LAO PDR
FOOD AND NUTRITION SECURITY SURVEY, 2015

Subnational Household Survey

Final Report

February, 2016

The Food and Nutrition Security Survey (FNSS) was carried out in 2015 by the Ministry of Health and the Ministry of Planning and Investment (Lao Statistics Bureau) with strategic and technical guidance from the National Nutrition Committee (NNC) Secretariat and relevant ministries. Technical support was provided by the United Nations Children's Fund (UNICEF) and the World Food Programme (WFP). The European Union, UNICEF, WFP and Swiss Development Cooperation (SDC) provided financial support.

The global MICS programme was developed by UNICEF in the 1990s as an international household survey programme to support countries in the collection of internationally comparable data on a wide range of indicators on the situation of children and women. The 2015 Laos Food and Nutrition Security Survey is largely based on the MICS 5 survey methodology, and every effort was made to ensure comparability with the 2011/12 Lao Social Indicator Survey (LSIS). The FNSS also includes elements of food and nutrition security that were not included in MICS 5 or LSIS, which are based on previous domestic surveys, global standards and/or were developed specifically for the FNSS.

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List of Abbreviations

ANC	Antenatal care
BMI	Body mass index
CI	Confidence interval
deff	Design effect
ECD	Early childhood development
ECE	Early childhood education
EU	European Union
FANTA	Food and Nutrition Technical Assistance Project
FAO	United Nations Food and Agriculture Organization
FNS	Food and nutrition security
FNSS	Food and Nutrition Security Survey
Hb	Hemoglobin
IFA	Iron folic acid
IQ	Intelligence quotient
IYCF	Infant and Young Child Feeding
LSB	Lao Statistics Bureau
LSIS	Lao Social Indicator Survey
MDD-W	Minimum dietary diversity - women
MDG	Millennium Development Goals
NPAN	National Plan of Action on Nutrition
MICS	Multiple Indicator Cluster Survey
MICS5	Fifth global round of Multiple Indicator Clusters Surveys programme
MNP	Multiple micronutrient powder
MUAC	Mid-upper arm circumference
MYCNSIA	Maternal and Young Child Nutrition Security Initiative in Asia
NNC	National Nutrition Committee
NNS	National Nutrition Secretariat
PDR	People's Democratic Republic
PNC	Postnatal care
PSU	Primary sampling unit
RUSF	Ready to use supplementary food
RUTF	Ready to use therapeutic food
SD	Standard deviation
SDG	Sustainable Development Goals
se	Standard error
SF	Supplementary food

SPSS	Statistical Package for Social Sciences
U2	Under 2 years of age
U5	Under 5 years of age
UNICEF	United Nations Childrens Fund
US CDC	United States Centers for Disease Control and Prevention
WFP	World Food Programme
WHO	World Health Organization

Acknowledgements

The Food and Nutrition Security Survey (FNSS) was carried out in 2015 by the Ministry of Health and the Ministry of Planning and Investment (Lao Statistics Bureau) with chief strategic and technical guidance of the National Nutrition Committee (NNC) Secretariat.

Ministries of Agriculture and Forestry, and Education and Sports, and development partners involved in the multisectoral response to nutrition in Lao PDR contributed to survey design, implementation and analysis.

UNICEF provided external technical support to survey design and planning, survey implementation, data entry, data cleaning, data analysis, and report writing. WFP provided technical support for analysis related to food security.

Financial support to the Survey was provided by the European Union, United Nation Children's Fund (UNICEF), World Food Programme (WFP) and Swiss Development Cooperation (SDC).

Executive Summary

The 2015 FNSS is a cluster household survey in five provinces of Lao PDR: Luangnamtha, Oudomxay, Saravane, Sekong and Attapeu. The survey was designed to provide information on food and nutrition security at the household level, and for women of reproductive age and children under 5 years of age. The survey serves as a baseline for the National Plan of Action on Nutrition (NPAN), an endline for the Maternal and Young Child Nutrition Security in Asia programme, and provides estimates for provincial level trend analysis of selected Millennium Development Goal and Sustainable Development Goal targets.

Nutritional Status

- In the five surveyed provinces the per cent of infants that were weighed at birth ranged from 32.4% to 60.4% and the per cent of infants who are estimated to weigh less than 2,500 grams at birth ranged from 15.2% to 21.1%.
- All of the provinces except for Attapeu show substantial decrease in child underweight. Almost one in three children under age five in the five provinces combined are moderately or severely underweight (30.3% for males, 29.6% for females) and approximately 9 percent are classified as severely underweight.
- Compared to the LSIS 2011/12, there was a substantial decrease in stunting for children 0-59 months in all provinces except Attapeu. In Saravane and Sekong the reduction in stunting was more than 10 percentage points
- In the poorest households 29.0% of women have short stature, compared to 8.2% in the richest households.
- In all five surveyed provinces more than 2/3 of women have normal body mass index, and the per cent of thin women ranges from 9.4% to 19.8%.
- Approximately ¼ of children are anemic, with most having mild anemia. Over ½ of children 6-11 months are anemic, compared to 15.4% of children 48-59 months of age.
- 40.4% of pregnant women are anemic, while 36.5% of breastfeeding women are anemic. Unlike anthropometry, there is little variation in both child and maternal anemia rates by socioeconomic status.
- All groups have average reported weight gain during pregnancy below recommendations, including women from the richest households who have mean reported weight gain of 8.1 kilograms.

Infant and Young Child Feeding Practice

- In both urban and rural areas the majority of babies are breastfed for the first time within one hour of birth, and more than 85% of newborns start breastfeeding within one day of birth.
- For both males and females, more than half of infants are exclusively breastfed in the first six months of life. By age 20-23 months, the majority of children are not breastfeeding in both urban and rural areas with roads, but in rural areas without roads the rate is 80.2%.
- Among currently breastfeeding infants age 6-8 months, 81.1% received solid, semi-solid or soft foods; compared to 76.7% in rural areas with roads, and 69.3% in rural areas without roads.
- Among children 6-23 months of age, 39% in urban areas and 12.9% in rural areas received the minimum acceptable diet. The proportion of breastfed children receiving the minimum dietary

diversity, or foods from at least 4 food groups, was much lower than that for minimum meal frequency

- Bottle-feeding increases with age, going from 9.9% among 0-5 month old infants to 20.5% among 12-23 month old infants.
- There is a large difference by age in the percent consumption of animal-source foods, both flesh foods and eggs. 28.8% of children 6-8 months receive flesh foods, compared to 50.5% at 9-11 months and 61.0% at 18-23 months.

Infant and Young Child Feeding Communication, Knowledge and Attitudes

- Literacy is higher for the 15-19 year age group (71.6%) than for the 20-24 year age group (56.9%). The literacy rate in urban areas is more than 90%, while in rural areas it is below 60%.
- All five provinces show an increase in the literacy rate. In Oudomxay and Saravane, the literacy rates increased by nearly 20 percentage points.
- Television is the most popular media. More than 4 out of 5 women in urban areas and 2 out of 3 women in rural areas with roads watches television on a weekly basis. In rural areas without roads 54.9% of women watch television.
- 2/3 of women in urban areas, 39.4% of women in rural areas with roads, and 34.8% of women in rural areas without roads were exposed to messages on breastfeeding through mass media.
- In urban and rural areas the majority of women reported receiving messages on breastfeeding from other people. Among the women who received interpersonal communication on breastfeeding, close to ½ reported receiving a message from a medical professional or a community volunteer in the past year
- 58.7% of women in urban areas, 46% of women in rural areas with roads, and 41.1% of women in rural areas without roads reported receiving messages on complementary feeding via interpersonal communication
- More than 2/3 of women in urban and rural areas believe that colostrum should be fed to the child.

Maternal Diet, Food Supplementation and Woman Smoking

- In urban areas, ¾ of women who are currently pregnant or who had a live birth in the last two years achieve the minimum dietary diversity, while the percentage is only 33.2% and 19.5% in rural areas with and without roads.
- Eating more food during pregnancy or after having a baby does not appear to be a widespread cultural practice in the five surveyed provinces. Less than 1/3 of women reported eating more food, meals, or snacks in all language groups.
- The largest differences in receiving supplementary food were by province. 61.5% of women in Oudomxay received supplementary food, while only 2.7% of women received supplementary food in Saravane.
- Avoiding certain foods and liquids while breastfeeding appears to be more common than during pregnancy in the five surveyed provinces, particularly in rural areas.
- 16.6% of all currently pregnant women report that they are currently smoking.

Micronutrient Fortification and Child Micronutrient Supplementation

- Use of iodized salt was lowest in Sekong (67.3 percent) and highest in Luangnamtha (96.6 percent). Households in rural areas without roads and the poorest households are less likely to have iodized salt

- More than 4 out of 5 households believed they used iodized salt, and within these households 90% of salt tested positive for iodine.
- In Saravane ½ of the children have caretakers that have heard of the MNP brand SuperKid. Interpersonal communication from health professionals appears to be the most common source of information on SuperKid.
- In Saravane Province 68.3% of children whose caretakers had heard of SuperKid, consumed MNP in the last 6 months, but of the children that consumed MNP in the last 6 months only 11.7% consumed the recommended minimum of 60 sachets.
- The percentage of children receiving Vitamin A in the last 6 months ranges from 39.5% in Attapeu to 64.9% in Saravane.
- In rural areas less than ½ of children received deworming medication within the last 6 months.

Maternal Care and Micronutrient Supplementation

- Among women age 15-49 years 19.1% in rural areas without roads, 27.3% in rural areas with roads, and 36.9% in urban areas have received or bought weekly iron folic acid supplements.
- There was dramatic improvement in all five provinces in coverage of at least one antenatal care visit with a skilled provider between LSIS 2011/12 and FNSS 2015. In 2011/12 four of the five provinces had coverage below 50%. By 2015, coverage in all five provinces is above 70%.
- The percent of women attending at least four antenatal care visits increased between the 2011/12 LSIS and the 2015 FNSS. The largest increase was seen in Oudomxay, where coverage increased by nearly 50 percentage points.
- Only 25% of women in urban areas and less than 10% of women in rural areas received all three core services of blood pressure, urine, and blood tests.
- The most common component of ANC received was a weight measurement, which more than ½ of women received in both urban and rural areas.
- Counselling was relatively common in urban areas, where more than ½ of women reported receiving counselling on how to take iron folic acid supplements, on weight gain / diet, on breastfeeding and on complementary feeding. Counselling services were lower in rural areas.
- There were fewer women that reported receiving or buying iron folic acid supplements than there were that reported at least one antenatal care visit, especially in rural areas. Any IFA coverage was 69.5% in urban areas, 43.8% in rural areas with roads, and 36.2% in rural areas without roads.
- The percentage of women taking 90+ IFA tablets ranged from 13.9% in Attapeu to 37.9% in Luangnamtha.
- Deworming during pregnancy is not common, with less than 6% of women reporting having deworming medication during their last pregnancy across all five provinces.
- Health facility deliveries increased in all five provinces. As with ANC, the largest improvement was in Oudomxay, where the percent of women delivering in a health facility increased by nearly 30 percentage points.
- Across all five provinces less than 1 out of 4 women received or bought iron-folic acid supplements after giving birth.

Child Illness and Specialized Feeding

- 10.7% percent of boys under five and 9.3% of girls were reported to have had diarrhoea in the two weeks preceding the survey, 3.5% and 2.8% symptoms of ARI, and 18.2% and 17.1% percent an episode of fever

- For child diarrhea, a health facility or provider was seen in 81.9 percent of cases in urban areas. In rural areas with roads a health facility or provider was seen in 56.7% of cases, while the percentage was 39.0% in rural areas without roads.
- In all five provinces less than 10% of under five children with diarrhoea were given more than usual to drink, and the majority were given less. Most children continued feeding, but were fed somewhat less than normal
- In all five provinces more than ½ of children with diarrhea received either ORS packets or recommended homemade fluids. However, very few children received zinc supplements, and less than 10% of children received ORS and zinc in urban and rural areas.
- Overall, 20.6% of children were ever checked by a health worker for nutritional status according to their caretaker.
- In Luangnamtha and Oudomxay approximately 1/2 of children received specialized food, with the most common type being ready-to-use supplementary food.

Water and Sanitation

- The vast majority of the population uses an improved source of drinking water – 87.1 percent in urban areas, 81.8 percent in rural areas with roads, and 82.4 percent in rural areas without roads.
- In Luangnamtha coverage of improved water was nearly universal in 2011/12 and there was no significant change in 2015. In the remaining four provinces there were increases in the use of an improved source of water
- 65.7 percent of households with an unimproved drinking water source are using an appropriate water treatment method, which for nearly all of the households is boiling.
- 89.0% of the urban population is using an improved sanitation facility that is not shared, compared to 46.2% in rural areas with roads and 32.8% in rural areas without roads.
- In 2011/12 Luangnamtha had the highest percent of people using improved sanitation and there was no change in that province in 2015. In all of the other provinces use of improved sanitation increased between 2011/12 and 2015.
- The percentage of open defecation is 7.7% in urban areas, 48.3 percent in rural areas with roads, and 63.9% in rural areas without roads. 2/3 of the population in Saravane defecate in the open.
- 85% of the wealthiest households have both improved water sources and improved sanitation, compared to 16% of the poorest households.
- Less than 10% of children had their stools disposed of safely in rural areas.
- 83.8 percent of urban households had soap or another cleansing agent in the household, compared to 65.0 percent in rural areas with roads and 53.1 percent in rural areas without roads. More than 93% of women reported that regularly washing hands with soap is a good idea.
- In urban areas 86% of women reported ever receiving interpersonal communication on handwashing, compared to 76.2% in rural areas with roads, and 77.1% in rural areas without roads.

Early Childhood Care and Education

- 15.7 percent of male children and 17.3 percent of female children age 36-59 months are attending an organised early childhood education programme
- For less than 1/2 of children age 36-59 months, an adult household member engaged in four or more activities that promote learning and school readiness during the 3 days preceding the survey.
- More than 60% of children were encouraged to eat in the three days preceding the survey. 78.5% of children in Luangnamtha were encouraged to eat, compared to 50.8% in Saravane.

- 22.3 percent of male children and 21.2% of female children were left with inadequate care during the past week, either by being left alone or in the care of another child.

MYCNSIA Trends in Nutritional Status

- Under-3 stunting decreased by 8.7 percentage points from 2012 to 2015 (46.1% to 37.4%). The stunting reduction objective was achieved and the results are highly significant statistically
- Any child anaemia fell from 56.6% to 41.5%, a 15.1 percentage point decrease that corresponds to a 26.7% reduction. The MYCNSIA objective was surpassed and the result is statistically significant.
- Any anaemia for pregnant or breastfeeding women declined from 53.1% to 45.3%, a decrease of 7.8 percentage points, or 14.7%. For moderate and severe anemia, there was a statistically significant decrease from 34.7% to 20.8%, which is a 40% reduction.

Food Security

- The majority of households have an 'acceptable' level of food consumption. In Luangnamtha, Attapeu and Oudomxay provinces, more than 85% of households fall under the 'acceptable' category. Saravane province shows the highest levels of poor food consumption (14.3% of surveyed households) and borderline consumption (25.8%).
- Food consumption scores vary by residence and wealth. 91.5% of households in urban areas have 'acceptable' level of food consumption compared to 73% in rural areas. 90% of the richest households have 'acceptable' food consumption compared to 60.5% of the poorest.
- Saravane province reports the highest number of consumption-based coping strategies and Luangnamtha the lowest. The most commonly and frequently reported consumption-based coping strategy is 'relying on less preferred or less expensive foods'. The least common is 'Reducing number of meals eaten in a day.'
- Households in rural areas without roads have the highest reduced Coping Strategy Index compared to households in rural areas with roads and urban households. Consumption-based coping strategy indices also vary strongly by wealth, highest in the poorest compared to richest households.
- Regarding livelihood-based coping strategies, across all five provinces, the percentage of households reporting 'stress' coping strategies is much higher than those reporting 'crisis' and 'emergency' coping strategies. Saravane and Attapeu provinces show the highest percentages of households engaging in livelihood-based coping strategies.
- Urban households are less likely to engage in livelihood-based coping strategies compared to rural households. Across the wealth quintiles, the poorest households show highest percentage of household engaging in livelihood-based coping strategies.
- Among the five surveyed provinces, Sekong has the highest percentage (51.2%) of households who reported not having enough food to meet household's needs. Saravane and Attapeu also records high percentages (35.2% and 30.7% respectively). The mean number of months of household food shortage ranges between 3 - 4 months for all provinces.
- Food shortage is more prevalent in certain socio-economic groups (poorest households, rural households, Mon-Khmer ethno-linguistic group).

Agriculture

- Oudomxay province reported the highest percentage of households (93.6%) who received advice/ information about livestock and/ or crop production methods in the last three years and Saravane the lowest (56.8%). Government agricultural centres are the most commonly reported source of information, followed by television, with newspapers and merchants the least common. In terms of applying information to practice, households were mostly likely to apply information that they were most likely to receive, i.e. crop management.
- Livestock rearing is quite common in all five provinces with the percentage of households who report raising livestock ranging from 76% (Attapeu) to 86% (Saravane). In every socio-economic category, more than 60% of households reported that livestock rearing was managed by a woman (female household member). The most common type of livestock raised is local chicken, followed by pigs, duck, cows and buffalos.
- Only a small proportion of livestock are vaccinated, and this is especially the case for local chickens and ducks.
- 20% to 30% of households in the five provinces are engaged in livestock sales. Attapeu records slightly higher percentages of household animal sales in the past twelve months compared to the other provinces.
- Urban households and wealthier households are more likely to sell livestock for income and also report higher incomes from livestock sales, compared to rural and poorer households respectively. Incomes from livestock sales are highest for cows and buffaloes, followed by sales of fish.
- A small number of households reported receiving young animals as part of project assistance in all surveyed provinces, with fish and frogs the most common type. Households from urban areas as well as from the three wealthiest quintiles reported receiving most of the young fish and frogs compared to rural and poorer quintiles.
- Among the surveyed provinces, Sekong reported the highest percentage of households who produced animal products at nearly 31%. The lowest percentage of households was recorded in Luang Namtha, at 3.5%. Dry meat was more likely to be sold than eggs, even though eggs were the most commonly produced agricultural products.
- Households report highest percentages for chemical fertilizer use for household vegetable gardens, followed by crops and orchards. Saravane reported the highest percentages of households using any kind of fertilizer on both household vegetable gardens and crops.
- Pesticide use is slightly less frequently reported than use of fertilizers, with most households reporting use of pesticides for household vegetable gardens, followed by crop production.
- In terms of use of irrigation on crop production, Luang Namtha province reports the highest percentage at 15.4% while lowest is in Attapeu 2.8%. Most irrigation use is for crop production and household vegetable/garden plots.
- Most of all households in the survey reported that gardens are managed by female members of the family, the highest percent reported being 80.5% in Attapeu while lowest being in Saravan province at 65.5%.
- The percentage of households receiving assistance in the form of seed, fertilizer, and pesticides ranged from 0.8% to 5.6% in Luang Namtha and Sekong respectively. Poor households are more likely to receive assistance compared to wealthier households.
- More than 90% of households reported growing crops in the past 12 months. The most commonly grown crop is rice. Maize is the second most commonly reported crop, with Oudomxay reporting the highest at 67.1% compared to lowest percentage reported in Saravan at 13.4%. Households in Oudomxay and Attapeu province reported highest percentages (24.6% and 24.1% respectively) growing vegetable from ‘other’ category.

