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NOURISH PROJECT ENDLINE SURVEY REPORT

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NOURISH Project

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Led by Save the Children, NOURISH is implemented in Cambodia in partnership with five national and international partners: Operations Enfants du Cambodge, Partners in Compassion, SNV, The Manoff Group, and Wathnakpheap.

Executive Summary

Nutrition in Cambodia. Despite steady economic progress since the mid-1990s and some positive trends in health and nutrition, malnutrition in Cambodia remains high. The 2014 Cambodia Demographic and Health Survey (CDHS) found that 14% of women of reproductive age were underweight.¹ One in four children (24%) under five is underweight, one in ten (10%) is wasted and nearly one in three (32%) is stunted, or chronically malnourished. Stunting is highest in rural areas (34%) and in children of families in the poorest quintile (42%).

Although stunting is the most prevalent form of malnutrition in Cambodia, it goes unrecognized in many communities where short stature is common and perceived as normal. Stunting has severe short- and long-term health and functional consequences, including reduced cognition and educational performance, and low adult wages and lost productivity. It is influenced by an array of complex factors, including inadequate nutrition during pregnancy and lactation; poor infant and young child feeding practices; infections due to poor drinking water, hygiene and sanitation (WASH); and poverty. Stunting is not treatable but is preventable during the critical first 1,000 days from conception until a child's second birthday.²

The NOURISH Project. The United States Agency for International Development (USAID) and United States Presidential Initiative Feed the Future (FTF)-funded NOURISH Project (2014-2020) aims to improve the nutritional status of Cambodian women and children during the first 1,000 days in 565 villages across Battambang, Pursat, and Siem Reap provinces. NOURISH works to accelerate stunting reduction by focusing directly on the causal factors of chronic malnutrition specific to Cambodia; poverty, lack of access to quality food and nutrition services, unsanitary environments, and social norms and practices that work against optimal child growth and development.

NOURISH uses a multi-sectoral approach to improve the nutritional status of women and children through integrating health, nutrition, WASH and agriculture interventions to maximize the potential impact. To create sustained demand for nutrition, WASH and agriculture practices, services and products, NOURISH works through social and behavior change communication (SBCC), community-led-total sanitation (CLTS) and conditional cash transfers (CCT). To ensure the availability and quality of relevant products NOURISH works closely with private sector partners to improve and expand their businesses in NOURISH areas and beyond.

Survey Design and Methodology. In order to assess the nutritional status of women and children and changes in behaviors related to the three pillars of the project's approach to integrated nutrition: health, water, sanitation and hygiene (WASH), and agriculture, an endline survey was conducted from November-December 2018 in the NOURISH Project area.

The sampling frame included women of reproductive age (15-49 years), pregnant women, and caregivers of children under five years in the NOURISH Project area. Results are compared to the baseline survey report findings from June 2016 to assess NOURISH outcomes and impact.

The survey sampled respondents from 116 villages across the NOURISH Project target area. The survey used a multi-stage cluster methodology using communes and villages randomly selected from the three provinces, proportionate to population size. The sample represents the project areas and is not powered to give disaggregation by provinces. Respondents were randomly selected from household lists for a total sample of 2,257 women of reproductive age, pregnant women, and primary caregivers of children under five. During the baseline analysis, the team noted limitations in the ability to disaggregate data or conduct more

¹ *Cambodia Demographic and Health Survey 2014*. Phnom Penh, Cambodia, and Rockville, Maryland, USA: National Institute of Statistics, Directorate General for Health, and ICF International

² WHO. *Childhood Stunting: A Global Perspective*. *Maternal and Child Nutrition* (2016). 12, pp 12-26

extensive analysis due to sample size limitations. For this reason, the sample for the endline survey was increased from the baseline to allow for more thorough analysis.

Data collection tools utilized validated CDHS questions and Feed the Future guidance, supplemented by a module on exposure to and participation in the project's "Grow Together" stunting prevention campaign and community based activities. Data were collected on tablets using *kobotoolbox* software application. Data were analyzed in SPSS 23.0 and WHO's Anthro software³. All procedures followed ethical standards to ensure that participation was informed and voluntary and maintained confidentiality at all stages.

Summary of Key Findings. The aim of this report is to document the findings of the NOURISH Project end-line survey. The survey documents changes in levels of knowledge, behaviors and environmental factors to assess project performance and outcomes through comparison with the baseline survey.

NOURISH reduced stunting in children under five years by 19% (6.5 percentage points), and reduced women's underweight and anemia, supported by significant changes in key behaviors across health/nutrition, WASH and agriculture. Table 1 highlights these findings among women and children in rural NOURISH-supported communities.

Nutrition behaviors showed significant improvements. There was significant improvement in women's dietary diversity, which indicates an increased awareness of and shift towards the consumption of a nutrient-rich diet. NOURISH managed to maintain a consistently high exclusive breastfeeding rate, despite challenges with migration and a trending reduction nationally. Also, the survey shows nearly a 25 percentage point increase in the prevalence of children 6-23 months receiving a minimum acceptable diet, and significant increase in the number of children age 9-11 months who received enriched solid, semi-solid, or soft foods with frequency in the last 24 hours. Health seeking behaviors including antenatal care, postnatal care and growth monitoring promotion attendance all increased significantly as well.

WASH demonstrated great improvement and shows that sanitary living conditions of children improved dramatically. The survey revealed a 26 percentage point increase in households using an improved latrine, which is particularly notable because it required substantial household outlay to achieve, and an 18 percentage point increase of caregivers properly managing infant feces.

Table 1. Key Impact and Outcome Indicators

Key Impact and Outcome Indicators	NOURISH 2015 Baseline Percentage (N=1347)	NOURISH 2018 Endline Percentage (N=2257)
Prevalence of stunted children under 5 years of age	34.3	27.8*
Prevalence of underweight women	14.8	11.4*
Women's Dietary Diversity: Mean number of food groups consumed	4.67	6.01*
Prevalence of exclusive breastfeeding of children under 6 months	77.8	74.9
Prevalence of children 6-23 months receiving a minimum acceptable diet	25.5	49.9*
Percent of households (of women of reproductive age and children under 5) in the target area using an improved latrine	37.0	63.2*
Percent of caregivers of children under 2 years disposing of infant stool appropriately	32.8	50.6*

*p<0.05

³ <http://www.who.int/nutgrowthdb/software/en/>

Conclusions. The NOURISH Project delivered multiple interventions across health and nutrition, WASH, and agriculture, in order to address various and intertwined factors affecting childhood malnutrition in Cambodia. Overall, the endline demonstrates generally positive results in each of the intervention areas to varying degrees, and an overall decline in stunting of 6.5 percentage points indicating that the NOURISH design and approaches resulted in an improved outcome for chronic malnutrition. The findings point to the NOURISH program approach being effective and, although labor intensive, the SBCC strategy, developed through formative research, effectively integrated sectors through community activities, mass media, marketing, hands-on mentoring and coaching. The SBCC strategy, coupled with the project's approach to address poverty issues through targeted CCT and vouchers, supported changes in key behaviors and thus stunting reduction. Other important realizations of the NOURISH program include that an integrated WASH and nutrition and national cash transfer program to the degree and at the scale of this project can be successful. Some of the other impactful interventions, like the SBCC "Grow Together" campaign, required relatively low investment, suggesting that the approach could be replicated in future programming. Ultimately, the results imply that multifaceted strategies can be effective in promoting behavior change that results in positive nutrition outcomes for children.

Acknowledgements

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The NOURISH endline survey required the coordinated efforts of many people. The NOURISH team extends its gratitude to all those who were involved in the survey including:

- SBK Research and Development, the consulting company contracted to collect the data. We express our thanks to SBK team leaders, interviewers, and management team for actively participating in the training and survey revisions, facilitating evaluation discussions with local leaders, coordinating administrative and logistical aspects of the survey fieldwork and diligently cleaning all of the data.
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NOURISH Chief of Party
Save the Children

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Acronyms

ANC	Antenatal Care
BMI	Body Mass Index
BSC	Business Service Center
CARD	Council for Agricultural and Rural Development
CCT	Conditional Cash Transfer
CDHS	Cambodia Demographic and Health Survey
CLTS	Community Led Total Sanitation
ECD	Early Childhood Care and Development
FTF	Feed the Future
GMP	Growth Monitoring and Promotion
IDA	Iron Deficiency Anemia
IYCF	Infant and Young Child Feeding
M&E	Monitoring and Evaluation
MAD	Minimum Acceptable Diet
MAFF	Ministry of Agriculture, Forestry and Fisheries
MDD	Minimum Dietary Diversity
MMF	Minimum Meal Frequency
MOH	Ministry of Health
MRD	Ministry of Rural Development
ODF	Open Defecation Free
PNC	Postnatal Care
SAM	Severe Acute Malnutrition
SBCC	Social and Behavior Change Communication
SBK	SBK Research and Development Consulting Firm
SD	Standard Deviation
SFP	Small Fish Powder
SME	Small and Medium Enterprises
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
VHSG	Village Health Support Group
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization

Introduction

Nutrition Situation in Cambodia

Despite steady economic growth since the mid-1990s, and some positive trends, malnutrition remains high. Malnutrition has serious human development and economic consequences; Cambodia's Council for Agriculture and Rural Development (CARD) estimates that stunting costs approximately USD \$120 million annually in lost gross domestic product.⁴

Women's Nutritional Status. The 2014 Cambodia Demographic and Health Survey (CDHS) found that 14% of women of reproductive age 15-49 years were underweight; young women 15-19 years of age have the highest underweight prevalence (28%).⁵ Approximately half of women were anemic; 45% of women of reproductive age 15-49 years and 53.2% of pregnant women had anemia.⁶ The causes of anemia in Cambodia include genetic hemoglobin disorder and iron deficiency anemia (IDA)⁷, the former of which is not possible to treat using technologies available in Cambodia.

Children's Nutritional Status. Nearly one in three (32.4%) children under the age of five is chronically malnourished, or stunted. Stunting is highest in rural areas (34.3%) and in children of families in the poorest quintile (42%). Although not as high as stunting, one in four children under five years are underweight and one in 10 children is wasted with low weight-for-height. Two percent of children under five years has severe acute malnutrition (SAM) or severely low weight-for-height. Over half (56%) of children 6 to 59 months of age are anemic and 66% are iodine deficient.⁸ Figure 1 shows trends in child malnutrition from the two most recent CDHS.⁹

National Nutrition Situation at a Glance

- 14% of women are underweight
- 32.4% of children under 5 are stunted
- 24% of children are underweight and 10% of children are wasted
- 45% of women of reproductive age are anemic; 53% of pregnant women are anemic
- 65% of children under 5 are exclusively breastfed

Source: CDHS 2014

⁴ Bagriansky J., et al. The economic consequences of malnutrition in Cambodia, more than 400 million US dollar lost annually. *Asia Pac J Clin Nutr* 2014;23(4):524-531

⁵ National Institute of Statistics, Directorate General for Health, and ICF International, 2015. *Cambodia Demographic and Health Survey 2014*. Phnom Penh, Cambodia, and Rockville, Maryland, USA: National Institute of Statistics, Directorate General for Health, and ICF International.

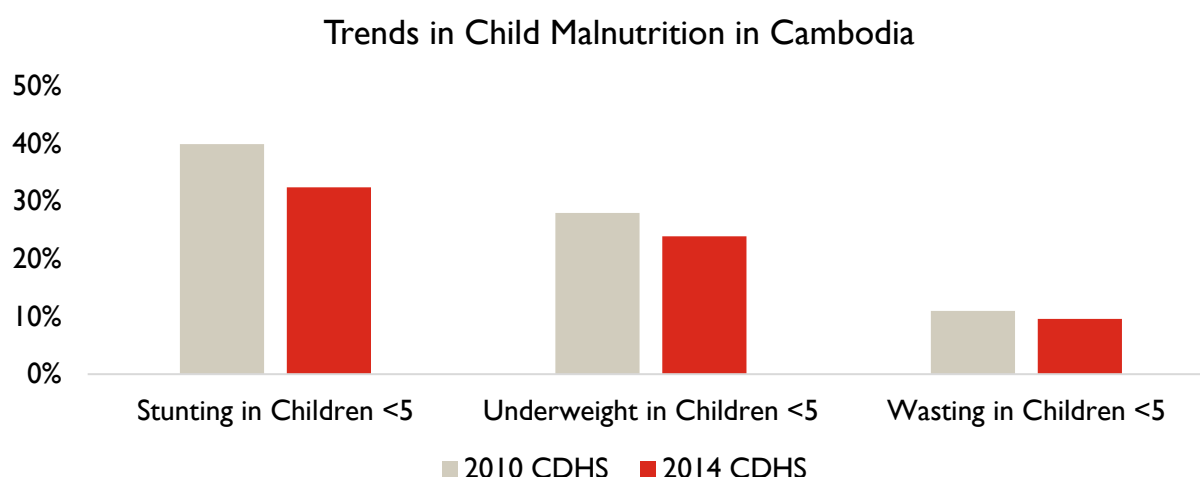
⁶ CDHS 2014

⁷ Karakochuk C., et al. Genetic Hemoglobin Disorders Rather Than Iron Deficiency Are a Major Predictor of Hemoglobin Concentration in Women of Reproductive Age in Rural Prey Veng, Cambodia. *The Journal of Nutrition: Community and International Nutrition*. 2015.

⁸ CDHS 2014

⁹ CDHS 2014

Figure 1. Trends in Child Malnutrition in Cambodia



Summary of Factors that Drive Nutritional Status: Health, Water, Sanitation and Hygiene (WASH), and Agriculture. Determinants of nutrition are multi-faceted. Underlying causes are multi-sectoral encompassing sub-optimal maternal and infant and young child feeding and care practices; limited access to health services; poor water, sanitation and hygiene environment and practices; and household food insecurity.¹⁰

Regarding health, immediate causes of undernutrition include inadequate dietary intake and disease. Health service utilization during pregnancy and childbirth have shown significant improvement since 2000. The 2014 CDHS found that 73.9% of rural women who had a live birth in the past five years had at least four antenatal care (ANC) visits and 89.1% took their child for postnatal care (PNC) within the recommended two days of birth. Child health service access and utilization have also improved. CDHS 2014 found that 70% of children 6-59 months received Vitamin A supplements in the past six months. Notably, children in rural areas, poor households and with mothers with lower education were significantly more likely to be exclusively breastfed and to breastfeed longer. However, only 30% of children 6-23 months received a minimum acceptable diet, meaning that the child received the minimum feeding frequency and minimum dietary diversity, as appropriate for her or his age.¹¹ Secondary analysis of the CDHS 2010 data show that children who ate animal source foods were less likely to be stunted.^{12,13}

Regarding WASH, the CDHS 2014 found that 67% of rural households used an appropriate method of water treatment, primarily boiled (55%) or filtered (17%). Nationally, 39.7% of rural households had an improved latrine, 9% used a shared latrine, 1% had an unimproved latrine and 50.4% openly practiced defecation. Over two-thirds (70.6%) of households with children under five years dispose of children's feces hygienically.¹⁴ Most rural households (77%) had a place for handwashing (although not a designated separate handwashing station) with water and soap.

¹⁰ CDHS 2014

¹¹ CDHS 2014

¹² Ikeda, N. et al. Determinants of reduced child stunting in Cambodia: analysis of pooled data from three Demographic and Health Surveys. *Bulletin of the World Health Organization* 2013; 91:341-349.

¹³ Consumption of animal source foods and dietary diversity reduce stunting in children in Cambodia. Darapheak et al. *International Archives of Medicine* 2013, 6:29

¹⁴ CDHS 2014

Regarding agriculture, despite improvements in household food access and food consumption, the poor quality of diet remains the main factor responsible for undernutrition in Cambodia.¹⁵ The risk of maternal underweight increased as the severity of food security increased.

Overview of the NOURISH Project

In 2014, USAID/Cambodia awarded a five-year Cooperative Agreement for the NOURISH Project. The project has now been extended to 2020. Led by Save the Children, NOURISH is implemented in partnership with two international organizations—The Manoff Group (TMG) and Netherlands Development Organization (SNV)—and three national NGO-partners—Partners in Compassion, Operations Enfants du Cambodge (OEC), and Wathnakpheap. NOURISH aims to improve the nutritional status of Cambodian women and children during the first 1,000 days in 565 villages across Battambang, Pursat, and Siem Reap provinces.



Figure 2. NOURISH Project Intervention Area

Villages were identified based on the level of poverty over 30% ID Poor 1 and 2¹⁶ in accordance with the Ministry of Planning.¹⁷

In pursuit of its goal, NOURISH offers a comprehensive integrated approach through four strategic objectives:

1. Improve community delivery platforms to support improved nutrition.
2. Create demand for health, WASH, and agriculture practices, services, and products.
3. Expand supply of agriculture and WASH products using the private sector.
4. Enhance capacity of sub-national government and civil society for integrated nutrition programming.

NOURISH uses a multi-sectoral approach to improve the nutritional status of women and children through integrating health, nutrition, WASH and agriculture interventions to maximize the potential impact. Core project activities related to each strategic objective are expected to lead to targeted outcomes that improve stunting and anemia in three project-supported provinces. To create sustained demand for nutrition, WASH and agriculture practices, services and products, NOURISH works through social and behavior change communication (SBCC), community-led-total sanitation (CLTS) and conditional cash transfers (CCT) approaches. To ensure the availability and quality of relevant products NOURISH works closely with the private sector partners to improve and expand their businesses in NOURISH areas and beyond.

Health and Nutrition. To strengthen care practices for the “first 1,000 days” families (families that include pregnant women and children under the age of two), NOURISH works primarily at the community level to improve maternal and child diets and feeding practices. NOURISH places special emphasis on complementary feeding and appropriate care-seeking behaviors through the Ministry of Health’s Baby-

¹⁵ Cambodia - Food and Nutrition Security Profiles 2015. Association of Southeast Asian Nations, EU, FAO, UNICEF WFP, WHO.

¹⁶ In 2006 the Cambodian Ministry of Planning developed the “Identification of Poor Households” (IDPoor) mechanism; it identifies poor and vulnerable households so that they can access benefits such as social transfers, healthcare and other targeted services.

¹⁷ Consistent with USAID/Washington’s commissioned Impact Evaluation study (planned for July 2019), all project-supported communes and respective villages, in addition to control areas, were randomly pre-assigned to one of three intervention packages: 1) nutrition/agriculture; 2) WASH; and 3) nutrition/agriculture and WASH combined.

Friendly Community Initiative and “first 1,000 days” CCT activity. NOURISH works with health center staff and Village Health Support Groups (VHSGs) to provide community Growth Monitoring and Promotion (GMP) for children under two every month owned and led by communities, home visits by NOURISH trained VHSG for all children identified as not growing well, those who appear sick and all children 9-11 months in the community.

WASH. To improve access to safe drinking water at the point of use, and improve sanitation and hygiene, NOURISH works with both the public and private sectors, as well as the local NGO community and aligns closely with the government’s national WASH strategy and action plan. NOURISH develops the capacity of local bodies to create demand for sanitation at the village level and supports the private sector to promote a market-based approach for improved supply chains. To ensure safe drinking water at the point of use and improved sanitation, NOURISH fosters promotion of water filters and latrines by the private sector. Vouchers serve as additional incentives to expand sanitation demand to “first 1,000 days” ID poor families.

Agriculture. To improve access and availability of diverse quality foods for women and children year-round, NOURISH focuses on home micro-gardens and the consumption of small fish, as well as other nutritious foods from value chains supported by USAID. This includes promoting the purchase of nutrient-dense foods and building the capacity of provincial agriculture partners to support poor women farmers. NOURISH links “first 1,000 days” families with agriculture resources. Fish, especially when the head and bones are included, are nutrient rich and can support optimal child development. Therefore, in order to help children grow well, the project identified and tested a local sustainable solution of home production of fish powder made from small rice-field fish. NOURISH trained “first 1,000 days” families in rural communities how to make fish powder at home using local health volunteers and caregiver groups. The project widely promoted consumption of small fish powder beginning with complementary feeding at six months of age.

Social Behavior Change Communication. In March 2016, the NOURISH Project launched “Grow Together”, a groundbreaking multi-faceted SBCC Campaign. The campaign focuses on 13 key stunting prevention behaviors spanning health, nutrition, WASH, and agriculture (Figure 3) to stimulate relevant actions for children to grow and reach their full potential.

Figure 3. NOURISH SBCC Campaign Focus



The “Grow Together” campaign strategy outlined key creative concepts based on formative research with the potential audiences including core values and emotional triggers of caring families and unified communities where everyone works together in hope and joy around child growth and development visually represented in the logo (Figure 4). The campaign tagline ‘grow together’ has profound meaning in Khmer.

Figure 4. “Grow Together” Logos



The campaign was designed to reach audiences at all levels from provincial and community leaders, business owners and rural caregivers of children under five. The campaign’s media plan included three television spots including the foundational Grow Together TV spot, latrine construction and Small Fish Powder; 13 “soundbites”; an advocacy package for local leaders; and more than 20 print materials carrying the same “look and feel” to links to core values and motivations to take action. Key to the media plan were NOURISH-empowered community change agents—VHSGs, agriculture extension workers and WASH focal persons who used interpersonal communication to bring just-in-time tailored and practical support to communities and families.

As the key behaviors are complex and have multiple factors driving uptake, NOURISH uses the 13 Grow Together messages to encourage behavior change through a range of strategies, in addition to the SBCC Campaign. This includes during monthly GMP, home visits by NOURISH trained VHSGs, during community dialogues village fairs and caregiver group facilitator sessions.

Community Dialogues: Led by the Village Chief and VHSGs, during quality community dialogues the community talks together, decides together, and takes action together to support all children to grow healthy. The Grow Together Community Dialogue is a forum where communities review progress of creating a healthy environment, discuss one key action to jointly address challenges, and decide together how everyone can come together to achieve this action.

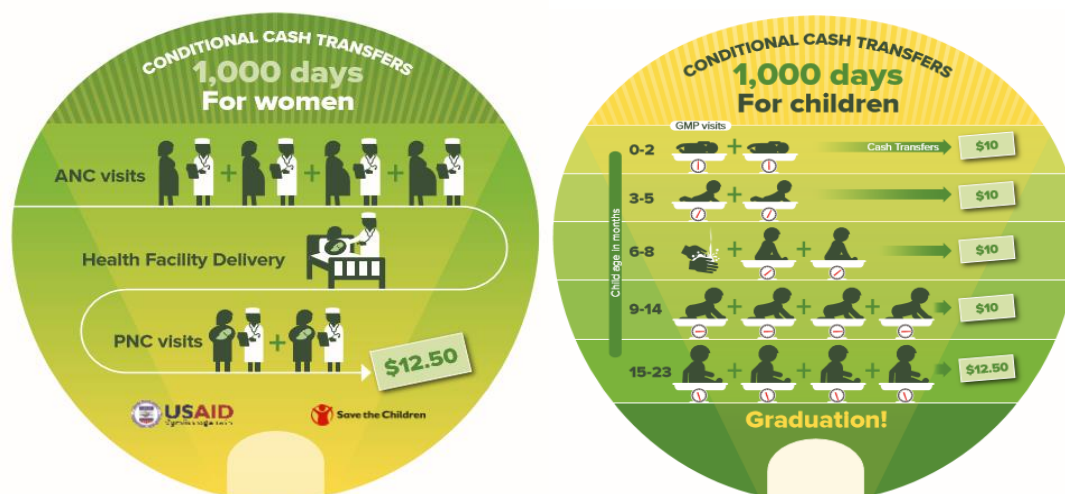
Village Fairs: Held twice a year for each village, village fairs offer women and their families’ hands-on learning experiences that bring together health/nutrition, WASH and agriculture using games, demonstrations and practice, interactive discussions and latrine marketing and sales by local participating sanitation suppliers. With seven to eight interactive stations, there is something for everyone to learn and do.

Caregiver Group Facilitator Sessions: Caregiver Groups are peer-led groups of women who use a 13- session experiential learning manual following each of the key Grow Together behaviors. NOURISH trains two members per group on Grow Together to facilitate these interactive sessions for their group, with support from elder women in the community and trained Community Agents.

Social Assistance. For the poorest families, NOURISH implements a conditional cash transfer (CCT) - a social safety net and income support mechanism for poor food-insecure “first 1,000 days” families— aligned with the Royal Government of Cambodia’s Social Protection Policy Framework for 2016-2025. The CCT is an activity targeting ‘first 1,000 days’ women and children that reduces financial barriers to the use of health services and key WASH products and practices. After they utilize specific health and nutrition services, CCT beneficiaries can receive up to six payments over the first 1,000 days that total \$65 [Figure 5]. Eligible beneficiaries are government-identified ID Poor 1 or 2 pregnant women and mothers/caregivers of children under two residing in the project-supported areas.

To further address financial challenges to improved behaviors, NOURISH provides targeted vouchers to poor households, complementing CCT. At the time of endline, 15,423 food baskets, 3,561 subsidized water filters and 1,527 latrine vouchers (targeted subsidy) to ‘first 1,000 days’ families and ID Poor 1 and 2 households had been distributed.

Figure 5. NOURISH CCT Conditions and Payments (\$65)



Community Led-Total Sanitation. NOURISH works with sub-national government to mobilize and motivate relevant duty bearers in their roles and responsibilities in target areas following government-endorsed community-led total sanitation (CLTS) guidelines. CLTS is a globally-recognized community mobilization methodology used to eliminate open defecation. NOURISH introduced CLTS in over 370 project-supported villages with everyone in a village invited to participate in CLTS triggering. During triggering participants with and without latrines are offered an opportunity to share their experiences and discuss the benefits of having a latrine. Participants also learn about latrine options from local suppliers and can negotiate for latrine payments. NOURISH helps each village to form a gender-balanced sanitation committee consisting of five village and Commune Council representatives. Following triggering, private suppliers and committee members conduct post-triggering door-to-door visits to households without latrines to encourage them to buy and build latrines.

NOURISH develops the capacity of local bodies for sanitation demand creation and supports the private sector to promote a market-based approach for improved supply chains. CLTS, marketing and innovative and community-driven approaches stimulate sanitation demand creation and encourage households to construct latrines in order to declare and certify villages as Open Defecation Free (ODF). To be recognized as ODF, a village needs to have full sanitation coverage, with at least 85% of the households having access to and using improved latrines and 15% with access to shared latrines.

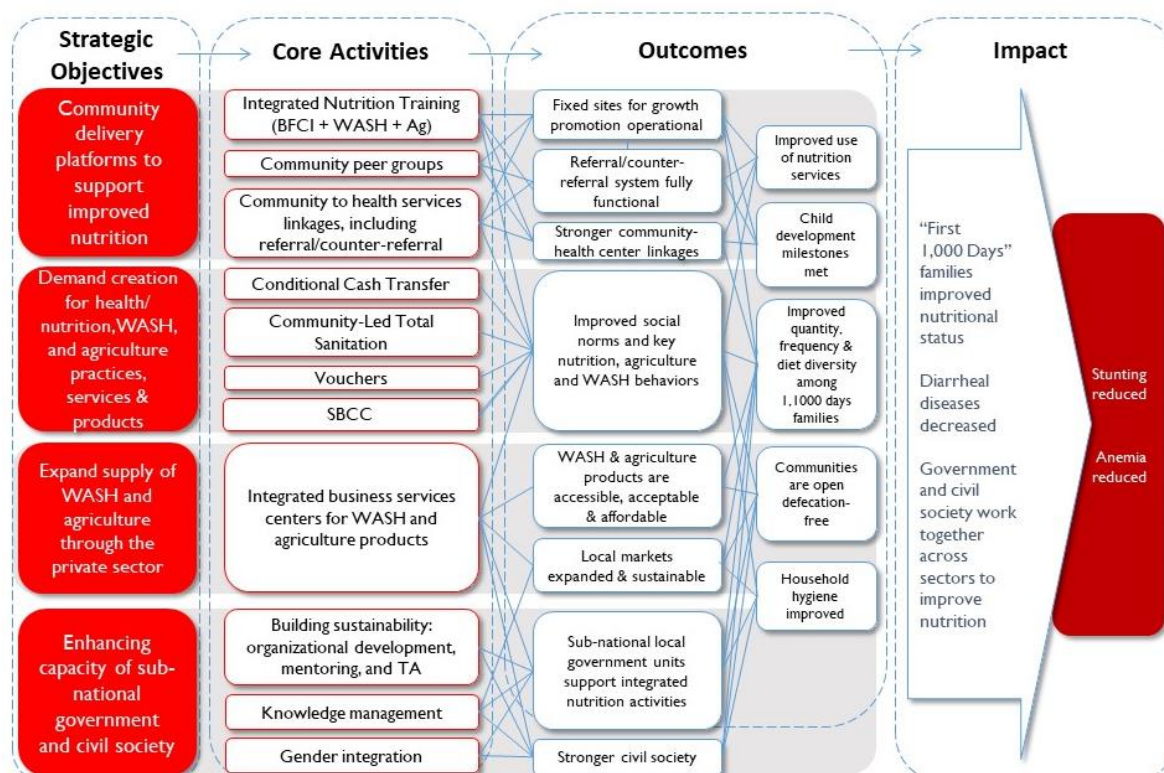
Private Sector Partnerships. To expand the number of ‘first 1,000-days’ households that have access to small-fish powder (beyond those who make it at home), NOURISH has identified 13 Small and Medium Enterprises (SMEs) and trained them in Small Fish Powder (SFP) production, hygienic packaging and storage, marketing and business skills. An additional 35 sales agents have been recruited and are further expanding the availability of SFP. At the time of the survey the SFP SMEs and their sales agents had sold 12,998 jars of fish powder.

Achieving ODF status requires that households have access to a range of affordable product options at convenient locations when demand is generated. Supporting the growth of local markets to supply WASH products and services through private entrepreneurship is a key requirement for sustainability of ODF outcomes in Cambodia. NOURISH develops the capacity of local SMEs to expand their businesses through training, coaching, establishing Business-to-Government (B2G) connections, and improving quality control management.

Coordination. Project activities are implemented in collaboration with Cambodia’s Council on Agricultural and Rural Development (CARD) and three respective line ministries: Ministry of Health (MOH), Ministry of Rural Development (MRD) and Ministry of Agriculture, Fisheries, and Forestry (MAFF). Over the course of the project implementation, NOURISH engages with central government and sub-national counterparts to implement related policies and strategies such as the National Strategy for Food Security and Nutrition (2014-2018), National Fast Track Road Map for Improving Nutrition (2014-2020), National Strategy for Rural Water Supply, Sanitation and Hygiene (2011-2025), Gender Mainstreaming Policy and Strategic Framework in Agriculture (2016-2020), and the Policy and Strategic Framework on Childhood Development and Protection in the Agriculture Sector (2016-2020).

The results framework in Figure 6 shows the direct relationship to progress in achieving results for these four integrated strategic objectives and approaches.

Figure 6. NOURISH: From Strategy to Impact



Methodology

Despite the one-year extension, the project decided to continue with the endline survey according to the original project end date in consultation with USAID and in consideration of certain key activities excluded from the extension year. In line with the planned launch by the Royal Government of Cambodia of the National Cash Transfer Program for Pregnant Women and Young Child Cash Transfer Program, NOURISH's CCT activities ended in March 2019. Additionally, *Grow Together* television spots are not planned for the extension period. All other program activities are continuing through the extension.

The cross-sectional endline survey aims to document changes in levels of knowledge, behaviors and environmental factors to assess project performance through comparison with the baseline survey as well as nutrition outcomes such as stunting. A midterm survey was conducted in 2017 to inform program progress and course correction as needed; however, for the purpose of this report we will focus on comparison between baseline and endline in order to measure the success of the program's impact on the beneficiaries.

Sampling

The NOURISH Project implementation area includes 565 of the poorest villages in three provinces: Battambang, Pursat and Siem Reap, selected from within communes that have a poverty rate of 30% or higher according to Ministry of Planning 2013 data.

Table 2. Population of Sampled Respondents, by Province (MOH, 2019)

Province	0-5 months	6-59 months	15-49 years	Total	Percent
Battambang	26,133	106,392	437,212	569,737	36
Pursat	12,151	50,747	264,095	326,993	21
Siem Reap	21,481	87,569	566,422	675,472	43
Total	59,765	244,708	1,267,729	1,572,202	100

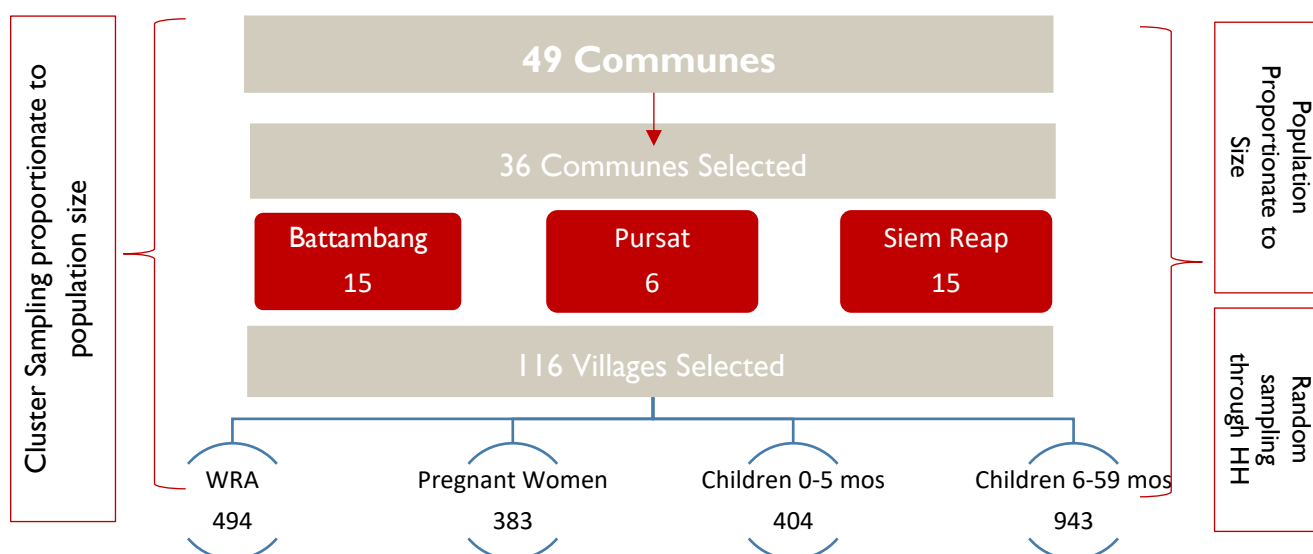
Sampling used a random, cluster sampling approach proportionate to population size. The survey sampled 116 villages across the NOURISH Project target areas in three provinces: Battambang, Pursat and Siem Reap. The survey used a multi-stage cluster methodology using communes and villages: after excluding the 12 WASH only communes, 36 communes were randomly selected from remaining nutrition only and nutrition/WASH communes across the three provinces, proportionate to population size. From these communes, 116 villages were randomly selected based on the population distribution. Data were sampled to represent the full project area and are not for province-specific disaggregation. Respondents were randomly selected from household lists, and the sample size was calculated for 95% confidence intervals on key variables.

Table 3. Target Groups

Target Group	Collection Method
Pregnant Women	All possible respondents in the village were interviewed.
Caregivers of children 0-5 months	All possible respondents in the village were interviewed.
Caregivers of children 6-59 months	Respondents interviewed were randomly selected from the household list maintained by the village chief.
Women of Reproductive Age (15-49 Years)	Respondents interviewed were randomly selected from the household list maintained by the village chief.

At baseline, there were some challenges disaggregating and conducting additional analysis with some of the key indicators, e.g., dietary diversity and minimum acceptable diet, because there was an insufficient sample of children 6-23 months to allow for more analysis with statistical significance. The sample at endline was increased overall to address these challenges, and particularly with this group.

Figure 7. Sample Selection Process



Sample Size Calculation

The sample size calculation is based on a conventional approach of using a 95% level of confidence with a confidence interval of +/-5%*. The sample size calculation is computed based on the following formula:

$$N = \frac{z^2 p(1-p)}{e^2}$$

z = 1.96 from the standard normal variate tables (±5% type I error, P<0.05)

*z = 2.33 from the standard normal variate tables (±2% type I error, P<0.02) for children 6-59 months

P = Expected proportion in population based on previous studies or pilot studies

e = Absolute error or precision

Table 4. Sample Size by Respondent Category

Respondent Category	Population Size (MOH 2019)	Data Source for Sample Calculation*	Sample Size
Women of reproductive age	1,267,729	15.9% underweight (CDHS 2010**)	494
Pregnant women	22,308	53.2% anemic (HARVEST Project IE baseline 2012)	383
Children under 6 months	59,765	65% exclusive breastfeeding (CDHS 2014)	404
Children 6-59 months	244,708	32.4% stunting (CDHS 2014)	943
Total Sample			2,224

*The indicators selected for sample calculation were based on two criteria: the highest level outcome indicator for the specific respondent category or in the case of children under 6 months, the most relevant indicator required to collect.

Data Collection and Analysis

The endline survey was cross-sectional in nature in order to examine the prevalence of key indicators among the defined project target population at a single point in time and the relationship between these indicators and socio-demographic characteristics. Longitudinal or panel data was not collected (over multiple periods with the same persons).

NOURISH developed the data collection tools and questionnaires using validated questions in the CDHS questionnaires and FTF survey modules.¹⁸ The same questionnaires were used at baseline and endline with some additional questions added about program exposure and participation. Questions asked included topics such as Infant and Young Child Feeding (IYCF) practices, WASH behaviors, and Child Care and Development practices in addition to anthropometric, Body Mass Index (BMI), and anemia data. The questionnaires were translated from English to Khmer and back-translated to ensure comprehension and accuracy of translation. Sample questionnaires can be found in Annex III.

Because adequate energy in the diet is necessary to support the continuing growth of adolescent girls and women's ability to provide optimal care for their children and participate fully in income generation activities, the survey assessed the nutritional status of women of reproductive age who were not knowingly pregnant at the time of the baseline survey. This was calculated using BMI, defined as the weight of non-pregnant women of reproductive age (15-49 years) in kilograms divided by the square of the height in meters (kg/m²). A BMI 18.5 or lower signifies acute undernutrition while a BMI over 25 reflects overweight.

To assess anemia in women of reproductive age and children 6-59 months the survey used the HemoCue system in order to measure Hemoglobin levels in the blood. This is the same method used in previous CDHS surveys and was operated by trained health workers. Anemia is detected when an individual has a level of hemoglobin below a defined cut-off. Non-pregnant women of reproductive age with a hemoglobin concentration less than 12g/dl and pregnant women and children 6-59 months with a hemoglobin concentration less than 11g/dl are classified as anemic.

Recent thinking in Cambodia indicates that anemia is more genetically linked and less connected to iron deficiency¹⁹. Because of this, the HemoCue test for anemia will not be included in the next CDHS, however it was included in the endline for consistency of analysis against the baseline.

Table 5. Definition of Key NOURISH Indicators

Indicator	Definition
Stunting	Stunting is a height-for-age measurement that is a reflection of chronic malnutrition. This indicator measures the percent of children 0-59 months who are stunted, as defined by a height for age Z score of <-2 SD. Children with a height for age Z score <-2 and >= -3 are classified as moderately stunted. Children with a height for age Z score <-3 are classified as severely stunted. The numerator for this indicator is the total number of children 0-59 months surveyed with a height for age Z score <-2 SD. The denominator is the total number of children 0-59 months surveyed with height-for-age Z score data.
Wasting	Wasting is a weight-for-height measurement that is a reflection of acute malnutrition. This indicator measures the percent of children 0-59 months who are acutely

¹⁸ *Feed the Future M&E Guidance Series. Volume 8: Population-Based Survey Instrument for Feed the Future Zone of Influence Indicators with Revised WEAI Module*, October 2012

¹⁹ Charles C.V., et al. Anemia in Cambodia: Prevalence, etiology and research needs. *Asia Pac. J. Clin. Nutr.* 2012;21:171–181.

