUNT	Number			If ALL the following Questions/Options are answered show Question 171837: Question 171832 and Option 469114
11301	171838	2900	How many donkeys, mules, or horses? LIST MAX NUMBER OWNED IN LAST	Q79_ANIMAL_HORSE_COUNT	Number			If ALL the following

			AGRICULTURAL SEASON						Questions/Options are answered show Question 171838: Question 171832 and Option 469115
11301	171839	3000	How many rabbits? LIST MAX NUMBER OWNED IN LAST AGRICULTURAL SEASON	Q80_ANIMAL_RABBIT_COUNT	Number				If ALL the following Questions/Options are answered show Question 171839: Question 171832 and Option 469116
11301	171840	3100	How many beehives? LIST MAX NUMBER OWNED IN LAST AGRICULTURAL SEASON	Q81_ANIMAL_BEEHIVE_COUNT	Number				If ALL the following Questions/Options are answered show Question 171840: Question 171832 and Option 469117
11301	171841	3200	How many Other? LIST MAX NUMBER OWNED IN LAST AGRICULTURAL SEASON	Q81_ANIMAL_OTHER_COUNT	Number				If ALL the following Questions/Options are answered show Question 171841: Question 171832 and Option 469119
11301	171842	3300	Did your household produce any animal if meat/ poultry meat/ offal during the last agricultural season (1st July 2014 – 30 June 2015)?	Q83_ANIMAL_MEATOFFAL	Choice(single)	Yes No Don't know	1 2 3	0.00 0.00 0.00	Show this question if ANY are answered show Question 171842: Question 171832 and Option 469112 Question 171832 and Option 469114 Question 171832 and Option 469116 Question 171832 and Option

									469118 Question 171832 and Option 469113 Question 171832 and Option 469111
11301	171843	3400	Did your household sell any of the animal meat/ poultry meat/ offal produced in the last Agricultural season ?	Q84_ANIMAL_MEATOFFAL2	Choice(single)	Yes No	1 2	0.00 0.00	If ALL the following Questions/Options are answered show Question 171843: Question 171842 and Option 469120
11301	171844	3500	Who was in charge of selling the animal meat/ poultry meat/ offal?	Q85_ANIMAL_MEATOFFAL_WHOSELL	Choice(single)	Self Spouse Joint Decision (1&2) Other adult in HH Non HH member	1 2 3 4 5	0.00 0.00 0.00 0.00 0.00	If ALL the following Questions/Options are answered show Question 171844: Question 171843 and Option 469123
11301	171845	3600	Did your household produce any milk/milk products during the last Ag season?	Q86_ANIMAL_MILKPRODUCTION	Choice(single)	Yes No Don't know	1 2 3	0.00 0.00 0.00	Show this question if ANY are answered show Question 171845: Question 171832 and Option 469112 Question 171832 and Option 469113 Question 171832 and Option 469118
11301	171846	3700	Did your household sell any of the milk/milk products produced in the last agricultural season	Q87_ANIMAL_MILK_SELL	Choice(single)	Yes No	1 2	0.00 0.00	If ALL the following Questions/Options are answered show Question 171846: Question 171845 and Option 469130
11301	171847	3800	Who was in charge of selling the milk/milk products?	Q88_ANIMAL_MILK_WHOSELL	Choice(single)	Self Spouse	1 2	0.00 0.00	If ALL the following

						Joint decision (1&2) Other adult in HH Non HH member	3 4 5	0.00 0.00 0.00	Questions/Options are answered show Question 171847: Question 171846 and Option 469133
11301	171848	3900	How much of the milk/milk products was eaten by the household?	Q89_ANIMAL_MILK_HOWMUCH_EATEN	Choice(single)	All / almost all More than half Half Less than half None/Almost none	1 2 3 4 5		If ALL the following Questions/Options are answered show Question 171848: Question 171845 and Option 469130
11301	171849	4000	Who mainly ate the milk/milk products?	Q90_ANIMAL_MILK_WHO_ATE	Choice(single)	Everyone in HH Mainly Men Mainly Women Mainly children 2-5yrs Mainly children <2yrs Other(please specify)	1 2 3 4 5 6	0.00 0.00 0.00 0.00 0.00 0.00	Show this question if ANY are answered show Question 171849: Question 171848 and Option 469143 Question 171848 and Option 469142 Question 171848 and Option 469141 Question 171848 and Option 469140
11301	171850	4100	Did your household produce any eggs during the last Ag season?	Q91_ANIMAL_EGG_PRODUCE	Choice(single)	Yes No Don't know	1 2 9	0.00 0.00 0.00	Show this question if ANY are answered show Question 171850: Question 171832 and Option 469111
11301	171851	4200	Did your household sell any of the eggs produced in the last Ag season?	Q92_ANIMAL_SELL_EGGS	Choice(single)	Yes No	1 2	0.00 0.00	If ALL the following Questions/Options are answered show Question 171851: Question 171850 and Option 469151

11301	171852	4300	Who was in charge of selling the eggs?	Q93_ANIMAL_WHO_SELL_EGGS	Choice(single)	Self Spouse Joint decision(1 & 2) Other adult in HH Non HH member	1 2 3 4 5		If ALL the following Questions/Options are answered show Question 171852: Question 171851 and Option 469154
11301	171853	4400	How much of the eggs were eaten by the household?	Q94_ANIMAL_HOWMUCH_EGGS_EATEN	Choice(single)	All / almost all More than half Half Less than half None/Almost none	1 2 3 4 5		If ALL the following Questions/Options are answered show Question 171853: Question 171850 and Option 469151
11301	171854	4500	Who mainly ate the eggs?	Q95_ANIMAL_WHO_ATE_EGGS	Choice(single)	Everyone in HH Mainly Men Mainly Women Mainly children 2-5yrs Mainly children <2yrs Other(please specify)	1 2 3 4 5 6	0.00 0.00 0.00 0.00 0.00 0.00	Show this question if ANY are answered show Question 171854: Question 171853 and Option 469164 Question 171853 and Option 469163 Question 171853 and Option 469162 Question 171853 and Option 469161
11302	171855	100	Have you received any training for your agricultural work during the last agriculture season? QUESTION REFERS TO THE MOTHER OR CARETAKER OF THE CHILD, NOT TO OTHER MEMBERS OF THE HOUSEHOLD	Q96_TRAINING_YN	Choice(single)	Yes No	1 2	0.00 0.00	If this question AND Option 469173 is selected then Move to Question 171858
11302	171856	200	If yes, who provided this training or support?	Q97_TRAINING_WHO	Choice(multiple)	GRZ (MAL) Through RAIN+ Religious group Private group Business group Community organization Family/friend	1 2 3 4 5 6 7		