I. Introduction

Background

This report is based on the Laos Food and Nutrition Security Survey (FNSS), conducted in 2015 by the Ministry of Health and the Ministry of Planning and Investment (Lao Statistics Bureau) with strategic and technical guidance from the National Nutrition Committee (NNC) Secretariat and relevant ministries. The survey provides statistically sound and internationally comparable data essential for developing evidence-based policies and programmes, and for monitoring progress toward national goals and global commitments. Among these global commitments are those emanating from the World Fit for Children Declaration and Plan of Action, the Millennium Development Goals (MDGs), and the Sustainable Development Goals (SDGs).

A Commitment to Action: National and International Reporting Responsibilities

The governments that signed the Millennium Declaration and the World Fit for Children Declaration and Plan of Action also committed themselves to monitoring progress towards the goals and objectives they contained:

"We will monitor regularly at the national level and, where appropriate, at the regional level and assess progress towards the goals and targets of the present Plan of Action at the national, regional and global levels. Accordingly, we will strengthen our national statistical capacity to collect, analyse and disaggregate data, including by sex, age and other relevant factors that may lead to disparities, and support a wide range of child-focused research. We will enhance international cooperation to support statistical capacity-building efforts and build community capacity for monitoring, assessment and planning." (**A World Fit for Children**, paragraph 60)

"…We will conduct periodic reviews at the national and subnational levels of progress in order to address obstacles more effectively and accelerate actions…." (**A World Fit for Children**, paragraph 61)

The Plan of Action of the World Fit for Children (paragraph 61) also calls for the specific involvement of UNICEF in the preparation of periodic progress reports:

"… As the world's lead agency for children, the United Nations Children's Fund is requested to continue to prepare and disseminate, in close collaboration with Governments, relevant funds, programmes and the specialized agencies of the United Nations system, and all other relevant actors, as appropriate, information on the progress made in the implementation of the Declaration and the Plan of Action."

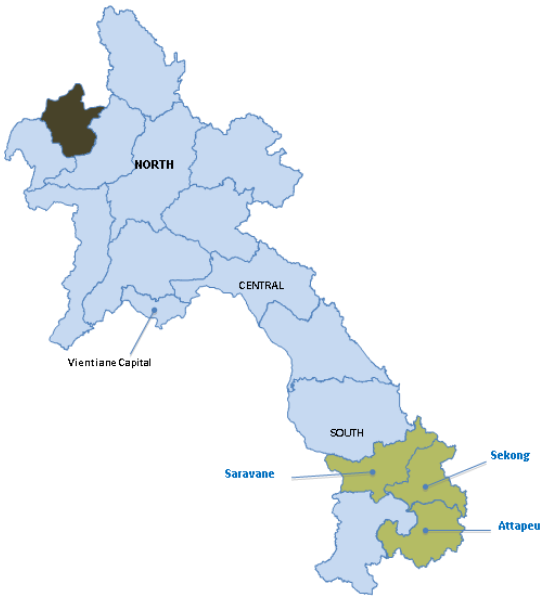
Similarly, the **Millennium Declaration** (paragraph 31) calls for periodic reporting on progress:

"…We request the General Assembly to review on a regular basis the progress made in implementing the provisions of this Declaration, and ask the Secretary-General to issue periodic reports for consideration by the General Assembly and as a basis for further action."

In order to support Lao People's Democratic Republic (PDR) to achieve Millennium Development Goals on nutrition and health, the European Union (EU), the United Nations Children's Fund (UNICEF) and other development partners are supporting implementation of the 2008-2020 National

Nutrition Policy. Implementation of the policy is currently guided by the 2010-2015 National Nutrition Strategy and Plan of Action. This survey provides information on maternal and child nutritional status, on the determinants of nutritional status, and on interventions to improve food and nutrition security across multiple sectors. The survey is designed for quantitative evaluation of a food and nutrition security (FNS) project and a FNS action plan: the Maternal and Young Child Nutrition Security Initiative in Asia (MYCNSIA) and the 2016-2020 National Plan of Action on Nutrition (NPAN). In addition, the survey allows assessment of trends in MDG food and nutrition security targets in five provinces.

The Maternal and Young Child Nutrition Security Initiative in Asia is a four year (2011-2015), EU/UNICEF project implemented in five countries: Lao PDR, Bangladesh, Indonesia, Nepal and the Philippines. The project focuses on improving nutrition during the 1st 1000 days, the period from conception to two years of age. There are four pillars in the project: upstream policy and awareness, capacity building, data analysis and knowledge sharing, and scaling up nutrition security interventions. In all countries the project called for geographical targeting of interventions selected from the 2008 Lancet Series on Maternal and Child Undernutrition; these interventions make up Pillar Four of the initiative. The main focus of evaluation in the project design is to document the impact of Pillar Four interventions to advocate for scale-up. In Lao PDR the project has focused implementation on three southern provinces with high rates of undernutrition: Attapeu, Saravane and Sekong. In Attapeu and Sekong there was province-wide implementation, while in Saravane four of eight districts were covered by the project. The 2011/2 Lao Social Indicator Survey was used as a partial baseline for the project; the baseline was completed with an additional survey in implementation areas that used LSIS sample selection to collect information from additional questionnaires and carry out anaemia testing. Field collection for both surveys was carried out from October 2011 to February 2012. The 2015 FNSS provides endline estimates of the MYCNSIA implementation area to allow for quantitative impact evaluation of MYCNSIA.



Map of Lao PDR and Area of EU/UNICEF MYCNSIA Programs, Source: Report of the Lao PDR MYCNSIA Baseline Survey

- MYCNSIA districts: Saravane, Taoi, Toumlan and Samoi (Saravane Province), all districts of Sekong and Attapeu

In July 2013 legislation was passed to create the National Nutrition Committee (NNC), which is chaired by the Vice Prime Minister and includes minister and deputy-minister level representatives from multiple sectors. A multisectoral National Nutrition Secretariat (NNS), led by the Deputy Minister of Health, was also established to implement the decisions of the National Nutrition

Committee. In 2014, with support from development partners, the NNS drafted the 2016-2020 National Plan of Action on Nutrition (NPAN). The plan has prioritized 24 interventions across health, agriculture and education for implementation in selected districts. Water, sanitation and hygiene is also included; it is integrated in the health sector. For the first few years the plan identifies 26 target districts, of which 6 are included for initial implementation. The FNSS provides baseline estimates of the initial implementation area for future quantitative impact evaluation of the NPAN.

- Districts: Pak Beng, Hoon (Oudomxay Province), Taoi, Lao Ngam (Saravane Province), Viengphoukha, Nalae (Luangnamtha Province)

In addition to providing estimates for MYCNSIA and NPAN areas, the 2015 Food and Nutrition Security Survey provides estimates for five individual provinces: Oudomxay, Saravane, Luangnamtha, Attapeu, and Sekong.

Map of Lao PDR with FNSS Provinces in blue

The FNSS province level results are important for final MDG monitoring, and are expected to form part of the baseline data for the post-2015 era. This final report presents the results of the indicators and topics covered in the survey.

Survey Objectives

The 2015 Lao PDR sub-national Food and Nutrition Security Survey has as its primary objectives:

- To provide quantitative data that is comparable to baseline estimates for an impact evaluation of the Maternal and Young Child Nutrition Security Initiative

- To provide quantitative data for the baseline of the National Plan of Action on Nutrition 2016-2020 to allow for future impact evaluation

- To support the monitoring of Millennium Development Goals and Sustainable Development Goals related to food and nutrition security in five provinces

Additional objectives include:

- To support the development of a new national sampling frame through support to the 2015 Population and Housing Census

- To provide quantitative data on early results of the Micronutrient Powder+ Operations Pilot to inform programme implementation

- To develop and test new food and nutrition security questions for potential inclusion in the next Lao Social Indicator Survey

- To build capacity within Lao PDR for interpretation of food and nutrition security indicators

II. Sample and Survey Methodology

Sample Design

The sample for the FNSS was designed to provide estimates for a large number of indicators on the situation of children and women at the province level, and for MYCNSIA and NPAN areas. The urban and rural areas within each province were identified as the main implicit sampling strata and the sample was selected in two stages. Within each province (ie. sample domain), enumeration areas were sorted according to urban, rural with road and rural without road; and a specified number of census enumeration areas were selected systematically with probability proportional to size. The Province of Saravane was separated into two sampling domains (MYCNSIA districts and non-MYCNSIA districts) and MYCNSIA districts were oversampled. All selected enumeration areas had a recent household listing that was carried out for the 2015 Population and Housing Census. Based on the household listing, a systematic sample of 22 households was drawn in each sample enumeration area. Five of the selected enumeration areas were not visited because they were inaccessible due to road conditions during the fieldwork period. Enumeration areas that could not be accessed were replaced by randomly selecting enumerations areas in the same strata. The sample was explicitly stratified by province (with 2 sample domains in Saravane), and is not self-weighting. For reporting results, sample weights are used. A more detailed description of the sample design can be found in Appendix A, Sample Design.

Questionnaires

Four sets of questionnaires were used in the survey: 1) a household questionnaire which was used to collect basic demographic information on all *de jure* household members (usual residents), the household, and the dwelling; 2) a questionnaire for individual women administered in each household to all women age 15-49 years; 3) an under-5 questionnaire, administered to mothers (or caretakers) for all children under 5 living in the household; and 4) a village-level questionnaire. There was also a separate reporting sheet for anthropometry and anaemia measurements. The questionnaires included the following modules:

HOUSEHOLD QUESTIONNAIRE		
Module	**Primary Source**	**Additional Sources**
Household Information Panel and List of Household Members (HH and HL)	LSIS 2011/2 & MICS 5	
Household Characteristics (HC)	LSIS 2011/2 & MICS 5	LSMS
Insecticide Treated Nets and Indoor Spraying (TN)	LSIS 2011/2 & MICS 5	
Water and Sanitation (WS)	LSIS 2011/2 & MICS 5	
Handwashing (HW)	MICS 5	
Agriculture Information and Livestock Production (AG)	LSMS	LAC
Land Ownership and Crop Production (LC)	LSMS	LAC

Food Security (FS)	CARI	MYCNSIA baseline
Salt Iodisation (SI)	LSIS 2011/12 & MICS 5	
QUESTIONNAIRE FOR INDIVIDUAL WOMEN AGE 15-49 YEARS		
Module	**Primary Source**	**Additional Sources**
Woman's Information Panel (WM)	LSIS 2011/2 & MICS 5	
Woman's Background (WB)	LSIS 2011/2 & MICS 5	
Access and Use of Information Technology and Knowledge (IK)*	LSIS 2011/2 & MICS 5	MYCNSIA baseline
Fertility (CM)	LSIS 2011/2 & MICS 5	
Maternal and Newborn Health (MN)*	LSIS 2011/2 & MICS 5	DHS
Maternal Diet and IYCF Attitudes (MD)*	MYCNSIA baseline	
Illness Symptoms (IS)	LSIS 2011/2 & MICS 5	
Tobacco Use (TA)	LSIS 2011/2 & MICS 5	
QUESTIONNAIRE FOR CHILDREN UNDER FIVE		
Module	**Primary Source**	**Additional Sources**
Under Five Child Information Panel (UF)	LSIS 2011/2 & MICS 5	
Age (AG)	LSIS 2011/2 & MICS 5	
Early Childhood Development (EC)	LSIS 2011/2 & MICS 5	
Breastfeeding and Dietary Intake (BD)*	LSIS 2011/2 & MICS 5	MYCNSIA baseline
Supplementation and Immunization (IM)*	LSIS 2011/2 & MICS 5	DHS
Care of Illness (CA)*	LSIS 2011/2 & MICS 5	MYCNSIA baseline

*These modules contain new questions

LSMS - World Bank Living Standards Measurement Study

DHS – ORC/MACRO Demographic and Health Survey

LSIS – Lao Social Indicator Survey

MICS 5 – UNICEF Multiple Indicator Cluster Survey

LAC – Lao Agricultural Census

MYCNSIA baseline – Maternal Young Child Nutrition Security Initiative in Asia Baseline Survey

Most of the questions in the FNSS were used in previous domestic surveys. New questions were translated and back-translated. The questionnaires were pre-tested twice during June and July of 2015. Based on the results of the pre-tests, modifications were made to the wording and translation of the questionnaires. A copy of the FNSS questionnaires is provided in Appendix D.

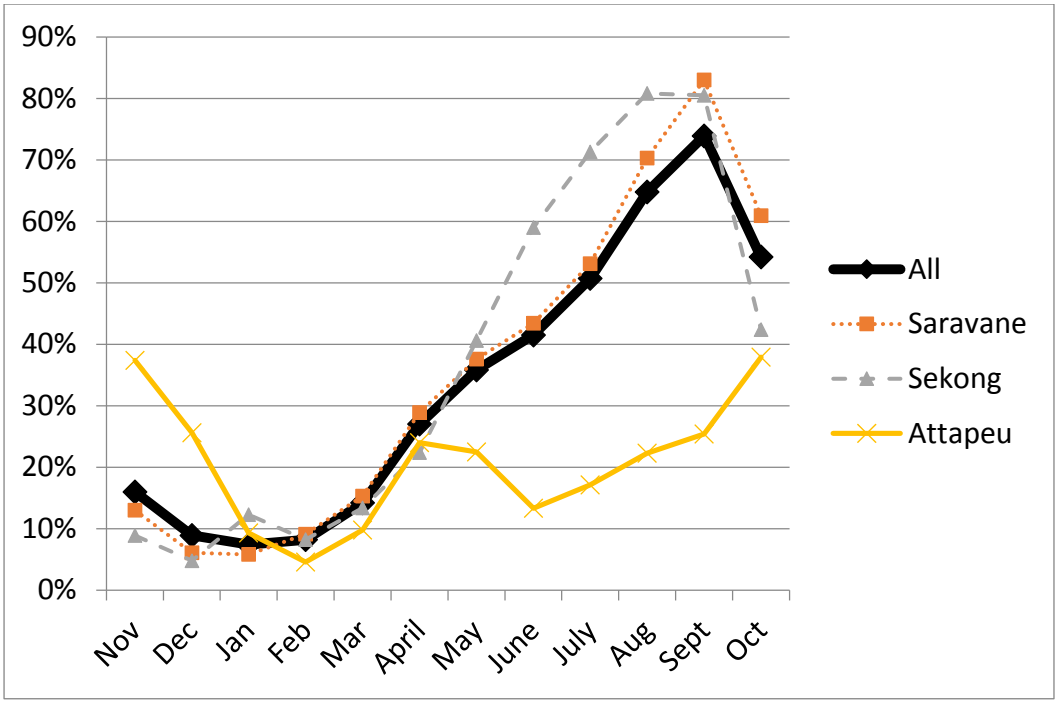
In addition to the administration of questionnaires, fieldwork teams tested the salt used for cooking in the households for iodine content, observed the place for handwashing, measured anthropometry of children age under 5 years and women of reproductive age, and haemoglobin of children 6-59 months and pregnant or lactating women. Weight, height and MUAC were measured with equipment from the UNICEF supply catalogue and following protocol developed for the FNSS. Anemia testing was performed with a Hemocue machine following protocol developed for the FNSS. Salt testing used the semi-quantitative Rapid Test Kit. Only the presence or absence of iodine was recorded; the exact amount of iodine was not measured. Details and findings of these observations and measurements are provided in the respective sections of the report.

Training and Fieldwork

Training of Trainers was conducted for 9 days in July 2015. Training of enumerators for the fieldwork was conducted for 11 days in July 2015. Training included lectures on interviewing techniques and the contents of the questionnaires, and mock interviews between trainees to gain practice in asking questions.

175 enumerators were trained for data collection; each data collection team was comprised of 2 interviewers, one driver, one editor, one measurer and a supervisor. Fieldwork began 31 July 2015 and concluded 25 September 2015.

There may be pronounced seasonal differences in food security that could affect nutritional status. The FNSS was carried out at the peak of food shortages, as reported by the MYCNSIA baseline (see figure below).



Reported Food Shortage by Month, MYCNSIA Baseline

Data Processing

Data were entered using Microsoft Access software. The data were entered on desktop computers and carried out by 20 data entry operators. For quality assurance purposes internal consistency checks were performed. Questionnaires were not double entered. Data processing began while data collection was still being carried out in August 2015 and was completed in October 2015. Data were analysed using the Statistical Package for Social Sciences (SPSS) software, Version 20. Model syntax and tabulation plans developed by UNICEF were customized and used for this purpose where applicable, and syntax was developed specifically for FNSS.

Sample weights were calculated taking into account non-response, and were normalized (standardized) for the overall sample so that weighted and unweighted total number of households, women and children are identical.