Karakochuk C.D., et al. Genetic hemoglobin disorders rather than iron deficiency are a major predictor of hemoglobin concentration in women of reproductive age in rural Prey Veng, Cambodia. *J. Nutr.* 2015;145:134–142.

	underweight, as defined by a weight-for-height Z score <-2 SD. The numerator is the total number of children 0-59 months in the sample with a weight-for-height Z-score <-2 . The denominator is the number of children 0-59 months in the sample with weight-for-height Z-score data.
Underweight	Weight-for-age measurement that is a reflection of acute malnutrition. This indicator measures the percent of children 0-59 months who are acutely underweight, as defined by a weight-for-age Z-score <-2 SD. The numerator for the indicator is the total number of children 0-59 months in the sample with a weight-for-age Z-score <-2 . The denominator is the total number of children 0-59 months in the sample with weight-for-age Z-score data.
Exclusive Breastfeeding Under 6 Months	Proportion of infants 0-5 months of age who are fed exclusively with breastmilk. (WHO, 2010)
Continued Breastfeeding At 1 Year	Proportion of children 12-15 months of age who are fed breastmilk. (WHO, 2010)
Women's Diet Diversity	The proportion of women 15-49 years of age who consumed food items from at least five out of 10 food groups. The ten food groups include: – Grains, white roots and tubers, and plantains – Pulses (beans, peas and lentils) – Nuts and seeds – Dairy – Meat, poultry and fish – Eggs – Dark green leafy vegetables – Other vitamin A-rich fruits and vegetables – Other vegetables – Other fruits (FAO, 2016)
Child Diet Diversity	Proportion of children 6-23 months of age who receive foods from 4 or more food groups. The seven food groups include: – Grains, roots and tubers – Legumes and nuts – Dairy products (milk, yoghurt, cheese) – Flesh foods (meat, fish, poultry, and liver/organ meats) – Eggs – Vitamin A-rich fruits and vegetables – Other fruits and vegetables (WHO, 2010)
Minimum Acceptable Diet	Proportion of breastfed children 6-23 months of age who had at least the minimum dietary diversity and the minimum meal frequency during the previous day and the proportion of non-breastfed children 6-23 months of age who had at least the minimum dietary diversity and the minimum meal frequency during the previous day. (WHO, 2010)
Minimum Meal Frequency	Proportion of children 6-23 months of age who receive solid, semi-solid or soft foods (including milk feeds for non-breastfed) the minimum number of times during the previous day. – For breastfed children the minimum number of times varies with age: 2 times for children 6-8 months old and 3 times for children 9-23 months old. – For non-breastfed children, the minimum number of times does not vary with age: 4 times for all children. (WHO, 2010)

Toilet Facility	Classified as “improved” if it is not shared by other households and if it effectively separates human waste from human contact: flush or pour flush into a piped sewer system, septic tank, or pit latrine; ventilated improved pit latrines; pit latrines with a slab; and composting toilets, as defined by the Joint Monitoring Program for Water Supply and Sanitation of WHO and UNICEF ²⁰ .
Water Treatment	According to USAID guidance, households are considered to be correctly practicing water treatment technologies if the following conditions are met for any of the treatment options: – Chlorination: an enumerator carrying out the chlorine residual test obtains positive results (CT+); – Filtration: enumerators are able to see the filter and verify that water is in the filter’s bottom container or comes out of the filter’s tap (Filter +); – Solar disinfection: the enumerator is able to see that bottles filled with water are exposed to the sun and self- reports indicate that bottles are exposed to the sun for at least six hours per day of exposure (SODIS+) on sunny days and up to two days on cloudy days; – Boiling: study participants report that boiling occurred until water comes to a rolling boil and the same container where water is boiled is used to store boiled water (BOIL+). The numerator for this indicator is the number of households that properly treat drinking water through chlorination, filtration, solar disinfection or boiling. The denominator for this indicator is the number of households visited in the survey.

Prior to training the interviewers, selected surveyors and NOURISH staff pre-tested the questionnaire for language, understanding, skip patterns, and time, prior to finalizing for field data collection. This was done between October and November 2018. The data was purposely collected in November (as it was at baseline) since, due to seasonal factors, people are most likely to be in their villages at this time which is immediately after the harvest. Collecting data during the same part of the agricultural cycle (between baseline and endline) helps to reduce differences due to local availability of foods.

Selected through a competitive bid process, the SBK Research and Development Firm (SBK) collected the endline data in November and December 2018. Data collectors worked in six teams; each team of five data collectors included one nurse in charge of anthropometric data and one supervisor.

The final number of persons sampled was 2,257. This was more than the planned number of 2,224. This slightly higher sample was due to instructions given by the field supervisor to interview an additional one or two respondents per villages when possible to ensure their sample is large enough day-to-day.

Training of Interviewers. The NOURISH Monitoring and Evaluation (M&E) Specialist and SBK staff trained interviewers during a two-day session on key principles of interviewing and practice in the field to identify households, select respondents and conduct interviews using the questionnaires. The NOURISH WASH Specialist introduced the sanitation and hygiene variables and definitions, taught the WASH section in the questionnaire, and provided guidance on how to collect data through observation. The NOURISH M&E Specialist covered health topics and skills in anthropometry, and BMI and anemia testing. The training included classroom-based learning and field practice in Pursat at non-selected NOURISH villages to ensure that weights and heights were measured, read and recorded correctly, following training detailed in the FANTA Guide.²¹ A difference between baseline and endline is that data collection at baseline was paper-based while data at endline was collected using tablets. Administering

²⁰ Over the 5 year period of NOURISH implementation, the JMP definition of ‘improved’ under the Millenium Development Goals has shifted to ‘basic’ under the Sustainable Development Goals. Whilst recognizing this change in global definitions, for ease of comparison between baseline and endline surveys, NOURISH has maintained the MDG definition for this report.

²¹ Cogill, Bruce. 2003. *Anthropometric Indicators Measurement Guide*. Washington, DC: Food and Nutrition Technical Assistance (FANTA) Project, FHI 360

the survey via the table was practiced and field tested prior to the start of field collection. No significant challenges occurred during data collection, and the data collectors were comfortable entering data digitally.

Data Quality and Management. SBK hired and supervised data collectors. Each team of data collectors had one supervisor attached to the team throughout data collection. SBK research experts in Phnom Penh and NOURISH's M&E Specialist provided spot checks to monitoring data quality. To ensure the quality of anthropometric data, scales were re-calibrated in each village prior to weighing. Weights and length measures were taken two times per child. Additionally, children were weighed with minimal clothing.

Each household was given a unique identifier code based on the Commune, Village, the type of respondent and the number of the interview. The code was comprised of the first letter of the Province, first letter of the Commune, first letter of the Village, and the number of the interview.

Children's anthropometric data were analyzed in World Health Organization's (WHO) *Anthro* and then transferred to SPSS 23.0. Data analysis for the remaining data was done in SPSS. Data analysis required weighting of children's anthropometric data. Statistical testing for unweighted data was done using a chi-squared test with statistical significance level being a p-value <0.05. Weighted data was compared through a two-sample z-test with statistical significance being a p-value <0.05.

In order to conduct the HemoCue tests, enumerators took a small drop of blood from participants' finger, placed the sample on a test strip and then put the strip into the HemoCue 301. The used test strips were disposed of in a secure box. Upon receiving a result, the enumerator recorded the anemia result in *kobotoolbox* via tablet and then transferred the data to SPSS for analysis.

Ethical Considerations

In keeping with USAID's policy (22 CFR Part 225), NOURISH received approval to conduct research in compliance with US federal standards for human subject research with review. The endline survey was approved by the Cambodia National Ethics Committee for Health Research on 22 October 2018 as well as the internal Save the Children Ethics Review Committee on 12 November 2018.

Participation in the survey was voluntary. Prior to participation, potential respondents were informed that they had no obligation to participate and would face no penalty or consequence if they chose to not participate. If they agreed, respondents were informed that they were free to withdraw at any time, again with no penalty or consequence. For all minors under the age of 18 years, the primary caregiver was asked for consent. Confidentiality was ensured during all stages. No names or other identifying characteristics of women, individual caregivers and children were recorded on the digital files, which were uploaded to the cloud using *kobotoolbox*. Finally, findings are reported by the total sample rather than by any unit such as village or commune which further protects confidentiality.

Limitations

Potential limitations of the survey include response bias and recall bias. There are many reasons why people may provide less-than-truthful responses to questions, i.e., socially desirable answers or incorrectly recalling details. The survey attempted to reduce this potential bias by providing respondents with clear information about why they were interviewed and ensuring them that their responses would have no bearing on their participation or lack of participation in the project or other services, and that they would never be identified individually or by name in any reports. In addition, to confirm

answers on self-reported behaviors, interviewers observed the environment when possible (relevant for WASH and agriculture topics).

Another limitation to the analysis and interpretation is the sample size which was calculated to be representative of all three provinces combined. Therefore, the sample was not intended to disaggregate and compare data by provinces. These data are shown in Annex II, but apparent differences cannot be taken as statistically significant unless specified as such.

The sample of this survey was women of reproductive age and children under five in the NOURISH Project area – not for the entire community. However, WASH interventions are designed to reach all households in target communities for maximum health impact as reaching only “first 1,000 days” households does not provide the impact from WASH interventions anticipated from reaching all households. National reporting and project monitoring systems are designed at whole of community level. Therefore, this survey can be used for the NOURISH Project comparison at baseline and endline but is not nationally representative and should not be interpreted as such.

The survey process did not include a comparison group therefore any changes between baseline and endline cannot be strictly interpreted as attributable to the impact of the project.

During the data collection process, there was a challenge of finding pregnant women in the selected villages because in some villages there were no new pregnant women. It was decided to identify pregnant women in different villages in other NOURISH intervention areas in order to supplement the sample size but this only occurred in five villages at endline. In addition, the small sample of children over 36 months likely skewed the weighted population estimates, which may have affected the results for underweight and wasting.

At endline, the process of collecting accurate weights and length measures of children under six months experienced fewer challenges than at baseline, where there were issues with weighing crying children. These challenges from baseline resulted in additional practice by enumerators and an increased focus on correct measurement technique.

Additional information on the endline survey protocol is found in Annex I.

Findings

Socio-Demographic Characteristics

This section provides information on the survey sample sizes and on the general characteristics of the households surveyed at endline. Highlights of the findings are shown in this section; data not shown and additional data tables are included in Annex II.

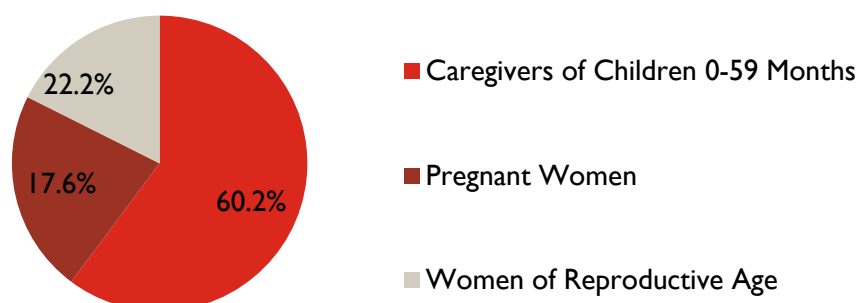
The survey sampled 2,257 women: 60.2% were primary caregivers²² of children under 59 months (n=1,360); 17.9% of respondents were primary caregivers of children aged between 0 and 5 months (n=405), and 42.3% were primary caregivers of children 6-59 months (n=955). 17.6% of those sampled were pregnant women (n=397), and 22.2% were women of reproductive age (15-49 years) (n=500). The

²² The survey interviewed the child's primary caregiver whether the caregiver is the mother or not. Throughout the report, the designation of the caregiver is used as mother when questions were asked only for the mother (ie. related to maternal health and breastfeeding) and parent/caregiver when encompassing all types of primary caregivers.

distribution by province was proportionate to population size: 40.9% in Battambang (n=922), 42.1% in Siem Reap (n=951) and 17% in Pursat (n=384) [Figure 8].

Figure 8. Distribution of Respondents, by Respondent Category

Distribution of Respondents, by Respondent Category (%)



The ages of respondents ranged from 16 to 60 years with a mean age of 28.4 years. Most demographic characteristics, such as marital status and education level, remained similar from baseline to endline, and are summarized in Table 6 below.

Table 6. Summary of Socio-demographic Characteristics of Respondents

Socio-demographic characteristic	Baseline %	Endline %
Currently married	96	96.4
Highest education primary school	58	60.2
Husband's highest education primary school	51.4	55
Caregiver primary occupation		
Farmer	42.8	58
Housewife	26.9	16.7
Seller	4.0	7.9
Day labor	22.4	2.6
Husband occupation		
Farmer	61	56.5
Construction	11.5	15.7
Teacher	4.9	11.5
Seller	4	5.7
Husband works outside village	5.7	32.5
ID Poor status	30	62
Enrolled in CCT	14.9	69.3
Had a bank account	6	52.1
Child birth certificate	60	91

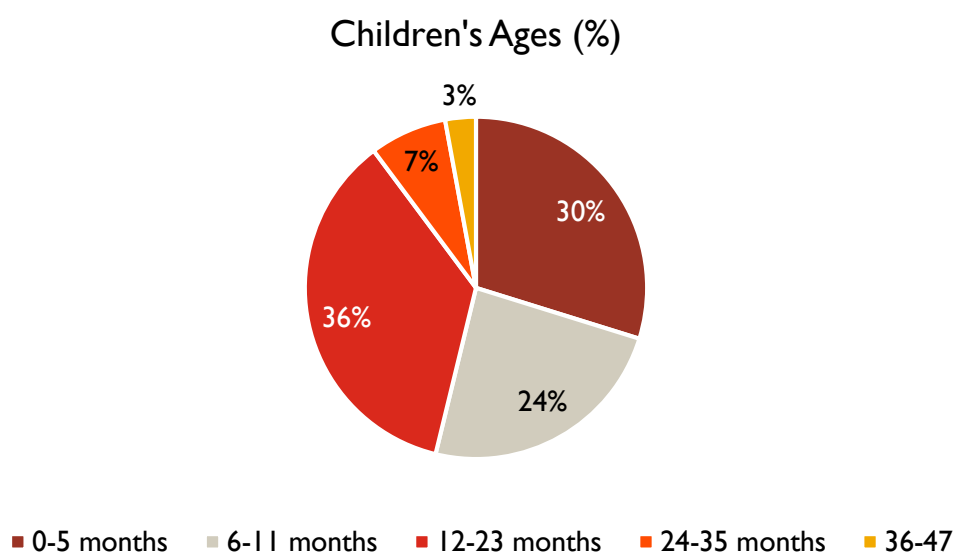
Of note, women's occupation shifted somewhat from baseline to endline with more women reporting being farmers or detailing specific activities such as selling or fishing, rather than day labor. There was also a shift in husband's occupation away from farming into other work including construction and sales. There was a 26 percentage point increase in women reporting that their husband worked outside the village but of those fewer were working in Thailand than at baseline and more elsewhere in Cambodia. In the last few years, opportunities for agricultural work in cassava, rubber, and other plantations have grown, even within the country, perhaps explaining some of the decline of migration to Thailand. Rapid

construction has also provided in-country opportunities for work. Migration is a significant factor in caretaker presence and household resources.

At endline, approximately 62% of women were ID poor, a significant increase from 30% at baseline. This is likely because NOURISH provinces underwent an ID Poor verification and enrollment round between baseline and endline periods and because a number of villages selected for the endline survey were part of the ID Poor on Demand pilot.

Eighty-two percent of respondents interviewed had at least one child. The distribution of ages of the index child is shown in Figure 9 below. Thirty percent of children were aged 0 to 5 months, 24% were 6-11 months, 36% were 12 to 23 months, and 7.3% and 2.9% were aged 24-35 months and 36 to 47 months, respectively.

Figure 9. Children's Ages



Girls comprised 52.4% of the sample (n=712) and boys made up the remainder (n=648).

Caregivers of 91% of children had the child's birth certificate and could show it to the interviewer, compared to 60% at baseline. This indicates that more caregivers requested birth certificates and more local authorities facilitated the documentation, likely in order to process CCT enrollment, which required a birth certificate for child enrollment.

Health and Nutrition

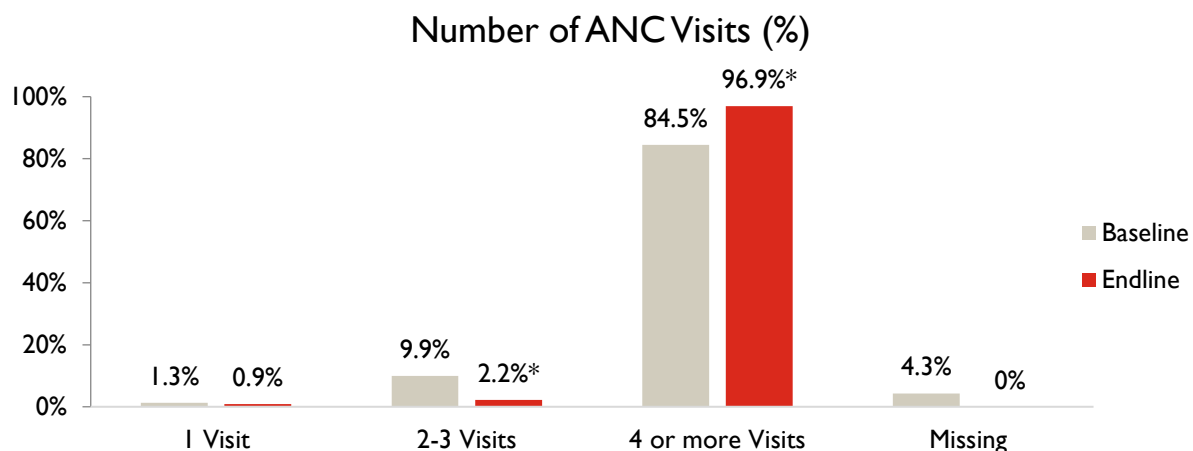
This section provides information on maternal health care-seeking and other maternal practices including dietary intake collected at NOURISH endline. All women's anemia status was assessed and non-pregnant women of reproductive age 15-49 years were weighed and measured. The section also covers child care practices, including exclusive breastfeeding during the first six months of life, continued breastfeeding until age two, complementary foods and diet diversity for children under 24 months, as well as parenting attitudes and practices. The anemia status of children 6-59 months was assessed and the height and weight of all children under 59 months were measured. Highlights of the findings are shown in this section; data not shown and detailed data tables are included in Annex II.

Maternal Health and Nutrition

Antenatal Care (ANC). In the endline survey, mothers were asked about maternal care-seeking behaviors for their most recent pregnancy. Ninety-six percent (96.2%) of all women reported receiving ANC at a health facility in the baseline. At endline, the percentage of women reporting receiving ANC at a health facility remained high, at over 97%. Regarding timing of the first ANC visit, 84.3% of women reported seeking ANC in the first trimester, while 10% started ANC in the second trimester 5.7% did not seek care until at least the third trimester. The corresponding figures at baseline were 77.9%, 16.4%, and 4.2%. Between baseline and endline, there was a significant increase in the percentage of women who went to their first ANC visit before the end of their first trimester. When looking only at ID Poor respondents, timing of the first ANC visit in the first three months of pregnancy increased from 77.7% to 83.4% amongst ID poor women between baseline and endline.

When asked about the number of ANC visits made during pregnancy, 96.9% of women surveyed at endline reported at least four ANC visits compared to 84.5% of women at baseline ($p < 0.05$, z-test) [Figure 10]. There was also a significant increase in the percent of women who had four or more ANC visits between baseline and endline among those classified as ID poor (increase from 84.8% to 97.5%) and among women who were enrolled in the CCT program (from 90% to 97.5%). These last two findings suggest that the NOURISH program, through its combination of activities including CCT and the facilitation of ID poor status acquisition had a positive influence on ANC behaviors.

Figure 10. Number of ANC Visits During Last Pregnancy, Baseline and Endline



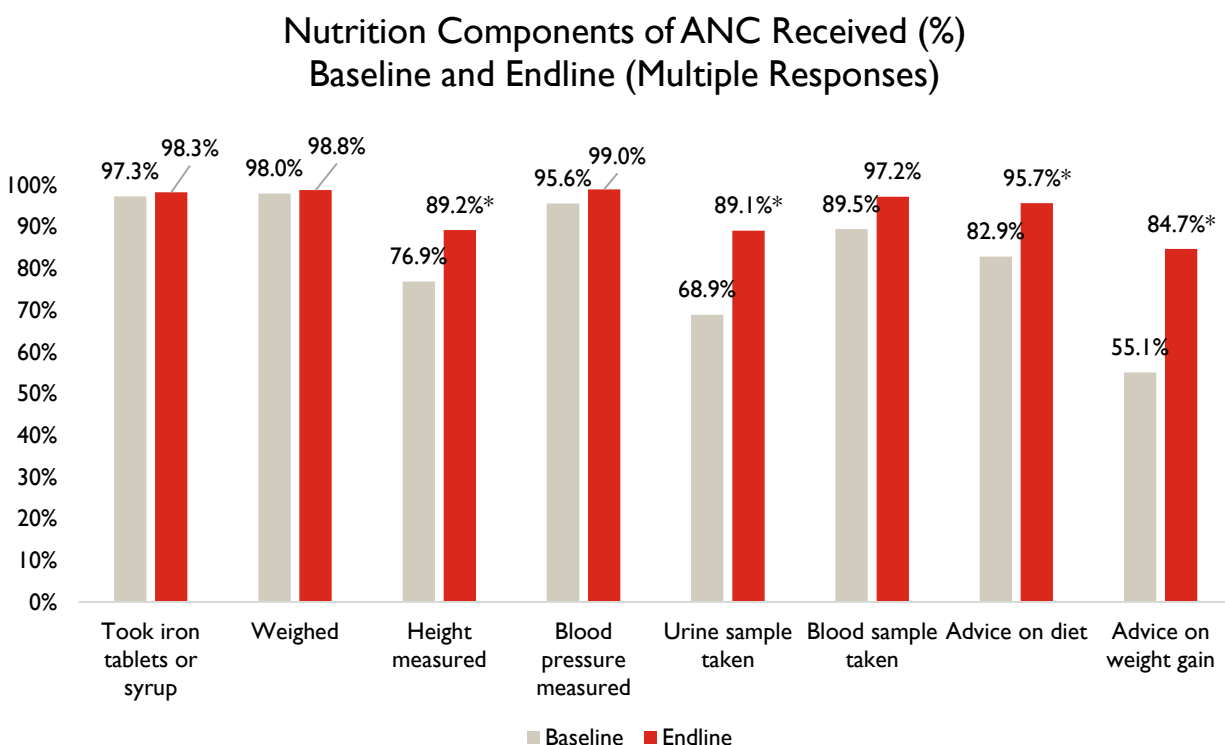
* $p < 0.05$

As ANC visits were relatively high, so were the basic services included in the best practice standard of care for ANC. The data shows a significant difference in percentage from baseline to endline for the following activities: height taken, urine taken, blood taken, talked about weight gain, talked about what food to eat. [Figure 11]. Aside from urine and blood samples, these are all services with significant importance to both maternal and child nutrition. Asking for advice from a health worker was encouraged during VHSG home visits to pregnant women and their families.

At endline, of the 97.3% of women who reported taking iron supplements during ANC, 71.2% said that they took tablets for 90 days or more, in line with the national policy recommendation. Of the total sample at baseline, 66.7% reported taking 90 days or more of iron supplements. The endline survey did not find a statistically significant difference in the percentage receiving iron supplements, which was

nearly universal, but a significantly greater proportion of women took iron supplements for over 90 days.

Figure 11. Nutrition Components of ANC Received During Last Pregnancy



*p<0.05

Delivery and Post Natal Care. Mothers who reported giving birth at a health facility were well over 90% and not significantly different from baseline to endline. This still compares favorably to the 81% of rural women reporting birth at a health facility in CDHS 2014. Of those reporting institutional delivery in the endline a majority (71.3%) delivered at a health center, 20% delivered at a public hospital and 3.8% gave birth at a private health facility. Also of note is that ANC and delivery had a statistically significant improvement among ID Poor/CCT participants between baseline and endline, and the percentage of women overall reporting delivering outside a health facility fell from 3.9% to zero.

As part of the survey, mothers were asked to recall the size of their infant at birth. There was a significant increase between baseline and endline in the percentage of women who stated that they had given birth to a child of average weight (56.8% at baseline compared to 47.7% at endline). The percentage of mothers reporting other weight categories did not change much from baseline to endline. At baseline and endline, respectively, 35.5% and 29.59% said the baby was 'larger than average' and 5.1% and 4.3% said the baby was 'very large', while 11% and 8.8% assessed the baby to be small ('smaller than average' and 'very small'). Note this is a standard description validated through CDHS.

Regarding timing of postnatal care after childbirth, the percentage of women who sought postnatal care increased significantly between baseline and endline. At baseline, 82.7% of mothers reported care in the first two days, while at endline the number increased to 97.9%. It is interesting to note that this was a condition of CCT.

Underweight and Anemia. At baseline, 14.8% of women of reproductive age were underweight [Table 7] based on the weight measurements taken at the time of the survey, which is on par with the nation CDHS data in 2014. There was a statistically significant decrease to 11.7% at endline. These results show good progress against the proposed national target to reduce the number of women of reproductive age with BMI<18.5 by four percentage points, from 14% in 2014 to 10% in 2023.²³ Poor women were no more likely to be underweight.

Table 7. BMI, Women of Reproductive Age (n=494)

BMI	Baseline N	Baseline %	Endline N	Endline %
Underweight (<18.5)	33	14.8	58	11.1*
<i>Moderately and severely thin (<17)</i>	7	3.1	12	2.4
<i>Mildly thin (17-18.4)</i>	26	11.7	46	8.7
Normal weight (18.5 -24.9)	148	66.4	331	67.0
Overweight (>25)	36	16.1	108	21.9

*p<0.05

The endline survey found anemia in women of reproductive age who are not pregnant and not lactating to have decreased from 41.5% at baseline to 31.8% at NOURISH endline. Among pregnant women, the endline survey found anemia in 40.3% down from 52.4% at baseline. Given the potential negative impact of severe anemia on pregnancy outcome, interviewers were instructed to advise pregnant women seek medical advice in the cases of severe anemia recorded during data collection efforts.

Table 8. Prevalence of Anemia (n=897 at Endline)

Indicators	N	Baseline %	N	Endline %
Women of Reproductive Age (not pregnant)	90	41.5	500	31.8*
Pregnant Women	97	52.4	397	40.3*

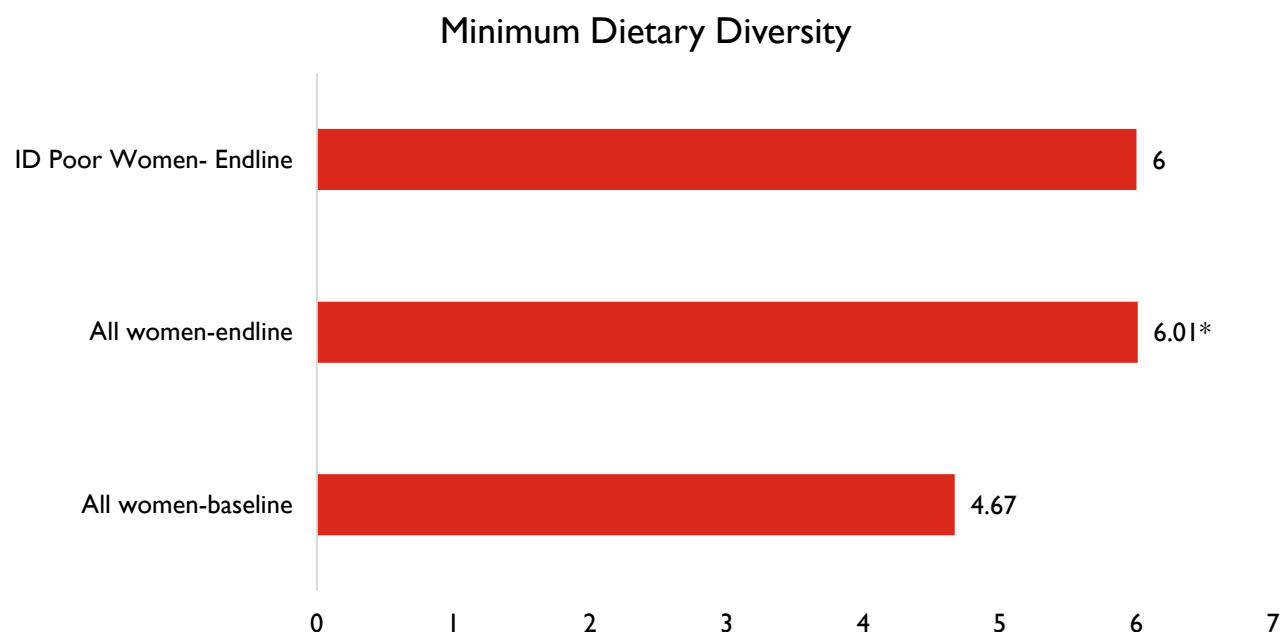
*p<0.05

Women's Diet. The quality of women's diets is important during pregnancy and lactation both for the health of the mother and the child and is measured by diet diversity or the mean number of food groups consumed. Women's diet diversity can also be indicative of the general diet and consumption of the household as the mother is usually prepares the meals.

A significant increase in the mean number of food groups consumed was found at endline. At baseline, women interviewed (n=581) reported consuming an average of 4.67 types of foods on the day or night before the interview. At endline, women interviewed (n=897) reported an increase to 6.01 types of food consumed. The number of mean food groups consumed by ID Poor women increased from 4.85 to 6.0, a statistically significant increase.

²³ FAO and the Council for Agriculture and Rural Development (CARD). National Strategy for Food Security and Nutrition 2019-2023 Strategic Framework Final Draft. Core Group meeting to discuss on new National Strategy of Food Security and Nutrition 2019-2023. Phnom Penh, April 11, 2019.

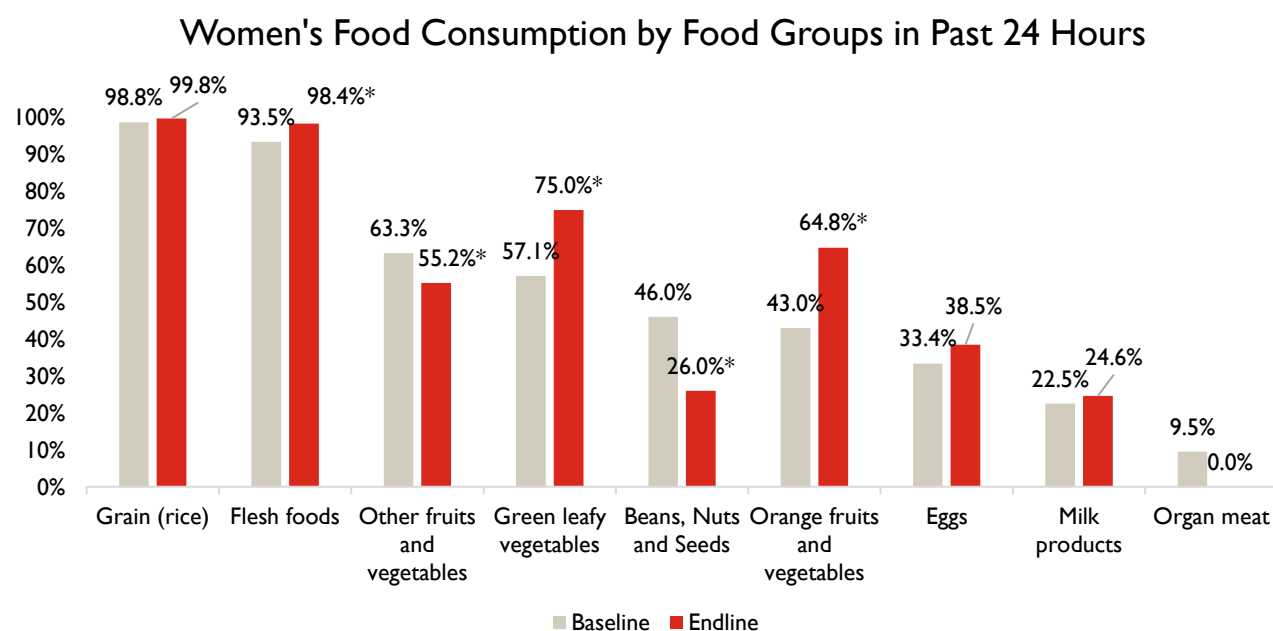
Figure 12. Women's Dietary Diversity



*p<0.05

This improvement in diet diversity was driven by significant increases in consumption of nutrient-rich foods, all of which were promoted through NOURISH Grow Together materials, village fairs, community dialogues and other community events. These principally included flesh foods, including fish and fish powder (98.4% increase from 93.5%), green leafy vegetables (75% increase from 57.1%), and orange fruits and vegetables (64.8% increase from 43%).

Figure 13. Women's Food Consumption by Food Groups in the Past 24 Hours



*p<0.05

Table 9. Summary of Findings: NOURISH Maternal Health and Nutrition Indicators

Indicators	Baseline %	Endline %
Prevalence of anemia among women	41.5	31.8*
Prevalence of underweight women	14.8	11.4*
Women's Dietary Diversity: Mean number of food groups consumed in past 24 hours	4.79	6.01*

*p<0.05

Child Health and Nutrition

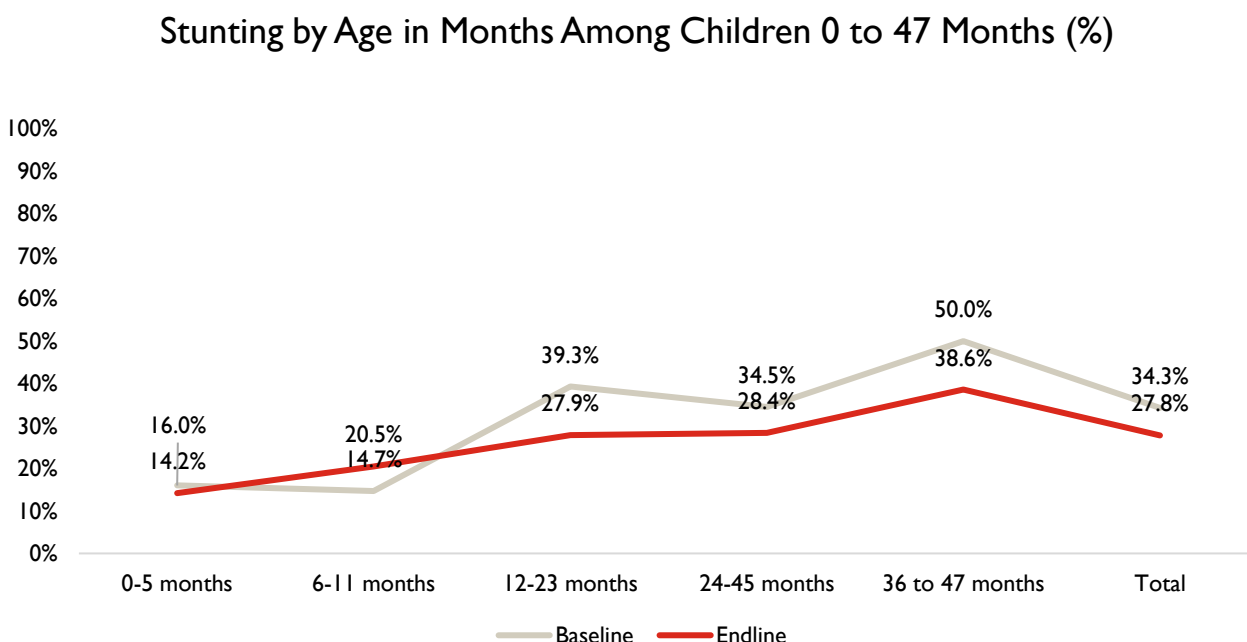
Stunting (low height-for-age) is a result of chronic malnutrition and infection due to by environmental enteric dysfunction (EED), and associated malabsorption of nutrients. Stunting is irreversible and has severe short- and long-term health and functional consequences, including poor cognition and educational performance, low adult wages and lost productivity.²⁴ Stunted girls grow up to have higher risk of childbirth complications. Stunting reduction is NOURISH's primary goal and key indicator collected at baseline for the comparison at endline as a means to demonstrate project impact. The prevalence of stunting, reflecting chronic malnutrition, in all children under the age of five surveyed at baseline was 34.3%.²⁵ At endline, stunting was measured at 27.8%, a decrease of 6.5 percentage points or 19%. At baseline, stunting analysis was restricted beyond 47 months due to sample size at baseline so for consistency the same restriction was applied at endline. There was no significant difference in stunting between boys and girls. These results show excellent progress against the national target to reduce stunting in children under five by seven percentage points, from 32% in 2014.²⁶

²⁴ 2016 WHO; *Childhood Stunting: a Global Perspective. Maternal and Child Nutrition* (2016). 12, pp 12-26.

²⁵ Data analysis required weighting of children's anthropometric data; results are 'weighted' to re-balance to reflect the prevalence in the population of children up to 59 months, in order to correct for oversampling of children under six months (required to collect data on exclusive breastfeeding) and under-sampling of children 48-59 months.

²⁶ Council for Agriculture and Rural Development (CARD). *National Strategy for Food Security and Nutrition 2019-2023 Strategic Framework Final Draft*. Core Group meeting to discuss on new National Strategy of Food Security and Nutrition 2019-2023. Phnom Penh, April 11, 2019.

Figure 14. Stunting by Age in Months, Children 0-47 Months

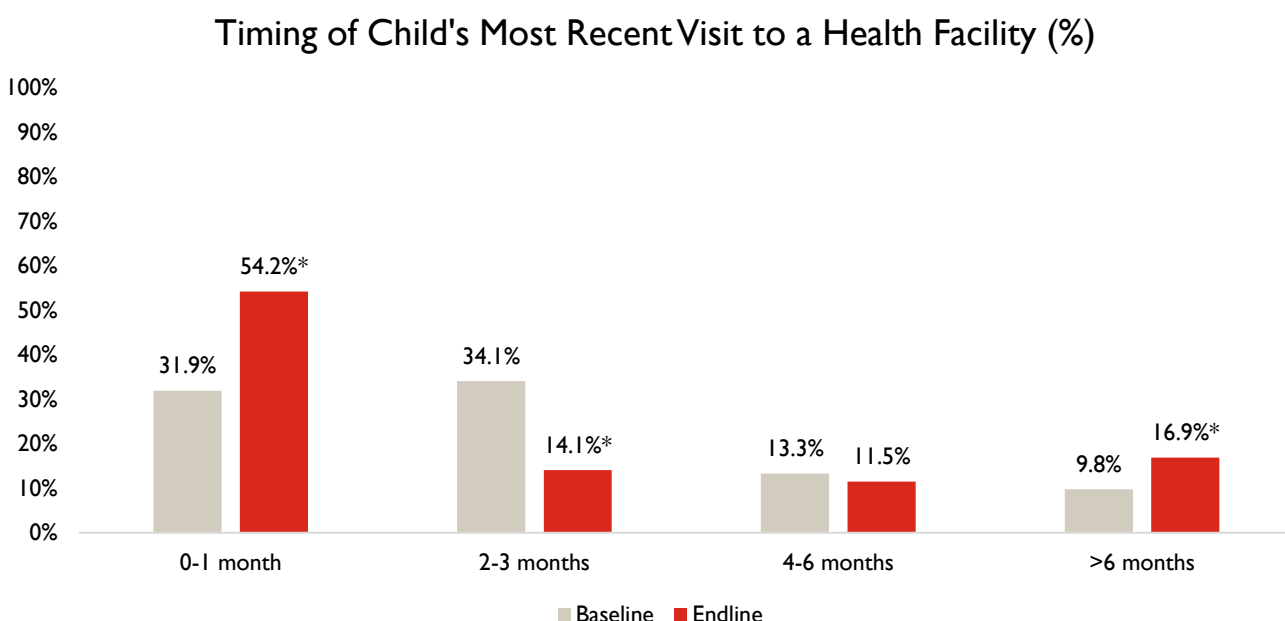


The prevalence of underweight (weighted data), reflecting acute malnutrition in children, was 16.9% at baseline, which was much lower than CDHS 2014 rural findings of 25.4%. It increased to 21.3% at endline. The prevalence of wasting at baseline was 8.4%, which was lower than CDHS 2014 finding of 9.9% in rural Cambodia. The endline survey found an increase to 11.5% in wasting from baseline to endline. The increase in underweight and wasting was unexpected result considering stunting reduced; IYCF and WASH behaviors significantly improved; program participation was high; the survey controlled for seasonality; and the project couldn't trace any drought, epidemic or other acute stresses that may affect weight but not height. The endline underweight was lower than CDHS. It appears that weighting baseline data may have distorted findings for wasting and underweight especially the prevalence of underweight and wasting in Pursat were 2.9% and 2.8% respectively, which was very low and underestimated the aggregate prevalence of wasting and underweight.