						Other (specify)	8		
11302	171857	300	What type of training (on what topics) did you receive?	Q98_TRAINING_TOPICS		Choice(multiple)	Crop selection or rotation advice Improved seeds or crop varieties Pest management Soil improvement Veterinary/animal training Seed preservation Food preservation (drying of vegetables etc) Marketing Other (Specify)	1 2 3 4 5 6 7 8 9		
11302	171858	400	Can you name some foods rich in vitamins and minerals? DO NOT PROMPT	Q99_KNOWLEDGE_FOOD_VIT_MIN		Choice(multiple)	Dark leafy greens Papaya Mango Orange fresh sweet potato Beans Meat Offal Other (specify) Don't know	1 2 3 4 5 6 7 8 9	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	
11302	171859	500	Please name the approaches that can be used to preserve fruits and vegetables? DO NOT PROMPT	Q100_KNOWLEDGE_FOOD_PRESERVE		Choice(multiple)	Boiling Drying/dehydrating Preserving in salt Pickling Other (specify) Don't know	1 2 3 4 8 9	0.00 0.00 0.00 0.00 0.00 0.00	
11302	171860	600	Please name the approaches that can be used to store fruits and vegetables for consumption sometime in the future? DO NOT PROMPT	Q101_KNOWLEDGE_FOOD_STORE		Choice(multiple)	Storing in cans/jars Storing in plastic bags Storing in well ventilated bags Hanging in dry place Burying under ground Other (specify) Don't know	1 2 3 4 5 6 7	0.00 0.00 0.00 0.00 0.00 0.00 0.00	
11303	171861	100	Now I'm going to ask you about groups in the community. These can be either formal or informal and customary groups.	Q102_GROUPS		Information				
11303	171862	200	Are there any agricultural / livestock/ fisheries producers groups (including marketing groups) in your community?	Q103_GROUPS_AGRI_YN		Choice(single)	Yes No	1 2	0.00 0.00	
11303	171863	300	Are you an active member of any agricultural / livestock/ fisheries	Q104_GROUPS_AGRI_MEMB		Choice(single)	Yes No	1 2	0.00 0.00	If ALL the following

			producer's group (including marketing groups)?						Questions/Options are answered show Question 171863: Question 171862 and Option 469213
11303	171864	400	Is there a water users' group in your community?	Q105_GROUPS_WATER_YN	Choice(single)	Yes No	1 2	0.00 0.00	
11303	171865	500	Are you an active member of the Water users' group	Q106_GROUPS_WATER_MEMB	Choice(single)	Yes No	1 2	0.00 0.00	If ALL the following Questions/Options are answered show Question 171865: Question 171864 and Option 469217
11303	171866	600	Is there a forest users' group in your community?	Q107_GROUPS_FOREST_YN	Choice(single)	Yes No	1 2	0.00 0.00	
11303	171867	700	Are you an active member of the Forest users' group	Q108_GROUPS_FOREST_YN	Choice(single)	Yes No	1 2	0.00 0.00	If ALL the following Questions/Options are answered show Question 171867: Question 171866 and Option 469221
11303	171868	800	Are there any Credit or micro-finance groups (including SACCOs/merry-go-rounds/ VSLAs) group in your community?	Q109_GROUPS_VSLA_YN	Choice(single)	Yes No	1 2	0.00 0.00	
11303	171869	900	Are you an active member of a Credit or microfinance group (including SACCOs/merry-go-rounds/ VSLAs)	Q110_GROUPS_VSLA_MEMB	Choice(single)	Yes No	1 2	0.00 0.00	If ALL the following Questions/Options are answered show Question 171869: Question 171868 and Option 469225
11303	171870	1000	Are there any mutual help or insurance group groups in your community?	Q111_GROUPS_HELP_YN	Choice(single)	Yes No	1 2	0.00 0.00	
11303	171871	1100	Are you an active member of a Mutual help or insurance group?	Q112_GROUPS_HELP_MEMB	Choice(single)	Yes No	1 2	0.00 0.00	If ALL the following

11303										Questions/Options are answered show Question 171871: Question 171870 and Option 469229
11303	171872	1200	Is there Trade and business association group in your community?	Q113_GROUPS_TRADE_YN		Choice(single)	Yes No	1 2	0.00 0.00	
11303	171873	1300	Are you an active member of the Trade and business association group	Q114_GROUPS_TRADE_MEMB		Choice(single)	Yes No	1 2	0.00 0.00	If ALL the following Questions/Options are answered show Question 171873: Question 171872 and Option 469233
11303	171874	1400	Are there Civic groups (improving community) or charitable groups (helping others) in your community?	Q115_GROUPS_CIVIC_YN		Choice(single)	Yes No	1 2	0.00 0.00	
11303	171875	1500	Are you an active member of the Civic groups (improving community) or charitable group (helping others)	Q116_GROUPS_CIVIC_MEMB		Choice(single)	Yes No	1 2	0.00 0.00	If ALL the following Questions/Options are answered show Question 171875: Question 171874 and Option 469237
11303	171876	1600	Are there Religious groups in your community?	Q117_GROUPS_RELIGIOUS_YN		Choice(single)	Yes No	1 2	0.00 0.00	
11303	171877	1700	Are you an active member of the Religious group	Q118_GROUPS_RELIGIOUS_MEMB		Choice(single)	Yes No	1 2	0.00 0.00	If ALL the following Questions/Options are answered show Question 171877: Question 171875 and Option 469239
11303	171878	1800	Are there other [women's] group (only if it does not fit into one of the other categories) in your community?	Q119_GROUPS_OTHER_YN		Choice(single)	Yes (specify) No	1 2	0.00 0.00	
11303	171879	1900	Are you an active member of the other	Q119_GROUPS_OTHER_MEMB		Choice(single)	Yes	1	0.00	If ALL the