The wealth index is a composite indicator of wealth. To construct the wealth index, principal components analysis was performed by using information on the ownership of consumer goods, dwelling characteristics, water and sanitation, and other characteristics that are related to the household's wealth, to generate weights (factor scores) for each of the items used. First, initial factor scores were calculated for the total sample. Then, separate factor scores were calculated for households in urban and rural areas. Finally, the urban and rural factor scores were regressed on the initial factor scores to obtain the combined, final factor scores for the total sample. This is carried out to minimize the urban bias in the wealth index values. Each household in the total sample was then assigned a wealth score based on the assets owned by that household and on the final factor

scores obtained as described above. The survey household population was then ranked according to the wealth score of the household they are living in, and was finally divided into 5 equal parts (quintiles) from lowest (poorest) to highest (richest)[1]. The list of assets used in the FNSS is available in the wealth quintile syntax.

Sample Coverage

Of the 6,710 households selected for the sample, 6,550 were found to be occupied. Of these, 6,387 were successfully interviewed for a household response rate of 97.5 percent. In the interviewed households, 8,712 women (age 15-49 years) were identified. Of these, 7,986 were successfully interviewed, yielding a response rate of 91.7 percent within the interviewed households. There were 4,444 children under age five listed in the household questionnaires. Questionnaires were completed for 4,290 of these children, which corresponds to a response rate of 96.5 percent within interviewed households.

Limitations

The FNSS was carried out in 5 provinces and provides representative estimates for those 5 provinces. The cluster sample survey design does not allow meaningful estimates at a lower level because there are an insufficient number of clusters. Also, results of the FNSS cannot be extrapolated to the national level because a large portion of the country was not covered by the survey.

The FNSS is a sample survey. As such, the point estimates provided by the FNSS include some degree of uncertainty. For select indicators the appendix on sampling errors includes 95% confidence intervals (CI), which show the level of confidence in point estimates. For most estimates the confidence interval is relatively small at the provincial level, mainly because there is a relatively large sample size. For disaggregated estimates and for indicators that target a narrow age range, the sample size is smaller and the 95% CI is larger, indicating increased uncertainty. When comparing point estimates within the FNSS, or in comparing FNSS estimates to other surveys, levels of uncertainty should be taken into account.

The FNSS is a cross-sectional survey that provides disaggregated estimates by socioeconomic characteristics for indicators. Disaggregated analysis does not view individuals over time and does not control for potential confounders. When interpreting differences by socio-economic characteristics, a simple cause and effect relationship cannot be assumed. The FNSS includes a section on MYCNSIA trends that compares FNSS results from selected areas to a baseline survey. A quasi-experimental design was not possible because there was not a control group in the baseline survey. When attributing trends to the MYCNSIA programme, it is not possible to take into account the underlying trend in the larger population.

[1] Further information on the construction of the wealth index can be found in Filmer, D and Pritchett, L. 2001. *Estimating wealth effects without expenditure data – or tears: An application to educational enrolments in states of India*. Demography 38(1): 115-132; Rutstein, SO and Johnson, K. 2004. *The DHS Wealth Index*. DHS Comparative Reports No. 6; and Rutstein, SO. 2008. *The DHS Wealth Index: Approaches for Rural and Urban Areas*. DHS Working Papers No. 60.

III. Nutritional Status

Low Birth Weight

Weight at birth is a good indicator not only of a mother's health and nutritional status but also the newborn's chances for survival, growth, long-term health and psychosocial development. Low birth weight (defined as less than 2,500 grams) carries a range of grave health risks for children. Babies who were undernourished in the womb face a greatly increased risk of dying during their early days, months and years. Those who survive may have impaired immune function and increased risk of disease; they are likely to remain undernourished, with reduced muscle strength, throughout their lives, and suffer a higher incidence of diabetes and heart disease in later life. Children born with low birth weight also risk a lower IQ and cognitive disabilities, affecting their performance in school and their job opportunities as adults.

Low birth weight stems primarily from the mother's poor health and nutrition. Three factors have most impact: the mother's poor nutritional status before conception, short stature (due mostly to under nutrition and infections during her childhood), and poor nutrition during pregnancy. Inadequate weight gain during pregnancy is particularly important since it accounts for a large proportion of foetal growth retardation. Moreover, diseases such as diarrhoea and malaria can significantly impair foetal growth if the mother becomes infected while pregnant. Cigarette smoking during pregnancy is also a leading cause of low birth weight, and teenagers who give birth when their own bodies have yet to finish growing run a higher risk of bearing low birth weight babies.

One of the major challenges in measuring the incidence of low birth weight is that more than half of infants in the developing world are not weighed at birth. In the past, most estimates of low birth weight for developing countries were based on data compiled from health facilities. However, these estimates are biased for most developing countries because the majority of newborns are not delivered in facilities, and those who are represent only a selected sample of all births.

Because many infants are not weighed at birth and those who are weighed may be a biased sample of all births, the reported birth weights usually cannot be used to estimate the prevalence of low birth weight among all children. Therefore, the percentage of births weighing below 2500 grams is estimated from two items in the questionnaire: the mother's assessment of the child's **size** at birth (i.e., very small, smaller than average, average, larger than average, very large) and the mother's recall of the child's **weight** or the weight as recorded on a health card if the child was weighed at birth.[2]

[2] For a detailed description of the methodology, see Boerma, JT et al. 1996. *Data on Birth Weight in Developing Countries: Can Surveys Help?* Bulletin of the World Health Organization 74(2): 209-16.

Table NS.1 (NU.1): Low birth weight infants - Estimated

Percentage of last live-born children that are estimated to have weighed below 2,500 grams at birth and percentage of live births weighed at birth, *FNSS, 2015*

	Percent distribution of births by mother's assessment of size at birth						Percentage of live births:		
	Very small	Smaller than average	Average	Larger than average or very large	DK	Total	Below 2,500 grams1	Weighed at birth2	Number of last live-born children in the last two years
Mother's age at birth									
Less than 20 years	3.5	5.3	77.0	8.4	5.7	100.0	18.6	51.9	262
20-34 years	1.1	6.3	80.0	8.3	4.2	100.0	17.8	49.5	1008
35-49 years	3.9	5.1	77.7	6.8	6.5	100.0	18.9	33.3	179
Birth order									
1	1.4	4.5	81.2	8.1	4.8	100.0	16.9	63.3	533
2-3	2.0	6.8	77.3	8.6	5.3	100.0	18.6	44.7	789
4-5	.8	6.6	79.6	7.8	5.2	100.0	17.8	29.8	284
6+	2.5	9.2	76.0	5.4	6.9	100.0	20.6	14.6	211
Province									
Luangnamtha	.9	4.5	68.7	17.8	8.1	100.0	15.2	60.4	241
Oudomxay	.7	2.1	91.3	3.5	2.4	100.0	15.7	47.8	482
Saravane	3.0	8.4	73.5	7.7	7.4	100.0	20.1	41.9	622
Sekong	1.0	11.6	75.4	7.2	4.8	100.0	21.1	39.5	229
Attapeu	1.9	6.5	79.6	8.6	3.4	100.0	18.4	32.4	243
Type of area									
Urban	.7	5.8	81.6	10.9	1.0	100.0	17.2	84.0	248
Rural with road	1.9	6.7	77.4	7.4	6.6	100.0	18.5	39.2	1358

Table NS.1 (NU.1): Low birth weight infants - Estimated

Percentage of last live-born children that are estimated to have weighed below 2,500 grams at birth and percentage of live births weighed at birth, *FNSS, 2015*

	Percent distribution of births by mother's assessment of size at birth						Percentage of live births:		
	Very small	Smaller than average	Average	Larger than average or very large	DK	Total	Below 2,500 grams1	Weighed at birth2	Number of last live-born children in the last two years
Rural without road	1.7	4.6	83.4	7.8	2.5	100.0	17.4	31.1	212
Mother's education									
None	1.5	8.4	75.9	6.4	7.7	100.0	19.3	25.0	663
Primary	2.3	5.1	79.0	8.8	4.7	100.0	17.8	43.4	744
Lower Secondary	1.2	5.6	82.0	6.5	4.7	100.0	17.6	64.7	228
Upper Secondary	.8	7.2	82.3	9.8	0.0	100.0	18.3	88.4	89
Post Secondary, non-tertiary	0.0	1.8	82.4	15.8	0.0	100.0	13.8	91.3	39
Higher	0.0	3.2	84.1	12.7	0.0	100.0	15.0	100.0	56
Wealth index quintile									
Poorest	2.4	8.7	75.8	3.9	9.2	100.0	20.2	16.8	446
Second	2.4	5.5	79.2	6.8	6.1	100.0	18.2	30.1	394
Middle	.9	7.1	76.4	11.7	3.9	100.0	17.8	47.3	368
Fourth	2.6	6.0	80.7	8.0	2.8	100.0	18.7	60.3	294
Richest	0.0	3.5	82.8	10.8	2.8	100.0	15.3	82.7	315
Ethno-linguistic group of household head									
Lao-Tai	1.7	4.7	80.4	10.1	3.1	100.0	17.1	65.1	563
Mon-Khmer	1.9	7.7	78.7	5.9	5.8	100.0	19.3	34.0	1049
Hmong-Mien	0.0	4.4	64.6	17.7	13.3	100.0	14.3	51.0	25
Chinese-Tibetan	.6	4.0	75.9	11.3	8.2	100.0	15.5	38.0	179

Table NS.1 (NU.1): Low birth weight infants - Estimated

Percentage of last live-born children that are estimated to have weighed below 2,500 grams at birth and percentage of live births weighed at birth, *FNSS, 2015*

	Percent distribution of births by mother's assessment of size at birth						Percentage of live births:		
	Very small	Smaller than average	Average	Larger than average or very large	DK	Total	Below 2,500 grams1	Weighed at birth2	Number of last live-born children in the last two years

[1] MICS indicator 2.20 - Low-birthweight infants

[2] MICS indicator 2.21 - Infants weighed at birth

Adjusted for weight heaping at 2.5 kg based on MICS methodology (25% of 2.5kg considered low birth weight)

Table NS.2: Low birth weight infants - Reported Weight

Percentage of last live-born children that are reported to have weighed below, at, and above 2,500 grams at birth, FNSS, 2015

	Below 2500 grams	2500 grams	Above 2500 grams	Number of children
Mother's age at birth				
Less than 20 years	24.0	6.2	69.9	134
20-34 years	13.1	7.5	79.4	488
35-49 years	9.1	22.9	67.9	57
Birth order				
1	13.1	7.7	79.2	333
2-3	17.8	8.3	73.9	342
4-5	7.0	16.0	77.0	82
6+	18.8	14.9	66.3	25
Type of area				
Urban	12.1	7.2	80.8	205
Rural with road	14.7	10.2	75.1	513
Rural without road	23.1	5.8	71.0	65
Province				
Luangnamtha	7.8	10.9	81.4	140
Oudomxay	16.4	3.0	80.6	223
Saravane	17.4	12.0	70.6	251
Sekong	13.2	14.2	72.6	90
Attapeu	15.4	7.7	76.9	78
Mother's education				
None	19.5	11.4	69.1	155
Primary	16.9	8.7	74.4	313
Lower Secondary	12.2	7.7	80.1	146
Upper Secondary	7.0	12.1	80.8	78
Post Secondary, non-tertiary	10.1	1.3	88.6	35
Higher	8.9	8.7	82.4	56
Wealth index quintile				
Poorest	20.0	9.9	70.1	66
Second	14.5	18.0	67.5	114
Middle	19.0	4.9	76.1	168
Fourth	19.2	9.8	71.0	175
Richest	7.6	7.1	85.4	259
Ethno-linguistic group of household head				

Table NS.2: Low birth weight infants - Reported Weight

Percentage of last live-born children that are reported to have weighed below, at, and above 2,500 grams at birth, FNSS, 2015

	Below 2500 grams	2500 grams	Above 2500 grams	Number of children
Lao-Tai	11.6	9.3	79.1	362
Mon-Khmer	20.4	9.3	70.3	342
Hmong-Mien	.	.	.	13
Chinese-Tibetan	5.1	8.5	86.4	64
Area				
Non-MYCNSIA U5	14.9	8.7	76.4	529
MYCNSIA U5	14.3	9.9	75.8	253
Non-NPAN U5	13.6	9.4	77.0	582
NPAN U5	17.8	8.1	74.0	201

In the five surveyed provinces the per cent of infants that were weighed at birth ranged from 32.4% to 60.4% and the per cent of infants who are estimated to weigh less than 2,500 grams at birth ranged from 15.2% to 21.1% (Table NU.1). For the mother's assessment of size at birth most mothers report 'average size'. Small differences in estimated birth weight by socio-economic characteristics are expected because the estimation of low birth weight is partially based on the mother's assessment of size at birth and there was little difference between groups in the mother's assessment of size at birth (Table NS.1).

Table NS.2 shows birth weight reported by the mother or copied from the health card. 20.0% of children in the poorest households are low birth weight, compared to 7.6% in the richest households. For the FNSS reported birth weight is a better indicator than estimated birth weight for comparing groups. Reported birth weight also shows the substantial amount of weight heaping – reporting birth weight as exactly 2.5 kg. 22.9% of women age 35-49 years have a reported birth weight of exactly 2.5 kg. The per cent of infants with a birth weight of 2.5 kg should be taken into account when making group comparisons of low birth weight because heaping is not consistent across groups. For example, older women are more likely to report a birth weight of exactly 2.5 kg.

Child Anthropometry

Children's nutritional status is a reflection of their overall health. When children have access to an adequate food supply, are not exposed to repeated illness, and are well cared for, they reach their growth potential and are considered well nourished.

Undernutrition is associated with more than half of all child deaths worldwide. Undernourished children are more likely to die from common childhood ailments, and for those who survive, have recurring sicknesses and faltering growth. Three-quarters of children who die from causes related to malnutrition were only mildly or moderately malnourished – showing no outward sign of their vulnerability. The Millennium Development Goal target was to reduce by half the proportion of people who suffer from hunger between 1990 and 2015. A reduction in the prevalence of malnutrition will also assist to reduce child mortality.

In a well-nourished population, there is a reference distribution of height and weight for children under age five. Under-nourishment in a population can be gauged by comparing children to a reference population. The reference population used in this report is based on the WHO growth standards[3]. Each of the three nutritional status indicators – weight-for-age, height-for-age, and weight-for-height - can be expressed in standard deviation units (z-scores) from the median of the reference population.

Weight-for-age is a measure of both acute and chronic malnutrition. Children whose weight-for-age is more than two standard deviations below the median of the reference population are considered *moderately or severely underweight* while those whose weight-for-age is more than three standard deviations below the median are classified as *severely underweight.*

Height-for-age is a measure of linear growth. Children whose height-for-age is more than two standard deviations below the median of the reference population are considered short for their age and are classified as *moderately or severely stunted.* Those whose height-for-age is more than three standard deviations below the median are classified as *severely stunted.* Stunting is a reflection of chronic malnutrition as a result of failure to receive adequate nutrition over a period of time and recurrent or chronic illness.

Weight-for-height can be used to assess wasting and overweight status. Children whose *weight-for-height* is more than two standard deviations below the median of the reference population are classified as *moderately or severely wasted,* while those who fall more than three standard deviations below the median are classified as *severely wasted*. Wasting is usually the result of a recent nutritional deficiency. The indicator of wasting may exhibit significant seasonal shifts associated with changes in the availability of food or disease prevalence. For the 2015 FNSS, children were measured just before the harvest, which may be a time of the year with heightened food insecurity for some households. Seasonality should be taken into account when comparing FNSS to previous surveys such as the LSIS that were carried out at a different time of the year. Mid-upper

[3] http://www.who.int/childgrowth/standards/technical_report

arm circumference (MUAC) is also an indicator of wasting. Children identified with severe wasting according to MUAC <11.5 were referred to the health center for treatment.

Children whose weight-for-height is more than two standard deviations above the median reference population are classified as moderately or severely overweight.

In FNSS, weights and heights of all children under 5 years of age were measured using the anthropometric equipment recommended[4] by UNICEF. Findings in this section are based on the results of these measurements.

Table NU.2 shows percentages of children classified into each of the above described categories, based on the anthropometric measurements that were taken during fieldwork. Additionally, the table includes mean z-scores for all three anthropometric indicators.