Child Anemia. Children with a hemoglobin concentration less than 11g/dl are classified as anemic. Anemia maintained around 58% from baseline to endline with no statistically significant difference. The difference between girls and boys anemia is also not significant.

Child Health Seeking Behaviors. There was a significant increase from baseline to endline in the percentage of women who took their child to the health center within the first month following birth as well as at 6 months or older. At baseline, 32% percent of caregivers interviewed reported taking the child to the health facility within the month of the survey or the previous month, while at endline this figure was 54.2% [Figure 15]. This may be related to the CCT condition of PNC visits and routine participation in GMP.

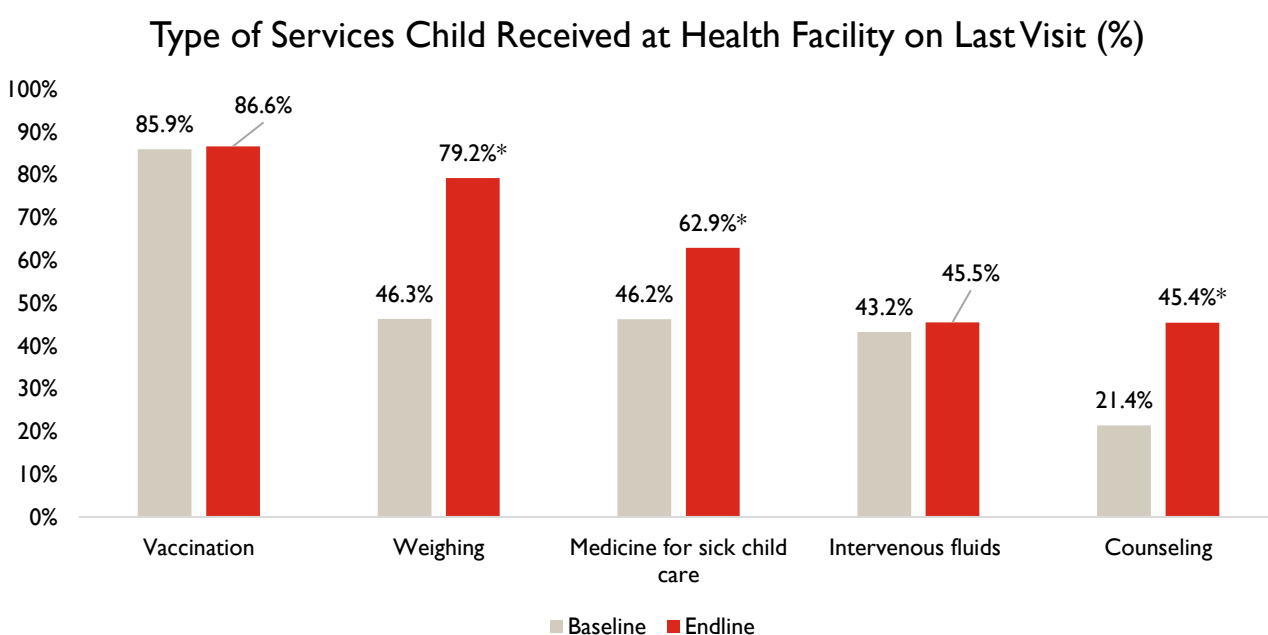
Figure 15. Timing of Child's Most Recent Visit to a Health Facility, Children 0-23 Months



*p<0.05

Monthly GMP during the first 23 months is a key behavior promoted by the NOURISH Project due to the importance of tracking growth to take corrective actions in growth faltering before malnutrition is set. Between baseline and endline, there was a significant increase in the percent of children that received weighing services counseling services. There was no significant difference found for the other services [Figure 16].

Figure 16. Services Child Received at Health Facility on Last Visit, Children 0-23 Months



*p<0.05

Table 10. Summary of Findings: NOURISH Child Health and Nutrition Indicators

Indicators	Girls		Boys		Total	
	Baseline %	Endline %	Baseline %	Endline %	Baseline %	Endline %
Prevalence of anemia among children 6-59 months	64.2	63.2	55.6	57.1	59.4	60.3
Prevalence of stunted children under 5 years of age	28.0	23.5	39.4	33.5*	34.3	27.8**
Prevalence of underweight children under 5 years of age	12.1	13.9	21.0	36.6**	16.9	21.3**
Prevalence of wasted children under 5 years of age	8.4	7.6	8.5	17.5	8.5	11.8

*p<0.001

**p<0.05

Infant and Young Child Feeding

Breastfeeding

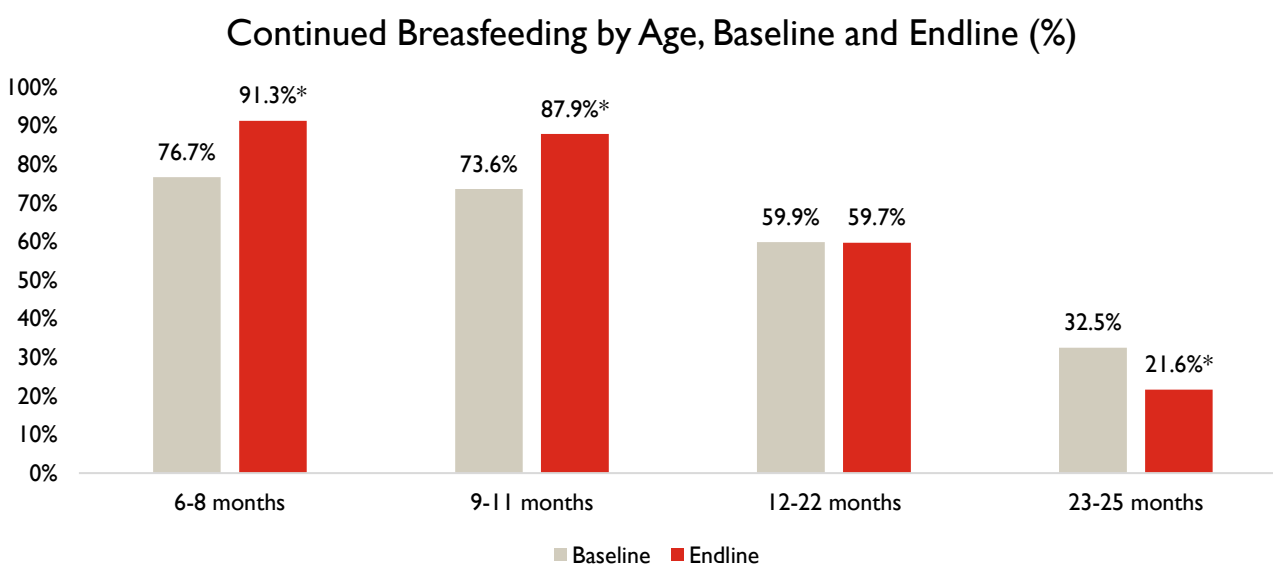
At endline, 97% of children surveyed had ever been breastfed, a small but still significant increase from the 94% reported at baseline. Exclusive breastfeeding for six months is the optimal way of feeding infants. NOURISH program areas managed to maintain a high level of exclusive breastfeeding despite recent declines nationally (from 75% in CDHS 2010 to 65% in CDHS 2014) and increasing challenges due to migration and mothers taking jobs outside the local area, such as in garment factories. Exclusive breastfeeding means that the infant only receives breast milk without any additional food or drink, not even water. It is important to note that both baseline and endline results are above the national target for 2023 of 68%.²⁷

Among children who were not exclusively breastfed, some were given prelacteal feeds (31.7%) in the first days after birth, or continue to get other liquids: water (24.8%), formula (3%) or milk (3%). There was an increase from baseline both in prelacteal feeds overall (12.5%) and specifically in those children given water (9.5%) while milk and formula decreased.

Continued breastfeeding is recommended by WHO and the MOH until two years of age and beyond. At baseline, continued breastfeeding declined with age on average from 77% among children 6-8 months, almost 60% among children 12-22 months, and just over 19% for 23-25 months. As per Figure 17, the endline survey found significant increases in continued breastfeeding rates among mothers of children aged 6-11 months. This is of note as this age group is at particular risk of growth faltering and continued breastfeeding helped them to achieve a minimal acceptable diet.

²⁷Council for Agriculture and Rural Development (CARD). National Strategy for Food Security and Nutrition 2019-2023 Strategic Framework Final Draft. Core Group meeting to discuss on new National Strategy of Food Security and Nutrition 2019-2023. Phnom Penh, April 11, 2019.

Figure 17. Continued Breastfeeding by Age in Months



*p<0.05

Rates of women who have ever breastfed and rates of exclusive breastfeeding remained consistently high with no statistically significant difference. Early initiation of breastfeeding within the first hour of birth increased significantly from 50.9% at baseline to 78.5%. Continued breastfeeding at two years decreased from baseline as there was a significant drop from one year to two years. Table 11 shows key breastfeeding indicators between baseline and endline.

Table 11. Breastfeeding Practices

Variable	Baseline		Endline	
	N	%	N	%
Ever breastfed	722	94.3	1,360	97.3
Early initiation of breastfeeding	383	50.9	405	78.5*
Exclusively breastfed until 6 months	298	77.8	298	78.8
Continued breastfeeding at two years	24	32.5	74	21.6*

*p<0.05

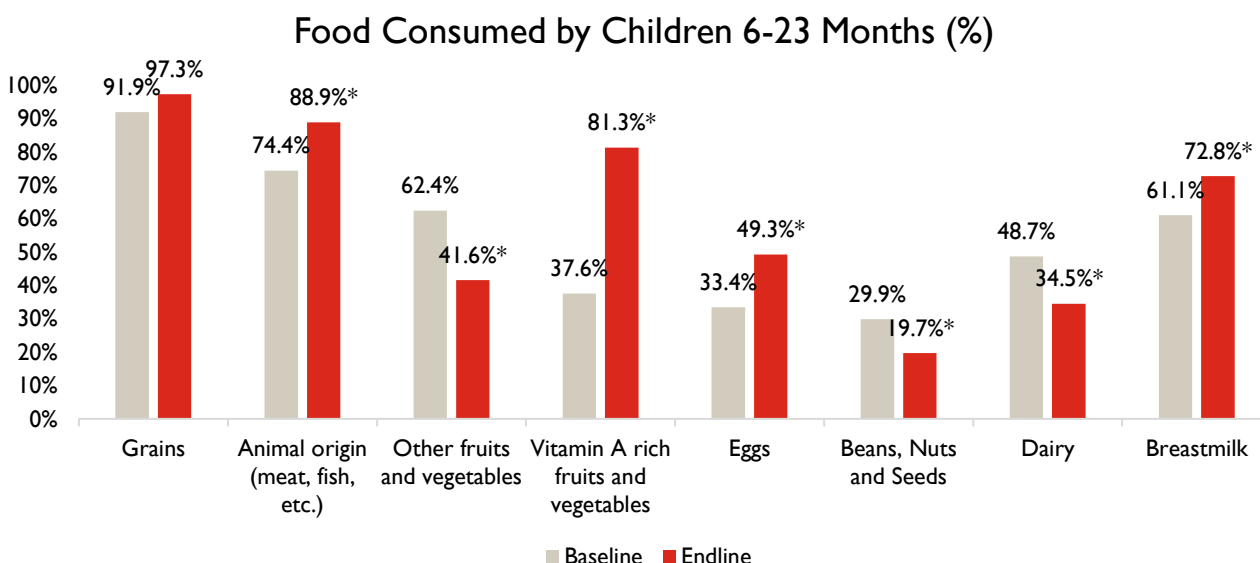
Complementary Feeding

The globally standardized minimum acceptable diet indicator assesses the percentage of children 6-23 months who consumed the minimum dietary diversity and the minimum meal frequency with or without continued breastfeeding during the previous day. As noted above, continued breastfeeding increased significantly in the 6-12 month age groups.

There was no statistically significant difference between baseline and endline in minimum dietary diversity (MDD) of children 6-23 months. The rates within age groups were also consistent and not statistically significant.

At endline, though diet diversity did not change significantly, consumption of certain nutrient-rich food groups did. Notably these include animal-sourced foods vitamin A-rich foods and eggs. An interesting finding given that NOURISH specifically promoted the consumption of these foods. [Figure 18].

Figure 18. Food Consumption, Children 6-23 Months

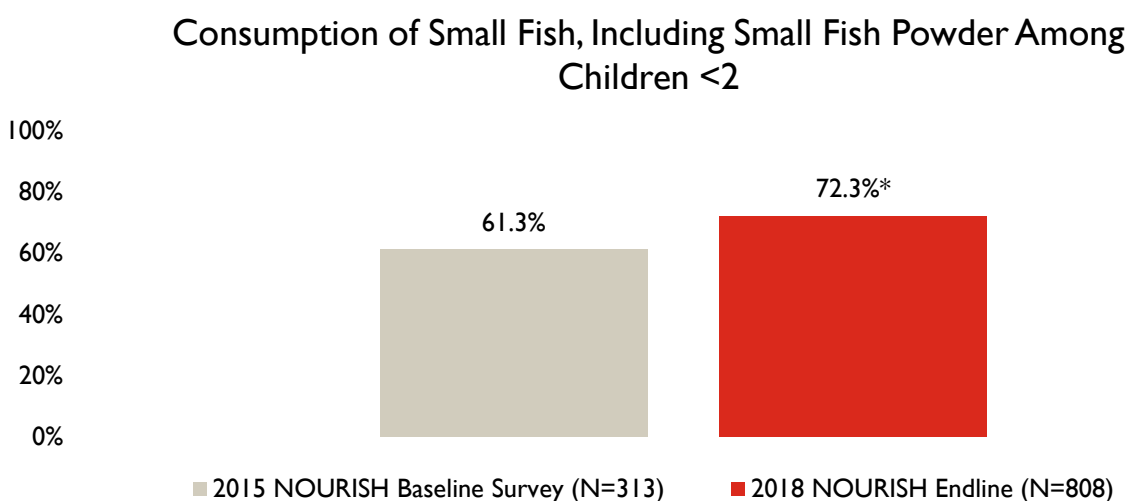


*p<0.05

Not counted above, but important to understand the full scope of children's dietary practices, are sweets and packaged snacks. At baseline, it was reported that in the past day, 42.5% of children 6-23 months had a sugary food such as sweets or biscuits and 30.1% had a packaged snack food, e.g., chips. There was a significant reduction in child consumption of packaged snacks between the two data points; at endline the consumption fell to 11.8%. Consumption of sugary foods (sweets) remained unchanged.

The survey also asked about small fish consumption given its importance to children's nutrition as a source of protein, lipids, micronutrients and other nutrients in Cambodia, and the promotion of small fish powder by NOURISH. At baseline, on average nearly half (46.4%) of children had small fish of any type in the past 24 hours including 16.9% of children who ate small rice field fish. Small fish consumption increased with age: 20.8% of children 6-8 months, 52.6% of children 9-11 months, and 64.5% of children 12-23 months had fish in the past day at baseline. At endline, 72.3% of children aged 6-23 months were fed some type of fish (fresh, dried, or small rice field fish), in the last 24 hours, compared to 61.3% at baseline. As found at baseline, at endline, fish (any type) consumption also increased with age: 49% of children 6-8 months, 77% of children 9-11 months, and 77.7% of children 12-23 months. The increase in fish consumption among 9-11 month olds was significant. We also found a significant increase in fish consumption for both boys and girls compared with baseline.

Figure 19. Consumption of Small Fish, Including Small Fish Powder Among Children <2



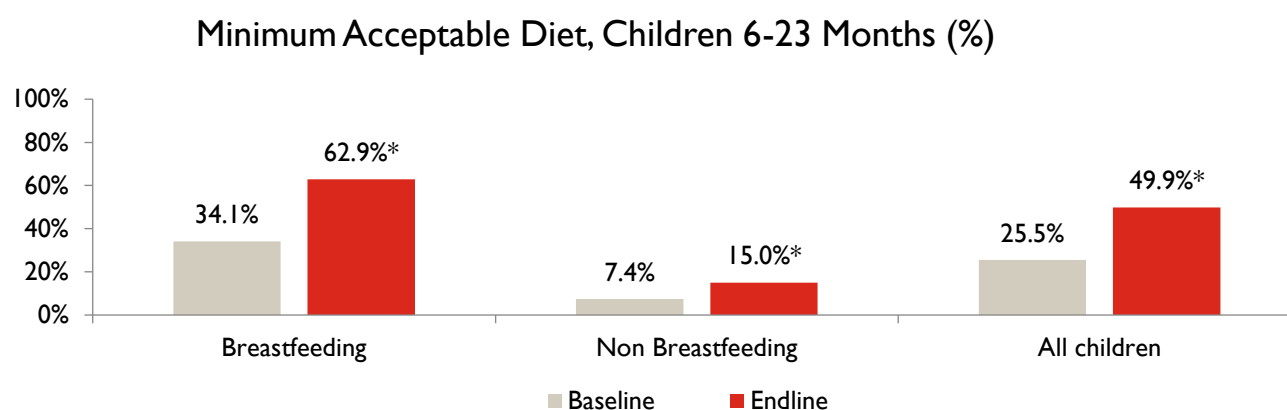
*p<0.05

At baseline, 95.9% of breastfed children were fed with the recommended frequency (at least twice a day when 6-8 months and at least three times a day when 9-23 months), but only 60.6% of non-breastfed children were fed with the minimum frequency. The changes found at endline were not significant; the number of breastfed children fed with recommended frequency was 100%, and only 46% of those not breastfeeding were fed with sufficient frequency. A significant change was found in the proportion of children fed at the recommended frequency in the 9-11 month age group between baseline (83.3%) and endline (80.5%).

Overall, 49.9% of children 6-23 months received a minimum acceptable diet (MAD) in the past 24 hours, a significant increase compared to 25.5% at baseline. This result is in line with the national MAD target for this age group of 50% by 2023.²⁸ MAD also increased across age groups and the increases were all significant, as were increases by gender from baseline to endline. This increase in MAD was found despite the fact that the two indicators that feed into MAD, minimum diet diversity (MDD) and minimum meal frequency (MMF) did not change significantly. This could indicate that the increase in MAD reflects more overlap between MDD and MMF than did not previously exist, since both are relatively high. Another factor to consider is that there was an increase in continued breastfeeding specifically in the 6-8 month age group (76% to 93%) and the 9-11 month age group (73% to 88%), which could also contribute to more children getting a full diet. MAD increased significantly from baseline to endline for both breastfed and non-breastfed children [Figure 20].

²⁸ Council for Agriculture and Rural Development (CARD). National Strategy for Food Security and Nutrition 2019-2023 Strategic Framework Final Draft. Core Group meeting to discuss on new National Strategy of Food Security and Nutrition 2019-2023. Phnom Penh, April 11, 2019.

Figure 20. Minimum Acceptable Diet, Children 6-23 Months



*p<0.05

In Cambodia, stunting sharply increases around nine months of age. Prevention of stunting requires targeted efforts during the introduction to the complementary feeding period after six months. At baseline, 46.3% of children 9-11 months old ate food (vegetables and animal source foods) with the recommended frequency in the past day, which increase significantly at endline to 87.9%. This is an excellent indication that children in NOURISH program areas were more likely to receive the required diet during this critical window when most children in Cambodia are more vulnerable to growth faltering.

Feeding a Sick and Recovering Child

Children during and after illness require additional nutrients to limit growth loss and prevent growth faltering, as such caregivers were asked about feeding practices (liquid and food) after the child had diarrhea or fever.

At endline, during the last episode of diarrhea, 32.2% of children under five consumed more liquids, while 37% had the same amount. At baseline, these percentages were 24.5% and 26.1%, respectively. In the week after diarrhea, 23% of children were given more liquid; this is not a significant change from the 20.2% found at baseline. There was no significant change found in the percentage that provided the same amount of liquid as usual between baseline and endline. Regarding food offered during the diarrhea bout, for the same age group, at baseline 10.4% was given more food, and this increased to 20.4% at endline. In the week after the diarrhea, 15.4% and 20.4%, respectively, of children were given more food than usual. Also in the week after diarrhea, there was an increase from baseline (41.7%) to endline (55.7%) of children given about the same amount of food as usual.

For reasons that are unclear, there appears to have been a significant drop in fever incidence in the last two weeks among children under five from baseline of 52.5% to 28% at endline. Between baseline and endline, the percentage of children under five given about the same amount to drink during a bout of fever increased from 31.3% to 42%, while 18.3% at baseline and 36.7% at endline were given somewhat less, and the number of children given more liquid remained the same. Regarding food consumption during fever, there was a significant increase, from 23.6% at baseline to 43.6% at endline, of children who received “about the same” amount of food and in children receiving more food from 6.9% at baseline to 17.1% at endline.

Table 12. Summary of Findings: NOURISH Infant and Young Child Feeding Indicators

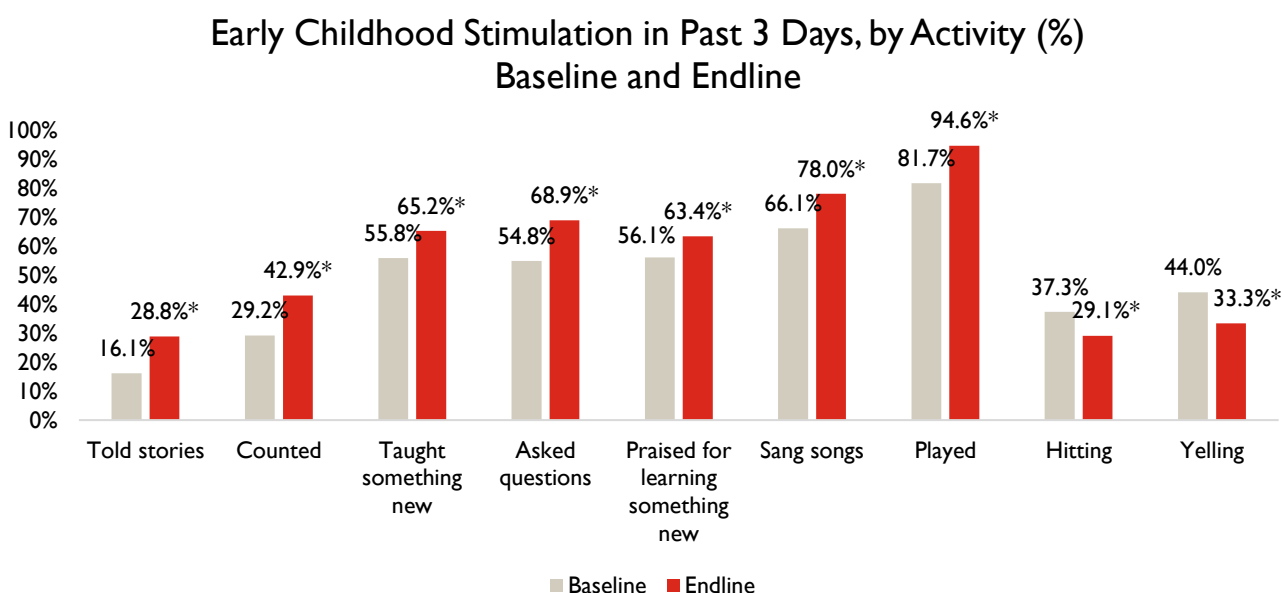
Indicators	Baseline %	Endline %
Prevalence of exclusive breastfeeding of children under 6 months	78.8	74.9
Prevalence of children 6-23 months receiving a minimum acceptable diet	25.5	49.9*
% of children age 9-11 months who received enriched solid, semi-solid, or soft foods with frequency in the last 24 hours	46.3	87.9*

*p<0.05

Child Care and Development

Global evidence indicates that the first years of life are critical in the development of children as they shape cognitive, social and language skills. From birth to age three, global early childhood care and development (ECD) recommendations focus on good nutrition as well as parent education and early stimulation. The baseline and endline surveys used a globally validated tool to assess the environment of the child including early stimulation.²⁹ At endline, in the three days prior to the survey, significant changes were recorded in several of the caring practices identified as of interest. There were significant increases in the proportion of caregivers who told stories, played with their children, counted with children, asked questions and offered praise for having learned something new. The endline also found significant decreases in the proportions of caregivers who reported hitting their children and yelling at them [Figure 21].

Figure 21. Early Childhood Stimulation Activities in Past 3 Days, Among Children 6-23 Months



*p<0.05

²⁹ International Development and Early Learning Assessment (IDELA) Caregiver Questionnaire, Save the Children US.
NOURISH Project Endline Survey Report

Responsive feeding refers to a reciprocal relationship between a child and caregiver characterized by the child communicating feelings of hunger and eating food from bowl or plate and satiety through verbal or nonverbal cues, followed by an immediate response and encouragement from the caregiver. All responsive feeding behaviors increased significantly from baseline to endline as outlined in Table 13, including signals of hunger and satiety, encouragement and re-trying foods.

Table 13. Responsive Feeding Behaviors

Indicators	Baseline %	Endline %
Child tells caregiver when hungry or full	75.9	90.2*
Child signals hunger	80.9	90.2*
Caregiver has positive attitude towards involvement in feeding	88.5	96.1*
Caregiver encourages child to eat	88.5	96.1*
Caregiver re-trying food	88.5	96.1*

*p<0.05

The proportion of caregivers letting the child decide when to eat did not change significantly between surveys, remaining around 55%. At baseline, caregivers also had mixed attitudes toward snacks; nearly half believed that children should be able to eat whatever they want for a snack. This increased significantly at endline, with 70.1% of respondents giving an affirmative response to the statement. This finding is curious in light of the significant decline in the percentage of caregivers saying they fed their children packaged snacks (see Infant and Young Child Feeding section earlier in this report).

The survey asked caregivers how often they discussed key aspects of their child's development with their spouse or partner. Specifically, respondents were asked how often they consulted about the child's (a) height and weight, (b) feeding, (c) new skills development, (d) care, (e) parenting with persons other than the spouse/partner/parents, and (f) future. Overall, there was a significant increase in the percentage of caregivers who consulted with/talked to their spouses/partners about their children's height and weight, feeding, and skills and development. There were no significant changes in the other behaviors.

When asked about sources of happiness, the three top answers given at endline were (a) child not sick (63.7%) (b) personal health (43.5%) and (c) household food security (40.7%). At endline, increases were noted in all three of these factors, only the increase in food security was significant. These findings suggest that NOURISH should continue, and as possible, intensify the transmission of messages that link the desired behaviors promoted by the project, to these key concerns expressed by women.

NOURISH constructed a variable on age-appropriate (minimum) stimulation according to child care and development standards. This indicator increased from 62.6% at baseline to 77.6% at endline. This increase points to the benefits of incorporating select, easy to adopt care practices within caregiver group topics on integrated nutrition at no additional cost. It also suggests potentially greater impact through even more focused emphasis on early childhood development.

Table 14. Summary of Findings: NOURISH Child Care and Development Indicator

Indicator	Baseline %	Endline %
% parents/caregivers of children 0-23 months providing age-appropriate stimulation of children according to child care and development standards	62.6	77.6*

*p<0.05

Water, Sanitation and Hygiene

This section provides information on the WASH component of NOURISH. Highlights of the findings are shown in this section; data not shown and detailed data tables are included in Annex II.

Drinking Water Treatment

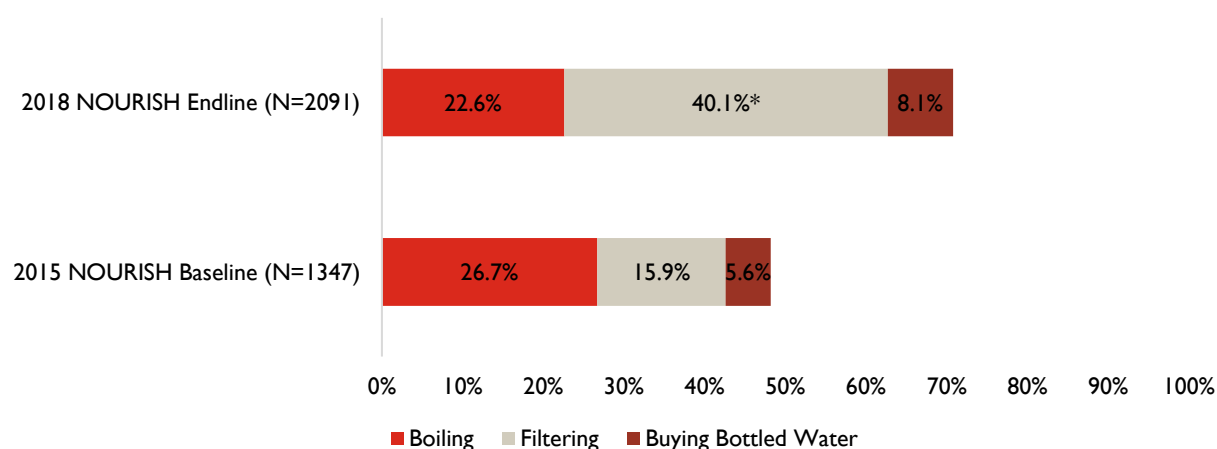
The baseline survey analyzed the percent of respondents who practice correct use of recommended household water treatment technologies. Results found that at endline, 30.8% of households did not treat water before drinking. This finding is the same as CDHS 2014 rural data.

At baseline, 42.6% of respondents followed “recommended water treatment practices” as defined by USAID indicator guidelines, compared to 62.7% at endline, a 20 percentage point increase [Figure 22]. Of particular interest is the significant differences found, not only in the percentage of women who treat their water using filters, but a significant change in the proportion of women treating their water through filters was also found among ID Poor women and women taking part in the CCT program, though the program does not include any WASH behaviors beyond having a handwashing station in its conditions but does promote drinking clean water. NOURISH provided subsidized water filters through vouchers to 4,868 ‘first 1,000 days’ households between baseline and endline surveys, possibly accounting for much of the observed increase in water filter usage. While there was support to WASH SMEs to sell water filters beyond these, the sales were not measured and anecdotal reports from SMEs are that water filters sales have not been high.

The ID poor households were exposed to intensive WASH efforts, particularly relating to the CLTS post-triggering and latrine voucher program. Key WASH behavior messages including water filtration were delivered directly to ID poor household members (including women and caregivers) who were often visited multiple times by NOURISH staff and commune counterparts in an effort to encourage adoption of household hygiene behaviors. ID Poor households and CCT households were particularly targeted for the door-to-door visits aiming to increase household latrine ownership. These visits are also used as opportunities to reinforce messages on household water treatment and handwashing with soap. This population may also have been exposed to information via the various behavior change platforms that were implemented, including frequent village fairs, community dialogues, rewarding community champions who attend sessions and adopt at least seven of 13 key desired behaviors (including the importance of drinking clean water), influenced behaviors. Overall, it appears that the program interventions promoting the use of water filters had an effect on water behaviors, either directly or indirectly.

Figure 22. Drinking Water Treatment

Treatment of the Drinking Water Among Caregivers of Children under 5 at 2015 Baseline and 2018 Endline



**These methods (boil but transfer and buying bottled water) are not included in the definition of recommended water treatment practice, but included in the graph for program considerations.

*p<0.05

At baseline, among respondents who treated water before drinking, 58.3% said that they kept treated water in the container (in the filter, water pot or bottle) while 27.3% transferred the water to a covered container (observed) and 1.4% transferred the water to an uncovered container (observed). At endline, 50.7% reported keeping treated water in the container, while 46.7% transferred the water to a covered container. Combined, 42.6% reported drinking treated water and baseline and 62.7% reported at endline, with the most significant increase in households using filters.

Sanitation

In order to assess latrine coverage, respondents at baseline and endline were asked to allow the interviewer to observe their toilet facility. At baseline, 37% of respondent households had an improved, not shared, facility. Between baseline and endline, there was a significant increase in households using improved toilet facilities to 63.3%. This was slightly higher in non-ID poor households (66.2%) than in ID poor households (61.1%).

Forty-two percent of respondents reported no facility at baseline. This reduced by over 30% with only 10.4% having no latrine facility, i.e., practicing open defecation, at endline. There was no difference between ID poor and non-ID poor households practicing open defecation and endline. The increased use of household latrines represent a significant improvement in the sanitary environment of mothers, caregivers, children and their families. The increase in access also means better privacy, dignity and comfort.

The survey also found a significant decrease in the percentage of households that shared a toilet facility [Table 15]. The reduction of sharing from 28.5% to 19.6% is also significant. Sharing typically occurs within familial relationships and is higher amongst the poorer community members.

Table 15. Household Sanitation Facilities

Indicators	Baseline		Endline	
	N	%	N	%
Improved, not shared facility	499	37.0	1427	63.3*
Improved, shared facility	194	14.4	356	15.8
Other	22	1.6	0	0.0
Unimproved facility	2	0.1	0	0.0
Shared	64	4.8	237	10.4
Open Defecation	566	42.0	235	10.4*
Total	1347	100	2255	100

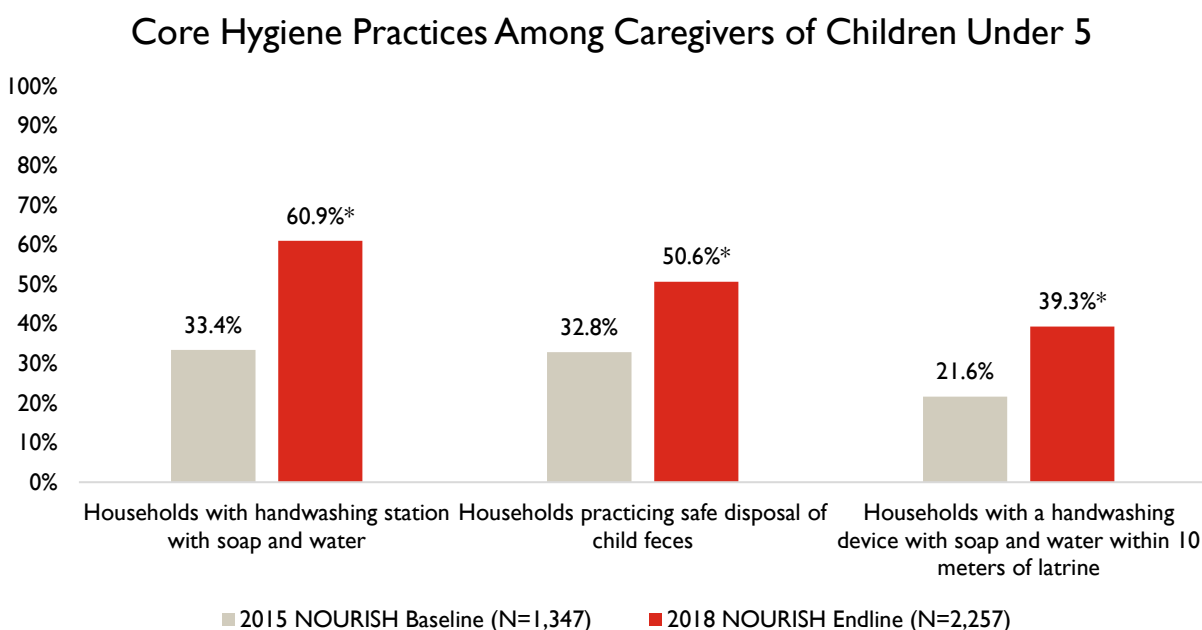
*p<0.05

Hygiene: Handwashing

As part of the survey, interviewers at baseline and endline observed a place for handwashing with water and soap or another cleansing agent within the household. At baseline, observations found 63.3% of households were found to meet these conditions. At endline, there was a significant increase in households using soap at their handwashing stations to 94.3% (a 31% increase). In comparison, CDHS found that 77.1% of rural households had a place for handwashing with soap and water.

Proximity to the latrine is a facilitating factor in handwashing after defecation, one of the five key handwashing times. Twenty percent of households had a handwashing station with soap or other cleansing agent within 10 meters of a latrine at baseline. At endline, there was a significant increase over baseline, to 39.3%.

Among those households with an improved latrine, 35.3% have a handwashing station with soap or another cleansing agent within 10 meters of the latrine. There was no statistical difference between ID poor and non-ID poor households.

Figure 23. Core Hygiene Practices Among Caregivers of Children under 5, Baseline & Endline

*p<0.05

Hygiene: Household Environment of Caregivers

Interviewers at baseline and endline observed the compound of caregivers' households for any type of feces. At baseline, they observed feces in 39% of household compounds; animal feces were observed in 37.3% of the homes and children's feces were seen in 1.7% of the households. At endline, interviewers observed for the presence of feces, but did not distinguish between them being animal or human. A significant increase was found regarding hygienic disposal of child waste; at baseline, the proportion of households disposing of child waste correctly was 32.8%, but by endline, the proportion had increased to 50.6%. Of additional interest is that a significant association was found between correct child feces disposal and whether the person being interviewed had a high level of exposure to the "Grow Together" campaign. Over 52% of respondents with high exposure disposed of child feces hygienically, while only 46.7% of those without high exposure did.

At baseline and endline, if food was observed, data collectors noted whether or not flies were being kept off the food. A significant increase was found between the two data points, with the percentage at baseline of 11.3% having increased to 21.3% by endline.

Table 16. Summary of Findings: NOURISH Water, Sanitation and Hygiene Indicators

Indicators	Baseline %	Endline %
% of households (of women of reproductive age and caregivers of children under 5) in the target area using an improved latrine	37.0	63.2 ^{30*}
% of households (of women of reproductive age and caregivers of children under 5) in the target area practicing correct use of recommended household water treatment technologies	43.4 [49.1 including bottled water]	63.1* [71.2 including bottled water]
% of households (of women of reproductive age and caregivers of children under 5) with soap and water at a hand washing station used by family members	63.3	93.8*
% of caregivers disposing of feces appropriately	32.8	50.6*

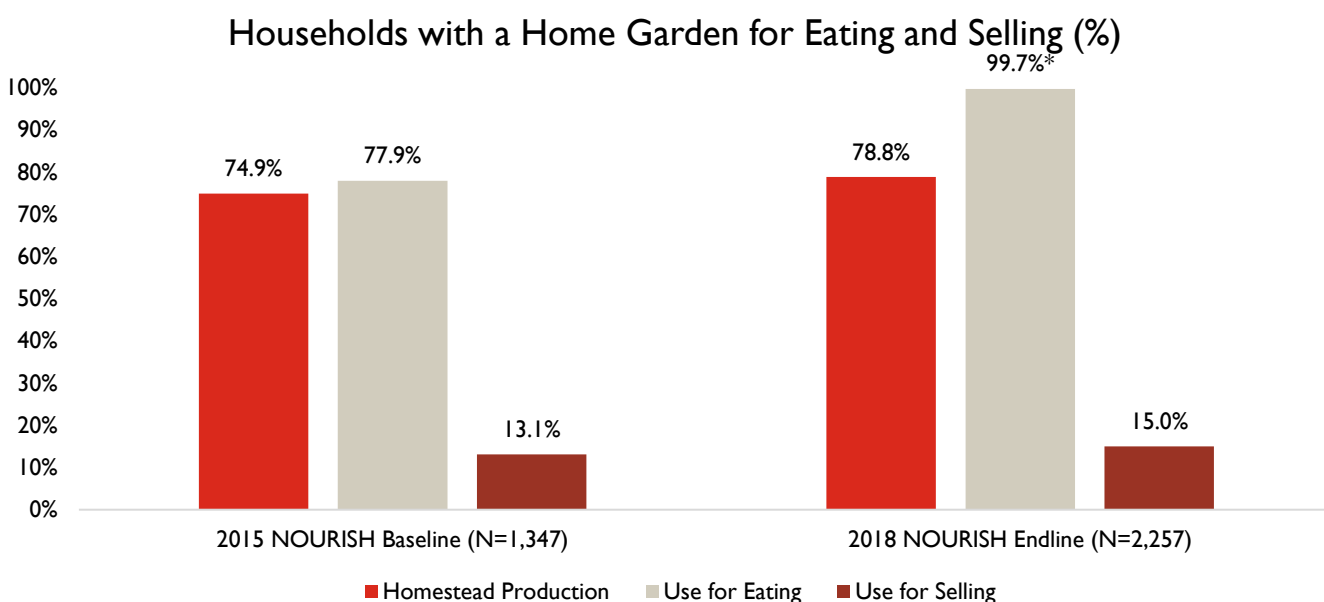
*p<0.05

Agriculture

This section provides information on questions collected at baseline related to homestead food production, focusing on nutritious vegetables. As part of the nutrition-sensitive agriculture efforts for "first 1,000 days" families, NOURISH promotes certain types of nutritious vegetables which are locally available, need minimal water and are hardy enough to grow in small spaces year-round: amaranth, moringa and yard-long bean are examples. Pumpkin and sweet potato are also encouraged as locally acceptable complementary food for young children and snacks for pregnant women.