			[women's] group (only if it does not fit into one of the other categories)				No	2	0.00	following Questions/Options are answered show Question 171879: Question 171878 and Option 469245
11304	171880	100	The following section is about the selected child that is under 2 years of age.	CHILD_SECTION		Information				
11304	171881	200	What is the name of the selected child? CONFIRM NAME SELECTED FROM CSA LISTING FORM	Q121_CHILD_NAME		Text(short)				
11304	171882	300	What is the sex of [variable]NAME[/variable]	Q122_CHILD_SEX		Choice(single)	Male Female	1 2	0.00 0.00	
11304	171883	400	Does [variable]NAME[/variable] have a health card and can you show it to me?	Q123_CHILD_HEALTH_CARD		Choice(single)	Yes, Health Card provided Yes, Child has health card, but caregiver does not have now No, child does not have health card	1 2 3		
11304	171884	500	What is [variable]NAME[/variable] 's date of birth? 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.	Q124_CHILD_DOB		Date				If ALL the following Questions/Options are answered show Question 171884: Question 171883 and Option 469251
11304	171885	600	How old is [variable]NAME[/variable] in completed months? IF THEY DON'T HAVE A CARD USE LOCAL CALENDAR TO DERIVE AGE. RECORD '99' IF UNKNOWN. COMPARE DATE OF BIRTH ABOVE AND STATED AGE; CORRECT ONE IF NECESSARY.	Q125_CHILD_AGE_MONTHS		Number				
11304	171886	700	What is your relation to [variable]NAME[/variable] ?	Q126_CHILD_RESPONDENT_RELATIONSHIP		Choice(single)	Mother Grand mother Female relative (e.g. Sister, Aunt)	1 2 3		
11304	171887	800	Was [variable]NAME[/variable] weighed at birth?	Q127_CHILD_WEIGED_YN		Choice(single)	Yes (Directly after birth, less than 1 day) Yes (Within 1 - 7 days) No Don't know	1 2 8 4	0.00 0.00 0.00 0.00	

11304	171888	900	How much did [variable]NAME[/variable] weigh (in kilograms)?	Q128_CHILD_WEIGHT_KG	Number				Show this question if ANY are answered show Question 171888: Question 171887 and Option 469257 Question 171887 and Option 469258
11304	171889	1000	Was this weigh given on health card or told from memory?	Q129_CHILD_WEIGHT_CARD_OR_MEM	Choice(single)	Health card Memory	1 2	0.00 0.00	If ALL the following Questions/Options are answered show Question 171889: Question 171887 and Option 469257
11304	171890	1100	When [variable]NAME[/variable] was born, was s/he very big, bigger than average, average, smaller than average, or very small?	Q130_CHILD_SIZE_AT_BIRTH	Choice(single)	Very big Bigger than average Average Smaller than average very small Does not know	1 2 3 4 5		
11304	171891	1200	CHILD FEEDING PRACTICE The following section is about how and what food [variable]NAME[/variable] eats.	Q131_CHILD_FEEDING	Information				
11304	171892	1300	Has [variable]NAME[/variable] ever been breastfed? INCLUDE GIVING BREASTMILK BY SPOON OR BOTTLE OR BREASTFEEDING BY OTHER WOMEN.	Q132_CHILD_FEED_BF_YN	Choice(single)	Yes No Don't know	1 2 8	0.00 0.00 0.00	If this question AND Option 469269 is selected then Move to Question 171897 If this question AND Option 469270 is selected then Move to Question 171897
11304	171893	1400	How long after birth was [variable]NAME[/variable] first put to the breast?	Q133_CHILD_FEED_BF_AFTER_BIRTH	Choice(single)	Immediately Less than 1 hour 1 - 23 hours 24 hours or longer Don't know	1 2 3 4 5	0.00 0.00 0.00 0.00 0.00	
11304	171894	1500	HOW MANY HOURS AFTER BIRTH?	Q134_CHILD_FEED_BF_AFTER_BIRTH_HOURS	Number				If ALL the

									following Questions/Options are answered show Question 171894: Question 171893 and Option 469273
11304	171895	1600	HOW MANY DAYS AFTER BIRTH?	Q135_CHILD_FEED_BF_AFTER_BIRTH_DAYS	Number				If ALL the following Questions/Options are answered show Question 171895: Question 171893 and Option 469274
11304	171896	1700	WAS [variable]NAME[/variable] BREASTFED YESTERDAY DURING THE DAY OR AT NIGHT?	Q136_CHILD_FEED_BF_YESTERDAY_YN	Choice(single)	Yes No Don't know	1 2 3	0.00 0.00 0.00	
11304	171897	1800	Sometimes babies are fed breast milk in different ways, for example by spoon, cup or bottle. This can happen when the mother cannot always be with her baby. Sometimes babies are breastfed by another woman, or given breast milk from another woman by spoon, cup or bottle or some other way. This can happen if a mother cannot breastfeed her own baby. DID [variable]NAME[/variable] CONSUME BREAST MILK IN ANY OF THESE WAYS YESTERDAY DURING THE DAY OR AT NIGHT?	Q137_CHILD_FEED_BF_YESTERDAY_OTHER_WAY	Choice(single)	Yes No Don't know	1 2 8	0.00 0.00 0.00	
11304	171898	1900	Next I would like to ask you about some liquids that [variable]NAME[/variable] may have had yesterday during the day or at night. Did [variable]NAME[/variable] have any (item from the list)?: READ THE LIST OF LIQUIDS STARTING WITH 'PLAIN WATER' ASK THE MOTHER TO MENTION AND TICK FROM THE LIST	Q138_CHILD_FEED_BF_LIQUIDS	Choice(multiple)	Plain water Infant formula such as S26, lactogen, Promil, Nan. Milk (such as tinned, powdered, or fresh animal milk) or Yogurt? Juice or juice drinks? Clear broth (rice water, banana water)? Thin porridge (e.g. based on maize meal)? Liquids such as sweet tea, herbal tea, or soda (e.g. coca cola, fanta), drinks? Any other liquids? None	1 2 3 4 5 6 7 8 10	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	