[4] See MICS Supply Procurement Instructions: http://www.childinfo.org/mics5_planning.html

Table NS.3 (NU.2): Nutritional status of children

Percentage of children under age 5 by nutritional status according to three anthropometric indices: weight for age, height for age, and weight for height, *FNSS, 2015*

	Weight for age				Height for age				Weight for height					Mid-upper arm circumference (MUAC)					
	Underweight				Stunted				Wasted		Over-weight			MUAC-for-age		Cutoffs			
	Percent below		Mean Z-Score (SD)	Number of children under age 5	Percent below		Mean Z-Score (SD)	Number of children under age 5	Percent below		Percent above	Mean Z-Score (SD)	Number of children under age 5	Percent below		Percent below		Mean Z-Score (SD)	Number of children under age 5
	- 2 SD[1]	- 3 SD[2]			- 2 SD[3]	- 3 SD[4]			- 2 SD[5]	- 3 SD[6]	+ 2 SD[7]			- 2 SD	- 3 SD	12.5 cm	11.5 cm		
Sex																			
Male	30.3	9.4	-1.4	2057	45.9	20.3	-1.7	1999	9.9	4.1	2.9	-.5	1992	8.2	1.2	3.2	.7	-.7	1871
Female	29.6	8.3	-1.4	2073	41.2	17.4	-1.6	2024	9.0	3.4	1.1	-.6	2013	8.2	1.1	4.1	.6	-.7	1877
Province																			
Luangnamtha U5	25.8	7.6	-1.3	579	44.4	19.0	-1.8	563	7.6	2.5	2.7	-.3	559	4.1	1.2	1.8	.6	-.3	535
Oudomxay U5	24.1	5.9	-1.3	1088	45.5	16.0	-1.7	1071	5.4	1.6	2.1	-.4	1062	6.7	.9	3.4	.7	-.7	993
Saravane U5	33.3	10.5	-1.5	1453	41.0	19.1	-1.6	1405	12.2	6.2	.9	-.8	1412	9.8	1.2	3.8	.6	-.9	1295
Sekong U5	36.4	10.5	-1.5	460	49.1	25.0	-1.8	444	10.8	4.3	3.2	-.6	439	8.6	1.2	3.6	.7	-.9	417
Attapeu U5	31.3	10.1	-1.4	549	40.6	18.5	-1.5	539	10.9	2.2	2.7	-.7	533	10.9	1.2	5.4	.6	-.8	508
Luangnamtha U2	23.1	6.3	-.9	216	32.6	13.4	-1.2	213	8.8	3.1	3.7	-.3	206	2.0	1.3	3.2	1.3	.2	167
Oudomxay U2	16.8	2.4	-.9	434	32.4	10.7	-1.2	423	6.2	2.1	3.7	-.3	420	5.5	1.1	7.1	1.1	-.4	326
Saravane U2	24.9	7.9	-1.1	555	32.2	14.1	-1.0	527	12.3	5.9	1.1	-.8	530	4.5	.7	5.2	.5	-.6	405
Sekong U2	26.7	9.0	-1.2	189	35.2	16.9	-1.2	181	13.4	4.6	3.7	-.6	176	5.4	1.4	7.1	1.1	-.6	141
Attapeu U2	25.2	7.0	-1.0	229	29.6	13.5	-1.0	223	14.7	3.3	4.0	-.6	220	9.6	.8	12.6	1.3	-.6	181
Residence																			
Urban	17.8	4.2	-1.0	501	26.8	7.8	-1.2	493	6.1	1.0	3.8	-.4	481	3.1	.7	2.0	.5	-.4	467

Table NS.3 (NU.2): Nutritional status of children

Percentage of children under age 5 by nutritional status according to three anthropometric indices: weight for age, height for age, and weight for height, *FNSS, 2015*

	Weight for age				Height for age				Weight for height					Mid-upper arm circumference (MUAC)					
	Underweight				Stunted				Wasted		Over-weight			MUAC-for-age		Cutoffs			
	Percent below		Mean Z-Score (SD)	Number of children under age 5	Percent below		Mean Z-Score (SD)	Number of children under age 5	Percent below		Percent above	Mean Z-Score (SD)	Number of children under age 5	Percent below		Percent below		Mean Z-Score (SD)	Number of children under age 5
	- 2 SD[1]	- 3 SD[2]			- 2 SD[3]	- 3 SD[4]			- 2 SD[5]	- 3 SD[6]	+ 2 SD[7]			- 2 SD	- 3 SD	12.5 cm	11.5 cm		
Rural with road	31.1	9.4	-1.4	3143	45.4	20.1	-1.7	3097	9.9	4.2	1.6	-.6	3053	8.5	1.2	3.6	.6	-.7	2842
Rural without road	35.1	10.0	-1.5	486	49.7	22.6	-1.8	484	9.9	3.8	2.3	-.5	471	11.2	1.3	5.2	1.1	-.9	439
Age																			
0-5 months	16.2	4.8	-.6	412	17.7	9.2	-.6	395	9.7	4.7	6.9	-.1	386	.	.	.	.	.	0
6-11 months	15.1	2.8	-.8	413	19.4	5.6	-.8	392	6.5	1.6	1.5	-.5	399	2.2	.5	4.9	.5	-.2	418
12-17 months	31.3	5.9	-1.4	382	44.8	14.3	-1.5	373	15.2	5.2	1.5	-.9	368	9.3	2.1	11.3	2.2	-.6	385
18-23 months	29.0	11.3	-1.4	415	47.4	23.8	-1.6	407	11.5	4.5	1.6	-.7	399	4.5	.5	4.9	.9	-.5	416
24-35 months	32.6	9.7	-1.5	849	48.3	22.5	-1.9	836	10.9	5.5	2.2	-.7	831	7.6	.8	3.7	.5	-.7	855
36-47 months	33.6	10.6	-1.6	906	52.1	22.3	-2.0	881	7.9	2.8	.7	-.6	882	9.5	1.2	1.5	.5	-.9	922
48-59 months	37.8	11.3	-1.7	753	51.6	22.3	-2.1	738	7.1	2.3	1.5	-.6	741	11.9	1.6	.7	.1	-1.0	752
Mother's education																			
None	35.3	12.4	-1.6	1468	48.8	24.1	-1.8	1425	11.8	5.5	1.7	-.6	1417	10.2	1.3	4.4	.6	-.8	1340
Primary	30.0	7.5	-1.4	1579	45.8	18.9	-1.7	1546	7.2	2.2	1.4	-.6	1536	8.0	1.0	3.1	.5	-.8	1412
Lower secondary	21.8	5.3	-1.1	423	33.2	11.2	-1.4	407	8.5	1.8	5.4	-.4	411	6.1	1.3	3.4	1.2	-.6	380
Upper secondary	20.1	3.2	-1.1	149	29.1	8.4	-1.3	144	8.6	.7	1.1	-.5	144	2.1	.6	4.4	1.9	-.5	134
Post-secondary,	19.6	1.1	-1.0	64	23.2	7.9	-1.3	61	3.0	0.0	0.0	-.6	61	4.9	.9	1.7	.9	-.5	57

Table NS.3 (NU.2): Nutritional status of children

Percentage of children under age 5 by nutritional status according to three anthropometric indices: weight for age, height for age, and weight for height, *FNSS, 2015*

	Weight for age				Height for age				Weight for height					Mid-upper arm circumference (MUAC)					
	Underweight				Stunted				Wasted		Over-weight			MUAC-for-age		Cutoffs			
	Percent below		Mean Z-Score (SD)	Number of children under age 5	Percent below		Mean Z-Score (SD)	Number of children under age 5	Percent below		Percent above	Mean Z-Score (SD)	Number of children under age 5	Percent below		Percent below		Mean Z-Score (SD)	Number of children under age 5
	- 2 SD[1]	- 3 SD[2]			- 2 SD[3]	- 3 SD[4]			- 2 SD[5]	- 3 SD[6]	+ 2 SD[7]			- 2 SD	- 3 SD	12.5 cm	11.5 cm		
non-tertiary																			
Higher	16.6	5.4	-.9	88	25.1	8.1	-1.1	88	7.5	2.4	2.8	-.5	87	3.0	.9	1.8	.9	-.4	83
Wealth index quintile																			
Poorest	38.6	13.8	-1.6	1054	53.6	25.7	-1.8	1024	12.4	12.4	1.6	-.7	1018	11.6	2.0	4.4	.8	-1.0	958
Second	32.0	9.6	-1.5	915	48.4	22.2	-1.8	887	10.1	10.1	1.5	-.6	891	9.4	1.1	5.2	.8	-.8	844
Middle	30.9	8.0	-1.5	806	48.8	20.0	-1.8	785	6.7	6.7	2.0	-.5	785	6.8	.9	3.2	.9	-.7	721
Fourth	26.8	6.3	-1.3	717	35.6	13.4	-1.4	708	8.9	8.9	1.3	-.7	699	7.6	.5	2.0	.3	-.6	644
Richest	14.9	3.4	-.9	639	22.2	7.5	-1.1	619	7.6	7.6	4.2	-.4	613	3.1	.7	2.2	.1	-.3	581
Ethno-linguistic group of household head																			
Lao-Tai	22.9	4.8	-1.1	1294	29.8	10.8	-1.2	1268	8.5	3.6	1.8	-.6	1270	5.4	.6	1.8	.2	-.6	1175
Mon-Khmer	35.2	11.3	-1.6	2325	50.0	22.9	-1.8	2254	11.0	4.1	2.0	-.7	2237	10.6	1.4	5.1	.9	-.9	2108
Hmong-Mien	24.7	12.4	-1.3	70	43.2	24.3	-1.7	66	3.3	1.6	4.3	-.2	65	6.9	0.0	0.0	0.0	.0	58
Chinese-Tibetan	23.5	7.4	-1.3	440	50.2	20.4	-1.9	432	5.0	2.8	2.0	-.2	431	4.1	1.3	1.7	.7	-.3	407
Area																			
Non-MYCNSIA U5	25.2	6.3	-1.3	2479	42.3	16.6	-1.6	2420	6.8	2.7	1.9	-.5	2418	6.3	.9	2.6	.7	-.6	2241
MYCNSIA U5	37.1	12.6	-1.6	1651	45.3	22.2	-1.7	1602	13.4	5.2	2.2	-.8	1588	11.0	1.4	5.1	.6	-.9	1507

Table NS.3 (NU.2): Nutritional status of children

Percentage of children under age 5 by nutritional status according to three anthropometric indices: weight for age, height for age, and weight for height, *FNSS, 2015*

	Weight for age				Height for age				Weight for height					Mid-upper arm circumference (MUAC)					
	Underweight				Stunted				Wasted		Over-weight			MUAC-for-age		Cutoffs			
	Percent below		Mean Z-Score (SD)	Number of children under age 5	Percent below		Mean Z-Score (SD)	Number of children under age 5	Percent below		Percent above	Mean Z-Score (SD)	Number of children under age 5	Percent below		Percent below		Mean Z-Score (SD)	Number of children under age 5
	- 2 SD[1]	- 3 SD[2]			- 2 SD[3]	- 3 SD[4]			- 2 SD[5]	- 3 SD[6]	+ 2 SD[7]			- 2 SD	- 3 SD	12.5 cm	11.5 cm		
Non-NPAN U5	28.4	8.5	-1.4	3140	41.0	18.0	-1.6	3062	10.0	4.0	2.2	-.6	3052	7.9	.9	2.9	.4	-.7	2863
NPAN U5	34.6	9.7	-1.5	991	51.5	21.5	-1.9	960	7.7	3.0	1.3	-.6	954	9.1	1.9	5.9	1.3	-.9	885
Non-MYCNSIA U2	19.2	3.8	-.9	955	31.5	11.6	-1.1	918	7.8	2.7	2.8	-.4	916	3.3	.8	4.4	.8	-.3	707
MYCNSIA U2	27.8	9.6	-1.2	668	33.4	15.8	-1.1	649	14.6	5.7	3.0	-.7	636	8.0	1.3	10.1	1.2	-.7	512
Non-NPAN U2	22.0	6.4	-1.0	1238	30.5	12.9	-1.1	1196	11.2	4.5	2.9	-.6	1189	4.9	.8	5.8	.8	-.4	946
NPAN U2	25.0	5.5	-1.1	385	38.2	14.6	-1.3	371	8.7	2.3	2.8	-.5	363	6.5	1.7	9.9	1.5	-.6	274

[1] MICS indicator 2.1a and MDG indicator 1.8 - Underweight prevalence (moderate and severe)

[2] MICS indicator 2.1b - Underweight prevalence (severe)

[3] MICS indicator 2.2a - Stunting prevalence (moderate and severe)

[4] MICS indicator 2.2b - Stunting prevalence (severe)

[5] MICS indicator 2.3a - Wasting prevalence (moderate and severe)

[6] MICS indicator 2.3b - Wasting prevalence (severe)

[7] MICS indicator 2.4 - Overweight prevalence

Children whose measurements are outside a plausible range are excluded from Table NU.2. Children are excluded from one or more of the anthropometric indicators when their weights and heights have not been measured, whichever applicable. For example, if a child has been weighed but his/her height has not been measured, the child is included in underweight calculations, but not in the calculations for stunting and wasting. Percentages of children by age and reasons for exclusion are shown in the data quality Tables DQ.12, DQ.13, and DQ.14 in Appendix C. The tables show that due to incomplete dates of birth, implausible measurements, and/or missing weight and/or height, 3.7 percent of children have been excluded from calculations of the weight-for-age indicator, 6.2 percent from the height-for-age indicator, and 6.6 percent for the weight-for-height indicator. Age heaping and digit preference are also presented in Appendix C (DQ.4/DQ.8/DQ.15/DQ.15b/Figure DQ.2). There is substantial digit preference in length measurements, with .0 and .5 making up nearly half of the sample. As expected the same issue is not seen with weight measurements because digital scales were used. Previous surveys in the country, such as LSIS 2011/2 had similar digit preference in length measurements. In the future, improving length measurement could reduce variance and give a more accurate estimate of the per cent of the population below and above nutritional status cut-offs. The survey included observation of bilateral pitting oedema, but oedema results are not included in the report. 1.0% of U5 children were reported to have oedema, but the prevalence did not vary as expected by socio-economic characteristics. Oedema results are not included in the report to maintain consistency with previous surveys and because of concerns with data quality.

Almost one in three children under age five in the five provinces combined are moderately or severely underweight (30.3% for males, 29.6% for females) and approximately 9 percent are classified as severely underweight (Table NU.2). More than a third of children (45.9% for males, 41.2% for females) are moderately or severely stunted (too short for their age) and nearly 1 out of 10 (9.9% for males, 9.0% for females) are moderately or severely wasted (too thin for their height). The rate of wasting can fluctuate throughout the year and this is likely the highest rate of wasting because data was collected in the lean season. 2.9 percent of males and 1.1 percent of females are overweight (too heavy for their height).

As expected, the biggest differences in child nutritional status appear in the wealth categories. Children in the poorest 20 percent of the population are more than 2.5 times more likely to be underweight when compared to children in the richest 20 percent of the population (38.6% vs 14.9%). The ethno-linguistic group of Mon-Khmer has the highest percent of children with poor nutrition for all three anthropometric indices. The age pattern shows that the period of the most growth faltering (when children become underweight, stunted or wasted) is from 6-18 months (Figure NU.1). This pattern is expected and is related to the age at which many children cease to be exclusively breastfed and are exposed to contamination in water, food, and environment.

Mid-upper arm circumference (MUAC) is a measurement of acute nutritional status, much like wasting. MUAC is used to screen and identify acutely malnourished children for specialized

treatment and care. Like the other nutritional indicators, MUAC can be compared to a reference distribution from WHO Growth Standards. For programme screening purposes it is more common to use a simple cutoff; the current international standard cutoff is 11.5 cm for severe wasting and 12.5 cm for moderate wasting. When comparing MUAC to a reference distribution, MUAC-for-age gives a prevalence of wasting that is similar to weight for height (Table NU.2). However, the prevalence given by using cutoffs is very different. For females 4.1 percent are classified as moderately or severely wasted using MUAC cutoffs, compared to 8.2 percent using MUAC-for-age and 9.0 percent using weight for height. Disagreement between MUAC and weight-for-height is not unique to FNSS; it was found in other surveys in South and Southeast Asia.

Figure NS.1: Underweight, stunted, wasted and overweight children under age 5 (moderate and severe), FNSS, 2015

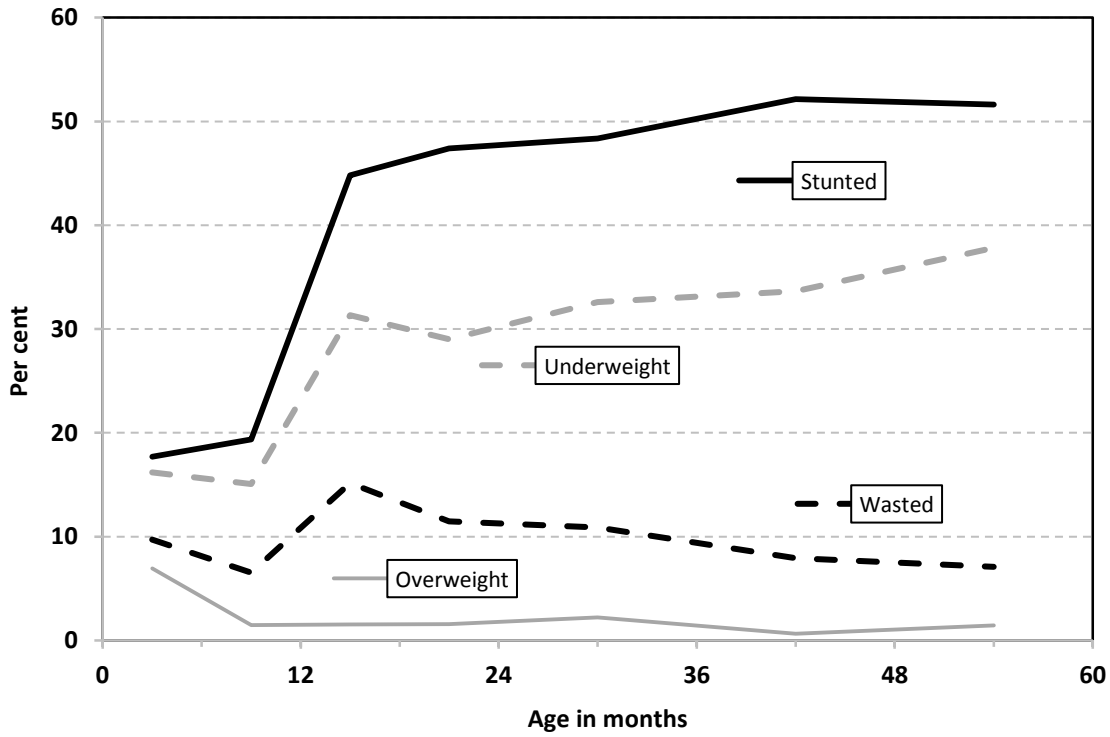
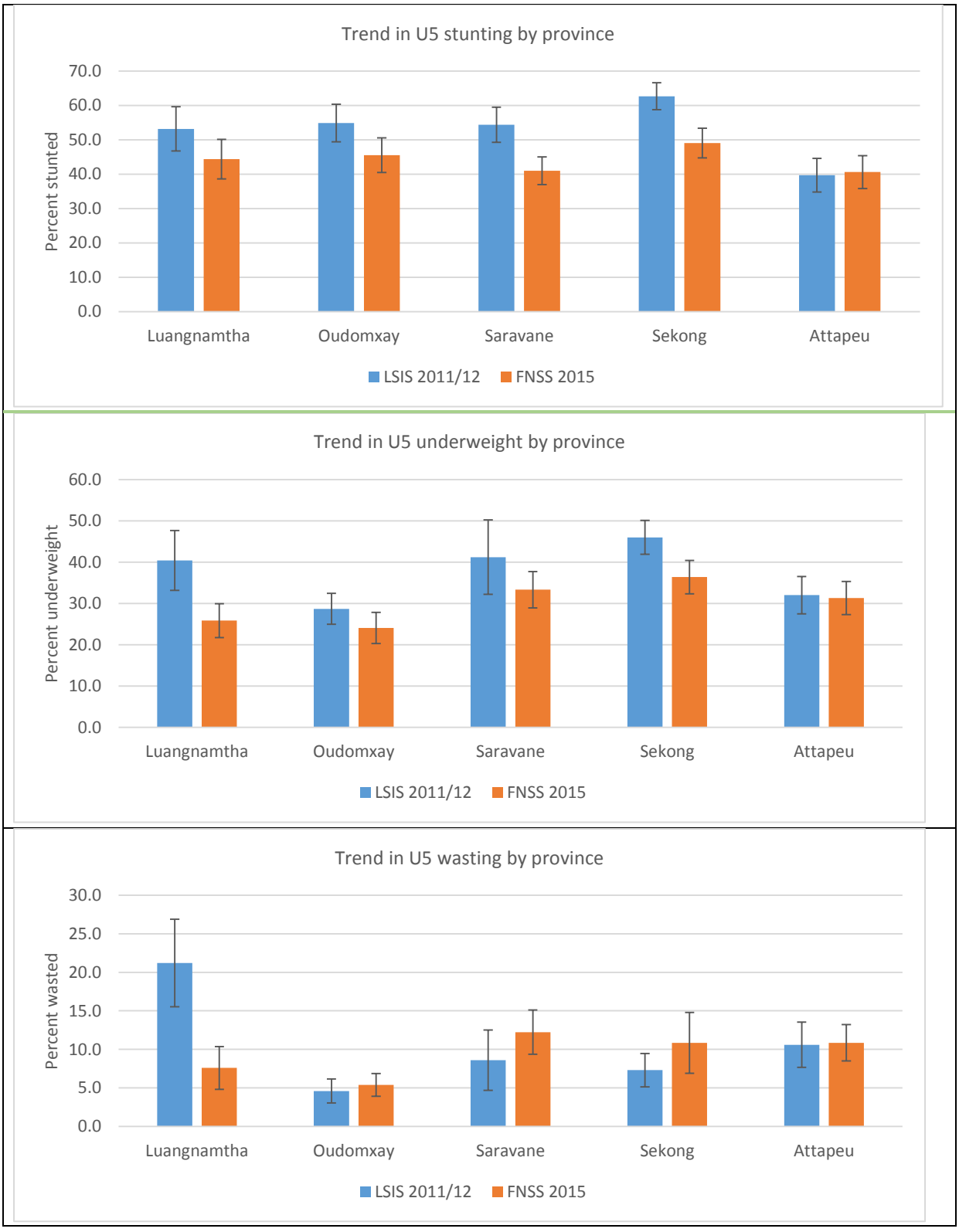