All respondents interviewed at baseline were asked whether they grow food at home. Interviewers requested to observe the garden and also asked what the household did with the vegetables produced. At baseline, overall 74.9% of homes grew some type of food in the compound and 78.8% did at endline. The number of households eating their garden vegetables increased significantly from 77.9% at baseline to 99.7% at endline.

Figure 24. Households with a Home Garden for Eating and Selling, Baseline & Endline

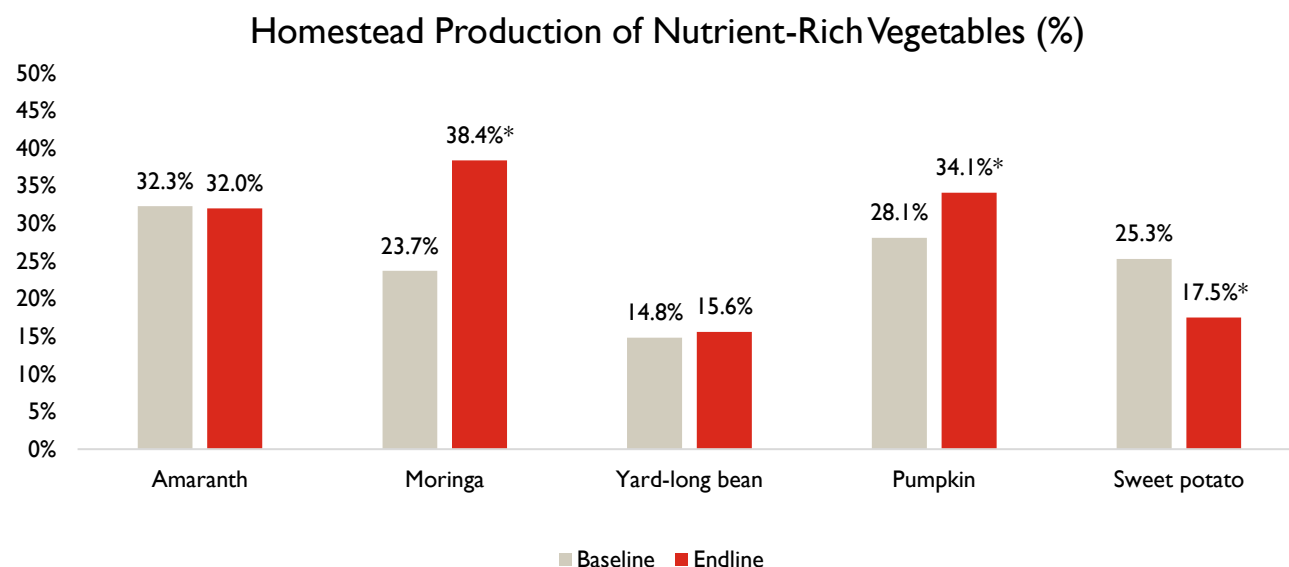


*p<0.05

At baseline, of the 39.7% of households who grew at least one of these vegetables (n=535), a majority said that the family ate the vegetables, about half said that they shared with neighbors, one-third said that they shared with family and friends and 13% sold the vegetables. At endline, of the 53.1% who grows at least one of the three recommended vegetables (n=952), almost all (99.7%) said that the vegetables are eaten by the family. Other uses of the vegetables were selling (15%) and giving to relative families or neighbors (about 37%). And though sale of produce did not increase significantly, 13.1% at baseline to 15.0% at endline, the average income generated from this sale increased from \$173 to \$269, indicating an increased value in the vegetables produced both for consumption and sale which could be both an increase in quantity grown allowing for more sale and consumption and in the value of the nutrient-rich vegetables themselves.

At baseline, only 39.7% grew at least one of three local high-nutrient vegetables promoted by Nourish for pregnant and lactating women and young children; amaranth, moringa or long bean. Production of nutrient-rich vegetables increased the most significantly for moringa and pumpkin from baseline to endline [Figure 25].

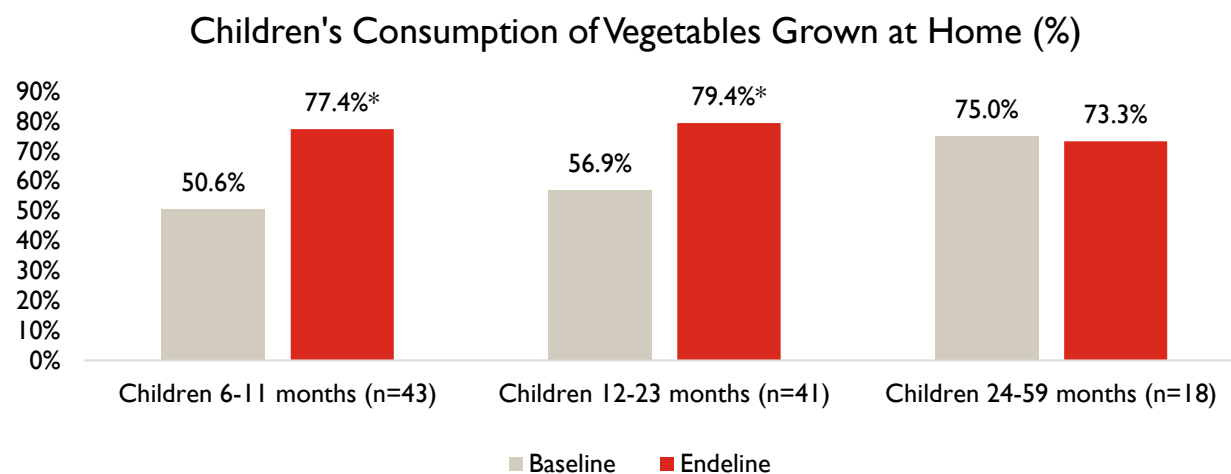
Figure 25. Homestead Production of Nutrient-Rich Vegetables



*p<0.05

Nearly all women and men ate vegetables grown at home and children's consumption of the vegetables increased from baseline to endline and with age. Consumption by children 6-11 months increased by 27 percentage points and consumption by children 12-23 months increased by 22 percentage points, while consumption by children over two remained consistent around 75%. [Figure 26].

Figure 26. Children's Consumption of Vegetables Grown at Home, Baseline and Endline



*p<0.05

Exposure, Participation and Motivation to Take Actions

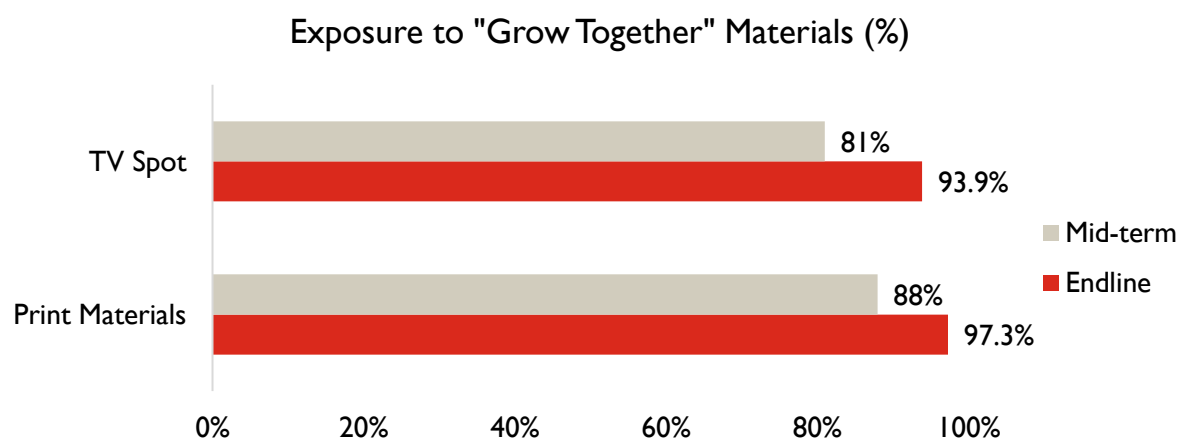
The “Grow Together” multi-faceted SBCC Campaign focuses on thirteen key stunting prevention behaviors spanning health/nutrition, WASH, and agriculture to stimulate relevant actions for children to grow and reach their full potential. At both mid-term and endline, the interviewers showed respondents each of the core 13 print “Grow Together” materials developed by the NOURISH Project and asked

which, if any, they had seen before. The same process was done for the three TV spots produced by the project. The respondents were then asked, without prompting, if they had participated in NOURISH activities at the community level, e.g., ‘first 1,000 days’ village fair for CCT beneficiaries, home visit by village health support group member for a ‘first 1,000 days’ family, vouchers, community dialogues, CLTS, community GMP, group education session by caregiver group facilitators, home garden learning by District Agriculture Officers/Agriculture Extension Workers, etc.

Exposure to the “Grow Together” campaign was defined as having seen at least one print material, or having seen at least one TV spot. Participation was defined as having attended at least one NOURISH community-level activity with “Grow Together” messages and materials incorporated.

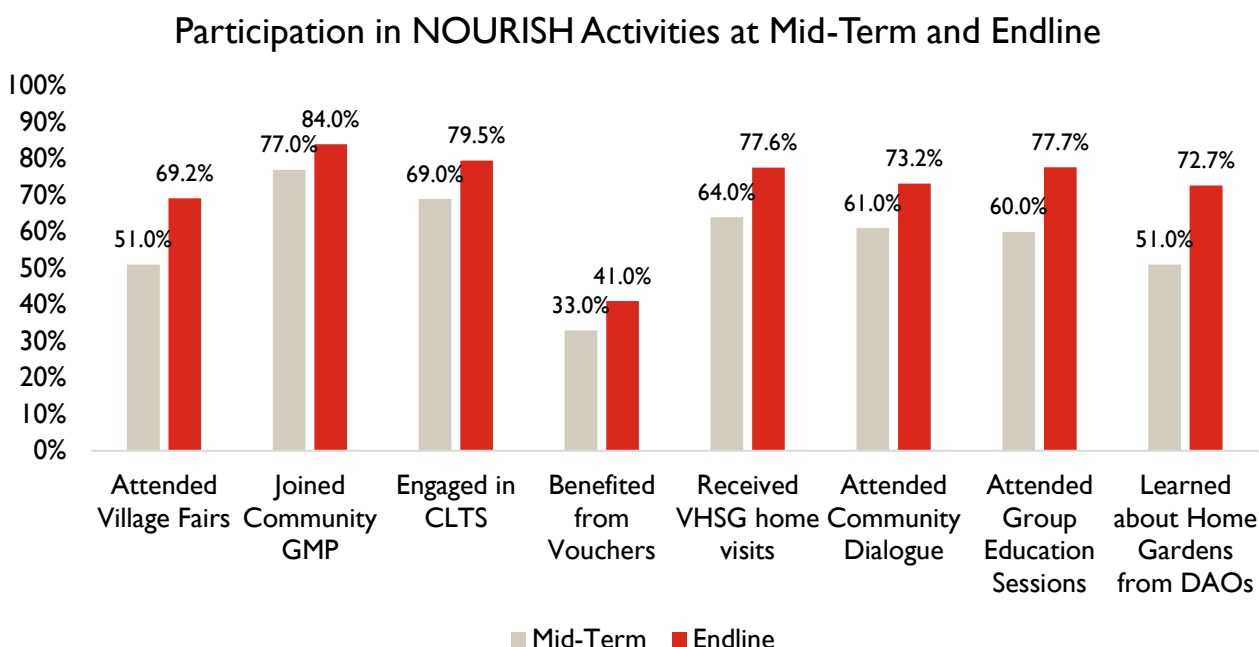
At endline, exposure to the “Grow Together” campaign logo across all three provinces was high, at 89.7%. Respondents from families classified as ID Poor were slightly less likely (but still statistically significant) to have been exposed to the campaign (88.4% compared to 91.6% for non-poor). Exposure to TV spots was even higher, at 93.9% overall, while exposure to print materials was almost universal, at 97.3% [Figure 27]. Regarding exposure to specific print materials, the results were varied and relatively high across materials and provinces. The material most seen across all three provinces was the poster describing the 13 promoted behaviors, which 86.2% of respondents noted having seen.

Figure 27. Exposure to “Grow Together” Materials, Midterm & Endline



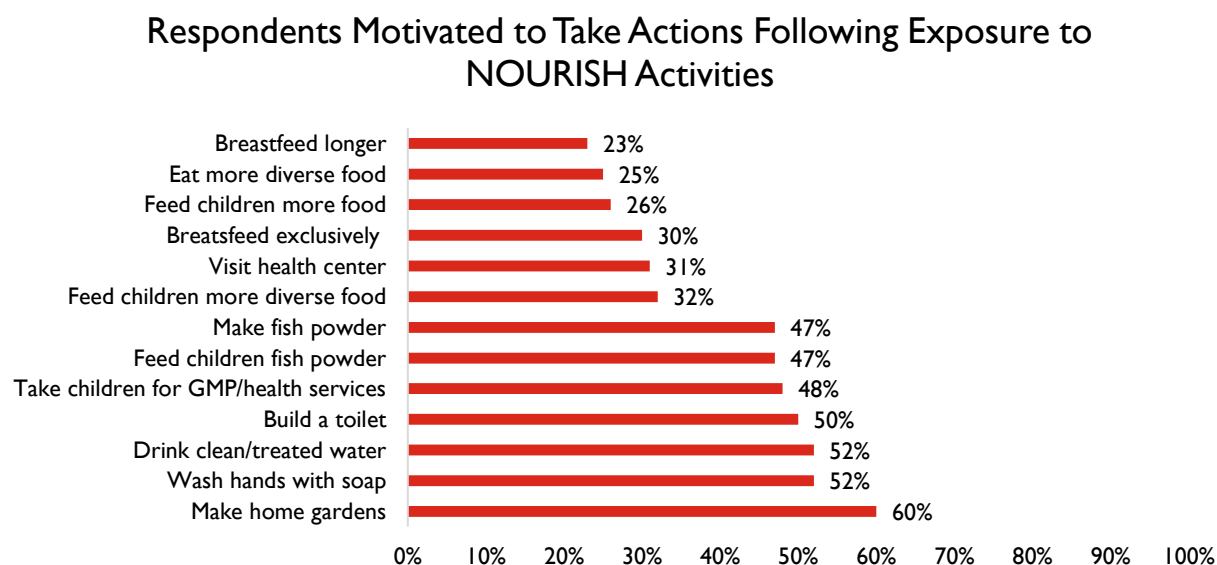
Participation in NOURISH community activities ranged from 41% for voucher use, to 84% for monthly growth monitoring and promotion [Figure 28] among all respondents. It is not surprising that participation in voucher use was lower than all other activities, since vouchers are intended for the most disadvantaged community members and are often used to attract people who have not taken action (for example, building a latrine) due to financial constraints. Looking at participation rates against ID Poor status, with the exception of the voucher activity, respondents classified as ID Poor were slightly less likely to participate in all other activities. Not all community activities are intended for all sampled caregivers of children under five, most are tailored for pregnant women and caregivers of children under two, some are even more focused. For example, VHSG conduct home visits only for pregnant women, caregivers of children 9-11 months and caregivers of children not growing well.

Figure 28. Participation Rates in “Grow Together” Campaign Activities by Type



Of those exposed to the Grow Together campaign (including TV spots), 94% reported high motivation to take one or more actions in practicing stunting prevention behaviors.

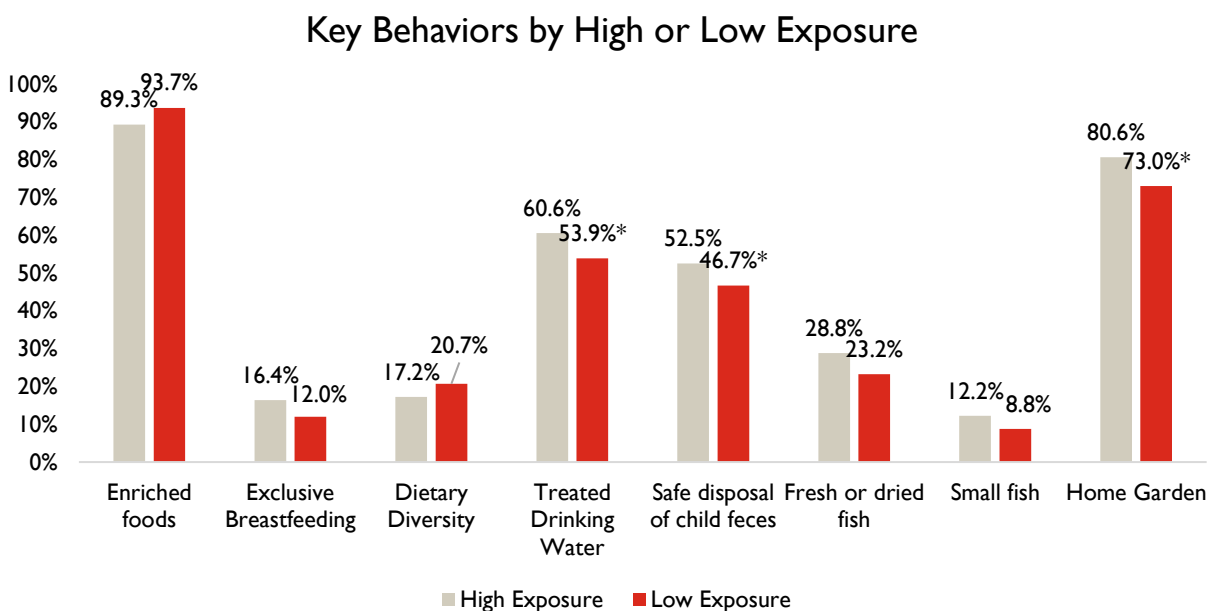
Figure 29. Respondents Motivated to Take Actions Following Exposure, Endline



ID Poor respondents were slightly but significantly more likely to say they were motivated (95.2% compared to 91.9%). The three most commonly named actions to which respondents were motivated to act as shown in Figure 29 were planting a home garden (60.2%), washing hands with soap (52.2%), and drinking clean water (52.0%). Taking the child to GMP (48%), followed by making fish powder (47%), and feeding fish powder to the child (46.6%) were the next most commonly named actions.

NOURISH defines high exposure to its “Grow Together” campaign as having seen one or more TV spot, four or more print materials, and having participated in at least three NOURISH community-level activities. At endline, a significant association was found between high exposure to the campaign, and treating drinking water, safe disposal of child feces, four or more ANC visits, continued breastfeeding at 6-8 months, and the presence of a home garden.

Figure 30. Key Behaviors Practiced by High or Low Exposure to “Grow Together” Campaign



*p<0.05

Conclusions and Recommendations

The NOURISH Project was designed to deliver a suite of integrated interventions across health and nutrition, WASH, agriculture and livelihoods, in order to tackle the various underlying and interrelated contributors to childhood malnutrition. The endline results demonstrate that NOURISH interventions led to a significant 19% reduction (6.5 percentage points) in stunting among children under five and reduction in women’s underweight, driven by significant improvements in sanitation outcomes and key behaviors across health/nutrition, WASH and agriculture. These generally positive results in each of the intervention areas, to varying degrees by each indicator, indicate that key interventions led to progress across programmatic indicators and resulted in an improved outcome for nutrition. Much of the progress seen in NOURISH intervention areas align with national priorities and targets as laid out in the National Strategy for Food Security and Nutrition (NSFSN) 2014-2018 and the draft NSFSN (2019-2023).

The sampling frame was designed to be representative of women of reproductive age and caregivers of children under five years of the NOURISH Project area: the poorest rural communities in three provinces in Cambodia; Battambang, Pursat and Siem Reap. The demographics of the respondents at baseline and endline were relatively unchanged with two principal exceptions. First, migration rates were higher at endline resulting in more familial caretaking at endline. Migration is a predominant feature of life in the project areas, with migration rates in Battambang (13%) and Siem Reap (15%) amongst the

highest in the country;³¹ with the husband working outside the village and often the mother as well. This shift in primary caregiver has implications on the child and may have influenced exclusive breastfeeding rates. Potential absences of mothers, particularly for youngest children, need to be considered when promoting breastfeeding and complementary feeding practices. Migration for work can also impact the family's stability and economic status in either direction, depending on the amount and frequency of money sent home. Recent studies on migration in Cambodia show that grandparents become the primary caretaker when the parent migrates. These caretakers bear a double burden of work and report not having the time or patience to ensure young children in their care.

The second principal demographic shift was a significant increase in the number of families registered as ID poor. This is likely because NOURISH provinces underwent an ID Poor verification and enrollment round between baseline and endline periods and because a number of villages selected for the endline survey were part of the ID Poor on Demand pilot. Overall, poverty rates continue to decrease in Cambodia³². In addition, the number of children who had a birth certificate increased significantly, to over 90%, likely because this was a requirement for ID poor registration and subsequent CCT enrollment. The fact that so few people were in possession of a birth certificate, at baseline should be addressed in the roll-out of the planned national CCT program for pregnant women and young children and other social assistance programs. Similarly, NOURISH's use of a microfinance bank to facilitate electronic payment from the CCT program once conditions were met helped increase the percentage of women with bank accounts by over 40% and played a role in improving social and financial inclusion in its areas of operation.

Maternal Health and Nutrition

Women's early attendance at ANC and number of visits (4+) was generally high to begin with at around 86% but there was about a 10 percentage point increase in both practices, and a maintenance of institutional delivery over 90%. Women who were registered as ID poor had some improvements in these areas, as well as PNC services, which may have been the result of these practices being conditions of the CCT program. The survey also saw a significant decrease in anemia among women of reproductive age, though it does not appear to be as low as one would expect given the high consumption of iron-folic acid, confirming recent data that indicate that IDA might not be a major cause of anemia among women. Further investigation of causes and solutions to reduce anemia among women of reproductive age may be considered in future programming. Though maternal health was not a primary focus of many NOURISH activities, it had a significant impact on child health and early breastfeeding and should continue to be included in future programming, especially given the increasing challenges posed by migration and the focus on maternal health in the Cambodia National Strategy for Food Security and Nutrition (2019-2023). Of note was the significant improvement in women's BMI and dietary diversity, which indicates an increased awareness of and shift towards consuming a nutrient-rich diet and as Cambodian families tend to eat the same meals could support increased diversity in the child's diet as well.

Child Health and Nutrition

Despite significant improvement in stunting by 19%, neither underweight nor wasting showed similar improvement. It is important to note the very small sample of children identified with wasting, which makes comparisons difficult. Nevertheless, there were concerns about the data collection of these indicators at baseline (particularly as they appeared lower than CDHS), so this warrants further

³¹ Based on Dickson B, Koenig A, 2016. Assessment Report: Profile of Returned Cambodian Migrant Workers. International Organization for Migration (IOM) Cambodia.

³² Mosello, B., & O'Leary, D. (June 2017). How to reduce inequalities in access to WASH, Urban sanitation in Cambodia. Retrieved from Overseas Development Institute: <https://www.odi.org/sites/odi.org.uk/files/resource-documents/11605.pdf>

investigation. Outside of the data collection challenges faced at baseline, it is difficult to reconcile such improvements in stunting and other outcomes of nutrition, against seemingly stagnant acute malnutrition, especially without any significant contextual events such as drought.

There were improvements in both health seeking behaviors and corresponding services. Children experienced less diarrhea and fever and mothers appear to be taking their child to the health facility earlier for services. More children participated in GMP and received counseling, practices promoted by NOURISH and required as a condition for the CCT program (GMP specifically). While reductions in fever and diarrhea cannot be directly linked to NOURISH interventions, an increase in WASH behaviors, and the improved immune function due to proper diet, could influence a general improvement in child health.

Breastfeeding is generally quite high in Cambodia and exclusive breastfeeding managed to remain high at over 75% despite recent declines nationally and challenges due to increased migration of mothers. It remains higher than the proposed national target for 2023 of 68%. Although continued breastfeeding increased at endline at age one, continued breastfeeding at two years decreased, so emphasis on this behavior should continue. Importantly, the endline found significant increases in continued breastfeeding as children entered the critical age of complementary feeding, between 6-12 months. This is typically a risky time for growth faltering in Cambodia, and is key to child growth and development, and this improvement in breastfeeding has an important effect on this age group's MAD. This should be a lesson learned for future programming as a key protective factor for children starting complementary feeding.

Children receiving a minimal acceptable diet, the combination of continued breastfeeding, dietary diversity, and minimal meal frequency according to age, increased an impressive 25 percentage points over the course of the project. Interestingly, both diet diversity and minimum meal frequency were relatively high at baseline, and improved slightly but not significantly. This demonstrates the importance of continued breastfeeding and changing the behavior of caretakers to include all three key elements of MAD (continued breastfeeding, meal frequency and meal diversity), not only focusing on one component or another, and especially in the critical age group of children 9-11 months who showed great improvement. This is an important consideration for prioritization of key behaviors when designing future SBCC strategies.

One element of dietary diversity that did increase significantly was the consumption of small fish, including fish powder, particularly in the critical age group initiating complementary feeding. NOURISH participation and exposure data showed that a majority of respondents learned to make small fish powder at a community event, indicating that this intervention may have increased this important food group in children's diet. Promotion of small fish powder and other home fortification interventions have strong potential for future programming.

Child Care and Development

Child development was not a particular focus of the NOURISH Project though child care was an important feature both for mothers and fathers. The endline demonstrated an increase in all positive stimulation activities, which often increased in combination with improved breastfeeding and complementary feeding practices due to the increased time and attention given to the child during feeding times. The proportion of parents providing age appropriate stimulation did improve significantly despite minimal integration of concepts and recommendations into caregiver groups. Even greater progress could be achieved by more intentionally addressing ECD within future programming for this critical age of children under five, and particularly by targeting messages for different caregivers, e.g., mothers and fathers versus grandparents, in light of the increased migration patterns and familial caretaking. In particular, although hitting and yelling by the caregiver decreased from baseline to endline, it should be more explicitly addressed in future programming.

Water, Sanitation and Hygiene

Sanitation and hygiene behaviors made great progress across all indicators. The significant reduction by 30 percentage points in people practicing open defecation is indicative of an enormous shift in sanitation behavior change at a community level. The proportion of households using improved latrines increased significantly, causing an inverse and expected decrease in open defecation. In conjunction with latrine use, households significantly increased their safe disposal of child feces. Though open defecation has now decreased to only 10% it is important to remember that these data are at a household level, while ODF status is measured at a community level. Programs need to carefully consider how to close this final mile and reach the poorest and most vulnerable who have not yet been able to gain household latrine access. Future programs may consider innovative financing schemes that support households in obtaining the capital needed to move up the sanitation ladder (a common barrier across contexts). The effects of many WASH promotion efforts dissipate over time, highlighting the need for multi-modal, evidence-based approaches that address all barriers to adoption. Future efforts should develop strategies to support public and private sector partners to embed SBCC/marketing science within promotion and advertisement activities to increase demand and use of WASH products and services and sustain efforts beyond the life of any one project.

The application of WASH programming at area-wide levels (village and commune) enabled community approaches and solutions with greater impact on sanitation than could have been achieved targeting ‘first 1,000 days’ families alone. Significant changes in community sanitation illustrate the efficacy of the sanitation demand creation activities of CLTS triggering and post-triggering activities, as well as the strength of working with local sanitation committees and sub-national authorities.

In addition to constructing and using latrines, presence of handwashing stations, with soap and water, and proximity to latrine all improved greatly; all of which facilitate appropriate handwashing behaviors. Treatment of drinking water improved overall, mainly due to an increase in the use and maintenance of water filters. This may have been the result of vouchers and a communication campaign specifically promoting uptake of filters which targeted ID poor households. The integration of WASH interventions into both sub-national government programs and the greater SBCC platforms and connection with ID poor and CCT beneficiaries allowed more opportunities for messaging and reinforcement, and the linking of these behaviors with their impact on the health and nutrition of children.

Agriculture

Agriculture is still very much a way of life in many areas of Cambodia and in NOURISH target areas; most respondents identified themselves or their partner’s principal occupation as farmer. Most households produced food at home, though this increased over the life of the project and in particular in households with high exposure to NOURISH interventions. After NOURISH participation/exposure, households ate more of the nutritious vegetables they produced at home, including feeding more to young children, and earned more money from their sale (though sale levels remained the same). This suggests the benefits of engaging with MAFF, district agriculture officers, and extension workers to promote low-cost, easy-to-grow nutrition-rich crops which are valuable both for consumption and sale.

Exposure and Participation

The NOURISH SBCC “Grow Together” campaign was based on a layered approach of communication channels (e.g., print, TV, IPC) and community activities (e.g., GMP, village fairs, home gardens), and was strategically rolled out in waves to foster new, supportive social norms for nutrition before promoting key behaviors. NOURISH designed each element of the “Grow Together” campaign based on formative research with households and communities and continual consultations through material pretesting, reflection and feedback sessions. NOURISH achieved extremely high levels of exposure to the “Grow Together” materials and participation in community events. Leveraging such participation in highly valued activities, such as GMP and CCT enrollment/cash out it a good opportunity to layer additional activities

to capitalize on captive audiences and align key messages with government sponsored interventions such as the forthcoming national CCT program. Caregivers' exposure and participation to "Grow Together" also created a self-reported high motivation to change behavior. Those who had high exposure to NOURISH were more likely to practice key promoted behaviors, indicating that this layered approach has a greater positive result.

Conclusions

The NOURISH program's layered approach intended to and succeeded at addressing the various facets that lead to stunting in children under five. The program sought to combat child stunting using an integrated programming approach and working with key stakeholders to improve community delivery platforms to support integrated nutrition programming, to increase demand for health, WASH and agriculture practices, services, and products and to expand and improve the quality of related products using the private sector. The "Grow Together" campaign focused on promoting 13 key behaviors and practices across nutrition, health, WASH and agriculture, all of which improved from baseline to endline. NOURISH's promotion of optimal behaviors such as breastfeeding, complementary feeding, and health seeking behaviors, were particularly successful. Exclusive breastfeeding and continued breastfeeding were consistently promoted throughout all NOURISH activities which managed to maintain or even increase these practices despite a general downtrend nationally, demonstrating the importance and impact of continued promotion. Practical approaches introduced through the agriculture component of the project, both home gardens of nutrient-rich vegetables and home production of Small Fish Powder, gave families the skills needed to increase their child's intake of these critical diverse foods. Concentrated efforts in WASH programming such as CLTS and targeted support to the more vulnerable households caused a significant shift in sanitation behaviors at a community level.

The results imply that carefully curated, multifaceted strategies are effective in promoting behavior change that ultimately provide positive nutrition outcomes for children. The SBCC approach using frequent dissemination of multiple consistent key messages, and layering them through multiple channels (TV, print materials, village fairs, community dialogues, GMP, etc.) did motivate beneficiaries to take action. With this, along with social support systems (vouchers and CCT), and linkages with the private sector for availability of needed WASH and agriculture products, families have changed some critical behaviors around nutrition and WASH and thus reduced stunting in their communities.

The NOURISH Project shows that with adequate training and supervision, community based health and nutrition activities has the potential to support formal effort to improve maternal and child health in Cambodia. NOURISH community-based nutrition initiatives, conducted in partnership with health staff, increased access to important services such as GMP and counselling and are natural platforms for health and nutrition promotion. These were well attended by the community, which in turn increased their value and interest in the services, driving health seeking behaviors.

NOURISH results around latrine use, sanitation, and handwashing in complement with improved IYCF practices also demonstrate that integrated WASH and nutrition to this degree and at this scale is a successful approach for future programming. Further opportunities for integration of ECD or other areas could be explored. The impact of migration on maternal and child nutrition as well as tailored programmatic approaches to support grandparents and other caretakers are additional areas for exploration in future projects.

ANNEX I: Endline Survey Protocol

SUMMARY

Introduction: This protocol describes procedures for planning, implementation and reporting of the NOURISH Project endline survey. NOURISH will conduct baseline and endline surveys of project participants (not population-based studies) by external evaluators.

Project Introduction: NOURISH is an integrated nutrition project funded by USAID and the Presidential Initiative Feed the Future that brings together three sectors for multi-sectoral nutrition convergence: health, water, sanitation and hygiene (WASH) and agriculture at the village and commune levels. The NOURISH Project is led by Save the Children and implemented in partnership with SNV and The Manoff Group, OEC in Battambang, Partners in Compassion in Pursat and Wathnakpheap in Siem Reap over the course of five years from June 6, 2014 to June 5, 2019. It covers 565 villages from three provinces—Battambang, Pursat, and Siem Reap—reaching over 500,000 people.

Objective: The endline survey aims to document levels of knowledge, behaviors and environmental factors that contribute to nutritional outcomes in children under 5. Results will be used to assess changes since baseline in order to make design or implementation changes as needed. In particular, the survey will explore:

- Nutritional status of children under 5 years
- Sanitation and hygiene in households with children under 5 years
- Care and diet of children under 2 years

Methodology: For children under 5 years, the survey will collect anthropometric data and interviews with caregivers through trained and experienced data collectors.

Study Area and Sample: NOURISH selected 565 of the poorest villages in 70 communes and 20 districts in three provinces of Cambodia: Battambang, Pursat and Siem Reap. This survey will be conducted in 90 villages in Battambang, Pursat and Siem Reap provinces. The survey will sample from the households in the project target area (565 villages), including 700 children (300 children under 6 months, and 400 children under 5 years of age).

Ethical Issues: Prior to taking measurements or interviews, the interviewer will carefully read the consent form and get approval from each caregiver. This consent form contains information on the purpose of the test, the risks and benefits as well as on confidentiality and the voluntary nature of participation: that each person can refuse to participate or withdraw at any time without any negative consequence or penalty. This survey will not request ethical approval from the Ministry of Health because it is for internal adaptive management purposes and will not be published or presented. Moreover, the same protocol and questionnaires approved by MOH at baseline will be applied (without previous components of women's anthropometry or anemia testing). This is suggested by MOH. However, the endline survey will seek national ethical approval.

Personnel: The survey will be led by Math Srales, NOURISH M&E Specialist with technical assistance from Carolyn O'Donnell, Save the Children Nutrition Advisor, and a contracted Cambodian firm with expertise in similar surveys.

ACRONYMS

BFCI	Baby Friendly Community Initiative
BMI	Body Mass Index
BSC	Business Service Center
CARD	Council for Agricultural and Rural Development
CCT	Conditional Cash Transfer
CCWC	Commune Committee for Women and Children
CDB	Commune Database
CLTS	Community Led Total Sanitation
ERC	Ethics Review Committee
FTF	Feed the Future
GMP	Growth Monitoring and Promotion
M&E	Monitoring and Evaluation
MAFF	Ministry of Agriculture, Forestry and Fisheries
MOH	Ministry of Health
MRD	Ministry of Rural Development
NEC	National Ethics Committee for Health Research
NNP	National Nutrition Program
OD	Operational District
ODF	Open Defecation Free
OEC	Operations Enfants du Cambodge
PC	Partners in Compassion
PDRD	Provincial Department of Rural Development
PHD	Provincial Health Department
RGC	Royal Government of Cambodia
SBCC	Social and Behavior Change Communication
SD	Standard Deviation
SIF	Small Indigenous Fish
SME	Small and Medium Enterprises
SPP	Stunting Prevention Program
USAID	United States Agency for International Development
VDC	Village Development Committee
VHSG	Village Health Support Group
WASH	Water, Sanitation and Hygiene
ZOI	Zone of Influence

I. INTRODUCTION

Overview of the NOURISH Project

NOURISH, an integrated nutrition project funded by USAID and the Presidential Initiative Feed the Future (FtF), aims to reduce the proportion of children in Cambodia who are stunted and to begin to break the intergenerational malnutrition cycle and halt productivity losses due to poorer cognition and reduced schooling. NOURISH works to accelerate stunting reduction by focusing directly on several of the key causal factors of chronic malnutrition specific to Cambodia—poverty, lack of access to quality nutrition services, lack of access to diverse and quality foods, unsanitary environments, lack of access to safe water, improved sanitation and hygiene practices, and social norms and practices that work against optimal growth and development. The project operates in three provinces—Battambang, Pursat, and Siem Reap—directly reaching more than 565 of the poorest rural villages and within those areas.

The NOURISH Project is implemented by Save the Children and partners: SNV and The Manoff Group with OEC in Battambang, Partners in Compassion in Pursat and Wathnakpheap in Siem Reap over the course of five years from June 6, 2014 to June 5, 2020.

The NOURISH Project contributes to USAID/Cambodia's Strategic Objective of *Improved Health Services in HIV/AIDS and Infectious Diseases as well as in Maternal, Child and Reproductive Health*, under Program Component 3: Improve Maternal and Child Health and Nutrition. NOURISH also contributes to FtF/Cambodia's goals: reduce the prevalence of poverty by 25% and reduce stunting by 20% in Feed the Future Cambodia's Zone of Influence (ZOI): Battambang, Pursat, Siem Reap, and Kampong Thom.

In pursuit of its goal, NOURISH offers comprehensive integrated approach through four complementary strategic objectives:

1. Improve community delivery platforms to support improved nutrition: A major delivery platform supported by NOURISH is the community stunting prevention program that uses fixed locations for promoting children's growth, with referral and follow-up for sick and severely malnourished children through existing social support and health systems building upon Baby-Friendly Community Initiative. NOURISH supports village health support groups (VHSGs) to deliver quality nutrition services and establish strong links to health centers. Collaboration with the agriculture sector offers opportunities to address food security constraints, and broad reach within the community to promote social and behavior change for improved nutrition.

2. Create demand for health, WASH, and agriculture practices, services, and products: Conditional cash transfer (CCT), vouchers, and social and behavior change communications (SBCC) activities work in unison to create demand for improved evidence-based practices/behaviors, services and products. CCT serves as an incentive for women to access nutrition, maternal and childcare services by addressing poverty-related constraints. Community-led total sanitation creates the demand for sanitation, and the provision of vouchers helps poor "first 1,000 days" food-insecure households to purchase nutrition (e.g. vegetables, fish), agricultural (e.g. seeds, fertilizers, SIF cement rings) and WASH products (e.g. water filters, latrines, hand washing devices).

3. Expand supply of agriculture and WASH products using the private sector: On the supply side, NOURISH works with local small and medium enterprises to increase the market for agriculture and sanitation products. Expanding the supply to meet the demand ensures that households and communities have access to agriculture and WASH products, which contributes to improved household diet diversity and sanitation practices.