11304	171899	2000	Please describe everything that [variable]NAME[/variable] ate yesterday during the day or night, whether at home or outside the home. Think about when [variable]NAME[/variable] first woke up yesterday. Did [variable]NAME[/variable] eat anything at that time? if yes: Please tell me everything [variable]NAME[/variable] ate at that time. Probe: "Anything else?" until respondent says nothing else.	Q138_CHILD_FEED_BF_FOOD	Choice(multiple)	Porridge, nshima or other or other foods made from grains Pumpkin, carrots, butternuts, squash, or orange fleshed sweet potato? White potatoes, white yams, manioc, cassava, or any other foods made from roots Any dark green leafy vegetables (e.g. sweet potato leaves, cassava leaves, rape, pumpkin leaves)? Ripe mango, ripe pawpaw, or water melon, granadila? Other fruits, such as guava, lemon, orange, pineapple, banana? Other vegetables (e.g. impwa, eggplants, okra, cabbage, tomatoes)? Liver, kidney, heart, or other organ meats? Any meat, such as beef, pork, lamb, goat, chicken, or duck? Eggs (chicken, duck) Fish (big) Fish (small) such as kapenta, tutaka, bream etc, Any foods made from beans, lentils, peas, peanuts, groundnuts, bambara nuts, other nuts or seeds? Animal milk, sour milk or other milk products? Any oil, fats, or butter, or foods made with any of these? Any sugary foods such as biscuits, sweets, candies, cakes? Condiments for flavor, such as pepper, hot pepper, onions, spices, herbs, or fish powder Caterpillars or insects Foods made with red palm oil, red palm nut, or red palm nut pulp sauce None	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	
11304	171900	2100	DID [variable]NAME[/variable] EAT SOLID OR SEMI-SOLID (SOFT, MUSHY) FOOD YESTERDAY (E.G. MAIZE PORRIDGE, SOFT COOKED RICE, COOKED POTATOES, N), DURING THE DAY OR NIGHT?	Q140_CHILD_FEED_BF_SEMI_SOLID	Choice(single)	Yes No Don't know	1 2 3	0.00 0.00 0.00	
11304	171901	2200	HOW MANY TIMES DID	Q141_CHILD_FEED_BF_SEMI_SOLID_FREQ	Number				If ALL the

			[variable]NAME[/variable] EAT SOLID OR SEMI-SOLID (SOFT, MUSHY) FOOD YESTERDAY (E.G. MAIZE PORRIDGE, SOFT COOKED RICE, COOKED POTATOES), DURING THE DAY OR NIGHT?						following Questions/Options are answered show Question 171901: Question 171900 and Option 469311
11304	171902	2300	YESTERDAY, DURING THE DAY OR NIGHT, DID [variable]NAME[/variable] DRINK ANYTHING FROM A BOTTLE WITH A NIPPLE?	Q141_CHILD_FEED_BF_DRINK_BOTTLE	Choice(single)	Yes No Don't know	1 2 3	0.00 0.00 0.00	
11304	171903	2400	CHILD ILLNESS THE FOLLOWING SECTION IS ABOUT [variable]NAME[/variable]'S HEALTH	Q143_CHILD_ILL	Information				
11304	171904	2500	Now I would like to ask you about illnesses [variable]NAME[/variable] may have had in the past 2 weeks. Please keep in mind only this time period; do not include any illnesses [variable]NAME[/variable] had before 2 week ago.	Q144_CHILD_ILL_2WKS	Information				
11304	171905	2600	At any time in the last 2 weeks, has [variable]NAME[/variable] had diarrhoea? DIARRHOEA = WATERY STOOL AT LEAST THREE TIMES PER DAY	Q145_CHILD_ILL_DIARR_YN	Choice(single)	Yes No Don't know	1 2 8	0.00 0.00 0.00	If this question AND Option 469318 is selected then Move to Question 171912 If this question AND Option 469319 is selected then Move to Question 171912
11304	171906	2700	Was there any blood in the stools?	Q146_CHILD_ILL_DIARR_BIS	Choice(single)	Yes No Don't know	1 2 8	0.00 0.00 0.00	
11304	171907	2800	How much [variable]NAME[/variable] was given to drink during the diarrhoea (including breastmilk) during the time [variable]NAME[/variable] had diarrhoea, was he/she given less than usual to drink, about the same amount, or more than usual? If less, probe: Was he/she given much less than usual to drink, or somewhat less?	Q147_CHILD_ILL_DIARR_DRINK	Choice(single)	Much less Somewhat less About the same More Nothing to drink Don't know	1 2 3 4 5 8		

11304	171908	2900	During the time [variable]NAME[/variable] had diarrhoea, was he/she given less than usual to eat, about the same amount, more than usual, or nothing to eat? IF "LESS", PROBE: Was he/she given much less than usual to eat or somewhat less?	Q148_CHILD_ILL_DIARR_EAT	Choice(single)	Much less Somewhat less About the same More Stopped food Never gave food Don't know	1 2 3 4 5 6 8		
11304	171909	3000	During the episode of diarrhoea, was [variable]NAME[/variable] given to drink any of the following: READ EACH ITEM ALOUD AND RECORD RESPONSE BEFORE PROCEEDING TO THE NEXT ITEM.	Q149_CHILD_ILL_DIARR_ORS	Choice(multiple)	Oral rehydration solution - A fluid made from a special packet of powder A pre-packaged rehydration fluid for diarrhoea None	1 2 3		
11304	171910	3100	Was anything (else) given to treat the diarrhoea?	Q150_CHILD_ILL_DIARR_TREAT_YN	Choice(single)	Yes No Don't know	1 2 3	0.00 0.00 0.00	If this question AND Option 469340 is selected then Move to Question 171912 If this question AND Option 469341 is selected then Move to Question 171912
11304	171911	3200	What (else) was given to treat the diarrhoea? Probe: Anything else	Q151_CHILD_ILL_DIARR_TREAT_OTHER	Choice(multiple)	Antibiotic Antimotility Zinc Other (Not antibiotic, antimotility or zinc) Unknown pill or syrup Antibiotic Non-antibiotic Unknown injection Intravenous Home remedy / Herbal medicine Other (specify) Don't know	1 2 3 4 5 6 7 8 9 10 11 12		
11304	171912	3300	At any time in the last 2 weeks, has [variable]NAME[/variable] been ill with a fever?	Q152_CHILD_ILL_FEV_YN	Choice(single)	Yes No Don't know	1 2 8	0.00 0.00 0.00	If this question AND Option 469355 is selected then Move to Question 171915 If this question AND Option 469356 is selected