Figure NS.2 compares the FNSS 2015 child anthropometry indicators to the LSIS 2011/12. There was a substantial decrease in stunting for children 0-59 months in all provinces except Attapeu. In Saravane and Sekong the reduction in stunting was more than 10 percentage points and the non-overlapping confidence intervals shows that this a statistically significant decrease. Trends for child wasting do not show improvement. In the LSIS 2011/12 the prevalence of wasting in Luangnamtha was overestimated due to digit preference (rounding). The apparent decrease in wasting in Luangnamtha is not a real trend and is only reflective of the poor data quality in the previous survey. Saravane and Sekong show substantial increases in wasting, but it is important to note that the confidence intervals are overlapping. In addition, any increase in wasting may be due to the two surveys being carried out at different times of the year. All of the provinces except for Attapeu show

substantial decrease in child underweight. Luangnamtha and Sekong saw the most significant decreases in child underweight.

Figure NS.2: Province-level trends in stunting, underweight and wasting among children under age 5 (moderate and severe), LSIS 2011/12 and FNSS 2015



Woman Anthropometry

The height and weight of women age 15-49 years were measured in the 2015 FNSS, and the measurements are used to determine the per cent of women with short stature and to calculate body mass index. Short stature in adults can be a result of stunting during childhood. Short stature of women is defined as shorter than 145 cm, which is a cut-off to define risk. Small stature is associated with increased risk of obstructed labor. Mother's nutritional status is also associated with a higher risk for delivering a low birth weight baby.

Body mass index (BMI) is calculated as weight divided by height squared (kg/m^2). The ratio of weight to height describes if a person is moderately or severely thin, mildly thin, overweight or obese. Cut-off points for overweight and obesity are based on international standards that describe risk for adverse health outcomes, such as type 2 diabetes and cardiovascular disease. The association of BMI with risk for adverse health outcomes can vary by population, and population-specific cut-off points are recommended.

Table NU2.1 shows the percentage of women with short stature and the percentage of women in various BMI categories.

5.5% of women did not have a height measurement and are not included in short stature calculations. For body mass index, pregnant women and women with a birth in the preceding two months are excluded from analysis. Of the target group for BMI, 2.2% of women did not have either height or weight measurements. Response rates for maternal anthropometry is included in Appendix C, Table DQ.11.

In the five surveyed provinces the per cent of women with short stature ranges from 14.9% to 24.7%. In the poorest households 29.0% of women have short stature, compared to 8.2% in the richest households. The second poorest and middle wealth quintiles, as well as all rural areas, have more than 20% of women with short stature.

In all five surveyed provinces more than 2/3 of women have normal body mass index. Compared to rural areas, urban areas have less women with normal BMI. The largest difference between urban and rural areas is in the categories of high BMI. In urban areas 22.8% of women are overweight or obese, compared to 11.2% in rural areas with roads and 7.7% in rural areas without roads. In urban areas and among households in the richest wealth quintile 4.3% and 4.5% of women are obese. The percentage of overweight or obese increase with age, going from 3.6% among women age 15-19 years to 21.3% among women age 40-49 years.

For the five surveyed provinces the per cent of thin women ranges from 9.4% to 19.8%. Most of the women classified as thin are mildly thin. For households in the poorest wealth quintile 3.8% of women are moderately or severely thin.

Table NS.4: Nutritional status of women

Among women age 15-49, the percentage with height under 145 cm, mean body mass index (BMI), and the percentage with specific BMI levels, by background characteristics

	Height		Body Mass Index								
	Percentage below 145 cm	Number of women	Mean BMI	18.5-24.9 (total normal)	<18.5 (total thin)	17.0-18.4 (mildly thin)	<17.0 (moderately and severely thin)	≥25.0 (total overweight or obese)	25.0-29.9 (overweight)	≥30.0 (obese)	Number of women
Type of area											
Urban	8.7	1324	22.5	65.2	11.8	8.8	3.0	22.8	18.5	4.3	1276
Rural with road	21.2	5536	21.5	76.5	12.3	9.3	3.0	11.2	9.7	1.5	5278
Rural without road	20.6	683	21.2	78.6	13.7	10.1	3.6	7.7	6.4	1.3	637
Province											
Luangnamtha	14.9	1209	22.2	72.4	9.8	7.5	2.2	17.7	14.9	2.8	1159
Oudomxay	15.5	2252	21.9	77.7	9.4	7.4	2.0	12.9	11.2	1.7	2122
Saravane	24.0	2310	21.5	73.9	13.9	10.0	3.9	12.2	9.9	2.3	2220
Sekong	24.7	768	21.5	79.5	10.6	7.8	2.8	9.8	8.7	1.1	728
Attapeu	15.7	1004	21.2	68.7	19.8	15.1	4.7	11.5	9.8	1.7	963
Age											
15-19 years	18.8	1558	20.8	81.0	15.4	11.8	3.6	3.6	3.2	0.4	1483
20-29 years	17.8	2515	21.5	78.4	11.1	8.4	2.7	10.5	9.0	1.4	2320
30-39 years	18.2	2012	22.1	72.1	11.0	8.7	2.3	16.9	14.4	2.5	1942
40-49 years	22.2	1459	22.3	65.5	13.1	8.8	4.3	21.3	17.4	3.9	1446
Education											
None	25.4	2461	21.3	76.6	13.8	10.7	3.1	9.6	8.1	1.5	2344

Table NS.4: Nutritional status of women

Among women age 15-49, the percentage with height under 145 cm, mean body mass index (BMI), and the percentage with specific BMI levels, by background characteristics

	Height		Body Mass Index								
	Percentage below 145 cm	Number of women	Mean BMI	18.5-24.9 (total normal)	<18.5 (total thin)	17.0-18.4 (mildly thin)	<17.0 (moderately and severely thin)	≥25.0 (total overweight or obese)	25.0-29.9 (overweight)	≥30.0 (obese)	Number of women
Primary	19.7	2714	21.8	74.1	10.9	7.6	3.3	15.0	12.6	2.4	2564
Lower secondary	14.3	1227	21.9	74.4	11.6	8.8	2.8	14.0	11.6	2.4	1186
Upper secondary	8.9	718	21.3	73.8	15.8	12.3	3.5	10.4	9.2	1.1	696
Post secondary non tertiary	5.4	165	22.8	62.4	10.1	9.6	0.5	27.6	25.2	2.4	152
Higher	8.4	259	22.1	73.6	9.1	6.7	2.4	17.3	13.7	3.6	248
Wealth index quintile											
Poorest	29.0	1332	20.8	79.8	15.4	11.6	3.8	4.8	3.9	0.9	1252
Second	24.5	1395	21.1	79.1	14.3	10.3	4.0	6.6	5.8	0.8	1323
Middle	23.0	1466	21.7	77.6	10.5	8.6	2.0	11.8	10.3	1.5	1396
Fourth	14.0	1570	21.8	73.6	11.5	7.7	3.8	14.8	13.2	1.6	1509
Richest	8.2	1781	22.7	66.0	10.9	8.8	2.1	23.1	18.6	4.5	1711
Language group of household head											
Lao-Tai	13.0	2599	22.2	67.8	12.4	9.2	3.1	19.7	16.5	3.3	2503
Mon-Khmer	22.5	4175	21.2	78.4	13.3	9.8	3.5	8.3	7.1	1.2	3983
Hmong-Mien	25.2	85	22.4	78.6	5.9	4.4	1.5	15.5	14.0	1.5	74
Chinese-Tibetan	19.6	671	22.2	77.5	7.0	6.3	0.6	15.5	13.3	2.2	620
Area											

Table NS.4: Nutritional status of women

Among women age 15-49, the percentage with height under 145 cm, mean body mass index (BMI), and the percentage with specific BMI levels, by background characteristics

	Height		Body Mass Index								
	Percentage below 145 cm	Number of women	Mean BMI	18.5-24.9 (total normal)	<18.5 (total thin)	17.0-18.4 (mildly thin)	<17.0 (moderately and severely thin)	≥25.0 (total overweight or obese)	25.0-29.9 (overweight)	≥30.0 (obese)	Number of women
Non-MYCNSIA	17.3	4700	21.9	75.0	10.6	8.0	2.6	14.4	12.1	2.3	4467
MYCNSIA	21.7	2843	21.2	74.1	15.3	11.4	3.9	10.5	9.0	1.5	2724
Non-NPAN	17.6	5620	21.7	74.0	12.3	9.3	3.0	13.6	11.5	2.1	5356
NPAN	23.0	1923	21.6	76.5	12.5	9.3	3.2	11.0	9.2	1.7	1836

Body mass index excludes pregnant women and women with a birth in the preceding two months

Anemia

Hemoglobin testing is the most accepted method for anemia diagnosis. The 2015 FNSS included anemia testing of children 6-59 months and women that were either pregnant or currently breastfeeding. Permission for anemia testing was asked of all eligible respondents, and written, informed consent was obtained for all individuals tested. The concentration of haemoglobin in the blood was obtained with a capillary blood sample and using the Hemocue system to test the blood in the field. Individuals with severe anemia were referred to the health center for treatment.

Hemoglobin requirement can differ depending on altitude, but no adjustments were made in the FNSS 2015 to make estimates comparable to previous surveys. Smoking can change the concentration of haemoglobin found in the blood. For women, adjustments were made for smoking status based on formulas from the WHO and US CDC.

Smoking Status	Measured haemoglobin adjustment (g/dl)
Non-smoker	0
Smoker	-0.3
½-1 packet/day	-0.3
1-2 packets/day	-0.5
>= 2 packets/day	-0.7

Anemia can be caused by a diet that lacks vitamins and minerals, resulting in deficiency of iron, folate, B12, and other micronutrients. Intestinal worm infestation, malaria, and genetic conditions such as thalassemia can also be large contributors to anemia. Genetic conditions that cause anemia are known to be common in Lao PDR. Even with a high prevalence of genetic conditions that cause anemia, interventions to address micronutrient deficiency are needed for vulnerable populations. Maternal supplementation with iron-folic acid and in-home fortification for young children are strategies to reduce anemia among groups that have high micronutrient needs that may not be fulfilled with current diet.

Child Anemia

Table NS.5 presents results of anemia testing for children 6-59 months of age. Severe anemia is rare among children. Approximately ¼ of children are anemic, with most having mild anemia. There is little variation by urban/rural and by wealth. Among the five provinces the lowest prevalence of child anemia is found in Luangnamtha (19.4%), while the highest prevalence is in Attapeu (27.1%). The largest differences in child anemia are seen by the age of the child. Over ½ of children 6-11 months are anemic, compared to 15.4% of children 48-59 months of age.

Table NS.5: Prevalence of anemia in children

Percentage of children age 6-59 months classified as having anemia by background characteristics, FNSS 2015

	Any anemia (<11.0g/dl)	Mild Anemia (10-10.9g/dl)	Moderate anemia (7.0-9.9g/dl)	Severe anemia (<7.0g/dl)	Mean hemoglobin	Number of children 6-59 months
Sex						
Male	25.8	16.0	9.3	0.4	11.61	1774
Female	23.7	16.7	6.8	0.2	11.72	1793
Type of Area						
Urban	24.1	16.9	7.2	0.0	11.73	435
Rural with road	25.5	16.9	8.2	0.4	11.63	2726
Rural without road	20.0	12.3	7.7	0.0	11.80	422
Province						
Luangnamtha	19.4	11.8	7.3	0.2	11.96	507
Oudomxay	23.1	14.2	8.3	0.4	11.75	939
Saravane	26.9	18.0	8.4	0.4	11.57	1254
Sekong	25.5	17.5	8.0	0.0	11.63	394
Attapeu	27.1	19.9	7.0	0.1	11.48	490
Luangnamtha 6-24m	45.6	26.6	18.3	0.7	10.98	157
Oudomxay 6-24m	39.2	21.0	17.6	0.6	11.17	305
Saravane 6-24m	44.3	24.8	19.5	0.0	11.02	386
Sekong 6-24m	36.6	22.0	14.6	0.0	11.21	135
Attapeu 6-24m	39.3	24.6	14.3	0.4	11.07	179
Age						
6-11 months	54.2	28.7	25.1	0.5	10.75	385
12-17 months	40.4	23.5	16.9	0.0	11.05	368
18-23 months	30.5	19.1	11.0	0.4	11.43	410
24-35 months	19.6	14.7	4.6	0.3	11.81	831
36-47 months	14.8	12.8	1.9	0.0	12.02	881
48-59 months	15.4	10.7	4.1	0.6	12.01	708
Mother's education						
None	29.4	19.6	9.5	0.2	11.56	1287
Primary	21.6	13.9	7.3	0.4	11.72	1351
Lower secondary	20.4	12.9	7.4	0.2	11.82	355
Upper secondary	26.1	18.2	7.9	0.0	11.76	128

Table NS.5: Prevalence of anemia in children

Percentage of children age 6-59 months classified as having anemia by background characteristics, FNSS 2015

	Any anemia (<11.0g/dl)	Mild Anemia (10-10.9g/dl)	Moderate anemia (7.0-9.9g/dl)	Severe anemia (<7.0g/dl)	Mean hemoglobin	Number of children 6-59 months
Post secondary non tertiary	35.4	24.2	11.2	0.0	11.27	55
Higher	26.8	16.1	10.7	0.0	11.51	82
Missing/DK	20.8	15.4	4.8	0.5	11.78	324
Wealth index quintile						
Poorest	25.4	17.5	7.5	0.2	11.70	919
Second	27.8	18.7	9.1	0.0	11.57	817
Middle	25.8	16.7	8.8	0.3	11.68	686
Fourth	21.8	13.0	7.8	0.9	11.69	622
Richest	20.9	14.3	6.4	0.2	11.71	539
Language group of household head						
Lao-Tai	24.5	16.4	7.6	0.5	11.59	1109
Mon-Khmer	25.7	17.3	8.2	0.1	11.65	2032
Hmong-Mien	16.9	11.0	3.9	2.0	12.12	55
Chinese-Tibetan	21.1	11.9	8.8	0.4	11.89	387
Area						
Non-MYCNSIA	21.1	12.6	7.9	0.5	11.80	2131
MYCNSIA	30.0	21.8	8.2	0.1	11.47	1452
Non-NPAN	25.4	17.2	7.7	0.4	11.61	2734
NPAN	22.6	13.7	8.9	0.0	11.83	849
Non-MYCNSIA 6-24m	40.2	20.9	18.9	0.4	11.10	664
MYCNSIA 6-24m	43.2	27.4	15.6	0.1	11.06	498
Non-NPAN 6-24m	41.2	24.6	16.1	0.4	11.09	899
NPAN 6-24m	42.6	20.4	22.2	0.0	11.08	263

Pregnant and Breastfeeding Women Anemia

40.4% of pregnant women are anemic, while 36.5% of breastfeeding women are anemic. As with children, severe anemia is rare for pregnant or breastfeeding women and there is little variation in the prevalence of any anemia by urban/rural or wealth. However, there are substantial differences between the provinces. Luangnamtha has the lowest rate of anemia (29.5%) and Attapeu has the highest rate (46.0%).