4. Enhance capacity of government and civil society for integrated nutrition programming: NOURISH strengthens the capacity of local partners in nutrition, agriculture, sanitation and hygiene activities through organizational development, mentoring, and advocacy. The

project supports local leaders to encourage nutrition activities in the community, reinforcing the social and behavior change messaging and community structures for nutrition.

Project activities are implemented across three sectors and respective line ministries—Ministry of Health, Ministry of Rural Development and Ministry of Agriculture, Fisheries, and Forestry—engaging with central government and sub-national counterparts all the way through to the community and family levels where most project activities are taking place.

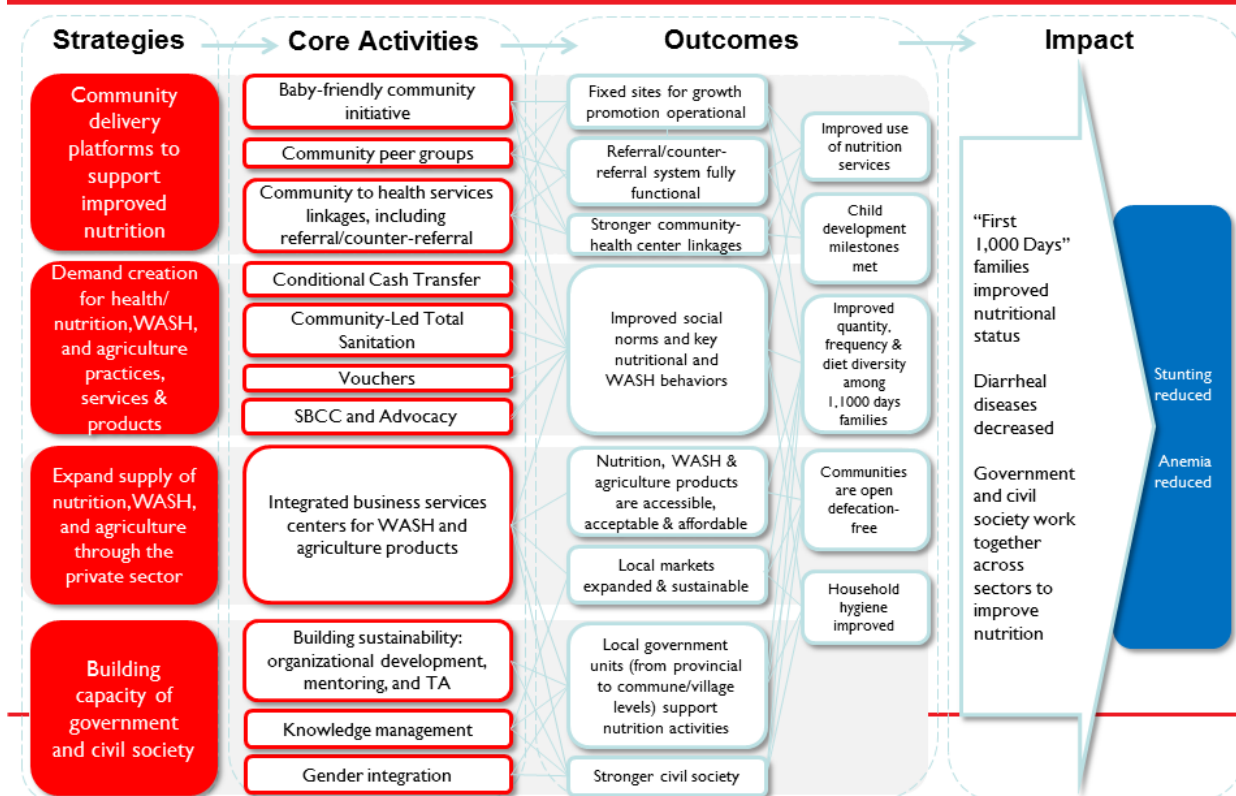
Core project activities under each strategic objective constitute the essence of the project implementation strategy designed to produce targeted outcomes in order to achieve stunting reduction in three project-supported provinces. In the effort to make larger impact, NOURISH takes a multi-sectorial approach to improve nutrition status of women and children uniquely integrating health/nutrition, water, sanitation and hygiene (WASH) and agriculture.

Health/Nutrition: To strengthen care practices for “first 1,000 days families” that include pregnant and lactating women and children under the age of two, NOURISH works primarily at the community level to improve maternal and child diets and feeding practices with special emphasis on complementary feeding and appropriate care-seeking behaviors through the MOH/National Nutrition Program’s Baby-Friendly Community Initiative.

WASH: To improve access to safe drinking water, improved sanitation and hygiene, NOURISH works to achieve Open-Defecation Free (ODF) through community-led total sanitation (CLTS). For safe drinking water at point of use and sustainable improved sanitation, NOURISH fosters development and promotion of water filters, latrines and handwashing devices by the private sector. Vouchers serve as incentives to expand sanitation demand to “first 1,000 days” ID poor families.

Agriculture: To improve access to diverse quality foods for women and children year-round, NOURISH links “first 1,000 days” families with agriculture resources including tested tools and materials developed by other USAID-funded projects. Specifically, NOURISH promotes micro-gardens and the consumption of small indigenous fish and other nutritious foods from value chains supported by other USAID-funded projects. This includes work on decision-making related to purchase of nutrient-dense foods and capacity strengthening of provincial agriculture partners to support poor women farmers.

NOURISH: From Strategy to Impact



Impact Indicators to measure the Goal:

Improve the nutritional status and well-being of women and children in underserved rural communities

3.1.9(6) (customized) Prevalence of anemia among women of reproductive age

3.1.9(14) (customized) Prevalence of anemia among children 6-59 months

3.1.9(11) (customized) Prevalence of stunted children under five years of age

3.1.9(12) (customized) Prevalence of wasted children under five years of age

3.1.9(16) (customized) Prevalence of underweight children under 5 years of age

3.1.9(13) (customized) Prevalence of underweight women

3.1.8(33) (customized) Percentage of children under five who had diarrhea in past 2 weeks

Outcome Indicators to measure Objective 1:

Increased Practice of Key Nutrition Behaviors and Timely Realization of Child Development Milestones

3.1.9.1(4) Prevalence of exclusive breastfeeding of children under 6 months

3.1.9.1(1) (customized) Prevalence of children 6-23 months receiving a minimum acceptable diet

3.1.9.1(2) (customized) Women's Dietary Diversity: Mean number of food groups consumed by women of reproductive age
% parents/caregivers of children 0-23 months providing age-appropriate stimulation of children according to child care and development standards
% of children age 9-11 months who received enriched solid, semi-solid, or soft foods with frequency in the last 24 hours
Outcome Indicators to measure Objective 2: <i>Increase Use of Improved Sanitation Facilities and Practice of Key Water and Hygiene Behaviors</i>
3.1.8.2-1 % of households in the target area using an improved latrine
3.1.6.8-2 % of households in the target area practicing correct use of recommended household water treatment technologies
3.1.6.8-1 % of households with soap and water at a hand washing station commonly used by family members
% of caregivers disposing of feces appropriately

1.3 Justification of the Endline Survey

USAID's 2011 Evaluation Policy states that "before" and "after" measurements should be used to assess a project's performance toward intended outcomes. Performance Monitoring tracks "direct and near-term consequences of project activities. Performance Monitoring and Performance Evaluation are linked in that a project should ensure activities occur and are of high quality (Performance Monitoring) in order to achieve planned change at the end-line that that baseline on outcome indicators (Performance Evaluation).

To assess performance before and after, the NOURISH Project conducted a baseline survey will do an endline survey of NOURISH Project beneficiaries (not population-based studies). Although the project anticipated that no mid-term measurement would be made, the donor, USAID, requested a mid-term survey on June 5, 2017 for the project to know progress.

The baseline study collected initial measurements on the project's outcome indicators in November 2015 and conducted a mid-term survey in November 2017. The endline study will collect later measurements on the project's outcome indicators and will be conducted in the final year of the project in November-December 2018 to try to match seasonality with the baseline study as much as possible.

2. OBJECTIVES OF THE ENDLINE SURVEY

The endline survey aims to assess levels of knowledge, behaviors and environmental factors that contribute to nutritional outcomes in children under 5 years at endline to be able to answer the following questions when compared to baseline findings:

- What is the mid-term levels of knowledge, behaviors and environmental factors that contribute to nutritional outcomes in children under 5?
- What is the difference from baseline to mid-term among each of the outcome indicators?
- What is the project's reach and level of participation among community members?
- How is the project perceived and valued by community members and partners?

3. METHODOLOGY

3.1 Sampling

Statistical Population (Universe)

The NOURISH Project has selected 565 of the poorest villages in 70 communes and 20 districts in three provinces of Cambodia: Battambang, Pursat and Siem Reap. These villages are rural and under-served communities with a poverty rate of 30% or higher. The majority of community members are subsistence farmers; 69% of the poorest households are female-headed. In many of the communities, anecdotal evidence suggests that families are increasingly relying on remittances from relatives who migrate to Thailand short-term and/or long-term.

NOURISH Project Target Areas, by Province

	Districts	Communes	Villages
Battambang	8	25	240
Pursat	3	8	91
Siem Reap	9	37	234
Total	20	70	565

The Commune Database (CDB) of Cambodia, 2013, estimates that there are 17,554 children under five years of age in the 565 villages.

Total Population of Sampled Respondents in the NOURISH Project Target Area

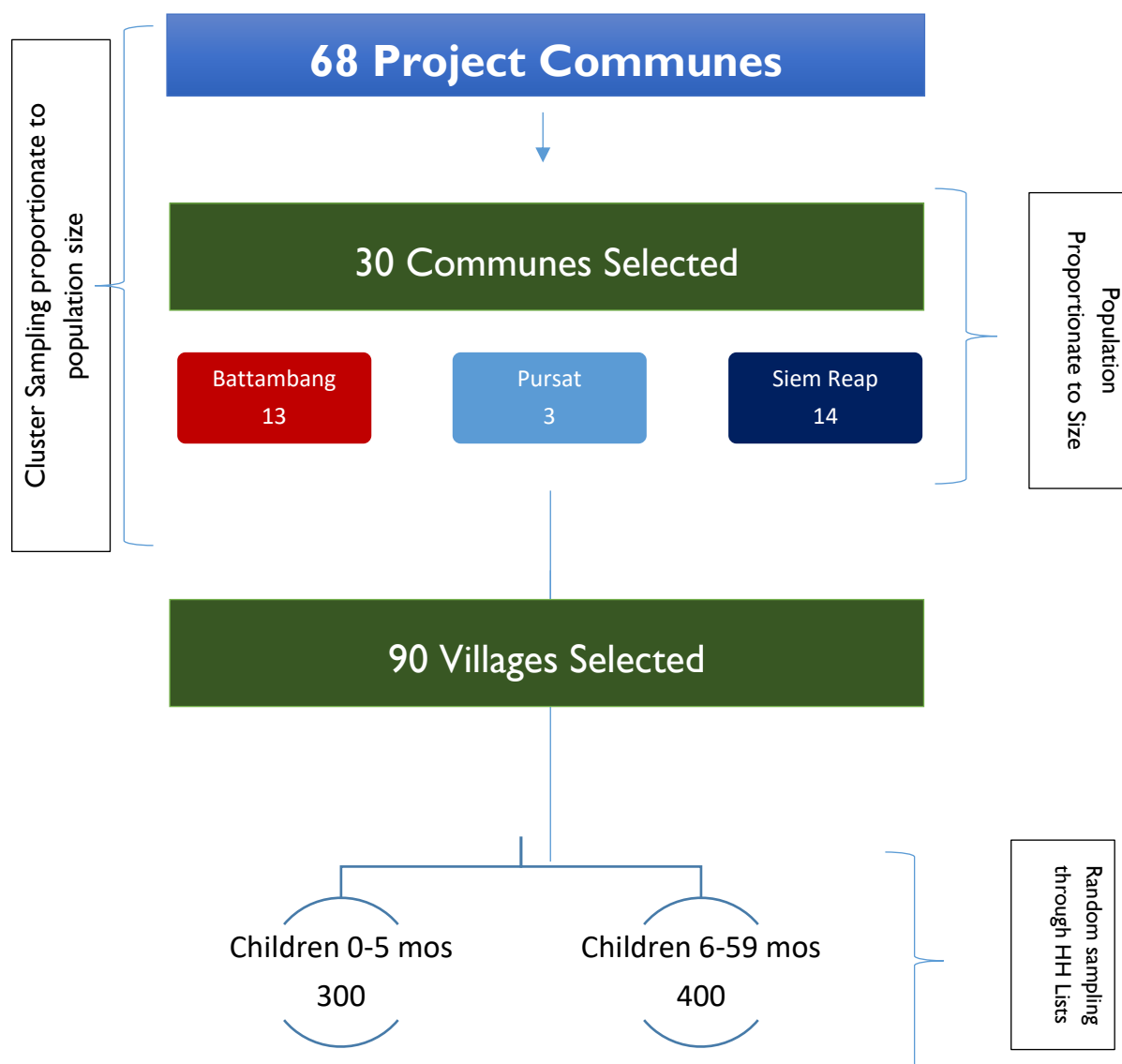
	0-5 months	6-59 months	Total	%
Battambang	1,722	6,064	60,081	44%
Pursat	396	1,331	11,786	9%
Siem Reap	1,966	6,075	65,807	48%
Total	4,084	13,470	137,674	100%

Sampling Procedures

The surveys will occur at three points in time: baseline, mid term, and end-line. However, the baseline and endline will involve cross-sectional data and not panel.

In the NOURISH project area, there are 68 communes. Thirty communes, approximately half, were randomly selected for sampling. The 30 were selected randomly within each province proportionate to the population size. Within each of the 30 communes, 90 villages were selected based on the distribution of the population. Respondents will be randomly selected from these villages using household lists.

Sample Selection Process



Sample Size Calculation

The sample size calculation is based on a conventional approach of using a 95% level of confidence with a confidence interval of +/-5%*

The sample size calculation is computed based on the following formula;

$$N = \frac{z^2 p(1-p)}{e^2}$$

z = 1.96 from the standard normal variate tables (+5% type I error, P<0.05)

P = Expected proportion in population based on previous studies or pilot studies

e = Absolute error or precision

Sampled Population

The baseline survey will sample from children under five years of age.

Respondent Category	Population Size (CDB 2013)	Data Source for Sample Calculation	Sample Size
Children 6-59 months Girls Boys	50,277	32.2% stunting (CDHS 2014)	400
Children under 6 months Girls Boys	11,537	50% exclusive breastfeeding (CDHS 2014)	300

3.2 Data Collection and Analysis

Baseline, Mid-term and End-line

The mid-term survey is cross-sectional in order to examine the progress of key indicators among the defined project target population at a single point in time and the relationship between these indicators and socio-demographic characteristics. The mid-term data will be used for programming targeting purposes as well as to compare to the endline survey.

The project will also conduct an endline survey during the last year of the project. This will similarly be cross-sectional to collect information on key indicators at a single point in time. Longitudinal or panel data will not be collected.

Instruments

The questionnaires are the same as the questionnaires used for the project baseline – but shorter (without anemia or women's questions or instruments). A majority of questions are based on validated questions in the Cambodia Demographic and Health Survey (CDHS) questionnaires and Feed the Future modules for surveys³³.

Table I Instruments

Indicator	Instrument
<i>Anthropometric Measures</i>	
Prevalence of stunted children <5	Caregiver of children under 5
Prevalence of underweight children <5	Caregiver of children under 5
Prevalence of wasted children <5	Caregiver of children under 5
<i>Questionnaires</i>	
Prevalence of exclusive breastfeeding of children under 6 months	Caregiver of children under 5
Prevalence of children 6-23 months receiving a minimum acceptable diet	Caregiver of children under 5
% parents/caregivers of children 0-23 months providing age-appropriate stimulation of children	Caregiver of children under 5
% children <5 who had diarrhea in prior 2 weeks	Caregiver of children under 5
% of households in the target area using an improved latrine	Caregiver of children under 5
% of households practicing correct use of recommended HH water treatment technologies	Caregiver of children under 5
% of households with soap and water at a hand washing station commonly used by family members	Caregiver of children under 5
% of caregivers disposing of feces appropriately	Caregiver of children under 5

³³ Feed the Future M&E Guidance Series. Volume 8: Population-Based Survey Instrument for Feed the Future Zone of Influence Indicators with Revised WEAI Module, October 2012

Questionnaires include sections on anthropometry and interview questions including: background characteristics (e.g. age, family structure, work), knowledge and attitudes toward related contextual issues such as perceptions of food for children, care practices, and behaviors on diet/feeding, and sanitation and hygiene.

Interviewers

Two types of researchers/interviewers will collect the data:

1. Anthropometrists
2. Quantitative surveyor

The anthropometry will be conducted in a central location in the community (but can be done at the home if the caregiver prefers.)

Questionnaire

The same questionnaires used at baseline will be used at endline with several additional questions on exposure to project activities and perceptions of nutrition.

Prior to training the interviewers, selected surveyors and NOURISH staff will pilot the additional questions for understanding. Any confusing language will be corrected.

Training of Researchers

NOURISH will train interviewers on quantitative data collection and use of the questionnaires. Experienced anthropometrists will weigh and measure children to ensure that weights and heights are measured, read and recorded correctly and consistently across locations. Additionally, these people will receive refresher training by the NOURISH Project nutritionist, following training detailed in the FANTA Guide.³⁴

The two -day training will include key principles of interviewing, practice using each questionnaire, and practice in the field to identify households, select respondents and conduct interviews using the questionnaires and record the answers.

Location of Interviews

Anthropometry will be conducted at a central location in the village to be decided by the Village Chief, such as the village chief's home or the community meeting hall. Any caregiver who prefers to have the weighing done at their own home, however, can opt to do that instead. The reason it is done publically is because calling caregivers together is common practice in Cambodia, for immunization, Vitamin A distribution, outreach (including weighing for remote villages). Otherwise people may believe that other types of data would be collected.

The interviews will be conducted at each person's home. All efforts will be made to find a private and quiet place for the interview, away from other people.

Interview Time

Each interview, including anthropometry, will take no longer than one hour. Referrals or questions / concerns raised may take longer and are not counted within this time. If the pilot test is longer, questions will be streamlined. We recognize the time constraints of families, especially women, in the project areas.

Data Collection

Anthropometry:

1. Obtain verbal consent from the respondent or caregiver of the child in advance. Invite caregivers of children to come at another time.

³⁴ Cogill, Bruce. 2003. *Anthropometric Indicators Measurement Guide*. Washington, DC: Food and Nutrition Technical Assistance (FANTA) Project, FHI 360

2. On the day of the study, read the consent form aloud. Ask the caregiver to sign (or provide a thumbprint as a sign of consent) the consent form if they agree after explaining the purpose and process of the study and clarifying that participation is voluntary with no penalties for refusing to participate.
3. A trained and experienced anthropometrist will weigh and measure each person. Children will be weighed with minimal clothes (experience to date shows that mothers are willing to remove the child's shirt, but not the shorts or skirt; children do not wear diapers). To avoid making mothers uncomfortable, the anthropometrists will adjust the weight for any clothes that remain on.
4. Following the weighing and length measurements, any caregiver of a child who is classified as severely malnourished will be referred to the referral hospital in collaboration with health workers.

Interviews:

1. NOURISH District Officers obtain verbal consent from the respondent or caregiver of the child in advance.
2. At the person's home on the day of the study, read the consent form aloud. Ask the respondent to sign (or provide a thumbprint as a sign of consent) the consent form after explaining the purpose and process of the study and clarifying that participation is voluntary with no penalties for refusing to participate.
3. Conduct the interview in a location selected by the respondent.

Incentives

Respondents will not receive any financial or in-kind incentive to participate.

Consent

Participation in the survey will be voluntary. Prior to participation, caregivers will be informed that they have no obligation to participate and will face no penalty or consequence if they choose not to. If they agree, they will also be informed that they are free to withdraw from the study at any time, again with no penalty or consequence. Interviewers will read the consent statement aloud before taking any measures or conducting interviews, and discuss it with the participant before they will be requested to sign (or give a thumbprint) as a sign of consent. Consent forms will be kept in a locked cabinet in the Battambang NOURISH office for 1 year, and then destroyed.

Unique Identifier Codes

Each household will be given a unique identifier code comprised of the first letter of the Province, first letter of the Commune, first letter of the Village, and the number of the interview.

Data Quality and Management

Anthropometrists and interviewers will be trained for one week prior to the field work. The training will include time for demonstration and practice with feedback. Anthropometrists will be trained using proven methods to standardize data³⁵. The contracted agency is responsible for hiring researchers and co-training with NOURISH.

To ensure the quality of anthropometric data, scales will be re-calibrated in each village prior to weighing. The length board measurements will be taken 3 times per child to ensure reliability of the data. Additionally, children will be consistently weighed with minimal clothing. The NOURISH M&E team will do spot checks on data cleaning, coding and entry.

³⁵ Cogill, Bruce. 2003. *Anthropometric Indicators Measurement Guide*. Washington, DC: Food and Nutrition Technical Assistance (FANTA) Project, FHI 360.

Questionnaires will be entered immediately when reaching the location (likely to be Phnom Penh where the contracted agency is based). The contracted firm will be responsible for providing up to 10 data entry specialists as well as one person to be in charge of quality control during data collection, and one data entry supervisor. Any potential problems noticed will be flagged with the supervisor who will take concerns to the Principal Investigators.

Anthropometric data and questionnaires will be entered twice. After double entry, the two datasets will be validated and a report was generated to compare the two datasets. The quality controller managed the verification process and data entry will be accepted after differences between the two entries are resolved. To prevent losing any of the entered data, the data entry supervisor will back up the data entered on individual computers weekly.

Data Analysis

The data will be analyzed on SPSS and WHO Anthro. With the data sets that show each variable, we will analyze the results according to NOURISH indicators. Analysis will generate results on means and proportions for the entire survey. For some indicators, we will disaggregate the results by sex and age, as per the Performance Indicator Reference Sheets in the NOURISH Project Monitoring and Evaluation Plan.

Analysis will have multiple layers, including a range of demographic and socio-economic characteristics (e.g. age, sex, ID poor status). For measures of a continuous nature (e.g., age group), descriptive statistics such as frequency, mean, median, standard deviation and indices of normality will be produced. These indices will be listed for children overall, as well as by other selected socio-demographic measures. In addition, simple bivariate (i.e., Pearson Correlations, chi-squares) and multivariate regression analyses will be conducted, controlling for background variables such as demographic characteristics. The unit of analysis will be the individual.

Study Report

Using the analysis for each indicator, the firm /consultant will prepare a brief report with NOURISH. NOURISH will make revisions to the analysis and draft report and ask questions in case of further analysis required.

The final brief report will be prepared and submitted to NOURISH. Data will be compiled across provinces; no identifiers will be included in any findings or reports.

4. HUMAN RESOURCES AND RESPONSIBILITIES

Table 2: Management of Study

Position	Name	Qualifications	Role and Responsibilities
M&E Specialist, NOURISH Project	Srales Math	MS Social Science Research	Co-principal Investigator: Overseeing data collection, data entry, data management, data analysis and report writing
Interim Chief of Party, NOURISH Project	Caroline Blair		Guide management of the endline
Nutrition Advisor, SCUS	Carolyn O'Donnell	MPH	Technical assistance to ensure adherence to donor requirements and quality of the study.
Research and Evaluation Advisor, SCUS	Larry Dershem	M&E Expertise	Technical assistance on methodology, data management and analysis (in-country after data collection)
Contractor	TBD	TBD	Principal Investigator: Data collection, data entry, data management, data analysis, presentation and report writing

4. ETHICAL CONSIDERATIONS

Ethical review

In keeping with USAID's policy (22 CFR Part 225), NOURISH will ensure the procedures comply with US federal standards for human subject research with review and approval by the internal Save the Children Ethics Review Board (ERB).

There is no known conflict of interest among any of the research team members that could lead to compromised judgement.

Informed Consent Protocols

Informed Consent: Participation in the survey will be voluntary. Prior to participation, caregivers will be informed that they have no obligation to participate and will face no penalty or consequence if they choose not to. If they agree, they will also be informed that they are free to withdraw from the study at any time, again with no penalty or consequence. On the day of the survey, interviewers will read the consent statement aloud and discuss it with the participant before they will be requested to sign (or give a thumbprint) as a sign of consent. Consent forms will be kept in a locked cabinet in the Battambang NOURISH office for 1 year, and then destroyed.

The child's caregiver will be requested to sign (or give a thumbprint) as a sign of consent prior to their interview and the measurement of the child.

Confidentiality: Confidentiality will be ensured during all stages of the study. Each child's date of birth and sex will be recorded, but no names or other identifying characteristics of caregivers or children. The questionnaires will be kept in a locked cabinet for 1 year, and then destroyed.

Electronic versions SPSS computer files containing these identifiers (birthdate) will be password protected (both in the local data collection firm and NOURISH office). The final data set will only be accessed by the data consultant and the NOURISH staff and advisor.

Findings will be reported by province, rather than by village or commune, to further protect individual confidentiality.

Respect for Respondent's Rights: Respondents will be informed of all risks and protections in the written consent form, and those who cannot read will have the consent statements read aloud to them. Participants will also be informed of their right to withdraw from the study and to not answer any questions they do not feel comfortable answering. Respondents will be provided with contact information for a local contact should they have any further questions or concerns.

The Village Chief, and each respondent, will receive contact information for the NOURISH Project M&E Specialist who will be able to answer questions or concerns that arise at any point in time. Additionally, the provincial health department (PHD) will be linked with the Village Chief to field concerns.

During the interviews, the participants will be encouraged to raise questions with the interviewers, and will get contact information for the District Officer and provincial health departments to consult then or in the future should they have questions or concerns.

Risks and Benefits

There are no physical risks for participating in this survey.

A potential risk is that children who are malnourished may not be identified due to human error in weighing and measuring children. To minimize the potential risk of incorrectly identifying a malnourished child, a Type II error (false negative) in which a malnourished child is classified as normal, NOURISH will use only trained and experienced anthropometrists to conduct weighing and measuring. The nutritionist on NOURISH staff will conduct a (refresher) training of experienced anthropometrists. Furthermore, the same persons will do the weighing and measuring throughout the baseline in all villages to ensure consistency.

Although there are no sensitive questions in this mid-term survey, there may be minimal psychological risk that may arise from shyness to be interviewed for some of the younger mothers. To minimise this risk, participants will be advised that they can decline to answer questions that make them uncomfortable. Additionally, participants will be assured that refusal to participate will not affect any services or care they would like to receive from the government of Cambodia or any other service provider.

Families and children will benefit by receiving the weight and height screening. Any child who is under the standard weight and/or height for her/his age will be offered follow-up counseling through the regular systems established by the project- trained Village Health Support Group (VHSG) and health workers. Additionally, staff will support referrals to health centers or referral hospitals for any children are seriously ill or severely malnourished not growing well (-3 SD), or for any other concerns that caregivers may have. Any child from a poor family referred to a referral hospital will receive funds for transportation through the Health Equity Fund.

All participants will be informed that theirs and other Cambodian communities will benefit because information gained from this study will allow for more informed decision-making in programme design and service delivery.

6. LIMITATIONS

Potential limitations of the survey include response bias and recall bias. There are many reasons why people may provide less-than-truthful responses to questions. For instance, they may provide socially desirable answers. We will attempt to reduce this potential bias by providing respondents with clear information about why they were being interviewed (including the fact that their responses would have no bearing on their participation or lack of participation in the project or other services) as well as transparent information about the use of their responses and the fact that they would never be identified individually or by name in any reports. We will also observe the home and add this observation data when it is appropriate.

Recall bias, which results from having to ask respondents for information from a period in the past, is inevitable. This is a particular concern for dietary recalls for children. We will attempt to reduce this by triangulating information and observing when possible. It is also possible that there is inconsistent reporting on the type of foods and the amount of food consumed; this will be addressed by having interviewers bring a list of foods and standard measures in an effort to report consistently.

7. TIMELINE

Task	2018						2019		
	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar
Review questionnaires				X					
Submit to Save the Children's Ethical Review Board				X					
Contract a research firm				X					
Recruit interviewers					X				
Train interviewers and District Officers					X				
Data collection					X	X			
Review data table templates							X		
Review data tables							X		
Review draft report								X	
Finalize report									X

ANNEX II: NOURISH Endline Data Tables

Demographics

Women's Demographic Tables

Table 1 Respondents by Category, Province and Age

Province	Caregivers of Children 0- 5 months %	Caregivers of Children 6-59 months %	Women Reproductive Age %	Pregnant Women %	Total %
Battambang	41.2	41.7	41.0	38.3	40.9
Siem Reap	42	41.6	41.0	45.1	42.1
Pursat	16.8	16.8	18.0	16.6	17.0

Table 2 Women's Marital Status, by Province

Marital status	Battambang %	Siem Reap %	Pursat %	Total %
Married	97.6	97.3	98.1	97.5
Widowed	1.3	1.3	0.5	1.2
Divorced	1	1.2	1.1	1.1

Table 3 Women's Education, by Province

	Battambang %	Siem Reap %	Pursat %	Total %
Attended School	93.0	90.0	93.0	91.7
Illiteracy	1.5	1.8	0.8	1.5
Primary	59.6	58.4	65.8	60.2
Secondary	27.0	27.9	24.6	27
High	10.9	10.0	7.3	9.9

Table 4 Women's Occupation

	Total %
Farmer	58.0
Seller	7.9
Teacher	2.5
Daily Labor	17.0

Table 5 Husbands' Education, by Province

	Battambang %	Siem Reap %	Pursat %	Total %
Attended School	89.9	88.9	94.3	90.2
Illiteracy	0.8	1.8	1.2	1.3
Primary	51.2	59.1	54.2	55.0
Secondary	32.6	25.2	30.0	29.0
High	11.8	11.5	11.2	11.6

Table 6 Husbands' Occupation

	Total %
Farmer	56.5
Factory	1.8
Seller	4.6
Construction/Carpenter	15.7
Teacher/official	11.5
Daily labor	5.0

Table 7 Caregivers' Husbands' Location of Work: In or Outside of Village, by Province

	Battambang		Siem Reap		Pursat		Total	
	N	%	N	%	N	%	N	%
In village	549	81.6	552	80.8	225	88.4	1346	82.4
Outside (in Cambodia)		51.5		64.2		65.4		58.8
In Thailand	101	48.5	106	34.9	26	26.9	233	39.9
Works Now	583	44.6	632	26.4	132	34.6	1374	35.2

Children's Demographic Tables

Table 8 Type of Relationship to Child, by Province

	Battambang		Siem Reap		Pursat		Total	
	N	%	N	%	N	%	N	%
Mother	550	97.3	564	99.5	228	100	1342	98.7
Aunt	1	0.2	1	0.2	0	0	2	0.1
Grandmother	12	2.1	2	0.4	0	0	14	1.0
Total	565		567		228		1360	

Table 9 Children's Ages, by Province

	Battambang %	Siem Reap %	Pursat %	Total %
0-5	30.2	29.7	29.4	29.8
6-11	22.3	24.7	26.3	24.0
12-23	36.6	36.4	33.3	36.0
24-35	8.1	6.7	7.0	7.3
36-47	2.9	2.5	3.9	2.9

Table 10 Children's Ages and Sex, by Province

Provinces	Age in months	Female		Male		Total	
		N	%	N	%	N	%
Battambang	0-5	70	43.2%	86	53.8%	156	48.4%
	6-11	42	25.9%	32	20.0%	74	23.0%
	12-23	42	25.9%	30	18.8%	72	22.4%
	24-35	6	3.7%	7	4.4%	13	4.0%
	36-47	1	.6%	4	2.5%	5	1.6%
	48-60	1	.6%	1	.6%	2	.6%
	Total	162	100%	160	100%	322	100%
Siem Reap	0-5	80	48.5%	92	48.9%	172	48.7%
	6-11	30	18.2%	42	22.3%	72	20.4%
	12-23	47	28.5%	44	23.4%	91	25.8%
	24-35	6	3.6%	7	3.7%	13	3.7%
	Total	165	100%	188	100%	353	100%
Pursat	0-5	20	60.6%	21	51.2%	41	55.4%
	6-11	9	27.3%	10	24.4%	19	25.7%
	12-23	1	3.0%	7	17.1%	8	10.8%
	24-35	2	6.1%	2	4.9%	4	5.4%
	36-47	1	3.0%	0	0.0%	1	1.4%
	48-60	0	0.0%	1	2.4%	1	1.4%
	Total	33	100%	41	100%	74	100%
Total		360		389		749	

Table 11 Observation of Child's Birth Certificate, by Province

	Battambang		Siem Reap		Pursat		Total	
	N	%	N	%	N	%	N	%
Yes observed	487	86.2	521	91.9	185	81.1	1193	87.7
Yes, not observed	22	3.9	23	4.1	0	0	45	3.3
No	565	9.9	567	4.1	228	18.9	1360	9.0
Total	565		567		228		1360	

Table 12 Poverty Status, by Respondent Category and Province

Category	Battambang %	Siem Reap %	Pursat %	Total %
Yes (ID Poor Card observed)	42.3	23.7	28.4	32.1
Yes (ID Poor Card not observed)	2.3	1.6	0.3	1.6
Yes (ID Poor Card expired)	23.1	32.2	32.8	28.6
No	31.1	41.9	38.3	36.9

Health and Nutrition

Maternal Health and Nutrition Tables

Table 13 Sources of Antenatal Care (ANC)

	Total %
National Hospital	0
Provincial Hospital	7.3
Private Facility	0.6
Health Center	90.0
Health Post	0.2
No health facility-based ANC	N/A

Table 14 Timing of First ANC Visit

	Total %
<3 months	84.3
4-5 months	10.0
6-7 months	1.9
8 or more months	3.8

Table 15 Number of ANC Visits

	Total %
1	0.9
2-3	2.2
4+	96.9

Table 16 Source of Postnatal care

	Total %
Doctor/medical assistant	6.3
Midwife	84.3
Nurse	8.6
Traditional birth attendant	0.1
None	0.7

Table 17 Birthweight (Mother's Recall)

	Total %
Very large	4.3
Larger than average	29.9
Average	56.8
Smaller than average	7.7
Very small	1.1

Table 18 Birth Weight (Recorded)

	Total %
<2.5kg	4.7
2.5-3.5kg	79.5
3.6-4.5kg	12.4
>4.5kg	2.8

Table 19 BMI Women of Reproductive Age

	N	%
<18.5 (thin)	58	11.1
18.5-24.9 (normal)	331	67.0
>25 (overweight)	108	21.9
Total	494	100%

Table 20 BMI Women of Reproductive Age, by Province

	Battambang		Siem Reap		Pursat		Total	
	N	%	N	%	N	%	N	%
Total Underweight <18.5	22	10.8	26	13	7	7.8	58	11.1
BMI <17	5	2.5	6	3.0	1	1.1	12	2.4
BMI 17-18.4	17	8.3	20	10	6	6.7	46	8.7
Normal Weight 18.5-24.9	128	62.7	143	71.5	60	66.7	331	67.0
Overweight >25	54	26.5	23	25.6	31	15.5	108	21.9
Total	204		200		90		494	

Table 21 Prevalence of Anemia, Women of Reproductive Age

	N	%
Any anemia	500	31.8
No anemia (≥ 12 g/dl)	1072	68.2
Total	1572	

Table 22 Prevalence of Anemia, Pregnant Women

	N	%
Any anemia	397	40.3
No anemia (≥ 11 g/dl)	588	59.7
Total	985	

Table 23 Women's Dietary Diversity

	Total %
Staples (rice)	99.8
Beans, Nuts and Seeds	26.0
Cheese, yogurt or other milk products	24.6
Ducks or chicken eggs	38.5
Flesh foods	98.4
Dark green leafy vegetables	75.0
Orange vegetables and fruits	64.8
Other fruits and vegetables	55.2

Child Health and Nutrition Tables**Table 24 Timing of Child's Most Recent Visit to Health Center, by Province**

	Battambang %	Siem Reap %	Pursat %	Total %
0-1 month ago	45.1	63.0	54.8	54.2
2-3 months ago	13.1	15.7	12.7	14.1
4-6 months ago	13.6	9.0	12.3	11.5
> 6 months ago	22.3	11.1	18.0	16.9

Table 25 Services Received during Most Recent Visit to a Health Facility

	Battambang %	Pursat %	Siem Reap %	Total %
Vaccination	94.3	90.3	77.4	86.6
GMP	84.7	93.4	50.4	62.9
Sick child care: medicine	47.1	25.1	52.0	45.5
Sick child care: IV	47.1	25.1	52.0	79.2
Counseling	48.1	47.6	41.8	45.4

Table 26 Prevalence of Anemia, Children, by Province

	Battambang		Siem Reap		Pursat		Total	
	N	%	N	%	N	%	N	%
Any anemia (<11 g/dl)	396	56.3	397	66.8	160	54.4	953	60.3
No anemia (≥11 g/dl)	307	43.7	197	33.2	134	45.6	627	39.7
Total	703		594		294		1580	

Table 27 Exclusive Breastfeeding among Children 0-5 Months, by Sex and Province

	Battambang		Siem Reap		Pursat		Total	
	N	%	N	%	N	%	N	%
Exclusive Breastfeeding	108	64.3	139	83.2	54	80.6	301	74.9
Girls	52	67.5	73	83.0	29	85.3	154	77.4
Boys	56	61.5	25	75.8	66	83.5	147	72.4

Table 28 Liquids Other than Breastmilk Given, Children 0-5 Months

(Multiple answers)	N	%
Prelacteal feed	46	11.5
Water	25	6.3
Infant formula	19	4.8
Milk	6	1.5
Juice	3	0.8
Soup broth	1	0.3
Borbor	15	3.8
Other liquids	4	1.0
Vitamin drops or medicine	24	6.0
Orasel	5	1.3

Table 29 Times Breastfed in Past 24 Hours

	Total %
< 5 times	20.1
5-10 times	45.5
11+ times	34.4

N	Minimum	Maximum	Mean	Std. Deviation
338	0	35	11.73	5.014

Table 30 Duration of Breastfeeding

	Total %
< 5 minutes	17.2
5-9 minutes	24.0
10-15 minutes	20.8
> 15 minutes	38.0

N	Minimum	Maximum	Mean	Std. Deviation
405	0	50	13.06	12.647

Table 31 Children 6-59 Months Food Consumption, by Type of Food and Province

	Battambang (n=164)		Siem Reap (n=183)		Pursat (n=36)		Total (n=383)	
	N	%	N	%	N	%	N	%
Milk products	148	37.3	129	32.3	60	37.3	337	35.2
Grains (rice)	392	98.7	388	97.0	156	96.9	936	97.7
Vitamin A-rich fruits and veg.	325	81.9	322	80.5	144	89.4	791	82.6
Other fruits & veg.	160	40.3	189	47.3	52	32.3	401	41.9
Eggs	198	49.9	169	42.3	104	64.6	471	49.2
Animal source foods	355	89.4	362	90.5	149	92.5	866	90.4
Nuts	52	13.1	61	15.3	22	13.7	135	14.1

Table 32 Fish Consumption in Past 24 Hours

	Any fish consumed		Small Fish	
	N	%	N	%
6-8 months	149	36.9	149	26.2
9-11 months	174	63.2	174	31.6
12-23 months	485	71.1	485	25.4

Table 33 Sweets and Packaged Snacks Consumption in Past 24 Hours

	Sweets		Packaged Snacks	
	N	%	N	%
Yes	433	45.4	130	13.6
No	518	54.4	821	86.1
Do not know	2	0.2	2	0.2
Total	953		953	

Table 34 Feeding Practices During and After Fever Children Under 5

	Drink Given During Fever %	Drink Given After Fever %	Food Given During Fever %	Food Given 1 Week After Fever %
Much Less	1.6	0.3	2.6	0.3
Somewhat Less	27.0	8.9	28.1	12.9
About the Same	41.5	57.2	43.6	58.0
More	26.8	26.0	17.1	18.4
Much More	2.9	0.8	0.3	0.3
Stopped	0	0.5	0.8	0.8

Table 35 Feeding Practices During and After Diarrhea Children Under 5

	Drink Given During Diarrhea %	Drink Given After Diarrhea %	Food Given During Diarrhea %	Food Given 1 Week After Diarrhea %
Much Less	3.0	0.4	1.3	0.4
Somewhat Less	20.9	5.2	25.7	11.3
About the Same	37.0	54.8	39.6	55.7
More	32.2	32.2	20.4	20.4
Much More	1.7	1.3	0.9	0.4
Stopped	0	0	1.7	0

Child Care and Development Table

Table 36 Positive Stimulation in Past 3 Days, Children 0-23 Months, by Province

	Told stories %	Sang songs %	Took out %	Played %	Counted %	Taught something New %	Ask questions %	Praise for learning new %	Show affection %
Battambang	25.5	66.1	86.0	93.7	39.5	56.6	66.1	53.5	88.5
Pursat	39.1	87.5	85.9	99.2	48.4	84.4	73.4	63.3	99.2
Siem Reap	27.6	85.2	83.6	93.4	43.8	65.1	69.7	72.7	91.8
Total	28.8	78.0	85.0	94.6	42.9	65.2	68.9	63.4	91.8

Water, Sanitation and Hygiene (WASH) Tables

Table 37 Water Treatment before Drinking, by Method and Province

	Battambang %	Siem Reap %	Pursat %	Total %
Boil	29.3	21.7	39.4	26.7
Filter	7.4	26.1	4.5	15.9
Buy pure drinking water	7.0	5.3	5.3	5.6
Chlorine	0.2	0.2	0	0.1
Boil (Transferred)	27.4	14.2	10.6	19.6

Table 38 Water Treatment before Drinking among Caregivers, by Method and Age of Child

	Children under 2		Children under 5		Total	
	N	%	N	%	N	%
Boil	383	53.2	13	29.5	396	51.8
Filter	97	13.5	5	11.4	102	13.4
Buy pure drinking water	41	5.7	3	6.8	44	5.8
Chlorine	2	0.3	0	0.0	2	0.3
Nothing	197	27.4	23	52.3	220	28.8
Total	720	100	44	100	764	100

Table 39 Water Filter Cleaning

	Total %
Daily	4.5
Every few days	N/A
Weekly	38.5
Monthly	46.7
Every few months	8.8

Table 40 Water Storage after Treatment

	N	%
Not transferred (kept in treatment container)	538	58.3
Transferred to a covered and/or sealed container	272	29.5
Transferred to an uncovered and/or unsealed container	13	1.4
Other	28	3.0
Missing	72	7.8
Total	923	100

Table 41 Household Sanitation Facilities

	Total %
Improved, Not Shared Facility	63.3
Improved, Shared Facility	15.8
Other	0
Non-improved Facility	
• Unimproved Facility	0
• Shared Facility	10.5
• Open Defecation	10.4

Table 42 Handwashing Station Characteristics (Observation)

<i>(Multiple answers n=2257)</i>	Total %
Soap or detergent is available	94.3
Within 10 meters of a toilet	39.3
Presence of soap & water at a HW station	93.8

Table 43 Separate, Dedicated Handwashing Stations

	Total %
Tippy Tap	7.4
Tippy Tap with soap	53.5
Happy Tap	4.2
Happy Tap with soap	7.4
No separate handwashing station	26.8

Table 44 Feces Disposal by Province

	Child used toilet %	Rinsed into toilet %	Threw into garbage %	Buried %	Left in open %	Threw in forest %
Battambang	2.3	42.8	2.3	36.6	3.0	9.4
Pursat	21.9	29.4	3.5	40.4	.4	3.9
Siem Reap	3.5	45.5	1.4	35.3	1.9	7.8
Total	6.1	41.7	2.1	36.7	2.1	7.8

Agriculture Tables

Table 45 Percentage who Grow Food at Home

	Battambang %	Siem Reap %	Pursat %
Yes observed	84.6	71.1	82.6
Yes not observed	0.7	0.6	0.3
No	14.8	20.6	17.2

Table 46 Vegetables Grown at Home, by Province

	Battambang %	Pursat %	Siem Reap %	Total %
Amaranth	37	30.5	26.9	32
Moringa	47.7	35.2	29.4	38.4
Pumpkin	41.5	41.2	22.4	34.1
Sweet Potato	16.2	14.2	20.6	17.5
Long Bean	17.8	17.6	12.1	15.6
Jack Fruit	39.2	17	32	32.5
Mango	78.2	47.2	76.6	72.1
Banana	82.1	63.5	83.6	79.4
Luffa gourd	12.5	26.1	12.5	17.5
Wax gourd	4.2	14.8	5.2	6.5
Wing bean	.4	2.2	.7	.8
Cucumber	1.8	6.3	1.2	2.3
Egg plant	3.8	12.3	10.2	7.8
Papaya	12.8	10.1	16.4	13.7
Ivy gourd	2	5.3	12.8	6.8
Sugar cane	0	.7	4.6	1.9
Coconut	4.5	1.9	7.9	5.4
Orange	3.3	8.2	3.0	4.4
Lemon grass	.9	.4	16.6	7.0

Table 47 Use of Vegetables Grown

	Battambang %	Pursat %	Siem Reap %	Total %
For Eating	100	99.4	99.6	99.7
For Selling	12.1	22	15.1	15
Give to Family	39.8	46.5	30.8	37.6
Give to neighbor	34.1	49.7	34.7	37.1
Give to animal	1.3	0.3	7.3	3.4
Throw away	0	0	0.6	0.2

ANNEX III. NOURISH Endline Questionnaires

QUESTIONNAIRE ID# _____

NOURISH ENDLINE QUESTIONNAIRE

CAREGIVERS OF CHILDREN 0-5 MONTHS

IDENTIFICATION
PROVINCE.....
DISTRICT.....
COMMUNE.....
VILLAGE.....
CLUSTER NUMBER.....
HOUSEHOLD CODE.....