									then Move to Question 171915
11304	171913	3400	At any time during this illness with fever, did [variable]NAME[/variable] have blood taken from his/her finger or heel for malaria testing?	Q153_CHILD_ILL_FEV_TEST	Choice(single)	Yes No Don't know	1 2 8		
11304	171914	3500	Did that test show that [variable]NAME[/variable] had malaria?	Q154_CHILD_ILL_FEV_TEST_MALARIA_YN	Choice(single)	Yes No Don't know	1 2 8		If ALL the following Questions/Options are answered show Question 171914: Question 171913 and Option 469357
11304	171915	3600	At any time in the last 2 weeks, has [variable]NAME[/variable] had an illness with a cough?	Q155_CHILD_ILL_COUGH_YN	Choice(single)	Yes No Don't know	1 2 8		If this question AND Option 469364 is selected then Move to Question 171918 If this question AND Option 469365 is selected then Move to Question 171918
11304	171916	3700	When [variable]NAME[/variable] had an illness with a cough, did he/she breathe faster than usual with shallow, rapid breaths or have difficulty breathing?	Q156_CHILD_ILL_COUGH_COUGH_BREATHING	Choice(single)	Yes No Don't know	1 2 8		
11304	171917	3800	Was the fast or difficult breathing due to a problem in the chest or a blocked or runny nose?	Q157_CHILD_ILL_COUGH_COUGH_BREATHING_DUE_TO	Choice(single)	Problem in chest only Blocked or runny nose only Both chest and blocked/runny nose Other (specify) Don't know	1 2 3 4 5		If ALL the following Questions/Options are answered show Question 171917: Question 171916 and Option 469366
11304	171918	3900	Did you seek any advice or treatment for ANY type of illness(diarrhoea, cough, fever, other)?	Q158_CHILD_ILL_SEEK_MEDICAL	Choice(single)	Yes No Don't know	1 2 8	0.00 0.00 0.00	If this question AND Option 469375 is selected then Move to Question 171923 If this question

					AND Option 469376 is selected then Move to Question 171923		
11304	171919	4000	How many days after the illness began/you first noticed the illness did you seek advice Enter 00 if advice was sought on the same day	Q159_CHILD_ILL_SEEK_MEDICAL_DAYS	Number		
11304	171920	4100	Where did you FIRST seek medical help or treatment for the illness?	Q160_CHIILD_ILL_SEEK_MEDICAL_WHERE	Choice(single)	Government hospital Rural health centre Other govt. rural health facility Private or mission hospital or clinic Pharmacy Child health week Own home Relative or friend's home Community ceremony or meeting Womens group meeting Other community place or meeting	1 2 3 4 5 6 7 8 9 10 11	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
11304	171921	4200	Why did you FIRST seek help at this facility/source?	Q161_CHIILD_ILL_SEEK_MEDICAL_WHY	Choice(multiple)	Qualified Easily available Close by Known to us Low cost Good for minor illness Get credit	1 2 3 4 5 6 7	
11304	171922	4300	When [variable]NAME[/variable] was sick and you saw the health care provider, did he/she give you any advice about feeding your child?	Q162_CHILD_ILL_SEEK_MEDICAL_ADVICE_YN	Choice(single)	Yes No Don't know	1 2 8	
11304	171923	4400	If/when [variable]NAME[/variable] becomes sick, what is the time that you would have to travel to take your ill child to medical care (hospital, clinic, pharmacy)? How long would it take to get there from your home?	Q163_CHILD_ILL_SEEK_MEDICAL_DISTANCE_MIN	Choice(single)	0-29 mins 30 - 59 mins 1-2 hours More than 2 hours	1 2 3 4	0.00 0.00 0.00 0.00
11304	171924	4500	Child Immunization THE FOLLOWING SECTION IS ABOUT [variable]NAME[/variable]'S IMMUNIZATIONS	Q164_CHILD_IMMUNIZATION	Information			
11304	171925	4600	Did [variable]NAME[/variable] receive a	Q165_CHILD_IMMUNIZATION_VIT_A	Choice(single)	Yes	1	0.00

11304			dose of vitamin A, such as this one, in the past 6 months? SHOW COMMON TYPE OF VIT A CAPSULE			No	2	0.00	
11304	171926	4700	Did [variable]NAME[/variable] receive any drug for deworming in the past 6 months?	Q166_CHILD_IMMUNIZATION_DEWORMING	Choice(single)	Yes No	1 2	0.00 0.00	
11304	171927	4800	Antenatal Care The following questions relate to your health care experiences during your pregnancy with [variable]NAME[/variable] . QUESTIONS IN THIS SECTION RELATED TO [variable]NAME[/variable]	Q167_CHILD_ANC	Information				
11304	171928	4900	During your pregnancy with [variable]NAME[/variable] did any health personnel or community health volunteer (CHVs) visit you, or did you visit a health center?	Q168_CHILD_ANC_YN	Choice(single)	Yes No Don't know	1 2 8	0.00 0.00 0.00	If this question AND Option 469407 is selected then Move to Question 171931 If this question AND Option 469408 is selected then Move to Question 171931
11304	171929	5000	When you were pregnant with [variable]NAME[/variable] , how many months pregnant were you the first time you went to a health center or were visited by a health personnel or community health volunteer?	Q169_CHILD_ANC_MONTHS	Number				
11304	171930	5100	How many times did you go to a health facility for ante natal care (ANC) visit or have a visit from a health personnel or a community health volunteer related to ante natal care during your pregnancy with [variable]NAME[/variable] ?	Q170_CHILD_ANC_HOW_MANY	Number				
11304	171931	5200	During your pregnancy WITH [variable]NAME[/variable] did you take any iron/ folic acid tablets?	Q171_CHILD_ANC_IRON	Choice(single)	Yes No Don't know	1 2 8	0.00 0.00 0.00	
11304	171932	5300	During your pregnancy with [variable]NAME[/variable] , how long did you take iron/folic acid tablets?	Q172_CHILD_ANC_IRON_HOW_LONG	Choice(single)	Almost the entire pregnancy (7 or more months) About half the pregnancy (4-6 months)	1 2 3	0.00 0.00 0.00	If ALL the following Questions/Options