Table NS.6: Prevalence of anemia in pregnant or breastfeeding women

Percentage of pregnant or breastfeeding women age 15-49 years classified as having anemia by background characteristics, FNSS 2015

	Any anemia (<12.0 g/dl)	Mild anemia (11.0-11.9 g/dl)	Moderate anemia (8.0-10.9 g/dl)	Severe anemia (<8.0 g/dl)	Mean hemoglobin	Number of pregnant and postpartum women
Type of Area						
Urban	35.9	23.8	11.6	0.5	11.9	138
Rural with road	38.0	21.2	16.4	0.3	12.1	1073
Rural without road	36.0	18.1	16.1	1.8	12.1	193
Province						
Luangnamtha	29.5	14.7	14.3	0.5	12.4	203
Oudomxay	40.9	19.0	21.1	0.9	11.7	387
Saravane	35.6	21.7	13.3	0.6	12.1	449
Sekong	33.9	23.4	10.5	0.0	12.4	156
Attapeu	46.0	28.1	17.6	0.4	11.9	209
Age						
15-19 years	40.5	22.6	17.9	0.0	11.7	216
20-29 years	34.7	20.3	13.9	0.6	12.2	788
30-39 years	40.2	21.4	18.6	0.2	11.9	334
40-49 years	48.5	23.5	20.9	4.1	12.2	67
Number of Children Ever Born						
0	37.7	20.6	17.1	0.0	11.2	130
1	40.8	24.5	15.3	1.0	11.9	387
2-3	35.4	19.8	15.5	0.1	12.3	531
4-5	31.7	20.4	11.4	0.0	12.4	199
5+	43.9	17.9	23.8	2.2	11.9	157
Maternity Status						
Pregnant	40.4	23.5	16.9	0.0	11.2	371

Table NS.6: Prevalence of anemia in pregnant or breastfeeding women

Percentage of pregnant or breastfeeding women age 15-49 years classified as having anemia by background characteristics, FNSS 2015

	Any anemia (<12.0 g/dl)	Mild anemia (11.0-11.9 g/dl)	Moderate anemia (8.0-10.9 g/dl)	Severe anemia (<8.0 g/dl)	Mean hemoglobin	Number of pregnant and postpartum women
Breastfeeding	36.5	20.2	15.6	0.8	12.3	1033
Smoking Status						
Smokes cigarettes/tobacco	42.9	21.4	20.0	1.4	11.9	340
Does not smoke	35.8	20.9	14.6	0.3	12.1	1065
Education						
None	37.8	20.6	16.2	1.0	12.1	534
Primary	37.9	21.3	16.6	0.0	12.0	594
Lower secondary	38.4	22.6	15.8	0.0	12.1	155
Upper secondary	39.0	20.2	18.8	0.0	11.8	60
Post secondary non tertiary / Higher	28.2	19.7	4.6	3.9	11.9	62
Wealth index quintile						
Poorest	38.0	17.8	19.3	0.9	12.1	369
Second	31.9	17.6	14.1	0.2	12.1	335
Middle	41.4	25.8	14.8	0.8	12.1	279
Fourth	42.6	26.0	16.3	0.3	12.0	222
Richest	35.0	20.8	13.9	0.4	11.9	199
Language group of household head						
Lao-Tai	39.7	24.3	15.0	0.4	12.0	365
Mon-Khmer	38.0	20.4	16.8	0.8	12.0	856
Hmong-Mien	37.0	23.8	13.3	0.0	12.4	21
Chinese-Tibetan	30.8	17.1	13.8	0.0	12.2	161
Area						
Non-MYCNSIA	36.3	18.0	17.7	0.5	12.0	813
MYCNSIA	39.3	25.3	13.4	0.6	12.1	591
Non-NPAN	36.7	21.7	14.7	0.3	12.1	1047
NPAN	40.1	19.2	19.6	1.2	12.0	358

Cutoffs for pregnant women are: Any anemia (<11.0 g/dl), Mild anemia (10.0-10.9 g/dl), Moderate anemia (7.0-9.9 g/dl),

Severe anemia (<7.0 g/dl)

Table NS.6: Prevalence of anemia in pregnant or breastfeeding women

Percentage of pregnant or breastfeeding women age 15-49 years classified as having anemia by background characteristics, FNSS 2015

	Any anemia (<12.0 g/dl)	Mild anemia (11.0-11.9 g/dl)	Moderate anemia (8.0-10.9 g/dl)	Severe anemia (<8.0 g/dl)	Mean hemoglobin	Number of pregnant and postpartum women
Hemoglobin adjusted for smoking						

Weight Gain During Pregnancy

In the FNSS women with a live birth in the last 2 years were asked to recall their weight just before they became pregnant and just before they gave birth in order to determine weight gain during pregnancy. Respondents who were not sure of their weight at either time were asked to provide an estimate, but these estimates were not included in the calculation of weight gain. 39.2% of women with a live birth in the last 2 years reported a known weight just before pregnancy and giving birth. Respondents with a known weight were included to calculate weight gain that is presented in Table NS.7, which shows both mean and median weight gain because results were not normally distributed.

The Institute of Medicine recommends that women with a normal weight gain between ~11 to 16 kilograms during pregnancy. In the FNSS, all groups have average weight gain below this recommendation, including women from the richest households who have mean reported weight gain of 8.1 kilograms. Mean reported weight gain during pregnancy is lowest among women from the poorest households (5.6), women with no education (5.4), and women for rural areas without roads (5.3).

Table NS.6: Mean and median weight gain during pregnancy

Mean and median weight gain (in kilograms) during pregnancy among women with a live birth in the last 2 years and known weight just before pregnancy and just before giving birth, FNSS 2015

		Mean weight gain	Median weight gain	Number of women
Type of Area				
	Urban	8.4	8.0	159
	Rural with road	6.3	5.0	498
	Rural without road	5.3	5.0	56
Province				
	Luangnamtha	9.3	8.0	66
	Oudomxay	6.9	6.0	227
	Saravane	5.9	5.0	252
	Sekong	6.1	5.0	79
	Attapeu	7.0	5.0	89
Education				
	None	5.4	5.0	130
	Primary	6.2	5.0	312
	Lower secondary	6.3	5.0	125

Table NS.6: Mean and median weight gain during pregnancy

Mean and median weight gain (in kilograms) during pregnancy among women with a live birth in the last 2 years and known weight just before pregnancy and just before giving birth, FNSS 2015

		Mean weight gain	Median weight gain	Number of women
	Upper secondary	8.2	8.0	68
	Post secondary, non-tertiary	9.6	9.0	30
	Higher	9.9	9.0	47
Wealth index quintile				
	Poorest	5.6	5.0	85
	Second	5.3	5.0	124
	Middle	6.0	5.0	133
	Fourth	6.9	5.0	163
	Richest	8.1	8.0	208
Language group of household head				
	Lao-Tai	7.5	7.0	332
	Mon-Khmer	5.9	5.0	327
	Hmong-Mien	.	.	6
	Chinese-Tibetan	5.9	5.0	45
Area				
	Non-MYCNSIA	6.9	6.0	460
	MYCNSIA	6.2	5.0	252
	Non-NPAN	6.9	6.0	550
	NPAN	5.8	5.0	162

IV. Infant and Young Child Feeding Practice

Proper feeding of infants and young children can increase their chances of survival; it can also promote optimal growth and development, especially in the critical window from birth to 2 years of age. Breastfeeding for the first few years of life protects children from infection, provides an ideal source of nutrients, and is economical and safe. However, many mothers don't start to breastfeed immediately after giving birth, do not breastfeed exclusively for the recommended 6 months or stop breastfeeding before the recommended 2 years. There are often pressures to switch to infant formula, which can contribute to morbidity, growth faltering, and infant mortality if hygienic conditions are not readily available. Consuming formula as an infant instead of breastfeeding is also linked to a higher risk of chronic disease later in life. Studies have shown that, in addition to continued breastfeeding, consumption of appropriate, adequate and safe solid, semi-solid and soft foods from the age of 6 months onwards leads to better health and growth outcomes, with potential to reduce stunting during the first two years of life.[5]

UNICEF and WHO recommend that infants be breastfed within one hour of birth, breastfed exclusively for the first six months of life and continue to be breastfed up to 2 years of age and beyond.[6] Starting at 6 months, breastfeeding should be combined with safe, age-appropriate feeding of solid, semi-solid and soft foods.[7] A summary of key guiding principles[8, 9] for feeding 6-23 month olds is provided in the table below along with proximate measures for these guidelines collected in this survey.

The guiding principles for which proximate measures and indicators exist are:

(i) continued breastfeeding;
(ii) appropriate frequency of meals (but not energy density); and
(iii) appropriate nutrient content of food.

Feeding frequency is used as proxy for energy intake, requiring children to receive a minimum number of meals/snacks (and milk feeds for non-breastfed children) for their age. Dietary diversity is used to ascertain the adequacy of the nutrient content of the food (not including iron) consumed. For dietary diversity, seven food groups were created for which a child consuming at least four of these is considered to have a better quality diet. In most populations, consumption of at least four food groups means that the child has a high likelihood of consuming at least one animal-source food and at least one fruit or vegetable, in addition to a staple food (grain, root or tuber).[10]

[5] Bhuta, Z. et al. 2013. *Evidence-based interventions for improvement of maternal and child nutrition: what can be done and at what cost?* The Lancet June 6, 2013.
[6] WHO. 2003. *Implementing the Global Strategy for Infant and Young Child Feeding*. Meeting Report Geneva, 3-5 February, 2003.
[7] WHO. 2003. *Global Strategy for Infant and Young Child Feeding*.
[8] PAHO. 2003. *Guiding principles for complementary feeding of the breastfed child*.
[9] WHO. 2005. *Guiding principles for feeding non-breastfed children 6-24 months of age*.
[10] WHO. 2008. ***Indicators for assessing infant and young child feeding practices.*** *Part 1: Definitions*.

These three dimensions of child feeding are combined into an assessment of the children who received appropriate feeding, using the indicator of "minimum acceptable diet". To have a minimum acceptable diet in the previous day, a child must have received:

(i) the appropriate number of meals/snacks/milk feeds;
(ii) food items form at least 4 food groups; and
(iii) breastmilk or at least 2 milk feeds (for non-breastfed children).

Guiding Principle (age 6-23 months)	Proximate measures	Table
Continue frequent, on-demand breastfeeding for two years and beyond	Breastfed in the last 24 hours	NU.4
Appropriate frequency and energy density of meals	**Breastfed children** Depending on age, two or three meals/snacks provided in the last 24 hours **Non-breastfed children** Four meals/snacks and/or milk feeds provided in the last 24 hours	NU.6
Appropriate nutrient content of food	Four food groups[11] eaten in the last 24 hours	NU.6
Appropriate amount of food	No standard indicator exists	na
Appropriate consistency of food	No standard indicator exists	na
Use of vitamin-mineral supplements or fortified products for infant and mother	No standard indicator exists	na
Practice good hygiene and proper food handling	While it was not possible to develop indicators to fully capture programme guidance, one standard indicator does cover part of the principle: Not feeding with a bottle with a nipple	NU.9
Practice responsive feeding, applying the principles of psycho-social care	No standard indicator exists	na

[11] Food groups used for assessment of this indicator are 1) Grains, roots and tubers, 2) legumes and nuts, 3) dairy products (milk, yogurt, cheese), 4) flesh foods (meat, fish, poultry and liver/organ meats), 5) eggs, 6) vitamin-A rich fruits and vegetables, and 7) other fruits and vegetables.

Breastfeeding

Table IYCF.1 (NU.3): Initial breastfeeding

Percentage of last live-born children in the last two years who were ever breastfed, breastfed within one hour of birth, and within one day of birth, and percentage who received a prelacteal feed, *FNSS, 2015*

	Percentage who were ever breastfed[1]	Percentage who were first breastfed:		Percentage who received a prelacteal feed	Number of last live-born children in the last two years
		Within one hour of birth[2]	Within one day of birth		
Province					
Luangnamtha	97.9	74.0	91.2	7.3	207
Oudomxay	97.4	62.1	84.9	12.9	387
Saravane	95.6	72.9	89.1	18.1	462
Sekong	96.0	50.8	85.4	5.8	172
Attapeu	97.2	48.9	84.9	24.6	213
Type of area					
Urban	93.4	59.4	85.9	18.0	185
Rural with road	97.2	64.8	87.2	15.2	1082
Rural without road	97.5	63.4	89.0	8.1	174
Months since last birth					
0-11 months	96.9	63.1	86.6	13.4	757
12-23 months	96.5	64.9	87.9	16.1	684
Assistance at delivery					
Skilled attendant	95.4	66.4	88.4	13.9	335
Traditional birth attendant	97.1	49.6	85.8	29.5	84
Relative / Friend / Other / None	97.4	64.6	88.0	12.4	696
Place of delivery					
Home	98.0	61.5	86.7	15.5	750
Public Health facility	95.8	67.3	88.5	12.9	662
Mother's education					
None	98.5	63.1	86.1	16.6	530
Primary	96.1	63.1	87.8	12.3	592
Lower Secondary	94.4	65.0	86.7	12.6	168
Upper Secondary	96.3	64.7	90.9	24.1	68
Post Secondary, non-tertiary	93.3	60.3	91.1	12.0	34
Higher	95.6	82.4	86.2	18.7	48
Wealth index quintile					
Poorest	98.0	66.3	89.1	18.0	345
Second	98.2	63.3	87.3	13.6	334
Middle	96.4	59.1	84.8	14.1	300

Table IYCF.1 (NU.3): Initial breastfeeding

Percentage of last live-born children in the last two years who were ever breastfed, breastfed within one hour of birth, and within one day of birth, and percentage who received a prelacteal feed, *FNSS, 2015*

	Percentage who were ever breastfed[1]	Percentage who were first breastfed:		Percentage who received a prelacteal feed	Number of last live-born children in the last two years
		Within one hour of birth[2]	Within one day of birth		
Fourth	96.7	68.5	89.3	11.5	217
Richest	93.3	63.6	85.5	14.9	245
Ethno-linguistic group of household head					
Lao-Tai	94.0	69.7	87.0	16.2	420
Mon-Khmer	97.5	61.8	87.2	14.8	850
Hmong-Mien	100.0	64.6	86.7	17.7	25
Chinese-Tibetan	99.2	60.6	87.5	9.5	145
Area					
Non-MYCNSIA	96.2	68.3	86.9	12.0	822
MYCNSIA	97.4	58.2	87.6	18.2	620
Non-NPAN	97.3	61.2	87.5	14.8	1077
NPAN	94.9	72.0	86.3	14.4	365

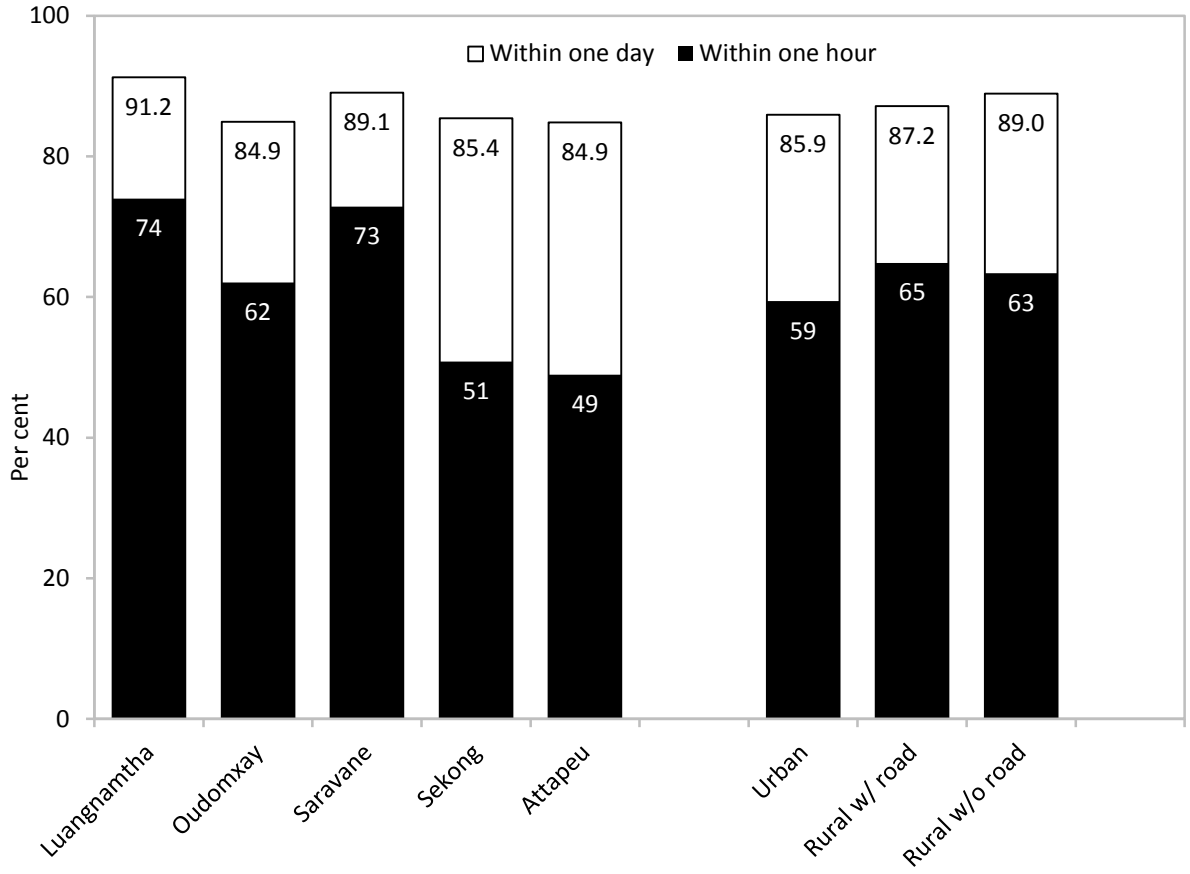
[1] MICS indicator 2.5 - Children ever breastfed

[2] MICS indicator 2.6 - Early initiation of breastfeeding

Table NU.3 is based on mothers' reports of what their last-born child, born in the last two years, was fed in the first few days of life. It indicates the proportion who were ever breastfed, those who were first breastfed within one hour and one day of birth, and those who received a prelacteal feed.[12] Initiating breastfeeding within one hour of giving birth is a very important step in management of lactation and establishment of a physical and emotional relationship between the baby and the mother. It appears that less women are seeking out traditional birth attendants for assistance at delivery, but those that do are the most likely to give their child a prelacteal feed (29.5%) and are the least likely to initiate breastfeeding within one hour (49.6%). There are also large differences in initiating breastfeeding within one hour by province; it is highest in Luangnamtha (74.0%) and lowest in Attapeu (48.9%). In both urban and rural areas the majority of babies are breastfed for the first time within one hour of birth, and more than 85% of newborns start breastfeeding within one day of birth. The findings are presented in Figure NU.2 by province and type of area.