HOUSEHOLD VISITS	
DATE	.....
INTERVIEWER'S NAME AND CODE	.....
SUPERVISOR NAME AND CODE	.....
TIME INTERVIEW STARTED	
TIME INTERVIEW COMPLETED	

Hello. My name is _____. I am working with the NOURISH Project. We are conducting a survey about nutrition in Cambodia. The information we collect will help to plan services for villages like yours. You were selected for the survey. I would like to ask you some questions. The questions usually take about 1 hour. READ THE CONSENT FORM.

SIGNATURE OF INTERVIEWER: _____ DATE: _____

RESPONDENT AGREES TO BE INTERVIEWED 1

RESPONDENT DOES NOT AGREE TO BE INTERVIEWED 2 END

Do you have any questions?

May I begin the interview now?

Ask woman to bring the child's Yellow Health Card and birth certificate, and the family ID Poor Card (if they have one).

BASIC INFORMATION

QUESTION	RESPONSE
1. IN WHAT MONTH AND YEAR WERE YOU BORN? <i>IF DON'T KNOW, KHMER MONTH AND YEAR BORN?</i>	Gregorian Month _____ Gregorian Year _____ Don't Know 88 _____
2. HOW OLD WERE YOU AT YOUR LAST BIRTHDAY?	_____ Years
3. HAVE YOU EVER ATTENDED SCHOOL?	Yes 1 No 2 SKIP TO Q5 Don't Know 88
4. WHAT IS THE HIGHEST LEVEL OF SCHOOL YOU ATTENDED?	Illiteracy Class 1 Primary (1-6) 2 Lower Secondary (7-9) 3 Upper Secondary (10-12)..... 4 Higher. 5 No Answer. 99
5. HAVE YOU EVER BEEN MARRIED?	Yes 1 No 2 SKIP TO Q14 Don't Know 88
6. WHAT IS YOUR MARITAL STATUS NOW?	Married 1 Widowed. 2 SKIP TO Q14 Divorced 3 SKIP TO Q14 No Answer 99 SKIP TO Q14
7. DID YOUR (LAST) (HUSBAND/PARTNER) EVER ATTEND SCHOOL?	Yes 1 No 2 SKIP TO Q9 Don't Know 88 SKIP TO Q9
8. WHAT IS THE HIGHEST LEVEL OF SCHOOL HE ATTENDED?	Illiteracy Class 1 Primary (1-6) 2 Lower Secondary (7-9) 3 Upper Secondary (10-12)..... 4 Higher. 5 No Answer. 99
9. HOW OLD IS YOUR (LAST) (HUSBAND/PARTNER)?	Under 20. 1 20-29. 2 30-39. 3 40-49. 4 50-59. 5 60 or over 6 Don't Know 88 Age_____
10. WHAT IS YOUR (HUSBAND'S) OCCUPATION? THAT IS, WHAT KIND OF WORK DOES HE MAINLY DO?	Farmer 1 Factory 2 Retail.....3 Motor taxi.....4 Construction/carpenter.....5 Teacher or official.....6 Unemployed 7 Daily labor (no regular work).....8 Other_____00

QUESTION	RESPONSE
	Don't know..... 88
11. DOES YOUR HUSBAND WORK IN THIS VILLAGE?	Yes 1 SKIP TO Q14 No 2 No answer..... 99
12. DOES YOUR HUSBAND WORK IN CAMBODIA OR OVERSEAS?	In Cambodia 1 Thailand 2 Other 00 Don't know 88
13. IF YOUR HUSBAND HAS WORKED OVERSEAS, WHEN WAS THIS?	Now 1 Earlier this year 2 Last year 3 1-3 years ago 4 Over 3 years ago 5 Don't know 88
14. WHAT IS YOUR OCCUPATION? THAT IS, WHAT KIND OF WORK DO YOU MAINLY DO?	Farmer 1 Factory 2 Retail 3 Motor taxi.....4 Construction 5 Teacher or official.....6 Unemployed.....7 Housewife/ mother 8 Daily labor, irregular.....9 Other 00 Don't Know 88
15. DOES YOUR FAMILY HAVE AN ID POOR CARD? <i>(Request to observe the card.)</i>	Yes observed. 1 Yes not observed 2 Yes expired 3 No 4 Don't know 88 No answer.. 99
16. ARE YOU ENROLLED IN A CCT PROGRAM FOR HEALTH AND NUTRITION?	Yes 1 No 2 Don't know 88
17. DO YOU HAVE YOUR OWN BANK ACCOUNT?	Yes 1 No 2 SKIP TO Q.19 Don't know 88
18. IF YOU HAVE YOUR OWN BANK ACCOUNT, WHICH BANK?	AMK 1 WING 2 ACLEDA..... 3 Other 99 Don't know.. 88
19. DOES YOUR HOUSEHOLD GROW ANY FOOD AT HOME FOR CONSUMPTION? <i>Request to see the garden.</i>	Yes Observed..... 1 Yes Not Observed 2 No 3 SKIP TO Q.25 Don't Know 88
20. IF YOUR HOUSEHOLD GROWS ANY FOOD IN THE HOME COMPOUND, WHAT DO YOU GROW? (CIRCLE ALL GROWN AT DIFFERENT TIMES OF THE YEAR.)	Ptee (Amaranth) 1 Moringa. 2 Pumpkin 3 Sweet Potato 4

QUESTION	RESPONSE
	Long Bean 5 Jackfruit. 6 Mango. 7 Banana 8 Other 00 Don't know 88
21. IF YOUR HOUSEHOLD GROWS FOOD AT HOME, WHAT DO YOU DO WITH THE PRODUCE? (Circle all answers given).	Eat 1 Sell. 2 Give to family and friends. 3 Give to neighbors. 4 Give to animals 5 Throw away. 6 Other 00 Don't know 88
22. IF YOU SELL SOME, HOW MUCH MONEY DO YOU MAKE FROM SELLING THESE EACH YEAR?	_____ Riel
[Ask only if she grows ptee, yardlong bean, moringa, or sweet potato in #20. If not, SKIP TO Q25]	None Bunch 1/2 kilo 1 kilo 2-5 kilos More
23. HOW MUCH OF _____ THAT YOU GROW DID YOUR HOUSEHOLD EAT IN THE PAST WEEK?	Amaranth 0 1 2 3 4 5 Moringa 0 1 2 3 4 5 Sweet potato 0 1 2 3 4 5 Long bean 0 1 2 3 4 5
[Ask only if she grows ptee, yardlong bean, moringa, or sweet potato in # 20. If not, SKIP TO Q25]	
24. WHO EATS THE PRODUCE USUALLY? (Read answers and circle all answers given).	Men 1 Women 2 Pregnant women. 3 Children below 1 year 4 Children 1 year – 2 years. 5 Children over 2 years 6 Other 00 Don't know 88
25. NOW I WOULD LIKE TO ASK ABOUT ALL THE BIRTHS YOU HAVE HAD DURING YOUR LIFE. HAVE YOU EVER GIVEN BIRTH?	Yes 1 No 2 No Answer 99
26. ARE YOU PREGNANT NOW?	Yes 1 SKIP TO Q.31 No 2 Don't know 88 No Answer.. 99
27. HAVE YOU BEEN PREGNANT IN THE PAST 12 MONTHS?	Yes 1 No 2 SKIP TO Q.31 No answer.. 99
28. WAS IT FULL TERM PREGNANCY?	Yes 1 No 2 No answer.. 99
29. HOW MUCH WEIGHT DID YOUR HEALTH WORKER ADVISE YOU TO GAIN DURING PREGNANCY?	Less than 10 kg. 1 10-12.0 kg 2 12.1- 14.9kg 3 14.9-17.9 kg 4 18 kg or more. 5 Never advised 6

QUESTION	RESPONSE
	Other 00 Don't remember..... 88
30. HOW MUCH WEIGHT DID YOU GAIN DURING PREGNANCY?	Less than 10 kg. 1 10-12.0 kg 2 12.1- 14.9kg 3 14.9-17.9 kg 4 18 kg or more. 5 Never weighed 6 Other 00 Don't remember 88
31. HOW MANY CHILDREN DO YOU CARE FOR UNDER 5 YEARS OF AGE?	— — <i>If 0, end the interview. If 1 or more, continue.</i>
32. WHAT IS YOUR RELATIONSHIP WITH EACH CHILD?	# children Mother 1 _____ Father 2 _____ Aunt 3 _____ Grandmother 4 _____ Grandfather.....5 _____ Sister..... 6 _____ Don't know 88 _____ No Answer.. 99 _____
33. FOR THE REST OF THIS INTERVIEW WE CAN TALK ABOUT ONE CHILD [SPECIFY AGE NEEDED] WHO IS AT HOME NOW. IF YOU HAVE TWINS, PLEASE PICK ONE. WHAT IS THE CHILD'S NAME?	_____
34. WHAT DATE WAS {child's name} BORN? <i>Verify with yellow child health card.</i>	Gregorian (French) Month _____ Gregorian (French) Year _____ Don't Know 88
35. WHAT IS [child's name]'S SEX?	Female. 1 Male..... 2
36. DOES [child's name] HAVE A BIRTH CERTIFICATE?	Yes Observed. 1 Yes Not Observed 2 No 3 Don't Know 88

WOMEN'S HEALTH CARE

QUESTION	RESPONSE																								
<i>Continue if mother is interviewed.</i> <i>SKIP to Q 50 if grandmother or father is interviewed as main caregiver of child.</i>																									
37. WHERE DID YOU RECEIVE ANTENATAL CARE FOR YOUR MOST RECENT PREGNANCY?	Home Your home 1 Midwife/TBA home. 2 Other home 3 Public Natl hosp (pp) 4 Provincial hosp. 5 Hlth center. 6 Hlth post 7 Outreach 8 Military hosp. 9 Private Priv. Hosp 10 Priv. Clinic 11 Other private. 12 Other _____ 00																								
38. HOW MANY MONTHS PREGNANT WERE YOU WHEN YOU FIRST RECEIVED ANTENATAL CARE FOR THIS PREGNANCY?	Months _____ Don't know 88																								
39. HOW MANY TIMES DID YOU RECEIVE ANTENATAL CARE DURING THIS PREGNANCY?	No. Times _____ Don't know 88																								
40. AS PART OF YOUR ANTENATAL CARE DURING THIS PREGNANCY, WERE ANY OF THE FOLLOWING DONE?	<table style="width: 100%; border: none;"> <thead> <tr> <th></th><th style="text-align: center;">Yes</th><th style="text-align: center;">No</th></tr> </thead> <tbody> <tr> <td>Were you weighed? WEIGHT . . .</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr> <td>Was your height taken? HEIGHT . . .</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr> <td>Was your blood pressure measured? BP</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr> <td>Did you give a urine sample? URINE . . .</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr> <td>Did you give a blood sample? BLOOD . .</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr> <td>Given advice on weight gain in pregnancy?</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr> <td>Given advice on food to eat in pregnancy?</td><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> </tbody> </table>		Yes	No	Were you weighed? WEIGHT . . .	1	2	Was your height taken? HEIGHT . . .	1	2	Was your blood pressure measured? BP	1	2	Did you give a urine sample? URINE . . .	1	2	Did you give a blood sample? BLOOD . .	1	2	Given advice on weight gain in pregnancy?	1	2	Given advice on food to eat in pregnancy?	1	2
	Yes	No																							
Were you weighed? WEIGHT . . .	1	2																							
Was your height taken? HEIGHT . . .	1	2																							
Was your blood pressure measured? BP	1	2																							
Did you give a urine sample? URINE . . .	1	2																							
Did you give a blood sample? BLOOD . .	1	2																							
Given advice on weight gain in pregnancy?	1	2																							
Given advice on food to eat in pregnancy?	1	2																							
41. DURING THIS PREGNANCY, WERE YOU GIVEN OR DID YOU BUY ANY IRON TABLETS OR IRON SYRUP?	Yes 1 No 2 Don't know 88																								
42. DURING THE WHOLE PREGNANCY, FOR HOW MANY DAYS DID YOU TAKE THE TABLETS OR SYRUP?	Days _____ Don't know 88																								
43. WHERE DID YOU GIVE BIRTH?	Home Your home 1 Midwife/TBA home. 2 Other home 3 Public Natl hosp (pp) 4 Provincial hosp. 5 Hlth center. 6 Hlth post 7 Outreach 8 Military hosp. 9 Private Priv. Hosp 10 Priv. Clinic 11 Other private. 12 Other _____ 00																								

HYGIENE AND SANITATION

QUESTION	RESPONSE
50. DO YOU DO ANYTHING TO THE WATER TO MAKE IT SAFER TO DRINK?	Yes 1 No 2 SKIP TO Q54 Don't Know 88
51. WHAT DO YOU USUALLY DO TO MAKE THE WATER SAFER TO DRINK? <i>(Confirm by observation)</i>	Boil 1 SKIP TO Q53 Filter 2 Chlorine 3 SKIP TO Q53 Buy drinking water.....4 SKIP TO Q54 Nothing 5 SKIP TO Q54 Other 99 SKIP TO Q54 No answer 00 Based on answer above: Water treatment device observed 1 Water treatment device not observed. 2 Daily 1 Weekly 2 Monthly 3 Every few months.....4 Every year 5 Do not remember.....9 Other 99 Observed: Filter looks clean 1 Filter looks dirty..... 2
52. HOW OFTEN IS THE FILTER CLEANED? <i>(Confirm by observation)</i>	
53. PLEASE SHOW ME WHAT HAPPENS TO THE WATER AFTER TREATED.	Transferred to a covered, sealed, clean container. . 1 Transferred to a an uncovered/unsealed, dirty container..... 2 Kept in the container where it was boiled 3 Transferred to filter (boiled water).....4 Not transferred 5 Other.....00
54. WHAT KIND OF TOILET FACILITY DO MEMBERS OF YOUR HOUSEHOLD USUALLY USE? <i>(Confirm by observation)</i>	Flush or pour flush toilet Flush to piped sewer system 1 Flush to septic tank 2 Flush to outside tank.....3 Flush to pit latrine 4 Flush to somewhere else 5 Flush, don't know where 6 Pit latrine Ventilated improved pit latrine 7 Pit latrine with slab 8 Pit latrine without slab/ open pit ... 9 Composting toilet 10 Bucket toilet 11 Hanging toilet/hanging latrine 12

QUESTION	RESPONSE
	No facility/bush/field 13 SKIP TO Q57 Use another person/family's latrine.....14 SKIP TO Q57 Other _____00 (SPECIFY) <i>Answer above is confirmed by observation</i> Observed 1 Not observed 2
55. DO YOU SHARE YOUR TOILET FACILITY WITH OTHER HOUSEHOLDS?	Yes 1 No 2 SKIP TO Q57 Don't Know 88
56. HOW MANY HOUSEHOLDS USE THIS TOILET FACILITY?	Number _____ Don't know 88
57. THE LAST TIME (<i>child' name</i>) PASSED STOOLS IN THE PAST 24 HOURS, WHAT WAS DONE TO DISPOSE OF THE STOOLS? (<i>Confirm by observation.</i>)	Child used toilet or latrine 1 Put/rinsed into toilet or latrine 2 Put/rinsed into drain or ditch 3 Thrown into garbage 4 Buried 5 Left in the open 6 Other 99 (specify) Observed stools in hole, drain or ditch 1 Did not observe stools in hole, drain or ditch... 2
58. PLEASE SHOW ME WHERE MEMBERS OF YOUR HOUSEHOLD MOST OFTEN WASH THEIR HANDS.	Observed 1 Not observed, not in dwelling/yard/plot 2 Not observed, no permission to see 3 Not observed, other reason 4 [Note: anal cleansing water inside toilet is not considered hand washing station]
59. OBSERVATION ONLY: OBSERVE PRESENCE OF WATER AT THE SPECIFIC PLACE FOR HANDWASHING.	Water is available 1 Water is not available 2
60. OBSERVATION ONLY: OBSERVE PRESENCE OF SOAP, DETERGENT, OR OTHER CLEANSING AGENT.	Soap or detergent (bar, liquid, powder) 1 Ash, mud, sand 2 None. 3
61. OBSERVATION ONLY: OBSERVE HANDWASHING STATION (<i>Circle all observed</i>)	Near to platform (feeding/eating) place. 1 Within 10 meters of the toilet 2 Water is protected from contamination by people and animals 3 Water falls freely (not ladled by one hand). 4
62. OBSERVATION ONLY: OBSERVE PRESENCE OF A SEPARATE HANDWASHING STATION	Tippy Tap 1 Tippy Tap with soap , 2 Happy Tap 3 Happy Tap with soap , 4 No separate handwashing station , 5 Other: 99

QUESTION	RESPONSE
63. OBSERVATION ONLY: OBSERVE WHETHER FLIES ARE KEPT OFF FOOD BEING PREPARED OR STORED	Flies are kept off food 1 Flies are not kept off food. 2 No food observed 3
64. OBSERVATION ONLY: OBSERVE WHETHER CHICKENS ARE CONTAINED, KEPT AWAY FROM WHERE CHILD IS SITTING, PLAYING OR EATING	Chickens are contained 1 Chickens are not contained. 2 No chickens observed 3
65. OBSERVATION ONLY: OBSERVE WHETHER THERE IS FECES AROUND THE HOUSEHOLD (animal or humans-children) <i>(Circle all observed.)</i>	Animal feces observed 1 Child feces observed. 2 No feces observed 3

CHILD'S ILLNESS

QUESTION	RESPONSE
<i>Let's continue to talk about the same child under 2 years you told me about earlier. Let's talk about this child's health.</i> 66. WHEN WAS THE LAST TIME THIS CHILD VISITED THE HEALTH CENTER? 67. WHAT SERVICES DID THE CHILD RECEIVE DURING THAT VISIT? (circle all mentioned).	____ MONTH ____ YEAR Don't remember 99 Vaccination 1 Medicine..... 2 IV..... 3 Weighing ... 4 Counseling. 5 Don't remember 99 Other _____00
May I see the Yellow Child Health Card? 68. OBSERVATION ONLY: WHEN IS THE LAST MONTH THE CHILD'S WEIGHT WAS PLOTTED ON THE YELLOW CHILD HEALTH CARD?	____ MONTH
69. THE LAST TIME (child's name) WAS ILL, DID YOU GET A REFERRAL TO THE PUBLIC HEALTH CENTER OR HOSPITAL? 70. WHO REFERRED THE CHILD? <i>(no need to mark if self or family decision)</i>	Yes 1 No 2 SKIP TO Q70a Don't Know 88 Health worker. 1 Village Chief or Deputy 2 VHSG 3 Neighbor. 4 Other _____00 Don't Know 88
70a. Has (Child's Name) had diarrhea in the past two weeks?	Yes 1 No 2 SKIP TO Q75 Don't Know 88

QUESTION	RESPONSE
71. NOW I WOULD LIKE TO KNOW HOW MUCH (<i>child's name</i>) WAS GIVEN TO DRINK DURING THE DIARRHEA (INCLUDING BREASTMILK) <i>If Less, probe: Was s/he given much less than usual to drink or somewhat less?</i>	Much Less..... 1 Somewhat Less 2 About The Same. 3 More..... 4 Much More 5 Stopped 6 Never gave..... 7 Don't Know..... 88
72. WHEN (<i>child's name</i>) HAD DIARRHEA, WAS HE/SHE GIVEN LESS THAN USUAL TO EAT, ABOUT THE SAME AMOUNT, MORE THAN USUAL, OR NOTHING TO EAT? <i>If Less, probe: much less than usual to eat or somewhat less?</i>	Much Less..... 1 Somewhat Less 2 About The Same. 3 More..... 4 Much More 5 Stopped 6 Never gave..... 7 Don't Know..... 88
73. DURING THE WEEK AFTER THE DIARRHEA, HOW MUCH (<i>child's name</i>) WAS GIVEN TO DRINK? (INCLUDING BREASTMILK) <i>If Less, probe: much less than usual to drink or somewhat less?</i>	Much Less..... 1 Somewhat Less 2 About The Same. 3 More..... 4 Much More 5 Stopped 6 Never gave..... 7 Don't Know..... 88
74. DURING THE WEEK AFTER THE DIARRHEA, WAS HE/SHE GIVEN LESS THAN USUAL TO EAT, ABOUT THE SAME AMOUNT, MORE THAN USUAL, OR NOTHING TO EAT? <i>If Less, probe: much less than usual to eat or somewhat less?</i>	Much Less..... 1 Somewhat Less 2 About The Same. 3 More..... 4 Much More 5 Stopped 6 Never gave..... 7 Don't Know..... 88
75. IN THE LAST TWO WEEKS, HAS (<i>child's name</i>) BEEN ILL WITH A FEVER AT ANY TIME?	Yes 1 No 2 skip to 81 Don't Know 88
76. HOW DID YOU KNOW (<i>child's name</i>) HAD A FEVER?	Felt head 1 Took temperature 2 Pharmacist diagnosed 3 Health center diagnosed. 4 Other _____ 00 Don't remember. 99
77. NOW I WOULD LIKE TO KNOW HOW MUCH (<i>child's name</i>) WAS GIVEN TO DRINK DURING THE ILLNESS? (INCLUDING BREASTMILK) <i>If Less, probe: much less than usual to drink or somewhat less?</i>	Much Less..... 1 Somewhat Less. 2 About The Same. 3 More..... 4 Nothing To Drink..... 5 Don't Know..... 88
78. DURING THE ILLNESS, WAS HE/SHE GIVEN LESS THAN USUAL TO EAT, ABOUT THE SAME AMOUNT, MORE THAN USUAL, OR NOTHING TO EAT? <i>If Less, probe: much less than usual to eat or somewhat less?</i>	Much Less..... 1 Somewhat Less 2 About The Same. 3 More..... 4 Much More 5 Stopped 6 Never gave..... 7 Don't Know..... 88
79. DURING THE WEEK AFTER THE ILLNESS, HOW MUCH (<i>child's name</i>) WAS GIVEN TO DRINK? (INCLUDING BREASTMILK)	Much Less..... 1 Somewhat Less 2 About The Same. 3

QUESTION	RESPONSE
<i>If Less, probe: much less than usual to drink or somewhat less?</i>	More.... . 4 Much More 5 Stopped 6 Never gave..... 7 Don't Know.... . 88
80. DURING THE WEEK AFTER THE ILLNESS, WAS HE/SHE GIVEN LESS THAN USUAL TO EAT, ABOUT THE SAME AMOUNT, MORE THAN USUAL, OR NOTHING TO EAT? <i>If Less, probe: much less than usual to eat or somewhat less?</i>	Much Less..... 1 Somewhat Less 2 About The Same. 3 More.... . 4 Much More 5 Stopped 6 Never gave..... 7 Don't Know.... . 88

CHILD'S WEIGHT AND HEIGHT

CHILDREN UNDER 24 MONTHS SHOULD BE MEASURED LYING DOWN; CHILDREN 24 MONTHS OR OLDER SHOULD BE MEASURED STANDING UP.	81. Weight 1: kg __ __ . __ Weight 2: kg __ __ . __ Z score- to determine underweight, wasting ____
	82. Height in cm __ __ __ . __ Z score- to determine stunting, wasting ____

CHILD'S ANEMIA

As part of this survey, we are asking people all over the province to take an anemia test. Anemia is a serious health problem that usually results from genetic disorder, poor nutrition, infection, or chronic disease.

We ask that children 6 months through 5 years old take part in anemia testing in this survey and give a few drops of blood from a finger or heel. The equipment used to take the blood is clean and completely safe. It has never been used before and will be thrown away after each test.

The blood will be tested for anemia immediately, and the result will be told to you right away. The result will be kept strictly confidential and will not be shared with anyone other than members of our survey team.

Do you have any questions?

You can say yes to the test, or you can say no. It is up to you to decide.

Will you allow (NAME OF CHILD) to participate in the anemia test?

Yes

No

CIRCLE RESPONSE AND GET SIGNATURE/MARK IF YES

Signature or Thumb Print: _____

83. **GRAMS PER DECILITER** __ __ . __ (No Blood testing for children 0-5 months)

CHILD FEEDING

QUESTION	RESPONSE
84. WAS [child's name] EVER BEEN BREASTFED?	Yes 1 No 2 SKIP TO Q92 Don't Know 88
85. HOW LONG AFTER BIRTH DID YOU FIRST PUT (child's name) TO THE BREAST? <i>IF LESS THAN 1 HOUR, RECORD '00' HOURS. IF LESS THAN 24 HOURS, RECORD HOURS. OTHERWISE, RECORD DAYS.</i>	Minutes ____ Hours ____ Days ____ Don't Know 88
86. IN THE FIRST THREE DAYS AFTER DELIVERY, WAS (child's name) GIVEN ANYTHING OTHER THAN BREAST MILK SUCH AS CHHEU EM?	Yes 1 No 2 Don't Know 88
87. IF [child's name] WAS BREASTFED EVER, IS S/HE STILL BREASTFEEDING SOMETIMES?	Yes 1 No 2 SKIP TO Q92 Don't Know 88
88. WAS [child's name] BREASTFED YESTERDAY DURING THE DAY OR AT NIGHT?	Yes 1 No 2 Don't Know 88
89. IF [child's name] BREASTFED YESTERDAY, HOW MANY TIMES?	____
90. IF [child's name] BREASTFED YESTERDAY HOW LONG IS THE USUAL FEEDING?	____ MIN
<i>Sometimes babies are fed breast milk in different ways, for example by spoon, cup, or bottle. This can happen when the mother cannot always be with her baby. Sometimes babies are breastfed by another woman or given breast milk from another woman by spoon, cup, bottle, or some other way. This can happen if a mother cannot breastfeed her own baby.</i>	
91. DID [CHILD'S NAME] CONSUME BREAST MILK IN ANY OF THESE WAYS YESTERDAY DURING THE DAY OR AT NIGHT?	Yes 1 No 2 Don't Know 88
<i>Next I would like to ask you about some liquids that [child's name] may have had yesterday during the day or at night.</i>	
92. PLAIN WATER	Yes 1 No 2 SKIP TO Q94 Don't Know 88
93. HOW MANY TIMES YESTERDAY DURING THE DAY OR AT NIGHT DID [child's name] CONSUME WATER?	____
94. INFANT FORMULA	Yes 1

	No 2 SKIP TO Q96 Don't Know 88
95. HOW MANY TIMES YESTERDAY DURING THE DAY OR AT NIGHT DID [child's name] CONSUME FORMULA?	— —
96. DID [child's name] HAVE ANY MILK SUCH AS TINNED CONDENSED, POWDERED, OR FRESH MILK?	Yes 1 No 2 SKIP TO Q98 Don't Know 88
97. HOW MANY TIMES YESTERDAY DURING THE DAY OR NIGHT DID [child's name] CONSUME MILK?	— —
98. DID [child's name] HAVE ANY JUICE?	Yes 1 No 2 Don't Know 88
99. PLAIN SOUP BROTH?	Yes 1 No 2 Don't Know 88
100. BORBOR?	Yes 1 No 2 Don't Know 88
101. ANY OTHER LIQUIDS?	Yes 1 No 2 Don't Know 88
<i>Now I would like to ask you about some medicines and vitamins that are sometimes given to infants.</i>	
102. WAS [child's name] GIVEN ANY VITAMIN DROPS OR OTHER MEDICINES AS DROPS YESTERDAY DURING THE DAY OR AT NIGHT?	Yes 1 No 2 Don't Know 88
103. WAS [child's name] GIVEN ORASEL YESTERDAY DURING THE DAY OR AT NIGHT?	Yes 1 No 2 Don't Know 88

EXPOSURE AND PARTICIPATION

QUESTION	RESPONSE
<i>This is the final section of the interview. It is about your experience that you whether exposure with NOURISH or not. There are no right or wrong answers.</i>	
<i>Show Grow Together Logo</i> 104. HAVE YOU SEEN THIS LOGO BEFORE?	Yes 1 No 2 Don't Know 88
<i>Show 4 TV Spots</i> 105. HAVE YOU SEEN ANY OF THESE TV SPOTS?	Yes 1 No 2 SKIP TO Q107 Don't Know 88
106. IF YES, WHICH ONES? <i>Circle all mentioned.iuiii</i>	Unified Grow Together 1 Latrine 2 Fish powder 3 Lullaby.....4 Don't Know 88
<i>Show NOURISH Grow Together Print Materials</i> 107. HAVE YOU SEEN ANY OF THESE MATERIALS?	Yes 1 No 2 SKIP TO Q109 Don't Know 88

NOURISH ENDLINE QUESTIONNAIRE

CAREGIVERS OF CHILDREN 6-59 MONTHS

IDENTIFICATION
PROVINCE.
DISTRICT.
COMMUNE.
VILLAGE.
CLUSTER NUMBER.
HOUSEHOLD CODE.

HOUSEHOLD VISITS	
DATE	.....
INTERVIEWER'S NAME AND CODE	.....
SUPERVISOR NAME AND CODE	.....
TIME INTERVIEW STARTED	
TIME INTERVIEW COMPLETED	

Hello. My name is _____. I am working with the NOURISH Project. We are conducting a survey about nutrition in Cambodia. The information we collect will help to plan services for villages like yours. You were selected for the survey. I would like to ask you some questions. The questions usually take about 1 hour. READ THE CONSENT FORM.

SIGNATURE OF INTERVIEWER: _____ DATE: _____

RESPONDENT AGREES TO BE INTERVIEWED 1

RESPONDENT DOES NOT AGREE TO BE INTERVIEWED 2 END

Do you have any questions?

May I begin the interview now?

Ask woman to bring the child's Yellow Health Card and birth certificate, and the family ID Poor Card (if they have one).