						Less than half the pregnancy (< 4months) Don't know	8	0.00	are answered show Question 171932: Question 171931 and Option 469409
11304	171933	5400	During your pregnancy with [variable]NAME[/variable] , did you receive any counseling or information about nutrition for pregnant women?	Q173_CHILD_ANC_COUNSELING	Choice(single)	Yes No Don't know	1 2 8	0.00 0.00 0.00	
11304	171934	5500	Who did you receive this counseling from?	Q174_CHILD_ANC_COUNSELLING_WHO	Choice(multiple)	Doctor Nurse/midwife Health worker Community Health Volunteer (CHV) Other community health worker Traditional birth attendant / traditional midwife Traditional healer Family or friend Other (specify)	1 2 3 4 5 6 7 8 9		If ALL the following Questions/Options are answered show Question 171934: Question 171933 and Option 469416
11304	171935	5600	During your pregnancy with [variable]NAME[/variable] , did you receive any counseling about breastfeeding infants and young children?	Q175_CHILD_ANC_COUNSELLING_BF	Choice(single)	Yes No Don't know	1 2 3	0.00 0.00 0.00	
11304	171936	5700	Who did you receive this counseling from?	Q176_CHILD_ANC_COUSELLING_BF_WHO	Choice(multiple)	Doctor Nurse/midwife Health worker Community Health Volunteer (CHV) Other community health worker Traditional birth attendant / traditional midwife Traditional healer Family or friend Other (specify)	1 2 3 4 5 6 7 8 9		If ALL the following Questions/Options are answered show Question 171936: Question 171935 and Option 469428
11304	171937	5800	Where did you give birth to [variable]NAME[/variable] ?	Q178_CHILD_ANC_BIRTH_WHERE	Choice(single)	Government hospital Rural health centre Other govt. rural health facility Private/mission hospital/clinic Community places Own home Relative or friend's home	1 2 3 4 5 6 7		
11304	171938	5900	Who assisted you during your delivery	Q179_CHILD_ANC_BIRTH_ASSTIANCE	Choice(multiple)	Doctor	1		

			of [variable]NAME[/variable] ?			Nurse/midwife Health worker Community Health Volunteer (CHV) Other community health worker Traditional birth attendant / traditional midwife Traditional healer Family or friend Other (specify)	2 3 4 5 6 7 8 9	
11304	171939	6000	During your pregnancy with [variable]NAME[/variable] did you ever sleep under a mosquito net even one night?	Q179_CHILD_ANC_MOS_NET	Choice(single)	Yes No Don't know	1 2 3	0.00 0.00 0.00	
11304	171940	6100	During your pregnancy with [variable]NAME[/variable] , how often did you sleep under a mosquito net?	Q180_CHILD_ANC_MOS_NET_HOW_OFTEN	Choice(single)	All the time Most of the time About half of the time Less than half of the time	1 2 3 4	0.00 0.00 0.00 0.00	If ALL the following Questions/Options are answered show Question 171940: Question 171939 and Option 469456
11305	171941	100	Mother/Carer Demographics The following sections are in relation to the mother or carer of [variable]NAME[/variable]	Q181_MOM	Information				
11305	171942	200	Have you earned any income in the last 12 months?	Q182_MOM_INCOME	Choice(single)	Yes No	1 2	0.00 0.00	If this question AND Option 469464 is selected then Move to Question 171946
11305	171943	300	What was your main source of income?	Q183_MOM_INCOME_MAIN	Choice(single)	Agriculture Wage employment Own business / Self employed Piece work Unpaid family worker Not working but looking for work Not working and not looking for work Full time student Homemaker Retired	1 2 3 4 5 6 7 8 9 10	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	
11305	171944	400	What is the MAIN way you are paid for this work, in cash or in kind or are you not paid at all?	Q184_MOM_INCOME_PAYMENT	Choice(single)	CASH ONLY CASH AND KIND IN KIND ONLY	1 2 3	0.00 0.00 0.00	

						NOT PAID	4	0.00
11305	171945	500	What are all the OTHER sources of income you have had in the last 12 months?	Q184_MOMINCOME_OTHER_SOURCES	Choice(multiple)	Agriculture Wage employment Own business / Self employed Piece work Unpaid family worker Not working but looking for work Not working and not looking for work Full time student Homemaker No other sources	1 2 3 4 5 6 7 8 9 11	 0.00
11305	171946	600	Women's Dietary Diversity Please describe everything that you ate yesterday during the day or night, whether at home or outside the home.	Q186_MOM_DD	Information			
11305	171947	700	a) Think about when you first woke up yesterday. Did you eat anything at that time? if yes: Please tell me everything that you ate at that time. Probe: "Anything else?" until respondent says nothing else. If no, continue to question If respondent mentions mixed dishes like a porridge, sauce or stew, probe: b) What ingredients were in that (mixed dish)?	Q187_MOM_DD	Choice(multiple)	CEREALS (e.g. nshima, munkoyo, bread, porridge, or any other foods made from millet, sorghum, maize, rice, wheat) WHITE ROOTS AND TUBERS (e.g. white potatoes, yellow or whit esweet potatoes, yams, cassava, or foods made from roots) VITAMIN-A RICH TUBERS / ROOTS / VEGETABLES (e.g. sweet potatoes that are or orange inside, pumpkin, carrots, red pepper) DARK GREEN LEAFY VEGETABLES (e.g. cassava leaves, bondwe, pumpkin leaves, mustard greens, cow pea leaves, broccoli, spinach, chineese cabbage) OTHER VEGETABLES (e.g. Including vegetables such as cabbage, onions, eggplant, okra, mushrooms, tomatoes, impwa, lusala, gren beans) VITAMIN-A RICH FRUITS (e.g. ripe mangoes, papayas, granadilla, masuku, apricots) OTHER FRUITS (e.g. Other fruits such as grapes, bananas, avocadoes, peach, oranges, ntungulu, ngai, masumu, maabo) ORGAN MEAT (e.g. liver, kidney, heart or other organ meats or blood-based foods) FLESH MEAT / POULTRY/ (e.g. beef, pork, lamb, goat, rabbit, wild game, chicken, duck, guinea fowl, or other birds,) EGGS FISH / SEAFOOD (e.g. fresh or dried fish or	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	