[12] Prelacteal feed refers to the provision any liquid or food, other than breastmilk, to a newborn during the period when breastmilk flow is generally being established (estimated here as the first 3 days of life).

Figure IYCF.1: Initiation of breastfeeding, FNSS, 2015



The set of Infant and Young Child Feeding indicators reported in tables NU.4 through NU.8 are based on the mother's report of child consumption of food and fluids during the day or night prior to being interviewed. Data are subject to a number of limitations, some related to the respondent's ability to provide a full report on the child's liquid and food intake due to recall errors as well as lack of knowledge in cases where the child was fed by other individuals.

In Table IYCF.2, breastfeeding status is presented for both *Exclusively breastfed* and *Predominantly breastfed;* referring to infants age less than 6 months who are breastfed, distinguished by *the former* only allowing vitamins, mineral supplements, and medicine and *the latter* allowing also plain water and non-milk liquids. The table also shows continued breastfeeding of children at 12-15 and 20-23 months of age.

Table IYCF.2 (NU.4): Breastfeeding

Percentage of living children according to breastfeeding status at selected age groups, FNSS, 2015

	Children age 0-5 months			Children age 12-15 months		Children age 20-23 months	
	Percent exclusively breastfed[1]	Percent predominantly breastfed[2]	Number of children	Percent breastfed (Continued breastfeeding at 1 year)[3]	Number of children	Percent breastfed (Continued breastfeeding at 2 years)[4]	Number of children
Sex							
Male	54.5	66.4	202	74.8	120	38.4	142
Female	55.3	69.1	228	80.2	152	44.6	121
Province							
Luangnamtha	61.4	74.2	58	77.9	44	56.0	27
Oudomxay	72.2	77.8	125	93.0	75	45.0	69
Saravane	41.4	55.3	152	61.1	77	35.5	115
Sekong	54.9	70.8	53	77.8	34	43.6	26
Attapeu	45.3	70.7	55	80.3	45	41.3	34
Type of area							
Urban	43.7	60.9	42	54.1	30	23.6	36
Rural with road	55.0	68.2	347	79.5	208	39.5	208
Rural without road	62.1	71.2	53	87.1	36	80.2	27
Wealth index quintile							
Poorest	60.3	74.2	119	89.2	62	62.7	68
Second	56.4	65.4	82	87.9	68	48.0	47
Middle	61.3	79.3	89	77.4	63	44.9	57
Fourth	43.3	57.2	78	64.4	42	26.1	39
Richest	48.3	57.8	73	56.8	40	19.1	60
Ethno-linguistic group of household head							
Lao-Tai	40.0	53.1	129	60.4	78	15.5	101
Mon-Khmer	60.9	73.1	261	82.9	165	59.6	147
Hmong-Mien	.	.	12	.	6	.	0
Chinese-Tibetan	60.1	78.7	38	95.7	25	39.3	22
Area							
Non-MYCNSIA	58.6	68.8	266	77.6	156	36.4	162
MYCNSIA	49.0	66.5	177	77.8	118	49.0	109
Non-NPAN	52.6	66.4	325	76.6	204	34.2	224
NPAN	61.1	71.9	117	80.8	71	76.6	47

[1] MICS indicator 2.7 - Exclusive breastfeeding under 6 months

[2] MICS indicator 2.8 - Predominant breastfeeding under 6 months

Table IYCF.2 (NU.4): Breastfeeding

Percentage of living children according to breastfeeding status at selected age groups, FNSS, 2015

	Children age 0-5 months			Children age 12-15 months		Children age 20-23 months	
	Percent exclusively breastfed[1]	Percent predominantly breastfed[2]	Number of children	Percent breastfed (Continued breastfeeding at 1 year)[3]	Number of children	Percent breastfed (Continued breastfeeding at 2 years)[4]	Number of children

[3] MICS indicator 2.9 - Continued breastfeeding at 1 year

[4] MICS indicator 2.10 - Continued breastfeeding at 2 years

For both males and females, the majority of infants are exclusively breastfed. With just under 70 percent predominantly breastfed, it is evident that water-based liquids are not the only thing displacing feeding of breastmilk. In rural areas approximately 4 out of 5 children are still breastfeeding at age 12-15 months, compared to roughly 1 out of 2 in urban areas. By age 20-23 months, the majority of children are not breastfeeding in both urban and rural areas with roads, but in rural areas without roads the rate is 80.2%.

Figure IYCF.2 shows the detailed pattern of breastfeeding by the child's age in months. At the earliest ages, the majority of children are receiving only breast milk, but many children are either not receiving any breastmilk or are receiving complementary foods in addition to breastmilk. Approximately 10% of children are consuming plain water in addition to breastmilk at the earliest ages. At age 4-5 months old, the percentage of children exclusively breastfed is below 50 percent and more children are receiving complementary foods. At age 6-7 months old, more than 20 percent of children are not receiving complementary foods in addition to breastmilk. Less than 1/2 of children are receiving breast milk at age 2 years.

Figure IYCF.2: Infant feeding patterns by age, FNSS, 2015

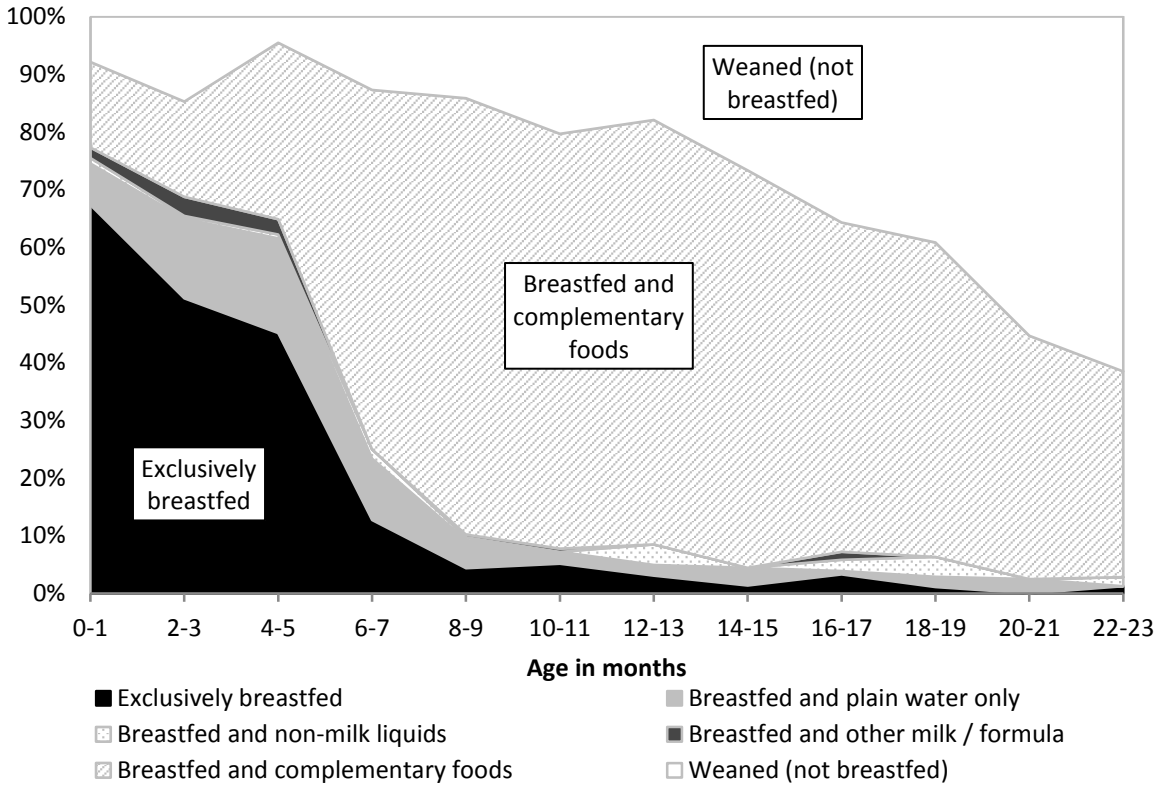


Figure IYCF.3 compares exclusive breastfeeding rates from the 2015 FNSS to rates from the 2011/12 LSIS. Exclusive breastfeeding is calculated among children 0-5 months of age. The narrow age group results in a small sample size and large confidence intervals. Across the five provinces there is not a common trend; some provinces show a decrease in exclusive breastfeeding while others show an increase. However, for all five provinces confidence intervals are overlapping and change may not be statistically significant.

Figure IYCF.3: Province level trends in exclusive breastfeeding, LSIS 2011/12 and FNSS, 2015

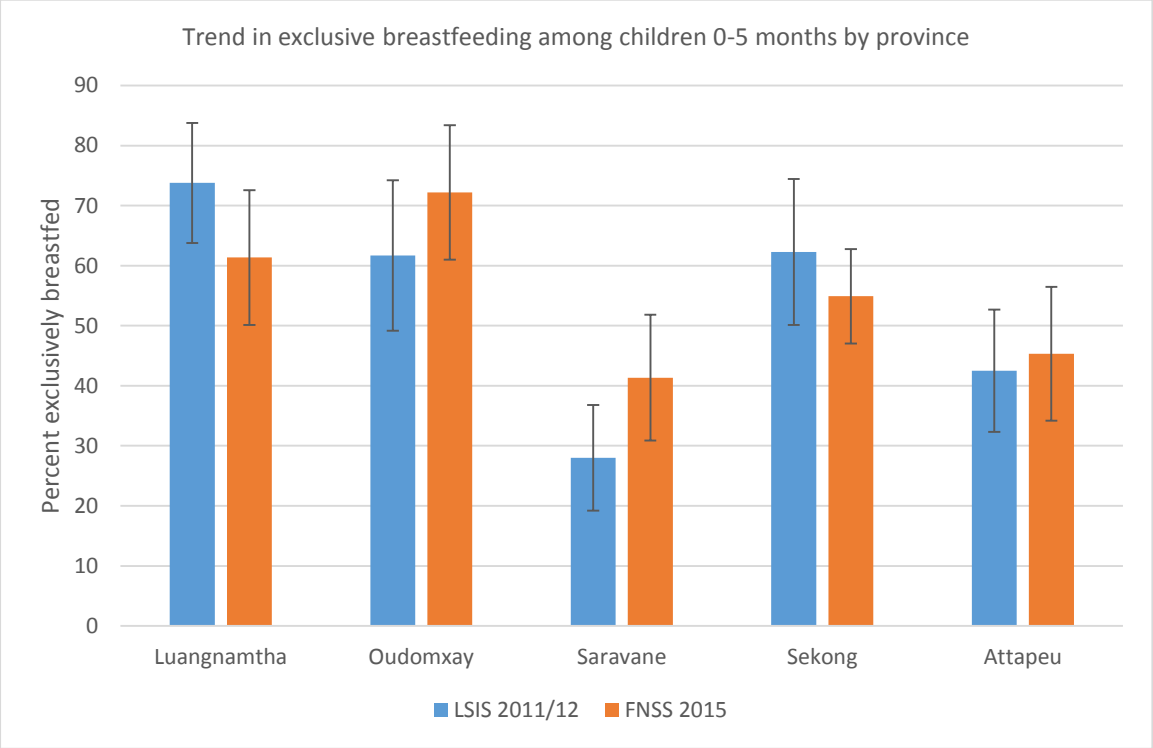


Table IYCF.3 shows the median duration of breastfeeding by selected background characteristics. Among children under age 3, the median duration is 20.2 months for any breastfeeding, 3.0 months for exclusive breastfeeding, and 4.6 months for predominant breastfeeding. The largest differences in breastfeeding duration are found among residence and education. The median duration for any breastfeeding is 14.3 months in urban areas and 4.8 months among women with higher education.

Table IYCF.3 (NU.5): Duration of breastfeeding

Median duration of any breastfeeding, exclusive breastfeeding, and predominant breastfeeding among children age 0-35 months, FNSS, 2015

	Median duration (in months) of:			Number of children age 0-35 months
	Any breastfeeding[1]	Exclusive breastfeeding	Predominant breastfeeding	
Median	20.2	3.0	4.6	2509
Sex				
Male	19.8	3.0	4.7	1211
Female	20.5	3.0	4.5	1255
Province				
Luangnamtha	17.1	3.5	5.0	371
Oudomxay	21.0	4.6	5.3	651
Saravane	19.1	.7	3.5	853
Sekong	20.4	3.0	4.8	287
Attapeu	20.6	1.9	4.2	347
Type of area				
Urban	14.3	1.5	3.4	312
Rural with road	20.2	3.1	4.8	1906
Rural without road	22.9	3.3	4.4	291
Mother's education				
None	22.3	3.2	5.0	880
Primary	19.3	2.9	4.8	920
Lower Secondary	18.4	3.3	4.0	291
Upper Secondary	13.1	4.4	4.7	96
Post Secondary, non-tertiary	15.2	4.6	4.6	44
Higher	4.8		5.3	67
Wealth index quintile				
Poorest	22.2	3.8	5.4	602
Second	21.1	3.0	4.0	555
Middle	20.0	4.2	5.8	488
Fourth	18.1	1.2	3.5	441
Richest	14.0	2.3	3.3	423
Ethno-linguistic group of household head				
Lao-Tai	15.0	.9	2.8	805
Mon-Khmer	21.8	3.6	5.2	1386

Hmong-Mien	21.9	4.1	4.3	44
Chinese-Tibetan	20.0	3.6	5.8	273
Area				
Non-MYCNSIA	18.4	3.4	4.7	1488
MYCNSIA	21.1	2.3	4.5	1021
Non-NPAN	18.9	2.8	4.4	1929
NPAN	22.5	3.6	5.0	580
Mean	17.5	3.7	5.2	2509

[1] MICS indicator 2.11 - Duration of breastfeeding

The age-appropriateness of breastfeeding of children under age 24 months is provided in Table IYCF.4. Different criteria of feeding are used depending on the age of the child. For infants age 0-5 months, exclusive breastfeeding is considered as age-appropriate feeding, while children age 6-23 months are considered to be appropriately fed if they are receiving breastmilk and solid, semi-solid or soft food. At 46.4%, Saravane has the lowest percent of age-appropriate breastfeeding among all children age 0-23 months. Oudomxay, has the highest percent of age-appropriate breastfeeding (63.7%). In previous surveys in the country, such as LSIS 2011/2, the consumption of solid, semi-solid, or soft foods was based on a single question and foods were not specified. For FNSS, following revised MICS standards, specific foods were specified. The rate of age appropriate breastfeeding is higher in FNSS when compared to LSIS, but methodological changes need to be taken into account when interpreting trends.

Table IYCF.4 (NU.6): Age-appropriate breastfeeding

Percentage of children age 0-23 months who were appropriately breastfed during the previous day, FNSS, 2015

	Children age 0-5 months		Children age 6-23 months		Children age 0-23 months	
	Percent exclusively breastfed[1]	Number of children	Percent currently breastfeeding and receiving solid, semi-solid or soft foods	Number of children	Percent appropriately breastfed[2]	Number of children
Sex						
Male	54.5	202	58.3	618	55.3	820
Female	55.3	228	62.5	616	57.3	843
Province						
Luangnamtha	61.4	58	64.1	173	60.6	231
Oudomxay	72.2	125	65.3	330	63.7	455
Saravane	41.4	152	51.9	422	46.4	574
Sekong	54.9	53	62.2	143	58.3	196
Attapeu	45.3	55	65.2	185	58.8	240
Type of area						
Urban	43.7	42	42.1	169	42.4	211
Rural with road	55.0	347	62.1	932	57.1	1280
Rural without road	62.1	53	68.9	152	64.2	205
Mother's education						
None	54.8	164	69.9	436	62.4	600
Primary	53.6	179	60.9	450	56.0	629
Lower Secondary	56.0	50	59.7	130	55.5	180
Upper Secondary	.	16	47.7	56	54.4	71
Post Secondary, non-tertiary	.	7	61.7	22	68.4	29
Higher	.	8	29.0	41	31.6	50
Wealth index quintile						
Poorest	60.3	119	71.3	288	63.9	407
Second	56.4	82	68.3	299	63.5	381
Middle	61.3	89	58.3	246	56.5	336
Fourth	43.3	78	54.4	199	48.8	277
Richest	48.3	73	42.3	221	42.3	295
Ethno-linguistic group of household head						
Lao-Tai	40.0	129	43.5	402	41.3	531
Mon-Khmer	60.9	261	70.1	697	64.2	958
Hmong-Mien	.	12	.	15	66.9	27

Chinese-Tibetan	60.1	38	56.6	140	55.0	178
Area						
Non-MYCNSIA	58.6	266	57.1	730	54.8	996
MYCNSIA	49.0	177	64.6	523	58.0	700
Non-NPAN	52.6	325	58.0	970	54.1	1295
NPAN	61.1	117	68.1	283	62.8	400

[1] MICS indicator 2.7 - Exclusive breastfeeding under 6 months

[2] MICS indicator 2.12 - Age-appropriate breastfeeding

Complementary Feeding and Bottle Feeding

At age 6-8 months few children are not breastfeeding. Table IYCF.5 reports the percent of infants age 6-8 months that receive solid, semi-solid, or soft foods at least once during the previous day. Figures for non-breastfed infants are not presented separately because of a small sample size. Among currently breastfeeding infants 81.1% received solid, semi-solid or soft foods; compared to 76.7% in rural areas with roads, and 69.3% in rural areas without roads.