BASIC INFORMATION

QUESTION	RESPONSE
113. IN WHAT MONTH AND YEAR WERE YOU BORN? <i>IF DON'T KNOW, KHMER MONTH AND YEAR BORN?</i>	Gregorian Month _____ Gregorian Year _____ Don't Know 88 _____
114. HOW OLD WERE YOU AT YOUR LAST BIRTHDAY?	_____ Years
115. HAVE YOU EVER ATTENDED SCHOOL?	Yes 1 No 2 SKIP TO Q5 Don't Know 88
116. WHAT IS THE HIGHEST LEVEL OF SCHOOL YOU ATTENDED?	Illiteracy Class 1 Primary (1-6) 2 Lower Secondary (7-9) 3 Upper Secondary (10-12)..... 4 Higher. 5 No Answer. 99
117. HAVE YOU EVER BEEN MARRIED?	Yes 1 No 2 SKIP TO Q14 Don't Know 88
118. WHAT IS YOUR MARITAL STATUS NOW?	Married 1 Widowed. 2 SKIP TO Q14 Divorced 3 SKIP TO Q14 No Answer 99 SKIP TO Q14
119. DID YOUR (LAST) (HUSBAND/PARTNER) EVER ATTEND SCHOOL?	Yes 1 No 2 SKIP TO Q9 Don't Know 88 SKIP TO Q9
120. WHAT IS THE HIGHEST LEVEL OF SCHOOL HE ATTENDED?	Illiteracy Class 1 Primary (1-6) 2 Lower Secondary (7-9) 3 Upper Secondary (10-12)..... 4 Higher. 5 No Answer. 99
121. HOW OLD IS YOUR (LAST) (HUSBAND/PARTNER)?	Under 20. 1 20-29. 2 30-39. 3 40-49. 4 50-59. 5 60 or over 6 Don't Know 88 Age _____
122. WHAT IS YOUR (HUSBAND'S) OCCUPATION? THAT IS, WHAT KIND OF WORK DOES HE MAINLY DO?	Farmer 1 Factory 2 Retail 3 Motor taxi.....4 Construction 5 Teacher or official.....6 Unemployed.....7 Other daily labor 8 Other 00

QUESTION	RESPONSE
	Don't Know 88
123. DOES YOUR HUSBAND WORK IN THIS VILLAGE?	Yes 1 SKIP TO Q14 No 2 Skip to Q14 No answer. 99
124. DOES YOUR HUSBAND WORK IN CAMBODIA OR OVERSEAS?	In Cambodia 1 Thailand 2 Other _____ 00 Don't know 88
125. IF YOUR HUSBAND HAS WORKED OVERSEAS, WHEN WAS THIS?	Now 1 Earlier this year 2 Last year 3 1-3 years ago 4 Over 3 years ago 5 Don't know 88
126. WHAT IS YOUR OCCUPATION? THAT IS, WHAT KIND OF WORK DO YOU MAINLY DO?	Farmer 1 Factory 2 Retail 3 Motor taxi. 4 Construction 5 Teacher or official. 6 Unemployed. 7 Other daily labor 8 Housewife/ mother 9 Other _____ 00 Don't Know 88
127. DOES YOUR FAMILY HAVE AN ID POOR CARD? <i>(Request to observe the card.)</i>	Yes observed. 1 Yes not observed 2 Yes expired 3 No 4 Don't know 88 No answer.. . . . 99
128. ARE YOU ENROLLED IN A CCT PROGRAM FOR HEALTH AND NUTRITION?	Yes 1 No 2 Don't know 88
129. DO YOU HAVE YOUR OWN BANK ACCOUNT?	Yes 1 No 2 SKIP TO Q.19 Don't know 88
130. IF YOU HAVE YOUR OWN BANK ACCOUNT, WHICH BANK?	AMK 1 WING 2 ACLEDA. 3 Other _____ 99 Don't know.. . . . 88
131. DOES YOUR HOUSEHOLD GROW ANY FOOD AT HOME FOR CONSUMPTION? <i>Request to see the garden.</i>	Yes Observed. 1 Yes Not Observed 2 No 3 SKIP TO Q.25 Don't Know 88
132. IF YOUR HOUSEHOLD GROWS ANY FOOD IN THE HOME COMPOUND, WHAT DO YOU GROW? (CIRCLE ALL GROWN AT DIFFERENT TIMES OF THE YEAR.)	Ptee (Amaranth) 1 Moringa. 2 Pumpkin 3 Sweet Potato 4 Long Bean 5

QUESTION	RESPONSE
	Jackfruit. 6 Mango. 7 Banana 8 Other 00 Don't know 88
133. IF YOUR HOUSEHOLD GROWS FOOD AT HOME, WHAT DO YOU DO WITH THE PRODUCE? (Circle all answers given).	Eat 1 Sell. 2 Give to family and friends. 3 Give to neighbors. 4 Give to animals 5 Throw away. 6 Other 00 Don't know 88
134. IF YOU SELL SOME, HOW MUCH MONEY DO YOU MAKE FROM SELLING THESE EACH YEAR?	 Riel
[Ask only if she grows ptee, yardlong bean, moringa, or sweet potato in #20. If not, SKIP TO Q25]	None Bunch 1/2 kilo 1 kilo 2-5 kilos More
135. HOW MUCH OF _____ THAT YOU GROW DID YOUR HOUSEHOLD EAT IN THE PAST WEEK?	Amaranth 0 1 2 3 4 5 Moringa 0 1 2 3 4 5 Sweet potato 0 1 2 3 4 5 Long bean 0 1 2 3 4 5
[Ask only if she grows ptee, yardlong bean, moringa, or sweet potato in # 20. If not, SKIP TO Q25]	
136. WHO EATS THE PRODUCE USUALLY? (Read answers and circle all answers given).	Men 1 Women 2 Pregnant women. 3 Children over 1 year 4 Children 1 year – 2 years. 5 Children over 2 years 6 Other 00 Don't know 88
137. NOW I WOULD LIKE TO ASK ABOUT ALL THE BIRTHS YOU HAVE HAD DURING YOUR LIFE. HAVE YOU EVER GIVEN BIRTH?	Yes 1 No 2 No Answer 99
138. ARE YOU PREGNANT NOW?	Yes 1 SKIP TO Q.31 No 2 Don't know 88 No Answer.. 99
139. HAVE YOU BEEN PREGNANT IN THE PAST 12 MONTHS?	Yes 1 No 2 SKIP TO Q.31 No answer.. 99
140. WAS IT FULL TERM PREGNANCY?	Yes 1 No 2 No answer.. 99
141. HOW MUCH WEIGHT DID YOUR HEALTH WORKER ADVISE YOU TO GAIN DURING PREGNANCY?	Less than 10 kg. 1 10-12.0 kg 2 12.1- 14.9kg 3 14.9-17.9 kg 4 18 kg or more. 5 Never advised 6

QUESTION	RESPONSE
	Other _____ 00 Don't remember. 88
142. HOW MUCH WEIGHT DID YOU GAIN DURING PREGNANCY?	Less than 10 kg. 1 10-12.0 kg 2 12.1- 14.9kg 3 14.9-17.9 kg 4 18 kg or more. 5 Never weighed 6 Other _____ 00 Don't remember 88
143. HOW MANY CHILDREN DO YOU CARE FOR UNDER 5 YEARS OF AGE?	— — <i>If 0, end the interview. If 1 or more, continue.</i>
144. WHAT IS YOUR RELATIONSHIP WITH EACH CHILD?	# children Mother 1 _____ Father 2 _____ Aunt 3 _____ Grandmother 4 _____ Grandfather. 5 _____ Sister. 6 _____ Don't know 88 _____ No Answer.. 99 _____
145. FOR THE REST OF THIS INTERVIEW WE CAN TALK ABOUT ONE CHILD [SPECIFY AGE NEEDED] WHO IS AT HOME NOW. IF YOU HAVE TWINS, PLEASE PICK ONE. WHAT IS THE CHILD'S NAME?	_____
146. WHAT DATE WAS {child's name} BORN? <i>Verify with yellow child health card.</i>	Gregorian (French) Month _____ Gregorian (French) Year _____ Don't Know 88
147. WHAT IS [child's name]'S SEX?	Female. 1 Male..... 2
148. DOES [child's name] HAVE A BIRTH CERTIFICATE?	Yes Observed. 1 Yes Not Observed 2 No 3 Don't Know 88

WOMEN'S HEALTH CARE

QUESTION	RESPONSE																								
<i>Continue if mother is interviewed.</i> <i>SKIP to Q 50 if grandmother or father is interviewed as main caregiver of child.</i>																									
149. WHERE DID YOU RECEIVE ANTENATAL CARE FOR YOUR MOST RECENT PREGNANCY?	Home Your home 1 Midwife/TBA home. 2 Other home 3 Public Natl hosp (pp) 4 Provincial hosp. 5 Hlth center. 6 Hlth post 7 Outreach 8 Military hosp. 9 Private Priv. Hosp 10 Priv. Clinic 11 Other private. 12 Other _____ 00																								
150. HOW MANY MONTHS PREGNANT WERE YOU WHEN YOU <i>FIRST</i> RECEIVED ANTENATAL CARE FOR THIS PREGNANCY?	Months _____ Don't know 88																								
151. HOW MANY TIMES DID YOU RECEIVE ANTENATAL CARE DURING THIS PREGNANCY?	No. Times _____ Don't know 88																								
152. AS PART OF YOUR ANTENATAL CARE DURING THIS PREGNANCY, WERE ANY OF THE FOLLOWING DONE?	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">Yes</th> <th style="text-align: center;">No</th> </tr> </thead> <tbody> <tr> <td>Were you weighed? WEIGHT ...</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> </tr> <tr> <td>Was your height taken? HEIGHT ...</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> </tr> <tr> <td>Was your blood pressure measured? BP</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> </tr> <tr> <td>Did you give a urine sample? URINE ...</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> </tr> <tr> <td>Did you give a blood sample? BLOOD ..</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> </tr> <tr> <td>Given advice on weight gain in pregnancy?</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> </tr> <tr> <td>Given advice on food to eat in pregnancy?</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> </tr> </tbody> </table>		Yes	No	Were you weighed? WEIGHT ...	1	2	Was your height taken? HEIGHT ...	1	2	Was your blood pressure measured? BP	1	2	Did you give a urine sample? URINE ...	1	2	Did you give a blood sample? BLOOD ..	1	2	Given advice on weight gain in pregnancy?	1	2	Given advice on food to eat in pregnancy?	1	2
	Yes	No																							
Were you weighed? WEIGHT ...	1	2																							
Was your height taken? HEIGHT ...	1	2																							
Was your blood pressure measured? BP	1	2																							
Did you give a urine sample? URINE ...	1	2																							
Did you give a blood sample? BLOOD ..	1	2																							
Given advice on weight gain in pregnancy?	1	2																							
Given advice on food to eat in pregnancy?	1	2																							
153. DURING THIS PREGNANCY, WERE YOU GIVEN OR DID YOU BUY ANY IRON TABLETS OR IRON SYRUP?	Yes 1 No 2 Don't know 88																								
154. DURING THE WHOLE PREGNANCY, FOR HOW MANY DAYS DID YOU TAKE THE TABLETS OR SYRUP?	Days _____ Don't know 88																								
155. WHERE DID YOU GIVE BIRTH?	Home Your home 1 Midwife/TBA home. 2 Other home 3 Public Natl hosp (pp) 4 Provincial hosp. 5 Hlth center. 6 Hlth post 7 Outreach 8 Military hosp. 9 Private Priv. Hosp 10 Priv. Clinic 11 Other private. 12 Other _____ 99																								

QUESTION	RESPONSE
NOW, LET'S TALK AGAIN ABOUT [<i>child's name</i>].	
156. WHEN (<i>child's name</i>) WAS BORN, WAS HE/SHE VERY LARGE, LARGER THAN USUAL/AVERAGE, USUAL/AVERAGE, SMALLER THAN USUAL/AVERAGE, OR VERY SMALL?	Very large 1 Larger than average 2 Average 3 Smaller than average 4 Very small 5 Don't know 88
157. WAS (<i>child's name</i>) WEIGHED AT BIRTH?	Yes 1 No 2 Don't know 88
158. HOW MUCH DID (<i>child's name</i>) WEIGH?	C. Kg from card ____ kg D. Kg from recall ____ kg Don't know 88
159. AFTER YOU GAVE BIRTH TO (<i>child's name</i>), DID ANYONE CHECK ON YOUR HEALTH?	Yes 1 No 2 Don't know 88
160. WHO CHECKED ON YOUR HEALTH AT THAT TIME? <i>Probe for most qualified person; circle one—the most qualified.</i>	Health personnel Doctor/medical assistant . . . 1 Midwife 2 Nurse 3 Other person Traditional birth attendant... 4 Don't know.. . . . 88 Other _____ 00 (specify)
161. HOW LONG AFTER DELIVERY DID THE FIRST CHECK TAKE PLACE?	HOURS ____ DAYS ____ WEEKS ____ Don't know... . 88

HYGIENE AND SANITATION

QUESTION	RESPONSE
162. DO YOU DO ANYTHING TO THE WATER TO MAKE IT SAFER TO DRINK?	Yes 1 No 2 SKIP TO Q54 Don't Know 88
163. WHAT DO YOU USUALLY DO TO MAKE THE WATER SAFER TO DRINK? <i>(Confirm by observation)</i>	Boil 1 SKIP TO Q53 Filter 2 Chlorine 3 SKIP TO Q53 Buy drinking water 4 SKIP TO Q54 Nothing 5 SKIP TO Q54 Other 99 SKIP TO Q54 No answer 00
164. HOW OFTEN IS THE FILTER CLEANED? <i>(Confirm by observation)</i>	Based on answer above: Water treatment device observed 1 Water treatment device not observed. 2 Daily 1 Weekly 2 Monthly 3 Every few months. 4 Every year 5 Do not remember.....9 Other 99 Observed: Filter looks clean 1 Filter looks dirty. 2
165. PLEASE SHOW ME WHAT HAPPENS TO THE WATER AFTER TREATED.	Transferred to a covered, sealed, clean container. . 1 Transferred to a an uncovered/unsealed, dirty container..... 2 Kept in the container where it was boiled 3 Transferred to filter (boiled water).....4 Not transferred 5 Other.....00
166. WHAT KIND OF TOILET FACILITY DO MEMBERS OF YOUR HOUSEHOLD USUALLY USE? <i>(Confirm by observation)</i>	Flush or pour flush toilet Flush to piped sewer system 1 Flush to septic tank 2 Flush to outside tank.....3 Flush to pit latrine 4 Flush to somewhere else 5 Flush, don't know where 6 Pit latrine Ventilated improved pit latrine 7 Pit latrine with slab 8 Pit latrine without slab/ open pit ... 9 Composting toilet 10 Bucket toilet 11

QUESTION	RESPONSE
	Hanging toilet/hanging latrine 12 No facility/bush/field 13 SKIP TO Q57 Use another person/family's latrine.....14 SKIP TO Q57 Other _____00 (SPECIFY) <i>Answer above is confirmed by observation</i> Observed 1 Not observed 2
167. DO YOU SHARE YOUR TOILET FACILITY WITH OTHER HOUSEHOLDS?	Yes 1 No 2 SKIP TO Q57 Don't Know 88
168. HOW MANY HOUSEHOLDS USE THIS TOILET FACILITY?	Number _____ Don't know 88
169. THE LAST TIME (<i>child' name</i>) PASSED STOOLS IN THE PAST 24 HOURS, WHAT WAS DONE TO DISPOSE OF THE STOOLS? (<i>Confirm by observation.</i>)	Child used toilet or latrine 1 Put/rinsed into toilet or latrine 2 Put/rinsed into drain or ditch 3 Thrown into garbage 4 Buried 5 Left in the open 6 Other _____00 (specify) Observed stools in hole, drain or ditch 1 Did not observe stools in hole, drain or ditch... 2
170. PLEASE SHOW ME WHERE MEMBERS OF YOUR HOUSEHOLD MOST OFTEN WASH THEIR HANDS.	Observed 1 Not observed, not in dwelling/yard/plot . . . 2 Not observed, no permission to see 3 Not observed, other reason 4 [Note: anal cleansing water inside toilet is not considered hand washing station]
171. OBSERVATION ONLY: OBSERVE PRESENCE OF WATER AT THE SPECIFIC PLACE FOR HANDWASHING.	Water is available 1 Water is not available 2
172. OBSERVATION ONLY: OBSERVE PRESENCE OF SOAP, DETERGENT, OR OTHER CLEANSING AGENT.	Soap or detergent (bar, liquid, powder) . . . 1 Ash, mud, sand 2 None. 3
173. OBSERVATION ONLY: OBSERVE HANDWASHING STATION (<i>Circle all observed</i>)	Near to platform (feeding/eating) place. . . . 1 Within 10 meters of the toilet 2 Water is protected from contamination by people and animals 3 Water falls freely (not ladled by one hand). 4
174. OBSERVATION ONLY: OBSERVE PRESENCE OF A SEPARATE HANDWASHING STATION	Tippy Tap 1 Tippy Tap with soap , 2 Happy Tap 3 Happy Tap with soap , 4 No separate handwashing station , 5

QUESTION	RESPONSE
	Other: _____ 00
175. OBSERVATION ONLY: OBSERVE WHETHER FLIES ARE KEPT OFF FOOD BEING PREPARED OR STORED	Flies are kept off food 1 Flies are not kept off food. 2 No food observed 3
176. OBSERVATION ONLY: OBSERVE WHETHER CHICKENS ARE CONTAINED, KEPT AWAY FROM WHERE CHILD IS SITTING, PLAYING OR EATING	Chickens are contained 1 Chickens are not contained. 2 No chickens observed 3
177. OBSERVATION ONLY: OBSERVE WHETHER THERE IS FECES AROUND THE HOUSEHOLD (animal or humans-children) (Circle all observed.)	Animal feces observed 1 Child feces observed. 2 No feces observed 3

CHILD'S ILLNESS

QUESTION	RESPONSE
<i>Let's continue to talk about the same child under 5 years you told me about earlier. Let's talk about this child's health.</i> 178. WHEN WAS THE LAST TIME THIS CHILD VISITED THE HEALTH CENTER? 179. WHAT SERVICES DID THE CHILD RECEIVE DURING THAT VISIT? <i>(Circle all mentioned).</i>	_____ MONTH _____ YEAR Don't remember 99 Vaccination 1 Medicine..... 2 IV.....3 Weighing ... 4 Counseling. 5 Don't remember 99 Other _____ 00
May I see the Yellow Child Health Card? 180. OBSERVATION ONLY: WHEN IS THE LAST MONTH THE CHILD'S WEIGHT WAS PLOTTED ON THE YELLOW CHILD HEALTH CARD?	_____ MONTH
181. THE LAST TIME (child's name) WAS ILL, DID YOU GET A REFERRAL TO THE PUBLIC HEALTH CENTER OR HOSPITAL? 182. WHO REFERRED THE CHILD? <i>(no mark if self or family decision)</i>	Yes 1 No 2 SKIP TO Q71 Don't Know 88 Health worker. 1 Village Chief or Deputy 2 VHSG 3 Neighbor. 4 Other _____ 00 Don't Know 88
70a. Has (Child's Name) had diarrhea in the past two weeks?	Yes 1 No 2 SKIP TO Q75 Don't Know 88

QUESTION	RESPONSE
183. NOW I WOULD LIKE TO KNOW HOW MUCH (child's name) WAS GIVEN TO DRINK DURING THE DIARRHEA (INCLUDING BREASTMILK) <i>If Less, probe: Was s/he given much less than usual to drink or somewhat less?</i>	Much Less..... 1 Somewhat Less 2 About The Same. 3 More..... 4 Much More 5 Stopped 6 Never gave..... 7 Don't Know..... 88
184. WHEN (child's name) HAD DIARRHEA, WAS HE/SHE GIVEN LESS THAN USUAL TO EAT, ABOUT THE SAME AMOUNT, MORE THAN USUAL, OR NOTHING TO EAT? <i>If Less, probe: much less than usual to eat or somewhat less?</i>	Much Less..... 1 Somewhat Less 2 About The Same. 3 More..... 4 Much More 5 Stopped 6 Never gave..... 7 Don't Know..... 88
185. DURING THE WEEK AFTER THE DIARRHEA, HOW MUCH (child's name) WAS GIVEN TO DRINK? (INCLUDING BREASTMILK) <i>If Less, probe: much less than usual to drink or somewhat less?</i>	Much Less..... 1 Somewhat Less 2 About The Same. 3 More..... 4 Much More 5 Stopped 6 Never gave..... 7 Don't Know..... 88
186. DURING THE WEEK AFTER THE DIARRHEA, WAS HE/SHE GIVEN LESS THAN USUAL TO EAT, ABOUT THE SAME AMOUNT, MORE THAN USUAL, OR NOTHING TO EAT? <i>If Less, probe: much less than usual to eat or somewhat less?</i>	Much Less..... 1 Somewhat Less 2 About The Same. 3 More..... 4 Much More 5 Stopped 6 Never gave..... 7 Don't Know..... 88
187. IN THE LAST TWO WEEKS, HAS (child's name) BEEN ILL WITH A FEVER AT ANY TIME?	Yes 1 No 2 Don't Know 88
188. HOW DID YOU KNOW (child's name) HAD A FEVER?	Felt head 1 Took temperature 2 Pharmacist diagnosed 3 Health center diagnosed. 4 Other _____ 00 Don't remember. 99
189. NOW I WOULD LIKE TO KNOW HOW MUCH (child's name) WAS GIVEN TO DRINK DURING THE ILLNESS? (INCLUDING BREASTMILK) <i>If Less, probe: much less than usual to drink or somewhat less?</i>	Much Less..... 1 Somewhat Less. 2 About The Same. 3 More..... 4 Nothing To Drink..... 5 Don't Know..... 88
190. DURING THE ILLNESS, WAS HE/SHE GIVEN LESS THAN USUAL TO EAT, ABOUT THE SAME AMOUNT, MORE THAN USUAL, OR NOTHING TO EAT? <i>If Less, probe: much less than usual to eat or somewhat less?</i>	Much Less..... 1 Somewhat Less 2 About The Same. 3 More..... 4 Much More 5 Stopped 6 Never gave..... 7

QUESTION	RESPONSE
	Don't Know..... 88
191. DURING <u>THE WEEK AFTER</u> THE ILLNESS, HOW MUCH (<i>child's name</i>) WAS GIVEN TO DRINK? (INCLUDING BREASTMILK) <i>If Less, probe: much less than usual to drink or somewhat less?</i>	Much Less..... 1 Somewhat Less 2 About The Same. 3 More..... 4 Much More 5 Stopped 6 Never gave..... 7 Don't Know..... 88
192. DURING <u>THE WEEK AFTER</u> THE ILLNESS, WAS HE/SHE GIVEN LESS THAN USUAL TO EAT, ABOUT THE SAME AMOUNT, MORE THAN USUAL, OR NOTHING TO EAT? <i>If Less, probe: much less than usual to eat or somewhat less?</i>	Much Less..... 1 Somewhat Less 2 About The Same. 3 More..... 4 Much More 5 Stopped 6 Never gave..... 7 Don't Know..... 88

CHILD'S WEIGHT AND HEIGHT

CHILDREN UNDER 24 MONTHS SHOULD BE MEASURED LYING DOWN; CHILDREN 24 MONTHS OR OLDER SHOULD BE MEASURED STANDING UP.	193. Weight 1: kg __ __ . __ Weight 2: kg __ __ . __ Z score- to determine underweight, wasting _____
	194. Height in cm __ __ __ . __ Z score- to determine stunting, wasting _____

CHILD'S ANEMIA

As part of this survey, we are asking people all over the province to take an anemia test. Anemia is a serious health problem that usually results from genetic disorder, poor nutrition, infection, or chronic disease.

We ask that children 6 months through 5 years old take part in anemia testing in this survey and give a few drops of blood from a finger or heel. The equipment used to take the blood is clean and completely safe. It has never been used before and will be thrown away after each test.

The blood will be tested for anemia immediately, and the result will be told to you right away. The result will be kept strictly confidential and will not be shared with anyone other than members of our survey team.

Do you have any questions?

You can say yes to the test, or you can say no. It is up to you to decide.

Will you allow (NAME OF CHILD) to participate in the anemia test?

Yes

No

CIRCLE RESPONSE AND GET SIGNATURE/MARK IF YES

Signature or Thumb Print: _____

195. **GRAMS PER DECILITER** __ __ . __

CHILD FEEDING

Check age of child:

☐ Child age over 6-23 months ⇒ *Continue with this module.*

☐ Child age over 23 months ⇒ End Interview.

QUESTION

196. WAS [child's name] EVER BREASTFED?

Yes 1

No 2

Don't Know 88

197. PLEASE DESCRIBE EVERYTHING THAT [child's name] ATE YESTERDAY DURING THE DAY OR NIGHT, WHETHER AT HOME OR OUTSIDE THE HOME.

A) THINK ABOUT WHEN [child's name] FIRST WOKE UP YESTERDAY. DID [child's name] EAT ANYTHING AT THAT TIME?

IF YES: Please tell me everything [child's name] ate at that time.

PROBE: Anything else? UNTIL RESPONDENT SAYS NOTHING ELSE. THEN CONTINUE TO PART B).

IF NO, CONTINUE TO PART B).

B) WHAT DID [child's name] EAT NEXT?

IF YES: Please tell me everything [child's name] ate at that time.

PROBE: Anything else? REPEAT UNTIL RESPONDENT SAYS NOTHING ELSE.

IF RESPONDENT MENTIONS MIXED DISHES LIKE A PORRIDGE, SAUCE, OR SOUP, PROBE:

C) WHAT INGREDIENTS WERE IN THAT [MIXED DISH]? PROBE: ANYTHING ELSE? UNTIL RESPONDENT SAYS NOTHING ELSE.

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

ONCE THE RESPONDENT FINISHES RECALLING FOODS EATEN, READ EACH FOOD GROUP WHERE '1' WAS NOT ENTERED IN THE RESPONSE BOX, ASK AND ENTER '1' IF RESPONDENT SAYS YES, '2' IF NO, AND '88' IF DON'T KNOW:

OTHER FOODS: PLEASE WRITE DOWN OTHER FOODS (TO THE RIGHT OF THIS BOX) THAT RESPONDENT MENTIONED BUT ARE NOT IN THE LIST BELOW. THIS WILL ALLOW THE SURVEY SUPERVISOR TO CLASSIFY THE FOOD LATER.	RESPONSE CODES	WRITE FOODS MENTIONED	HOW MANY TIMES?
Food made from grains such as rice, noodles, porridge	YES 1 NO 2 DON'T KNOW . . . 88		
Beans	YES 1 NO 2 DON'T KNOW . . . 88		
Nuts and seeds	YES 1 NO 2 DON'T KNOW . . . 88		
Pumpkin, carrots, squash, or sweet potatoes that are yellow or orange inside	YES 1 NO 2 DON'T KNOW . . . 88		
White potatoes, white yams, or any other foods made from roots	YES 1 NO 2 DON'T KNOW . . . 88		
Any dark green leafy vegetables such as amaranth leaves, moringa, morning glory, water spinach	YES 1 NO 2 DON'T KNOW . . . 88		
Ripe mangoes, ripe papaya, jackfruit	YES 1 NO 2 DON'T KNOW . . . 88		
Any other fruits or vegetables	YES 1 NO 2 DON'T KNOW . . . 88		
Liver, kidney, heart, or other organ meats	YES 1 NO 2 DON'T KNOW . . . 88		
Flesh foods (ie meat, such as beef, pork, chicken, or duck)	Yes 1 No 2		

OTHER FOODS: PLEASE WRITE DOWN OTHER FOODS (TO THE RIGHT OF THIS BOX) THAT RESPONDENT MENTIONED BUT ARE NOT IN THE LIST BELOW. THIS WILL ALLOW THE SURVEY SUPERVISOR TO CLASSIFY THE FOOD LATER.	RESPONSE CODES	WRITE FOODS MENTIONED	HOW MANY TIMES?
	Don't Know 88		
Wild animals like frogs, snails, crabs, insects	Yes 1 No 2 Don't Know 88		
Duck or chicken eggs	YES 1 NO 2 DON'T KNOW . . . 88		
Fresh or dried fish	YES 1 NO 2 DON'T KNOW . . . 88		
Small rice field fish	YES 1 NO 2 DON'T KNOW . . . 88		
Any foods made from beans, nuts, or seeds	YES 1 NO 2 DON'T KNOW . . . 88		
Cheese, yogurt, or other milk products	YES 1 NO 2 DON'T KNOW . . . 88		
Breastmilk	YES 1 NO 2 DON'T KNOW . . . 88		
Any oil, fats, or butter, or foods made with any of these	YES 1 NO 2 DON'T KNOW . . . 88		
Any sugary foods such as sweets, candies, cakes, or biscuits	YES 1 NO 2 DON'T KNOW . . . 88		
Any packaged snacks such as chips	YES 1 NO 2 DON'T KNOW . . . 88		

OTHER FOODS: PLEASE WRITE DOWN OTHER FOODS (TO THE RIGHT OF THIS BOX) THAT RESPONDENT MENTIONED BUT ARE NOT IN THE LIST BELOW. THIS WILL ALLOW THE SURVEY SUPERVISOR TO CLASSIFY THE FOOD LATER.	RESPONSE CODES	WRITE FOODS MENTIONED	HOW MANY TIMES?
Condiments for flavor, such as soy sauce, prahok	YES 1 NO 2 DON'T KNOW . . . 88		
CHECK CATEGORIES <i>all 'no' >> go to 85. If at least one 'yes' or all 'DK' go to 86</i>			
198. DID [child's name] EAT ANY OTHER SOLID, SEMI-SOLID, OR SOFT FOODS YESTERDAY DURING THE DAY OR AT NIGHT? IF 'YES' PROBE: What kind of solid, semi-solid, or soft foods did [child's name] eat?	1 = Yes >> go back to list and record foods eaten. Then continue. 2 = No >> skip to 87 88 = Don't Know >> skip to 87		
199. HOW MANY TIMES DID [child's name] EAT SOLID, SEMI-SOLID, OR SOFT FOODS OTHER THAN LIQUIDS YESTERDAY DURING THE DAY OR AT NIGHT?	— — — DON'T KNOW . . . 88		

CHILD CARE AND DEVELOPMENT

Check age of child:

☐ Child age 6-23 months ⇒ Continue with this module.

☐ Child age over 23 months ⇒ End Interview

QUESTION	RESPONSE					
200. IN THE PAST 3 DAYS, DID YOU OR ANY HOUSEHOLD MEMBER AGE 15 OR OVER ENGAGE IN ANY OF THE FOLLOWING ACTIVITIES WITH (CHILD’S NAME):						
If yes, ask: WHO ENGAGED IN THIS ACTIVITY WITH (CHILD’S NAME)?	No	Mother	Father	Grandmother	Other	
Read and circle all that apply.						
a) TOLD STORIES TO (CHILD’S NAME)?	Told Stories	0	1	2	3	4
b) SANG SONGS TO OR WITH (CHILD’S NAME)?	Sang Songs	0	1	2	3	4
c) TOOK (CHILD’S NAME) OUTSIDE THE HOME?	Took on outing	0	1	2	3	4
d) PLAYED WITH (CHILD’S NAME)?	Played	0	1	2	3	4
e) NAMED, COUNTED OR DREW THINGS WITH (CHILD’S NAME)?	Counted, Drew	0	1	2	3	4
f) SHOW OR TEACH CHILD’S NAME SOMETHING NEW?	Teach/show new	0	1	2	3	4
g) TALK WITH (CHILD’S NAME) AND ASK SIMPLE QUESTIONS?	Talk/ask questions	0	1	2	3	4
h) PRAISE (CHILD’S NAME) FOR WHAT S/HE IS LEARNING TO DO?	Praise for learning	0	1	2	3	4
i) SHOW AFFECTION TO (CHILD’S NAME)?	Show affection	0	1	2	3	4
j) HIT (CHILD’S NAME) FOR MISBEHAVING?	Hit	0	1	2	3	4
k) CRITICIZE OR YELL AT (CHILD’S NAME)?	Yell	0	1	2	3	4

89	QUESTIONS	Everyday 1	Several times/week 2	Once / week 3	A few times/ month 4	Several times/ year 5	Not at all 6
a)	HOW OFTEN DO YOU TALK ABOUT (child's name) YOUR CHILD'S WEIGHT AND HEIGHT WITH YOUR SPOUSE (OR PARENTS OF THE CHILD)	☐	☐	☐	☐	☐	☐
b)	HOW OFTEN DO YOU TALK ABOUT YOUR CHILD'S FEEDING WITH YOUR SPOUSE?	☐	☐	☐	☐	☐	☐
c)	HOW OFTEN DO YOU TALK ABOUT (child's name) NEW SKILLS /DEVELOPMENT WITH YOUR SPOUSE?	☐	☐	☐	☐	☐	☐

89	QUESTIONS	Everyday 1	Several times/week 2	Once / week 3	A few times/ month 4	Several times/ year 5	Not at all 6
d)	HOW OFTEN DO YOU TALK WITH YOUR SPOUSE ABOUT CARE OF (<i>child's name</i>)?	☐	☐	☐	☐	☐	☐
e)	HOW OFTEN DO YOU TALK ABOUT PARENTING WITH OTHER PERSONS (NOT SPOUSE AND PARENTS)	☐	☐	☐	☐	☐	☐
f)	HOW OFTEN DO YOU TALK ABOUT (<i>child's name</i>) FUTURE?	☐	☐	☐	☐	☐	☐

QUESTION	RESPONSE
90. WHEN DO YOU FEEL STRESSED OR WORRIED?	Family does not help/support 1 Husband causes trouble. 2 When sick 3 Child is sick 4 Child is not obedient. 5 Neighbors are in conflict 6 Family is in conflict 7 Income poor 8 Not enough food 9 Other _____ 99
91. WHEN DO YOU FEEL HAPPY?	Family helps/supports 1 Husband plays with child 2 Husband does not cause trouble. . 3 Husband is kind. 4 Not sick 5 Child is not sick 6 Child is obedient. 7 Neighbors are in harmony 8 Family harmony 9 Family standard of living. 10 Enough food 11 When get income 12 Other _____ 99
92. ON A REGULAR DAY, HOW MANY HOURS DO YOU SPEND TIME TALKING, WALKING, AND/OR PLAYING WITH (<i>child's name</i>)?	_____ HOURS _____ MINUTES
93. ON A REGULAR DAY, HOW MANY HOURS DOES A DIFFERENT ADULT SPEND TIME TALKING, WALKING, AND/OR PLAYING WITH (<i>child's name</i>)?	_____ HOURS _____ MINUTES WHO IS THE ADULT? Mother 1 Father 2 Grandmother 3 Grandfather 4 Aunt 5 None 6

QUESTION	RESPONSE
	Other _____ 00
94. (child's name) LETS ME KNOW WHEN S/HE IS FULL	Yes 1 No 2 Don't Know 88
95. (child's name) LETS ME KNOWS WHEN S/HE IS HUNGRY	Yes 1 No 2 Don't Know 88
96. I LET (child's name) DECIDE HOW MUCH TO EAT	Yes 1 No 2 Don't Know 88
97. I KEEP TRACK OF HOW MUCH FOOD THE CHILD EATS EVERY MEAL	Yes 1 No 2 Don't Know 88
98. IF YES, HOW?	_____ _____
<i>This is the final section of the interview. This is a fun section. It is about your ideas and opinions only. There are no right or wrong answers.</i> <i>I will read a statement. Please tell me if you agree, somewhat agree, or disagree with each statement.</i>	
99. I PLAY A CRUCIAL ROLE IN MY CHILD'S DEVELOPMENT AND GROWTH	Agree 1 Somewhat agree 2 Disagree 3 Don't Know 88
100. EVEN WHEN I AM BUSY WITH MY WORK, I CAN MAKE TIME FOR MY CHILD IN ORDER TO TAKE CARE OF HIM/HER.	Agree 1 Somewhat agree 2 Disagree 3 Don't Know 88
101. I THINK PRAISING CHILDREN WHENEVER HE/SHE TRIES TO DO SOMETHING NEW IS IMPORTANT	Agree 1 Somewhat agree 2 Disagree 3 Don't Know 88
102. A CHILD SHOULD BE ABLE TO EAT WHATEVER S/HE WANTS FOR SNACKS WHEN HUNGRY	Agree 1 Somewhat agree 2 Disagree 3 Don't Know 88
103. I WILL RETRY NEW FOODS FOR THE YOUNG CHILD IF THEY ARE REJECTED AT FIRST	Agree 1 Somewhat agree 2 Disagree 3 Don't Know 88
104. IT IS IMPORTANT TO HELP OR ENCOURAGE A YOUNG CHILD TO EAT	Agree 1 Somewhat agree 2 Disagree 3 Don't Know 88
105. IT IS IMPORTANT FOR ADULT CAREGIVERS TO DECIDE HOW MUCH A CHILD EATS	Agree 1 Somewhat agree 2 Disagree 3 Don't Know 88

106. WHEN DO YOU USUALLY WATCH TV?	Morning 1 Afternoon 2 Evening 3 Night 4 No set time usually 5 Do not watch. 6 END INTERVIEW Don't Know 88
107. WHAT STATIONS DO YOU MAINLY WATCH?	TV5..... 1 HangMeas TV. 2 CNC TV 3 My TV 4 Bayon TV 5 Bayon TV 5 TVK 6 SEATV 7 CTN. 8 Other 00 Don't Know 88
108. WHO ELSE USUALLY WATCHES WITH YOU?	Children 1 Husband 2 Other family. 3 Neighbor 4 Other 00 Don't Know 88

EXPOSURE AND PARTICIPATION

QUESTION	RESPONSE
<i>This is the final section of the interview. It is about your experience that you whether exposure with NOURISH or not. There are no right or wrong answers.</i>	
<i>Show Grow Together Logo</i> 109. HAVE YOU SEEN THIS LOGO BEFORE?	Yes 1 No 2 Don't Know 88
<i>Show 4 TV Spots</i> 110. HAVE YOU SEEN ANY OF THESE TV SPOTS?	Yes 1 No 2 SKIP TO Q112 Don't Know 88
111. IF YES, WHICH ONES? <i>Circle all mentioned.</i>	Unified Grow Together 1 Latrine 2 Fish powder 3 Lullaby..... 4 Don't Know 88
<i>Show NOURISH Grow Together Print Materials</i> 112. HAVE YOU SEEN ANY OF THESE MATERIALS?	Yes 1 No 2 SKIP TO Q114 Don't Know 88
113. IF YES, WHICH ONES? <i>Circle all mentioned.</i>	Chenda story book 1 5+5+3 behavior poster 2 Group education manual for caregivers. 3 Fish powder curtain./poster 4 Commitment Card. 5 Toilet leaflet. 6 Toilet fliptarp. 7 CCT Fan/ fliptarp. 8 Reminder (icons) sheet 9

QUESTION	RESPONSE
<i>This is the final section of the interview. It is about your experience that you whether exposure with NOURISH or not. There are no right or wrong answers.</i>	
	Key chain. 10 Home visit wheel 11 Food basket insert. 12 Stickers 13 Other. 99 (SPECIFY)
114. WHICH NOURISH ACTIVITIES HAVE YOU YOURSELF JOINED OR EXPERIENCED?	<i>Read one by one, circle if yes</i> # times GMP. 1 _____ Home Visit.by VHSG 2 _____ Garden support by Agriculture Officer. . . 3 _____ Caregiver education group 4 _____ Community dialogue. 5 _____ CLTS (village meeting on OD/toilets). 6 _____ First 1,000 Days Village Fair 7 _____ Voucher 8 _____ None. 00 Don't Know 88 Other. 99 (SPECIFY)
115. AFTER SEEING THESE MATERIALS AND PARTICIPATING IN THESE ACTIVITIES, WERE YOU MOTIVATED TO DO ANYTHING NEW OR DIFFERENT?	Yes 1 No 2 END Don't Know 88 END
116. IF YES, WHAT DID YOU FEEL MOTIVATED TO DO? <i>Circle all mentioned.</i>	Go for health services. 1 Take child for health services. 2 Take child for GMP. 3 Eat more diverse food myself 4 Breastfeed exclusively 5 Breastfeed longer 6 Feed child more diverse food 7 Feed child more food 8 Feed child fish powder. 9 Make fish powder 10 Drink clean water. 11 Build toilet 12 Wash hands with soap 13 Plant a home /micro / sack garden. 14 Don't remember 88 Other. 99 (SPECIFY)
117. HOW LONG WERE YOU IN THIS VILLAGE IN THE PAST YEAR?	6 MONTHS OR LONGER 1 LESS THAN 6 MONTHS 2 Don't remember. 88

The end. Thank the respondent for her participation in the survey.

QUESTIONNAIRE ID# _____

NOURISH ENDLINE QUESTIONNAIRE

WOMEN OF REPRODUCTIVE AGE: PREGNANT

IDENTIFICATION	
PROVINCE	.....
DISTRICT	.....
COMMUNE	.....
VILLAGE	.....
CLUSTER NUMBER	.....
HOUSEHOLD CODE	.....

HOUSEHOLD VISIT	
DATE	.....
INTERVIEWER'S NAME AND CODE	.....
SUPERVISOR NAME AND CODE	.....
TIME INTERVIEW STARTED	
TIME INTERVIEW COMPLETED	

Hello. My name is _____. I am working with the NOURISH Project. We are conducting a survey about nutrition in Cambodia. The information we collect will help to plan services for villages like yours. You were selected for the survey. I would like to ask you some questions. The questions usually take about 1 hour. READ THE CONSENT FORM.