						shellfish such as kapenta) LEGUMES / NUTS / PULSES (e.g. beans, soy beans, peas,green gram, nuts, bambara nuts, groundnuts, cowpeas, pumpkin seeds, sesame seeds, sunflower seeds) MILK / DAIRY PRODUCTS (e.g. milk, sour milk, cheese, or other milk products (NOT butter)) OIL / FAT (e.g. oil, fats or butter added to food or used for cooking) HONEY / SWEETS / SNACKS (e.g. other sweeteners or sweets such as jam, honey, sweetened soda or juice, glucose, or sugary foods such as chocolates, sweets, candies, biscuits) SPICES, CONDIMENTS, BEVERAGES(salt, pepper, coffee, tea, alcoholic beverages)			
11305	171948	800	Women's Pregnancy The following questions are in relation to the respondent and her pregnancies.	Q188_MOM_PREGNANT	Information				
11305	171949	900	Are you pregnant now?	Q189_MOM_PREGNANT_YN	Choice(single)	Yes No Don't know	1 2 3	0.00 0.00 0.00	
11305	171950	1000	How many times, in total, have you given birth to a baby? Include still births and live births	Q190_MOM_BITHS_NO	Number				
11305	171951	1100	Are you currently breastfeeding a child?	Q191_MOM_CURRENTLY_BF	Choice(single)	Yes No	1 2	0.00 0.00	
11306	171952	90	PLEASE NOTE IF THE INTERVIEW IS NOW BEING CONDUCTED WITH THE MOTHER ALONE OR WITH OTHERS PRESENT IF THERE ARE ANY CHILDREN OR ADULTS, PLEASE REQEUST THE MOTHER TO ASK THEM FOR SOME PRIVACY FOR THE NEXT 10 MINUTES.	MOTHER_ALONE	Choice(single)	Yes alone No with adult female(s) No with adult male No with adult mixed	1 2 3 4	0.00 0.00 0.00 0.00	
11306	171953	100	For the next two questions, please state if you strongly agree, agree, disagree or strongly disagree with the following statements. There are no right or wrong answers.	Q190_G_CHILD	Information				
11306	171954	200	If there is limited amount of money, it should be spent on sons first.	Q191_G_CHILD_SPENDING	Choice(single)	Strongly Agree Agree	1 2	1.00 2.00	

						Disagree	3	3.00	
						Strongly Disagree	4	4.00	
11306	171955	300	It is more important for a woman to give birth to a boy than a girl.	Q192_G_CHILD_BOYBIRTH	Choice(single)	Strongly Agree Agree Disagree Strongly Disagree	1 2 3 4	1.00 2.00 3.00 4.00	
11307	171956	100	For the next four questions, please state if you strongly agree, agree, disagree or strongly disagree with the following statements. There are no right or wrong answers.	Q195_ATT_VIOLENCE	Information				
11307	171957	200	Beating a woman is justified if she goes out without telling her husband.	Q196_ATT_VIOLENCE_WOMEN_OUT	Choice(single)	Strongly agree Agree Disagree Strongly disagree	1 2 3 4	1.00 2.00 3.00 4.00	
11307	171958	300	Beating a woman is justified if she neglects her children	Q197_ATT_VIOLENCE_WOMEN_NEGLECT	Choice(single)	Strongly agree Agree Disagree Strongly disagree	1 2 3 4	1.00 2.00 3.00 4.00	
11307	171959	400	Beating a woman is justified if she argues with her husband.	Q198_ATT_VIOLENCE_WOMEN_ARGUE	Choice(single)	Strongly agree Agree Disagree Strongly disagree	1 2 3 4	1.00 2.00 3.00 4.00	
11307	171960	500	Beating a woman is justified if she refuses to have sex with her husband.	Q199_ATT_VIOLENCE_WOMEN_NOSEX	Choice(single)	Strongly agree Agree Disagree Strongly disagree	1 2 3 4	1.00 2.00 3.00 4.00	
11308	171961	90	Talk to partner	TP	Hidden	1	1		Do NOT show this question if ALL are answered show Question 171961: Question 171771 and Option 468865 If this question AND Option 469538 is selected then Move to Question 171980
11308	171962	100	When was the last time you talked to your partner about the problems you are facing in your life?	Q200_TALK_PARTNER_PROBLEMS	Choice(single)	Within this week One to two weeks ago Two to four weeks ago	1 2 3	0.00 0.00 0.00	If ALL the following Questions/Options

	4					More than four weeks ago but less than six months ago Longer or never	4 5	0.00 0.00	are answered show Question 171962: Question 171771 and Option 468865
11308	171963	200	When was the last time your partner came to talk to you to explain her (or his) problems?	Q201_TALK_PARTNER_PROBLEMS2	Choice(single)	Within this week One to two weeks ago Two to four weeks ago More than four weeks ago but less than six months ago Longer or never	1 2 3 4 5	0.00 0.00 0.00 0.00 0.00	If ALL the following Questions/Options are answered show Question 171963: Question 171771 and Option 468865
11309	171964	100	Now I would like to ask you some questions about your participation in certain types of work activities and on making decisions on various aspects of household life. Who in your family usually has the final say about the following? (read out all the possible options and repeat for each question)	Q202_HH_DECISIONS	Information				
11309	171965	200	Who in your family usually has the final say about food and clothing purchases?	Q203_HH_DECISIONS_FOOD_CLOTHES	Choice(single)	Self Spouse or partner Yourself & your partner jointly Someone else You & someone else jointly	1 2 3 4 5	0.00 0.00 0.00 0.00 0.00	
11309	171966	300	Who in your family usually has the final say about large investments, such as purchasing household appliances or equipment?	Q204_HH_DECISIONS_INVEST	Choice(single)	Self Spouse or partner Yourself & your partner jointly Someone else You & someone else jointly	1 2 3 4 5	0.00 0.00 0.00 0.00 0.00	
11309	171967	400	Who in your family usually has the final say about the selling of large investments, such as household appliances or equipment?	Q205_HH_DECISIONS_SELLING	Choice(single)	Self Spouse or partner Yourself & your partner jointly Someone else You & someone else jointly	1 2 3 4 5	0.00 0.00 0.00 0.00 0.00	
11309	171968	500	Who in your family usually has the final say regarding spending time with family members and relatives?	Q206_HH_DECISIONS_SPENDING_TIME	Choice(single)	Self Spouse or partner Yourself & your partner jointly Someone else You & someone else jointly	1 2 3 4 5	0.00 0.00 0.00 0.00 0.00	
11309	171969	600	Who in your household has the final	Q207_HH_DECISIONS_WOMENS_HEALTH	Choice(single)	Self	1	0.00	