SIGNATURE OF INTERVIEWER: _____ DATE: _____

RESPONDENT AGREES TO BE INTERVIEWED 1
 RESPONDENT DOES NOT AGREE TO BE INTERVIEWED 2 END

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

BASIC INFORMATION

QUESTION	RESPONSE
1. IN WHAT MONTH AND YEAR WERE YOU BORN? IF DON'T KNOW, KHMER MONTH AND YEAR BORN?	Gregorian Month _____ Gregorian Year _____ Don't Know 88 _____
2. HOW OLD WERE YOU AT YOUR LAST BIRTHDAY?	_____ Years
3. HAVE YOU EVER ATTENDED SCHOOL?	Yes 1 No 2 SKIP TO Q9 Don't Know 88
4. WHAT IS THE HIGHEST LEVEL OF SCHOOL YOU ATTENDED?	Illiteracy class.....1 Primary (1-6) 2 Lower Secondary (7-9) 3 Upper Secondary (10-12) 4 Higher. 5 Other _____00 No Answer. 99
5. HAVE YOU EVER BEEN MARRIED?	Yes 1 No 2 SKIP TO Q11 Don't Know 88
6. WHAT IS YOUR MARITAL STATUS?	Currently married. 1 Widowed 2 Divorced 3 SKIP TO Q11 No Answer 99
7. DID YOUR (LAST) (HUSBAND/PARTNER) EVER ATTEND SCHOOL?	Yes 1 No 2 SKIP TO Q9 Don't Know 88
8. WHAT IS THE HIGHEST LEVEL OF SCHOOL HE ATTENDED?	Illiteracy class.....1 Primary (1-6) 2 Lower Secondary (7-9) 3 Upper Secondary (10-12) 4 Higher. 5 Other _____00 No Answer. 99
9. HOW OLD IS YOUR (LAST) (HUSBAND/PARTNER)?	Under 20. 1 20-29. 2 30-39. 3 40-49. 4 50-59. 5 60 or over 6 Don't Know 88 Age: _____
10. WHAT IS YOUR HUSBAND'S MAIN OCCUPATION? THAT IS, WHAT KIND OF WORK DOES HE MAINLY DO?	Farmer 1 Factory 2 Retail.....3 Motor taxi.....4

QUESTION	RESPONSE
	Construction/carpenter.....5 Teacher or official.....6 Unemployed 7 Daily labor (no regular work).....8 Other 00 Don't know..... 88
11. WHAT IS YOUR OCCUPATION, THAT IS, WHAT KIND OF WORK DO YOU MAINLY DO? <i>(Circle the main type of work)</i>	Farmer 1 Factory 2 Retail.....3 Motor taxi.....4 Construction/carpenter.....5 Teacher or official.....6 Unemployed 7 Housewife 8 Daily labor (no regular work).....9 Don't know..... 88
<i>As you know, some women take up other jobs for which they are paid in cash or kind. Others sell things, have a small business or work outside sometimes.</i> 12. HAVE YOU DONE ANY SUCH WORK IN THE LAST 12 MONTHS?	Yes 1 No 2 Don't Know 88
13. IF YES, WHAT KIND OF WORK IS THIS?	_____ _____
14. DO YOU USUALLY WORK THROUGHOUT THE YEAR, OR DO YOU WORK SEASONALLY, OR ONLY ONCE IN A WHILE?	All Year. 1 Wet Season 2 Dry Season 3 Sometimes. 4 No answer.. 99
15. ARE YOU PAID IN CASH OR KIND FOR THIS WORK OR ARE YOU NOT PAID AT ALL?	Cash. 1 In Kind 2 Both cash and in-kind. 3 Not paid. 4 No answer.. 99
16. DOES YOUR FAMILY HAVE AN ID POOR CARD? <i>Request to see the card.</i>	Yes Observed. 1 Yes Not Observed 2 No 3 Don't Know 88 No answer.. 99
17. DOES THE HOUSEHOLD OWN ANY AGRICULTURAL LAND (NOT IN COMPOUND)?	Yes 1 No 2 SKIP TO Q.19 Don't Know 88
18. HOW MANY METERS OR HECTARES OF AGRICULTURAL LAND DO MEMBERS OF THIS HOUSEHOLD OWN?	Sq. Meter 1 # _____ A 2 # _____ Hectares 3 # _____ Ray 4 # _____ Kong 5 # _____ Don't Know 88 # _____

QUESTION	RESPONSE																												
19. DOES YOUR HOUSEHOLD GROW ANY FOOD AT HOME FOR CONSUMPTION? <i>Request to see the garden.</i>	Yes Observed. 1 Yes Not Observed 2 No 3 SKIP TO Q.25 Don't Know 88																												
20. IF YOUR HOUSEHOLD GROWS ANY FOOD IN THE HOME COMPOUND, WHAT DO YOU GROW? (CIRCLE ALL GROWN AT DIFFERENT TIMES OF THE YEAR.)	Ptee (Amaranth) 1 Moringa. 2 Pumpkin 3 Sweet Potato 4 Long Bean 5 Jackfruit. 6 Mango. 7 Banana 8 Other _____ 00 Don't know 88																												
21. IF YOUR HOUSEHOLD GROWS FOOD AT HOME, WHAT DO YOU DO WITH THE PRODUCE? (<i>Circle all answers given</i>).	Eat 1 Sell. 2 Give to family and friends. 3 Give to neighbors. 4 Give to animals 5 Throw away. 6 Other _____ 00 Don't know 88																												
22. IF YOU SELL SOME, HOW MUCH MONEY DO YOU MAKE FROM SELLING THESE EACH YEAR?	_____ Riel																												
[Ask only if she grows ptee, yardlong bean, moringa, or sweet potato in #20. If no, SKIP TO Q25] 23. HOW MUCH OF _____ THAT YOU GROW DID YOUR HOUSEHOLD EAT IN THE PAST WEEK?	More None Bunch ½ kilo 1 kilo 2-5 kilos <table> <tr> <td>Amaranth</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> <tr> <td>Moringa</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> <tr> <td>Sweet potato</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> <tr> <td>Long bean</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> </table>	Amaranth	0	1	2	3	4	5	Moringa	0	1	2	3	4	5	Sweet potato	0	1	2	3	4	5	Long bean	0	1	2	3	4	5
Amaranth	0	1	2	3	4	5																							
Moringa	0	1	2	3	4	5																							
Sweet potato	0	1	2	3	4	5																							
Long bean	0	1	2	3	4	5																							
Ask only if she grows and eats ptee, yardlong bean, moringa, or sweet potato in #20. If no, SKIP TO Q25] 24. WHO EATS THE PRODUCE USUALLY? <i>(Read answers and circle all answers given).</i>	Men 1 Women 2 Pregnant women. 3 Children over 1 year 4 Children 1 year – 2 years. 5 Children over 2 years 6 Other _____ 00 Don't know 88																												
<i>Now I would like to ask you about children.</i> 25. HOW MANY CHILDREN DO YOU ALREADY HAVE?	— —																												
26. HAVE YOU BEEN PREGNANT IN THE PAST 12 MONTHS?	Yes 1 No 2 SKIP TO Q.30 No answer.. . . . 99																												
27. WAS IT FULL TERM PREGNANCY?	Yes 1 No 2 No answer.. . . . 99																												

QUESTION	RESPONSE
28. HOW MUCH WEIGHT DID THE HEALTH WORKER ADVISE YOU TO GAIN DURING PREGNANCY?	Less than 10 kg. 1 10-12.0 kg 2 12.1- 14.9kg 3 14.9-17.9 kg 4 18 kg or more. 5 Don't Know 88
29. HOW MUCH WEIGHT DID YOU GAIN DURING PREGNANCY?	Less than 10 kg. 1 10-12.0 kg 2 12.1- 14.9kg 3 14.9-17.9 kg 4 18 kg or more. 5 Don't Know 88

ANEMIA

IF **AGE <18** AND NOT MARRIED; CAREGIVER MUST GIVE CONSENT: DETERMINE WHO IS ADULT RESPONSIBLE/CAREGIVER FOR ADOLESCENT AND ASK THE FOLLOWING.

As part of this survey, we are asking people all over the province to take an anemia test. Anemia is a serious health problem that usually results from a genetic disorder, poor nutrition, infection, or chronic disease. For the anemia testing, we will need a few drops of blood from a finger. The equipment used to take the blood is clean and completely safe. It has never been used before and will be thrown away after each test. The blood will be tested for anemia immediately, and the result will be told to you and (NAME OF ADOLESCENT) right away. The result will be kept strictly confidential and will not be shared with anyone other than members of our survey team. Do you have any questions?

You can say yes to the test for (NAME OF ADOLESCENT), or you can say no. It is up to you to decide.

Will you allow (NAME OF ADOLESCENT) to take the anemia test?

Yes

No

CIRCLE RESPONSE, AND GET SIGNATURE/MARK IF YES

Signature or Thumb Print of Guardian: _____

IF **OVER 18**

As part of this survey, we are asking people all over the province to take an anemia test. Anemia is a serious health problem that usually results from genetic disorder, poor nutrition, infection, or chronic disease.

We ask that women old take part in anemia testing in this survey and give a few drops of blood from a finger or heel. The equipment used to take the blood is clean and completely safe. It has never been used before and will be thrown away after each test. The blood will be tested for anemia immediately, and the result will be told to you right away. The result will be kept strictly confidential and will not be shared with anyone other than members of our survey team. Do you have any questions? You can say yes to the test, or you can say no. It is up to you to decide. Will you participate in the anemia test?

Yes

No

CIRCLE RESPONSE AND GET SIGNATURE/MARK IF YES

Signature or Thumb Print of Guardian: _____

30. GRAMS PER DECILITER _ _ . _

HYGIENE AND SANITATION

QUESTION	RESPONSE
31. DO YOU DO ANYTHING TO THE WATER TO MAKE IT SAFER TO DRINK?	Yes 1 No 2 SKIP TO Q35 Don't Know 88
32. WHAT DO YOU USUALLY DO TO MAKE THE WATER SAFER TO DRINK? <i>(Confirm by observation)</i>	Boil 1 SKIP TO Q34 Filter 2 Chlorine 3 SKIP TO Q34 Buy drinking water 4 SKIP TO Q35 Nothing 5 SKIP TO Q35 Other 99 SKIP TO Q35 No answer 00 <i>Based on answer above:</i> Water treatment device observed 1 Water treatment device not observed. 2
33. HOW OFTEN IS THE FILTER CLEANED? <i>(Confirm by observation)</i>	Daily 1 Every 2-3 days 2 Weekly 3 Monthly 4 Every few months. 5 Every year 6 Do not remember. 9 Other 99 <i>Observed:</i> Filter looks clean 1 Filter looks dirty. 2
34. PLEASE SHOW ME WHAT HAPPENS TO THE WATER AFTER TREATED.	Transferred to a covered, sealed, clean container ..1 Transferred to a an uncovered/unsealed, dirty container..... 2 Kept in the container where it was boiled 3 Transferred to filter.....4 Not transfer.....5 Other.....00
35. WHAT KIND OF TOILET FACILITY DO MEMBERS OF YOUR HOUSEHOLD USUALLY USE? <i>(Confirm by observation)</i>	Flush or pour flush toilet Flush to piped sewer system 1 Flush to septic under tank 2 Flush to septic outside tank 3 Flush to pit latrine 4 Flush to somewhere else 5 Flush, don't know where 6 Pit latrine Ventilated improved pit latrine 7

QUESTION	RESPONSE
	Pit latrine with slab 8 Pit latrine without slab/ open pit ... 9 Composting toilet 10 Bucket toilet 11 Hanging toilet/hanging latrine 12 No facility/bush/field 13 <i>SKIP TO Q.38</i> Use another person/family's latrine..14 <i>SKIP TO Q38</i> Other _____ 99 (SPECIFY) <i>Answer above is confirmed by observation</i> Observed 1 Not observed 2
36. DO YOU SHARE YOUR TOILET FACILITY WITH OTHER HOUSEHOLDS?	Yes 1 No 2 <i>SKIP TO Q.38</i> Don't Know 88
37. HOW MANY HOUSEHOLDS USE YOUR TOILET FACILITY?	Number _____ Don't know 88
38. PLEASE SHOW ME WHERE MEMBERS OF YOUR HOUSEHOLD MOST OFTEN WASH THEIR HANDS.	Observed 1 Not observed, not in dwelling/yard/plot ... 2 Not observed, no permission to see 3 Not observed, other reason 4 [Note that anal cleansing water inside latrine is not considered hand washing station]
39. OBSERVATION ONLY: OBSERVE PRESENCE OF WATER AT THE SPECIFIC PLACE FOR HANDWASHING.	Water is available 1 Water is not available 2
40. OBSERVATION ONLY: OBSERVE PRESENCE OF SOAP, DETERGENT, OR OTHER CLEANSING AGENT.	Soap or detergent (bar, liquid, powder) 1 Ash, mud, sand 2 None. 3
41. OBSERVATION ONLY: OBSERVE HANDWASHING STATION (Circle all observed)	Near to platform (feeding/eating) place. 1 Within 10metres from toilet 2 Protected from persons/ animals.....3 Water falls freely..... 4
42. OBSERVATION ONLY: OBSERVE PRESENCE OF A SEPARATE HANDWASHING STATION	Tippy Tap 1 Tippy Tap with soap , 2 Happy Tap 3 Happy Tap with soap , 4 No separate handwashing station , 5 Other: _____ 99

DIET

QUESTION

43. PLEASE DESCRIBE EVERYTHING THAT YOU ATE YESTERDAY DURING THE DAY OR NIGHT, WHETHER AT HOME OR OUTSIDE THE HOME.

C) THINK ABOUT WHEN YOU FIRST WOKE UP YESTERDAY. DID YOU EAT ANYTHING AT THAT TIME?

IF YES: Please tell me everything you ate at that time.

PROBE: Anything else? UNTIL RESPONDENT SAYS NOTHING ELSE. THEN CONTINUE TO PART B).

IF NO, CONTINUE TO PART B).

D) WHAT DID YOU EAT NEXT?

Please tell me everything you ate at that time. PROBE: Anything else?

UNTIL RESPONDENT SAYS NOTHING ELSE. REPEAT QUESTION B).

IF RESPONDENT MENTIONS MIXED DISHES LIKE A PORRIDGE, SAUCE, OR SOUP, PROBE:

C) WHAT INGREDIENTS WERE IN THAT [MIXED DISH]? PROBE: ANYTHING ELSE?

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

ONCE THE RESPONDENT FINISHES RECALLING FOODS EATEN, READ EACH FOOD GROUP WHERE '1' WAS NOT ENTERED IN THE RESPONSE BOX, ASK AND ENTER '1' IF RESPONDENT SAYS YES, '2' IF NO, AND '88' IF DON'T KNOW:

OTHER FOODS: PLEASE WRITE DOWN OTHER FOODS (TO THE RIGHT OF THIS BOX) MENTIONED BUT ARE NOT IN THE LIST BELOW. THIS WILL ALLOW THE SURVEY SUPERVISOR TO CLASSIFY THE FOOD LATER.	RESPONSE CODES	WRITE FOODS MENTIONED:
FOOD MADE FROM RICE, NOODLES, PORRIDGE	Yes 1 No 2 Don't Know 88	
BEANS	Yes 1 No 2 Don't Know 88	
NUTS AND SEEDS	Yes 1 No 2 Don't Know 88	
PUMPKIN, CARROTS, SQUASH, OR SWEET POTATOES THAT ARE YELLOW OR ORANGE INSIDE	Yes 1 No 2 Don't Know 88	
WHITE POTATOES OR ANY OTHER FOODS MADE FROM ROOTS (CASSAVA, TARO, TURNIP)	Yes 1 No 2	

OTHER FOODS: PLEASE WRITE DOWN OTHER FOODS (TO THE RIGHT OF THIS BOX) MENTIONED BUT ARE NOT IN THE LIST BELOW. THIS WILL ALLOW THE SURVEY SUPERVISOR TO CLASSIFY THE FOOD LATER.	RESPONSE CODES	WRITE FOODS MENTIONED:
	Don't Know 88	
ANY DARK GREEN LEAFY VEGETABLES SUCH AS AMARANTH LEAVES, MORINGA, MORNING GLORY, WATER SPINACH	Yes 1 No 2 Don't Know 88	
RIPE MANGOES, JACKFRUIT, RIPE PAPAYA	Yes 1 No 2 Don't Know 88	
ANY OTHER FRUITS OR VEGETABLES	Yes 1 No 2 Don't Know 88	
LIVER, KIDNEY, HEART, OR OTHER ORGAN MEATS	Yes 1 No 2 Don't Know 88	
FLESH FOODS (IE MEAT, SUCH AS BEEF, PORK, CHICKEN, OR DUCK)	Yes 1 No 2 Don't Know 88	
WILD ANIMALS LIKE FROGS, CRABS, INSECTS	Yes 1 No 2 Don't Know 88	
DUCK OR CHICKEN EGGS	Yes 1 No 2 Don't Know 88	
FRESH OR DRIED FISH	Yes 1 No 2 Don't Know 88	
ANY FOODS MADE FROM BEANS, NUTS, OR SEEDS	Yes 1 No 2 Don't Know 88	
CHEESE, YOGURT, OR OTHER MILK PRODUCTS	Yes 1 No 2 Don't Know 88	
ANY OIL, FATS, OR BUTTER, OR FOODS MADE WITH ANY OF THESE	Yes 1 No 2 Don't Know 88	
ANY SUGARY FOODS SUCH AS CHOCOLATES, SWEETS, CANDIES, PASTRIES, CAKES, OR BISCUITS	Yes 1 No 2 Don't Know 88	
ANY SALTY FOODS SUCH AS PACKAGED SNACKS (IE CHIPS)	Yes 1 No 2 Don't Know 88	
CONDIMENTS FOR FLAVOR, SUCH AS SOY SAUCE, PRAHOK	Yes 1 No 2 Don't Know 88	

EXPOSURE AND PARTICIPATION

QUESTION	RESPONSE
<i>This is the final section of the interview. It is about your experience that you whether exposure with NOURISH or not. There are no right or wrong answers.</i>	
<i>Show Grow Together Logo</i> 44. HAVE YOU SEEN THIS LOGO BEFORE?	Yes 1 No 2 Don't Know 88
<i>Show 4 TV Spots</i> 45. HAVE YOU SEEN ANY OF THESE TV SPOTS?	Yes 1 No 2 SKIP TO Q47 Don't Know 88
46. IF YES, WHICH ONES? <i>Circle all mentioned.</i>	Unified Grow Together 1 Latrine 2 Fish powder 3 Lullaby..... 4 Don't Know 88
<i>Show NOURISH Grow Together Print Materials</i> 47. HAVE YOU SEEN ANY OF THESE MATERIALS?	Yes 1 No 2 SKIP TO Q49 Don't Know 88
48. IF YES, WHICH ONES? <i>Circle all mentioned.</i>	Chenda story book 1 5+5+3 behavior poster 2 Group education manual for caregivers. 3 Fish powder curtain./poster 4 Commitment Card. 5 Toilet leaflet. 6 Toilet fliptarp. 7 CCT Fan/ fliptarp. 8 Reminder (icons) sheet 9 Key chain. 10 Home visit wheel 11 Food basket insert. 12 Stickers 13 Other. 99 (SPECIFY)
49. WHICH NOURISH ACTIVITIES HAVE YOU YOURSELF JOINED OR EXPERIENCED?	<i>Read one by one, circle if yes</i> <i># times</i> GMP. 1 _____ Home Visit.by VHSG 2 _____ Garden support by Agriculture Officer. . . 3 _____ Caregiver education group 4 _____ Community dialogue. 5 _____ CLTS (village meeting on OD/toilets). 6 _____ First 1,000 Days Village Fair 7 _____ Voucher 8 _____ None. 00 _____ Don't Know 88 _____ Other. 99 _____ (SPECIFY)
50. AFTER SEEING THESE MATERIALS AND PARTICIPATING IN THESE ACTIVITIES, WERE YOU MOTIVATED TO DO ANYTHING NEW OR DIFFERENT?	Yes 1 No 2 END Don't Know 88 END
51. IF YES, WHAT DID YOU FEEL MOTIVATED TO DO?	Go for health services. 1 Take child for health services. 2

QUESTION	RESPONSE
<i>This is the final section of the interview. It is about your experience that you whether exposure with NOURISH or not. There are no right or wrong answers.</i>	
Circle all mentioned.	Take child for GMP. 3 Eat more diverse food myself 4 Breastfeed exclusively 5 Breastfeed longer 6 Feed child more diverse food 7 Feed child more food 8 Feed child fish powder. 9 Make fish powder 10 Drink clean water. 11 Build toilet 12 Wash hands with soap 13 Plant a home /micro / sack garden. 14 Don't remember 88 Other. _____ 99 (SPECIFY)
52. HOW LONG WERE YOU IN THIS VILLAGE IN THE PAST YEAR?	6 MONTHS OR LONGER 1 LESS THAN 6 MONTHS 2 Don't remember. 88

QUESTIONNAIRE ID# _____

NOURISH ENDLINE QUESTIONNAIRE

WOMEN OF REPRODUCTIVE AGE: NOT PREGNANT

IDENTIFICATION	
PROVINCE	.....
DISTRICT	.....
COMMUNE	.....
VILLAGE	.....
CLUSTER NUMBER	.....
HOUSEHOLD CODE	.....

HOUSEHOLD VISIT	
DATE	.....
INTERVIEWER'S NAME AND CODE	.....
SUPERVISOR NAME AND CODE	.....
TIME INTERVIEW STARTED	
TIME INTERVIEW COMPLETED	

Hello. My name is _____. I am working with the NOURISH Project. We are conducting a survey about nutrition in Cambodia. The information we collect will help to plan services for villages like yours. You were selected for the survey. I would like to ask you some questions. The questions usually take about 1 hour. READ THE CONSENT FORM.

SIGNATURE OF INTERVIEWER: _____ DATE: _____

RESPONDENT AGREES TO BE INTERVIEWED 1
RESPONDENT DOES NOT AGREE TO BE INTERVIEWED 2 END

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

BASIC INFORMATION

QUESTION	RESPONSE
11. IN WHAT MONTH AND YEAR WERE YOU BORN? IF DON'T KNOW, KHMER MONTH AND YEAR BORN?	Gregorian Month _____ Gregorian Year _____ Don't Know 88 _____
12. HOW OLD WERE YOU AT YOUR LAST BIRTHDAY?	_____ Years
13. HAVE YOU EVER ATTENDED SCHOOL?	Yes 1 No 2 SKIP TO Q5 Don't Know 88
14. WHAT IS THE HIGHEST LEVEL OF SCHOOL YOU ATTENDED?	Illiteracy class.....1 Primary (1-6) 2 Lower Secondary (7-9) 3 Upper Secondary (10-12) 4 Higher. 5 Other _____00 No Answer. 99
15. HAVE YOU EVER BEEN MARRIED?	Yes 1 No 2 SKIP TO Q11 Don't Know 88
16. WHAT IS YOUR MARITAL STATUS?	Currently married. 1 Widowed 2 SKIP TO Q11 Divorced 3 SKIP TO Q11 No Answer 99
17. DID YOUR (LAST) (HUSBAND/PARTNER) EVER ATTEND SCHOOL?	Yes 1 No 2 SKIP TO Q9 Don't Know 88
18. WHAT IS THE HIGHEST LEVEL OF SCHOOL HE ATTENDED?	Illiteracy class.....1 Primary (1-6) 2 Lower Secondary (7-9) 3 Upper Secondary (10-12) 4 Higher. 5 Other _____00 No Answer. 99
19. HOW OLD IS YOUR (LAST) (HUSBAND/PARTNER)?	Under 20. 1 20-29. 2 30-39. 3 40-49. 4 50-59. 5 60 or over 6 Don't Know 88 Age: _____
20. WHAT IS YOUR HUSBAND'S MAIN OCCUPATION? THAT IS, WHAT KIND OF WORK DOES HE MAINLY DO?	Farmer 1 Factory 2 Retail.....3 Tailor/sewing.....4

QUESTION	RESPONSE
	Motor taxi.....5 Construction/carpenter.....6 Teacher or official.....7 Unemployed 8 Daily labor (no regular work).....9 Other 00 Don't know..... 88
11. WHAT IS YOUR OCCUPATION, THAT IS, WHAT KIND OF WORK DO YOU MAINLY DO? <i>(Circle the main type of work)</i>	Farmer 1 Factory 2 Retail.....3 Motor taxi.....4 Construction/carpenter.....5 Teacher or official.....6 Unemployed 7 Housewife 8 Daily labor (no regular work).....9 Don't know..... 88
<i>As you know, some women take up other jobs for which they are paid in cash or kind. Others sell things, have a small business or work outside sometimes.</i> 12. HAVE YOU DONE ANY SUCH WORK IN THE LAST 12 MONTHS?	Yes 1 No 2 Don't Know 88
53. IF YES, WHAT KIND OF WORK IS THIS?	
54. DO YOU USUALLY WORK THROUGHOUT THE YEAR, OR DO YOU WORK SEASONALLY, OR ONLY ONCE IN A WHILE?	All Year. 1 Wet Season 2 Dry Season 3 Sometimes. 4 No answer.....99
55. ARE YOU PAID IN CASH OR KIND FOR THIS WORK OR ARE YOU NOT PAID AT ALL?	Cash. 1 In Kind 2 Both cash and in-kind. 3 Not paid. 4 No answer.....99
56. DOES YOUR FAMILY HAVE AN ID POOR CARD? <i>Request to see the card.</i>	Yes Observed. 1 Yes Not Observed 2 No 3 Don't Know 88 No answer..... 99
57. DOES THE HOUSEHOLD OWN ANY AGRICULTURAL LAND (NOT IN COMPOUND)?	Yes 1 No 2 SKIP TO Q.19 Don't Know 88
58. HOW MANY METERS OR HECTARES OF AGRICULTURAL LAND DO MEMBERS OF THIS HOUSEHOLD OWN?	Sq. Meter 1 # _____ A 2 # _____ Hectares 3 # _____ Ray 4 # _____ Kong 5 # _____ Don't Know 88 # _____

QUESTION	RESPONSE																												
59. DOES YOUR HOUSEHOLD GROW ANY FOOD AT HOME FOR CONSUMPTION? <i>Request to see the garden.</i>	Yes Observed. 1 Yes Not Observed 2 No 3 SKIP TO Q.25 Don't Know 88																												
60. IF YOUR HOUSEHOLD GROWS ANY FOOD IN THE HOME COMPOUND, WHAT DO YOU GROW? (CIRCLE ALL GROWN AT DIFFERENT TIMES OF THE YEAR.)	Ptee (Amaranth) 1 Moringa. 2 Pumpkin 3 Sweet Potato 4 Long Bean 5 Jackfruit. 6 Mango. 7 Banana 8 Other _____ 00 Don't know 88																												
61. IF YOUR HOUSEHOLD GROWS FOOD AT HOME, WHAT DO YOU DO WITH THE PRODUCE? (<i>Circle all answers given</i>).	Eat 1 Sell. 2 Give to family and friends. 3 Give to neighbors. 4 Give to animals 5 Throw away. 6 Other _____ 00 Don't know 88																												
62. IF YOU SELL SOME, HOW MUCH MONEY DO YOU MAKE FROM SELLING THESE EACH YEAR?	_____ Riel																												
[Ask only if she grows ptee, yardlong bean, moringa, or sweet potato in #20. If no, SKIP TO Q25] 63. HOW MUCH OF _____ THAT YOU GROW DID YOUR HOUSEHOLD EAT IN THE PAST WEEK?	More None Bunch ½ kilo 1 kilo 2-5 kilos <table> <tr> <td>Amaranth</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> <tr> <td>Moringa</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> <tr> <td>Sweet potato</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> <tr> <td>Long bean</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> </table>	Amaranth	0	1	2	3	4	5	Moringa	0	1	2	3	4	5	Sweet potato	0	1	2	3	4	5	Long bean	0	1	2	3	4	5
Amaranth	0	1	2	3	4	5																							
Moringa	0	1	2	3	4	5																							
Sweet potato	0	1	2	3	4	5																							
Long bean	0	1	2	3	4	5																							
Ask only if she grows and eats ptee, yardlong bean, moringa, or sweet potato in #20. If no, SKIP TO Q25] 64. WHO EATS THE PRODUCE USUALLY? (<i>Read answers and circle all answers given</i>).	Men 1 Women 2 Pregnant women. 3 Children over 1 year 4 Children 1 year – 2 years. 5 Children over 2 years 6 Other _____ 00 Don't know 88																												
<i>Now I would like to ask you about children.</i> 65. DID YOU HAVE ANY CHILDREN?	Yes 1 No 2 SKIP TO Q.27 Don't Know 88 No answer.. . . . 99																												
66. HOW MANY CHILDREN DO YOU ALREADY HAVE?	— —																												
67. ARE YOU PREGNANT NOW?	Yes 1 No 2 Don't Know 88 No answer.. . . . 99																												

QUESTION	RESPONSE
68. HAVE YOU BEEN PREGNANT IN THE PAST 12 MONTHS?	Yes 1 No 2 SKIP TO Q.32 No answer.....99
69. WAS IT FULL TERM PREGNANCY?	Yes 1 No 2 No answer.....99
70. HOW MUCH WEIGHT DID THE HEALTH WORKER ADVISE YOU TO GAIN DURING PREGNANCY?	Less than 10 kg. 1 10-12.0 kg 2 12.1- 14.9kg 3 14.9-17.9 kg 4 18 kg or more. 5 Don't Know 88
71. HOW MUCH WEIGHT DID YOU GAIN DURING PREGNANCY?	Less than 10 kg. 1 10-12.0 kg 2 12.1- 14.9kg 3 14.9-17.9 kg 4 18 kg or more. 5 Don't Know 88

WEIGHT AND HEIGHT

(Women who are not pregnant only.)

72. Weight in kg __ __ . __

73. Height in cm __ __ __ . __

ANEMIA

IF **AGE <18** AND NOT MARRIED; CAREGIVER MUST GIVE CONSENT: DETERMINE WHO IS ADULT RESPONSIBLE/CAREGIVER FOR ADOLESCENT AND ASK THE FOLLOWING.

As part of this survey, we are asking people all over the province to take an anemia test. Anemia is a serious health problem that usually results from a genetic disorder, poor nutrition, infection, or chronic disease. For the anemia testing, we will need a few drops of blood from a finger. The equipment used to take the blood is clean and completely safe. It has never been used before and will be thrown away after each test. The blood will be tested for anemia immediately, and the result will be told to you and (NAME OF ADOLESCENT) right away. The result will be kept strictly confidential and will not be shared with anyone other than members of our survey team. Do you have any questions?

You can say yes to the test for (NAME OF ADOLESCENT), or you can say no. It is up to you to decide.

Will you allow (NAME OF ADOLESCENT) to take the anemia test?

Yes

No

CIRCLE RESPONSE, AND GET SIGNATURE/MARK IF YES

Signature or Thumb Print of Guardian: _____

IF OVER 18

As part of this survey, we are asking people all over the province to take an anemia test. Anemia is a serious health problem that usually results from genetic disorder, poor nutrition, infection, or chronic disease.

We ask that women old take part in anemia testing in this survey and give a few drops of blood from a finger or heel. The equipment used to take the blood is clean and completely safe. It has never been used before and will be thrown away after each test. The blood will be tested for anemia immediately, and the result will be told to you right away. The result will be kept strictly confidential and will not be shared with anyone other than members of our survey team. Do you have any questions? You can say yes to the test, or you can say no. It is up to you to decide. Will you participate in the anemia test?

Yes

No

CIRCLE RESPONSE AND GET SIGNATURE/MARK IF YES

Signature or Thumb Print of Guardian: _____

74. GRAMS PER DECILITER .

HYGIENE AND SANITATION

QUESTION	RESPONSE
75. DO YOU DO ANYTHING TO THE WATER TO MAKE IT SAFER TO DRINK?	Yes 1 No 2 SKIP TO Q39 Don't Know 88
76. WHAT DO YOU USUALLY DO TO MAKE THE WATER SAFER TO DRINK? <i>(Confirm by observation)</i>	Boil 1 SKIP TO Q 38 Filter 2 Chlorine.....3 SKIP TO Q 38 Buy drinking water 4 SKIP TO Q 39 Nothing.....5 SKIP TO Q 39 Other 99 SKIP TO Q 39 No answer 00 <i>Based on answer above:</i> Water treatment device observed 1 Water treatment device not observed. 2
77. HOW OFTEN IS THE FILTER CLEANED? <i>(Confirm by observation)</i>	Daily 1 Every 2-3 days 2 Weekly 3 Monthly 4 Every few months.....5 Every year 6 Do not remember.....88 Other 99 <i>Observed:</i> Filter looks clean 1 Filter looks dirty..... 2

QUESTION	RESPONSE
78. PLEASE SHOW ME WHAT HAPPENS TO THE WATER AFTER TREATED.	Transferred to a covered, sealed, clean container ..1 Transferred to a an uncovered/unsealed, dirty container..... 2 Kept in the container where it was boiled 3 Transferred to filter.....4 Not transfer.....5 Other.....00
79. WHAT KIND OF TOILET FACILITY DO MEMBERS OF YOUR HOUSEHOLD USUALLY USE? <i>(Confirm by observation)</i>	Flush or pour flush toilet Flush to piped sewer system 1 Flush to septic under tank 2 Flush to septic outside tank 3 Flush to pit latrine 4 Flush to somewhere else 5 Flush, don't know where 6 Pit latrine Ventilated improved pit latrine 7 Pit latrine with slab 8 Pit latrine without slab/ open pit . . . 9 Composting toilet 10 Bucket toilet 11 Hanging toilet/hanging latrine 12 No facility/bush/field 13 <i>SKIP TO Q.42</i> Use another person/family's latrine..14 <i>SKIP TO Q42</i> Other _____99 (SPECIFY) <i>Answer above is confirmed by observation</i> Observed 1 Not observed 2
80. DO YOU SHARE YOUR TOILET FACILITY WITH OTHER HOUSEHOLDS?	Yes 1 No 2 <i>SKIP TO Q.42</i> Don't Know 88
81. HOW MANY HOUSEHOLDS USE YOUR TOILET FACILITY?	Number _____ Don't know 88
82. PLEASE SHOW ME WHERE MEMBERS OF YOUR HOUSEHOLD MOST OFTEN WASH THEIR HANDS.	Observed 1 Not observed, not in dwelling/yard/plot . . . 2 Not observed, no permission to see 3 Not observed, other reason 4 [Note that anal cleansing water inside latrine is not considered hand washing station]
83. OBSERVATION ONLY: OBSERVE PRESENCE OF WATER AT THE SPECIFIC PLACE FOR HANDWASHING.	Water is available 1 Water is not available 2

QUESTION	RESPONSE
84. OBSERVATION ONLY: OBSERVE PRESENCE OF SOAP, DETERGENT, OR OTHER CLEANSING AGENT.	Soap or detergent (bar, liquid, powder) 1 Ash, mud, sand 2 None. 3
85. OBSERVATION ONLY: OBSERVE HANDWASHING STATION (Circle all observed)	Near to platform (feeding/eating) place. . . . 1 Within 10metres from toilet 2 Protected from persons/ animals.....3 Water falls freely..... 4
86. OBSERVATION ONLY: OBSERVE PRESENCE OF A SEPARATE HANDWASHING STATION	Tippy Tap 1 Tippy Tap with soap , 2 Happy Tap 3 Happy Tap with soap , 4 No separate handwashing station , 5 Other: _____ 99

DIET

QUESTION
87. PLEASE DESCRIBE EVERYTHING THAT YOU ATE YESTERDAY DURING THE DAY OR NIGHT, WHETHER AT HOME OR OUTSIDE THE HOME. E) THINK ABOUT WHEN YOU FIRST WOKE UP YESTERDAY. DID YOU EAT ANYTHING AT THAT TIME? IF YES: Please tell me everything you ate at that time. PROBE: Anything else? UNTIL RESPONDENT SAYS NOTHING ELSE. THEN CONTINUE TO PART B). IF NO, CONTINUE TO PART B). F) WHAT DID YOU EAT NEXT? Please tell me everything you ate at that time. PROBE: Anything else? UNTIL RESPONDENT SAYS NOTHING ELSE. REPEAT QUESTION B). IF RESPONDENT MENTIONS MIXED DISHES LIKE A PORRIDGE, SAUCE, OR SOUP, PROBE: C) WHAT INGREDIENTS WERE IN THAT [MIXED DISH]? PROBE: ANYTHING ELSE?

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

ONCE THE RESPONDENT FINISHES RECALLING FOODS EATEN, READ EACH FOOD GROUP WHERE '1' WAS NOT ENTERED IN THE RESPONSE BOX, ASK AND ENTER '1' IF RESPONDENT SAYS YES, '2' IF NO, AND '88' IF DON'T KNOW:

OTHER FOODS: PLEASE WRITE DOWN OTHER FOODS (TO THE RIGHT OF THIS BOX) MENTIONED BUT ARE NOT IN THE LIST BELOW. THIS WILL ALLOW THE SURVEY SUPERVISOR TO CLASSIFY THE FOOD LATER.	RESPONSE CODES	WRITE FOODS MENTIONED:
FOOD MADE FROM RICE, NOODLES, PORRIDGE	Yes 1 No 2 Don't Know 88	
BEANS	Yes 1 No 2 Don't Know 88	
NUTS AND SEEDS	Yes 1 No 2 Don't Know 88	
PUMPKIN, CARROTS, SQUASH, OR SWEET POTATOES THAT ARE YELLOW OR ORANGE INSIDE	Yes 1 No 2 Don't Know 88	
WHITE POTATOES OR ANY OTHER FOODS MADE FROM ROOTS (CASSAVA, TARO, TURNIP)	Yes 1 No 2 Don't Know 88	
ANY DARK GREEN LEAFY VEGETABLES SUCH AS AMARANTH LEAVES, MORINGA, MORNING GLORY, WATER SPINACH	Yes 1 No 2 Don't Know 88	
RIPE MANGOES, JACKFRUIT, RIPE PAPAYA	Yes 1 No 2 Don't Know 88	
ANY OTHER FRUITS OR VEGETABLES	Yes 1 No 2 Don't Know 88	
LIVER, KIDNEY, HEART, OR OTHER ORGAN MEATS	Yes 1 No 2 Don't Know 88	
FLESH FOODS (IE MEAT, SUCH AS BEEF, PORK, CHICKEN, OR DUCK)	Yes 1 No 2 Don't Know 88	
WILD ANIMALS LIKE FROGS, CRABS, INSECTS	Yes 1 No 2 Don't Know 88	
DUCK OR CHICKEN EGGS	Yes 1 No 2 Don't Know 88	
FRESH OR DRIED FISH	Yes 1 No 2 Don't Know 88	
ANY FOODS MADE FROM BEANS, NUTS, OR SEEDS	Yes 1 No 2 Don't Know 88	
CHEESE, YOGURT, OR OTHER MILK PRODUCTS	Yes 1 No 2 Don't Know 88	

OTHER FOODS: PLEASE WRITE DOWN OTHER FOODS (TO THE RIGHT OF THIS BOX) MENTIONED BUT ARE NOT IN THE LIST BELOW. THIS WILL ALLOW THE SURVEY SUPERVISOR TO CLASSIFY THE FOOD LATER.	RESPONSE CODES	WRITE FOODS MENTIONED:
ANY OIL, FATS, OR BUTTER, OR FOODS MADE WITH ANY OF THESE	Yes 1 No 2 Don't Know 88	
ANY SUGARY FOODS SUCH AS CHOCOLATES, SWEETS, CANDIES, PASTRIES, CAKES, OR BISCUITS	Yes 1 No 2 Don't Know 88	
ANY SALTY FOODS SUCH AS PACKAGED SNACKS (IE CHIPS)	Yes 1 No 2 Don't Know 88	
CONDIMENTS FOR FLAVOR, SUCH AS SOY SAUCE, PRAHOK	Yes 1 No 2 Don't Know 88	

EXPOSURE AND PARTICIPATION

QUESTION	RESPONSE
<i>This is the final section of the interview. It is about your experience that you whether exposure with NOURISH or not. There are no right or wrong answers.</i>	
<i>Show Grow Together Logo</i> 88. HAVE YOU SEEN THIS LOGO BEFORE?	Yes 1 No 2 Don't Know 88
<i>Show 4 TV Spots</i> 89. HAVE YOU SEEN ANY OF THESE TV SPOTS?	Yes 1 No 2 SKIP TO Q51 Don't Know 88
90. IF YES, WHICH ONES? <i>Circle all mentioned.</i>	Unified Grow Together 1 Latrine 2 Fish powder 3 Lullaby..... 4 Don't Know 88
<i>Show NOURISH Grow Together Print Materials</i> 91. HAVE YOU SEEN ANY OF THESE MATERIALS?	Yes 1 No 2 SKIP TO Q53 Don't Know 88
92. IF YES, WHICH ONES? <i>Circle all mentioned.</i>	Chenda story book 1 5+5+3 behavior poster 2 Group education manual for caregivers. 3 Fish powder curtain./poster 4 Commitment Card. 5 Toilet leaflet. 6 Toilet fliptarp. 7 CCT Fan/ fliptarp. 8 Reminder (icons) sheet 9 Key chain. 10 Home visit wheel 11 Food basket insert. 12 Stickers 13 Other. 99 (SPECIFY)
93. WHICH NOURISH ACTIVITIES HAVE YOU YOURSELF JOINED OR EXPERIENCED?	<i>Read one by one, circle if yes</i> # times GMP. 1

QUESTION	RESPONSE
<i>This is the final section of the interview. It is about your experience that you whether exposure with NOURISH or not. There are no right or wrong answers.</i>	
	Home Visit.by VHSG 2 _____ Garden support by Agriculture Officer. . . 3 _____ Caregiver education group 4 _____ Community dialogue. 5 _____ CLTS (village meeting on OD/toilets). . . . 6 _____ First 1,000 Days Village Fair 7 _____ Voucher 8 _____ None. 00 _____ Don't Know 88 _____ Other. 99 _____ (SPECIFY)
94. AFTER SEEING THESE MATERIALS AND PARTICIPATING IN THESE ACTIVITIES, WERE YOU MOTIVATED TO DO ANYTHING NEW OR DIFFERENT?	Yes 1 No 2 END Don't Know 88 END
95. IF YES, WHAT DID YOU FEEL MOTIVATED TO DO? <i>Circle all mentioned.</i>	Go for health services. 1 Take child for health services. 2 Take child for GMP. 3 Eat more diverse food myself 4 Breastfeed exclusively 5 Breastfeed longer 6 Feed child more diverse food 7 Feed child more food 8 Feed child fish powder. 9 Make fish powder 10 Drink clean water. 11 Build toilet 12 Wash hands with soap 13 Plant a home /micro / sack garden. . . . 14 Don't remember 88 Other. 99 (SPECIFY)
96. HOW LONG WERE YOU IN THIS VILLAGE IN THE PAST YEAR?	6 MONTHS OR LONGER 1 LESS THAN 6 MONTHS 2 Don't remember. 88

The end. Thank the respondent for her participation in the survey.