			say on the health care decisions of women at home?			Spouse or partner Yourself & your partner jointly Someone else You & someone else jointly	2 3 4 5	0.00 0.00 0.00 0.00
11309	171970	700	Who in your household has the final say on the health care decisions of children at home?	Q208_HH_DECISIONS_CHILD_HEALTH	Choice(single)	Self Spouse or partner Yourself & your partner jointly Someone else You & someone else jointly	1 2 3 4 5	0.00 0.00 0.00 0.00 0.00
11310	171971	100	Now, forgetting any outside help you may have in your home how do you and your partner divide the following tasks? (read out all the possible options and repeat for each question)	Q209_HH_TASKS	Information			
11310	171972	200	Washing clothes	Q210_HH_TASKS_WASH_CLOTHES	Choice(single)	I do everything Usually me Shared equally or done together Usually partner Partner does everything	1 2 3 4 5	0.00 0.00 0.00 0.00 0.00
11310	171973	300	Cleaning the house	Q211_HH_TASKS_CLEAN_HSE	Choice(single)	I do everything Usually me Shared equally or done together Usually partner Partner does everything	1 2 3 4 5	0.00 0.00 0.00 0.00 0.00
11310	171974	400	Buying Food	Q212_HH_TASKS_BUY_FOOD	Choice(single)	I do everything Usually me Shared equally or done together Usually partner Partner does everything	1 2 3 4 5	0.00 0.00 0.00 0.00 0.00
11310	171975	500	Preparing food	Q213_HH_TASKS_PREP_FOOD	Choice(single)	I do everything Usually me Shared equally or done together Usually partner Partner does everything	1 2 3 4 5	0.00 0.00 0.00 0.00 0.00
11310	171976	600	Collecting firewood	Q214_HH_TASKS_COLLECT_WOOD	Choice(single)	I do everything Usually me Shared equally or done together Usually partner Partner does everything	1 2 3 4 5	0.00 0.00 0.00 0.00 0.00
11310	171977	650	Fetching water	Q214_HH_TASKS_FETCH	Choice(single)	I do everything Usually me	1 2	0.00 0.00

						Shared equally or done together	3	0.00
						Usually partner	4	0.00
						Partner does everything	5	0.00
11310	171978	700	Bathing children	Q215_HH_TASKS_BATHING_CHILDREN	Choice(single)	I do everything	1	0.00
						Usually me	2	0.00
						Shared equally or done together	3	0.00
						Usually partner	4	0.00
						Partner does everything	5	0.00
11310	171979	800	Playing with children	Q216_HH_TASKS_PLAY_CHILDREN	Choice(single)	I do everything	1	0.00
						Usually me	2	0.00
						Shared equally or done together	3	0.00
						Usually partner	4	0.00
						Partner does everything	5	0.00
11311	171980	100	please state if you strongly agree, agree, disagree or strongly disagree with the following statements. There are no right or wrong answers.	Q217_GEM	Information			
11311	171981	200	A woman's most important role is to take care of her family	Q218_GEM_WOMENS_ROLE	Choice(single)	Strongly Agree	1	1.00
						Agree	2	2.00
						Disagree	3	3.00
						Strongly Disagree	4	4.00
11311	171982	400	Men don't talk about sex, you just do it.	Q219_GEM_MEN_SEX_DO	Choice(single)	Strongly Agree	1	1.00
						Agree	2	2.00
						Disagree	3	3.00
						Strongly Disagree	4	0.00
11311	171983	600	Changing diapers, or cloths, giving kids a bath, and feeding kids are a woman's responsibility.	Q220_GEM_CHANGING_DIAPERS	Choice(single)	Strongly Agree	1	1.00
						Agree	2	2.00
						Disagree	3	3.00
						Strongly Disagree	4	4.00
11311	171984	700	It is a woman's responsibility to avoid getting pregnant.	Q221_GEM_WOMEN_RESP_CONTRA	Choice(single)	Strongly Agree	1	1.00
						Agree	2	2.00
						Disagree	3	3.00
						Strongly Disagree	4	4.00
11311	171985	800	A man should have the final word about decisions in his home.	Q222_GEM_MEN_FINAL_SAY	Choice(single)	Strongly Agree	1	1.00
						Agree	2	2.00
						Disagree	3	3.00
						Strongly Disagree	4	4.00
11311	171986	900	Men are always ready to have sex.	Q223_GEM_MEN_SEX_READY	Choice(single)	Strongly Agree	1	1.00
						Agree	2	2.00
						Disagree	3	3.00
						Strongly Disagree	4	4.00

Concern

11311	171987	1000	A woman should tolerate violence in order to keep her family together.	Q224_GEM_WOMEN_TOL_VIOLENCE	Choice(single)	Strongly Agree Agree Disagree Strongly Disagree	1 2 3 4	1.00 2.00 3.00 4.00	
11311	171988	1600	Men should be embarrassed if they are unable to get an erection during sex.	Q225_GEM_MEN_EMBARRASED_SEX	Choice(single)	Strongly Agree Agree Disagree Strongly Disagree	1 2 3 4	1.00 2.00 3.00 4.00	
11312	171989	50	Interview result	CONSENT_RESULT	Choice(single)	Interview completed Refused interview No household member or no competent respondent at home at time of visit Selected individual absent for long period or moved away Residence of selected individual not found Other (specify)	1 2 3 4 5 6	0.00 0.00 0.00 0.00 0.00 0.00	
11312	171990	100	Thank you for your time. [Enumerator - please step outside to finish the survey in order to capture a GPS location.]The survey is now complete. Ask the mother if she has any questions about the survey or RAIN+ project	CLOSING	Information				