Table IYCF.5 (NU.7): Introduction of solid, semi-solid, or soft foods

Percentage of infants age 6-8 months who received solid, semi-solid, or soft foods during the previous day, FNSS, 2015

	Currently breastfeeding		All	
	Percent receiving solid, semi-solid or soft foods	Number of children age 6-8 months	Percent receiving solid, semi-solid or soft foods[1]	Number of children age 6-8 months
Sex				
Male	73.9	86	74.3	100
Female	77.2	100	77.4	113
Type of area				
Urban	81.1	21	79.6	25
Rural with road	76.7	139	78.4	158
Rural without road	69.3	29	64.2	33
Province				
Luangnamtha	76.2	36	76.9	37
Oudomxay	72.4	50	73.3	52
Saravane	74.3	58	75.4	71
Sekong	80.5	22	76.9	26
Attapeu	83.9	23	82.5	29
Area				
Non-MYCNSIA	75.9	114	76.4	127
MYCNSIA	76.2	75	76.2	89
Non-NPAN	78.5	152	79.5	176
NPAN	65.9	37	62.4	40

[1] **MICS indicator 2.13 - Introduction of solid, semi-solid or soft foods**

In all five surveyed provinces more than two-third of breastfed children age 6-23 months were receiving solid, semi-solid and soft foods the minimum number of times. The proportion of breastfed children receiving the minimum dietary diversity, or foods from at least 4 food groups, was much lower than that for minimum meal frequency, indicating the need to focus on improving diet quality and nutrient intake among this vulnerable group. Minimum dietary diversity varied by wealth for

breastfed children, with 14.2% of children from the poorest households achieving minimum dietary diversity, compared to 46.9% in the richest households. The overall assessment using the indicator of minimum acceptable diet revealed that among all children, 39% in urban areas and 12.9% in rural areas were benefitting from a diet sufficient in both diversity and frequency.

Table IYCF.6 (NU.8): Infant and young child feeding (IYCF) practices

Percentage of children age 6-23 months who received appropriate liquids and solid, semi-solid, or soft foods the minimum number of times or more during the previous day, by breastfeeding status, *FNSS, 2015*

	Currently breastfeeding				Currently not breastfeeding					All			
	Percent of children who received:			Number of children age 6-23 months	Percent of children who received:				Number of children age 6-23 months	Percent of children who received:			Number of children age 6-23 months
	Minimum dietary diversity[a]	Minimum meal frequency[b]	Minimum acceptable diet[1, c]		Minimum dietary diversity[a]	Minimum meal frequency[b]	Minimum acceptable diet[2, c]	At least 2 milk feeds[3]		Minimum dietary diversity[4, a]	Minimum meal frequency[5, b]	Minimum acceptable diet[c]	
Sex													
Male	18.1	80.9	14.5	410	46.1	41.1	14.4	39.8	208	27.2	66.4	14.5	618
Female	22.1	78.4	18.7	441	50.3	42.0	15.8	39.4	175	29.9	67.0	17.9	616
Age													
6-8 months	10.5	88.0	9.4	189	4.6	49.3	4.5	47.5	27	9.8	82.0	8.8	216
9-11 months	22.2	75.9	18.0	170	52.9	60.4	22.9	59.7	39	27.8	72.7	18.9	209
12-17 months	23.4	77.5	19.8	293	50.3	50.3	18.0	42.9	106	30.4	69.7	19.3	399
18-23 months	23.2	78.4	18.3	209	52.6	34.2	14.8	34.4	221	37.9	55.0	16.5	429
Province													
Luangnamtha	33.5	78.9	27.5	125	68.9	51.2	35.6	60.1	48	43.4	70.5	29.7	173
Oudomxay	25.0	94.4	22.3	257	53.7	33.3	14.3	23.8	73	31.2	79.0	20.5	330
Saravane	9.4	69.5	6.8	249	42.5	40.3	10.8	42.6	173	22.8	56.6	8.5	422
Sekong	20.3	76.2	16.1	100	44.9	47.3	11.0	35.2	43	27.0	66.8	14.6	143
Attapeu	19.1	73.5	15.2	130	45.7	48.0	20.0	40.0	55	26.6	65.6	16.6	185
Type of area													
Urban	50.6	76.3	36.3	78	82.9	69.6	42.3	71.1	91	67.8	72.5	39.5	169
Rural with road	17.5	78.5	14.9	655	40.5	35.4	8.1	32.8	278	24.1	64.6	12.9	932

Table IYCF.6 (NU.8): Infant and young child feeding (IYCF) practices

Percentage of children age 6-23 months who received appropriate liquids and solid, semi-solid, or soft foods the minimum number of times or more during the previous day, by breastfeeding status, *FNSS, 2015*

	Currently breastfeeding				Currently not breastfeeding					All			
	Percent of children who received:			Number of children age 6-23 months	Percent of children who received:				Number of children age 6-23 months	Percent of children who received:			Number of children age 6-23 months
	Minimum dietary diversity[a]	Minimum meal frequency[b]	Minimum acceptable diet[1, c]		Minimum dietary diversity[a]	Minimum meal frequency[b]	Minimum acceptable diet[2, c]	At least 2 milk feeds[3]		Minimum dietary diversity[4, a]	Minimum meal frequency[5, b]	Minimum acceptable diet[c]	
Rural without road	16.2	86.6	14.4	128	10.2	17.6	4.5	7.4	24	15.3	73.8	12.9	152
Mother's education													
None	16.9	77.8	14.0	357	42.6	30.8	3.5	20.3	79	21.3	68.2	12.1	436
Primary	14.9	79.9	11.9	314	36.2	30.7	12.9	23.2	136	21.1	63.6	12.2	450
Lower Secondary	28.9	81.3	25.9	86	71.3	50.8	13.1	56.6	44	43.0	70.2	21.5	130
Upper Secondary	53.1	93.7	51.5	28	74.1	66.7	36.6	82.5	27	63.2	80.0	44.2	56
Post Secondary, NT	.	.	.	14	.	.	.	.	9	61.7	72.9	41.9	22
Higher	.	.	.	13	90.5	74.8	54.3	80.8	28	71.8	77.7	42.6	41
Wealth index quintile													
Poorest	14.2	79.8	12.6	237	17.3	12.7	2.8	6.3	51	14.7	66.9	10.8	288
Second	15.0	82.0	11.1	243	24.9	27.7	1.3	12.2	56	16.8	70.3	9.3	299
Middle	19.4	78.2	16.7	164	47.4	42.4	5.1	36.2	82	28.6	65.2	12.8	246
Fourth	22.8	77.5	19.5	120	42.9	35.5	9.4	38.7	79	30.6	59.6	15.5	199
Richest	46.9	77.1	38.2	97	75.4	64.8	38.7	69.8	125	62.8	70.0	38.5	221
Ethno-linguistic group of household head													
Lao-Tai	27.6	73.5	23.5	190	56.2	55.5	22.8	57.9	212	42.5	63.5	23.1	402
Mon-Khmer	17.4	81.2	13.9	555	31.7	26.7	6.6	16.8	142	20.1	69.0	12.4	697

Table IYCF.6 (NU.8): Infant and young child feeding (IYCF) practices

Percentage of children age 6-23 months who received appropriate liquids and solid, semi-solid, or soft foods the minimum number of times or more during the previous day, by breastfeeding status, *FNSS, 2015*

	Currently breastfeeding				Currently not breastfeeding					All			
	Percent of children who received:			Number of children age 6-23 months	Percent of children who received:				Number of children age 6-23 months	Percent of children who received:			Number of children age 6-23 months
	Minimum dietary diversity[a]	Minimum meal frequency[b]	Minimum acceptable diet[1, c]		Minimum dietary diversity[a]	Minimum meal frequency[b]	Minimum acceptable diet[2, c]	At least 2 milk feeds[3]		Minimum dietary diversity[4, a]	Minimum meal frequency[5, b]	Minimum acceptable diet[c]	
Hmong-Mien	.	.	.	13	.	.	.	.	2	.	.	.	15
Chinese-Tibetan	19.8	82.4	18.8	104	64.7	27.7	12.0	27.0	36	31.4	65.1	17.0	140
Area													
Non-MYCNSIA	23.0	84.2	20.0	483	52.2	41.2	17.3	43.2	247	32.8	68.2	19.1	730
MYCNSIA	16.8	73.6	12.6	378	42.2	43.8	13.3	34.8	145	23.4	64.8	12.8	523
Non-NPAN	18.7	76.9	15.3	635	48.5	43.7	15.1	40.5	335	28.7	64.4	15.2	970
NPAN	24.7	86.6	21.0	226	49.8	33.7	20.0	38.1	57	29.7	74.8	20.8	283

[1] MICS indicator 2.17a - Minimum acceptable diet (breastfed)

[2] MICS indicator 2.17b - Minimum acceptable diet (non-breastfed)

[3] MICS indicator 2.14 - Milk feeding frequency for non-breastfed children

[4] MICS indicator 2.16 - Minimum dietary diversity

[5] MICS indicator 2.15 - Minimum meal frequency

[a] Minimum dietary diversity is defined as receiving foods from at least 4 of 7 food groups: 1) Grains, roots and tubers, 2) legumes and nuts, 3) dairy products (milk, yogurt, cheese), 4) flesh foods (meat, fish, poultry and liver/organ meats), 5) eggs, 6) vitamin-A rich fruits and vegetables, and 7) other fruits and vegetables.

[b] Minimum meal frequency among currently breastfeeding children is defined as children who also received solid, semi-solid, or soft foods 2 times or more daily for children age 6-8 months and 3 times or more daily for children age 9-23 months. For non-breastfeeding children age 6-23 months it is defined as receiving solid, semi-solid or soft foods, or milk feeds, at least 4 times. Don't know responses (10.3%) are treated as 0 times.

[c] The minimum acceptable diet for breastfed children age 6-23 months is defined as receiving the minimum dietary diversity and the minimum meal frequency, while it for non-breastfed children further requires at least 2 milk feedings and that the minimum dietary diversity is achieved without counting milk feeds.

The practice of bottle-feeding is a concern because of the possible contamination due to unsafe water and lack of hygiene in preparation. Without boiling, the nipple of plastic bottles is of particular concern because it can be a source of pathogens transferred to the infant. Table IYCF.7 shows that bottle-feeding is higher than 10% across all five surveyed provinces. Bottle-feeding increases with age, going from 9.9% among 0-5 month old infants to 20.5% among 12-23 month old infants. The largest differences in bottle feeding are seen by wealth categories. Only 3.5% of infant from the poorest households are bottle-fed, compared to 41.7% from the richest households.

Table IYCF.7 (NU.9): Bottle feeding

Percentage of children age 0-23 months who were fed with a bottle with a nipple during the previous day, FNSS, 2015

	Percentage of children age 0-23 months fed with a bottle with a nipple[1]	Number of children age 0-23 months
Sex		
Male	18.9	820
Female	15.2	843
Age		
0-5 months	9.8	442
6-11 months	18.8	425
12-23 months	20.7	828
Province		
Luangnamtha	15.3	231
Oudomxay	13.0	455
Saravane	20.2	574
Sekong	16.1	196
Attapeu	22.0	240
Type of area		
Urban	45.6	211
Rural with road	14.5	1280
Rural without road	6.3	205
Mother's education		
None	7.7	600
Primary	14.1	629
Lower Secondary	23.9	180
Upper Secondary	40.1	71
Post Secondary, non-tertiary	23.9	29
Higher	62.6	50
Wealth index quintile		
Poorest	3.5	407
Second	11.2	381
Middle	14.4	336
Fourth	23.9	277
Richest	41.7	295
Ethno-linguistic group of household head		

Lao-Tai	35.1	531
Mon-Khmer	9.1	958
Hmong-Mien	18.6	27
Chinese-Tibetan	8.7	178
Area		
Non-MYCNSIA	18.3	996
MYCNSIA	16.0	700
Non-NPAN	18.9	1295
NPAN	12.4	400

[1] MICS indicator 2.18 - Bottle feeding

Food Groups, Food Preparation and Support for Infants

Table IYCF.8 shows the food groups and selected foods and liquids consumed by children in the 24 hours preceding the survey. Detailed description of the food groups is available in Table IYCF.6. Among the food groups, legumes and nuts are the least common, with only 5.9% of children 6-23 months consuming legumes and nuts. There is a large difference by age in the percent consumption of animal-source foods, both flesh foods and eggs. 28.8% of children 6-8 months receive flesh foods, compared to 50.5% at 9-11 months and 61.0% at 18-23 months. The differences by age indicate that many caretakers have a variety of foods available, but choose to not introduce these foods to 6-8 month old children.

The specific foods and liquids shows that 5.3% of infants 0-5 months receive infant formula instead of breastmilk, with an additional 4.4% consuming condensed milk. The consumption of both infant formula and condensed milk increases with age. Livestock is not the only important source of protein in the diet; 11.7% of children eat wild animals and 3.1% eat insects or grubs. Oil, pork fat and butter are not included in any of the food groups. These items are important for adding calorie-dense fat to the child's diet. From 6-11 months less than 5% of children consume oil, pork fat or butter, and by 18-23 months the percent only increases to 16.2. Nearly one-third of children 6-23 months eat sugary foods.

Table IYCF.8: Food groups and selected foods and liquids consumed by children in the day or night preceding the interview

	Percent of children 0-23 months consuming food group							Percent of children 0-23 months consuming specific food item							
	Grains, roots, or tubers	Legumes or nuts	Dairy products	Flesh foods	Eggs	Vitamin-A fruits or vegetables	Other fruits or vegetables	Infant formula	Condensed milk or coffee creamer	Wild animals	Insects or grubs	Oil, pork fat, or butter	Sugary foods	Fortified baby cereal	Number of Children
Age															
0-2 months	17.5	0.0	7.4	1.5	.5	1.0	.8	3.7	3.7	0.0	0.0	0.0	.2	6.5	224
3-5 months	25.6	0.0	10.9	4.5	.6	3.6	0.0	7.0	5.1	0.0	0.0	0.0	1.0	5.8	218
6-8 months	71.8	1.8	18.3	28.8	16.6	19.8	6.6	12.2	9.3	6.7	1.2	3.0	10.7	13.6	216
9-11 months	85.9	4.5	22.4	50.5	24.3	35.6	15.6	14.6	5.3	10.4	1.3	4.4	23.9	11.3	209
12-17 months	81.6	5.5	21.2	56.8	33.7	47.8	24.6	11.2	8.7	13.5	3.0	15.3	36.0	10.6	399
18-23 months	82.6	9.0	27.2	61.0	36.6	53.6	24.6	9.8	13.2	13.2	5.0	16.2	36.2	11.0	429
0-5 months	21.5	0.0	9.1	3.0	.5	2.3	.4	5.3	4.4	0.0	0.0	0.0	.6	6.1	442
6-23 months	81.0	5.9	23.0	52.4	30.2	42.9	20.0	11.4	9.8	11.7	3.1	11.7	29.7	11.3	1253
Area															
Non-MYCNSIA	80.3	7.4	25.3	52.5	32.3	47.4	22.6	13.1	10.3	13.8	3.0	13.8	31.9	11.9	730
MYCNSIA	81.9	3.9	19.7	52.2	27.1	36.7	16.4	9.2	9.1	8.8	3.2	8.8	26.7	10.5	523
Non-NPAN	81.9	5.8	24.6	54.1	31.0	40.7	18.9	12.2	11.6	10.7	2.7	11.3	29.6	11.7	970
NPAN	77.7	6.4	17.2	46.4	27.1	50.6	23.8	8.9	3.8	15.3	4.4	13.0	29.9	10.0	283

Tables IYCF.9 and IYCF.10 present data on food preparation and feeding of children 0-23 months of age who received solid, semi-solid or soft foods in the 24 hours preceding the survey. In all five provinces more than 80% of children are fed by their mother (IYCF.10) with food that is prepared by the mother (IYCF.9). 9 out of 10 children age 6-23 months receive food from a caretaker that has washed his or her hands before preparing the food (IYCF.9), and before feeding the child (IYCF.10). The majority of children age 6-23 months use their hands to eat and 77.5% have their hands washed before eating. Prechewing of infant food remains a common practice. More than 40% of Lao-Tai and Mon-Khmer children have received food that is first softened from chewing by the caretaker.

Table IYCF.9: Infant and young child food preparation

Food preparation for children 0-23 months who received solid, semi-solid or soft foods in the 24 hours preceding the interview

	% of children received food prepared by				% children who received food prechewed by caretaker	% children whose caretakers washed hands before cooking	% children washed hands before eating	% children receiving food in separate bowl	% children using hands to eat	% children eating without feeding help from caretaker	Number of children age 0-23 months
	Mother	Father	Grandparent	Other							
Age											
0-2 months	73.6	0.0	5.5	20.9	49.0	74.8	52.2	78.0	29.5	2.5	48
3-5 months	91.1	2.7	6.2	0.0	65.2	87.8	50.7	56.6	44.4	3.0	64
6-8 months	84.4	.7	10.4	4.5	60.7	84.8	66.8	60.4	57.2	6.7	166
9-11 months	85.2	3.6	8.2	3.0	51.0	92.4	76.9	41.7	67.6	7.6	191
12-17 months	85.0	2.9	10.4	1.7	37.9	93.3	77.7	33.2	71.1	23.0	371
18-23 months	84.2	7.0	6.9	1.9	30.2	92.4	82.0	31.6	68.0	39.7	398
0-5 months	83.6	1.6	5.9	8.9	58.3	82.2	51.3	65.7	38.0	2.8	111
6-23 months	84.7	4.2	8.8	2.4	40.8	91.6	77.5	38.1	67.3	23.9	1125
Sex											
Male	84.5	3.9	9.8	1.8	44.0	92.9	76.6	40.8	63.9	22.5	601
Female	85.0	4.0	7.4	3.6	41.2	88.5	72.9	40.3	65.5	21.8	614
Province											
Luangnamtha	84.5	4.5	7.8	3.2	32.3	92.5	82.2	59.5	46.4	16.1	167
Oudomxay	85.9	6.8	6.8	.6	40.1	87.0	74.0	21.5	83.1	28.8	307
Saravane	81.7	2.5	11.8	4.0	45.7	90.8	69.1	43.4	68.8	19.0	448
Sekong	84.4	3.6	5.7	6.4	42.6	90.4	73.7	46.1	63.4	28.0	133

Table IYCF.9: Infant and young child food preparation

Food preparation for children 0-23 months who received solid, semi-solid or soft foods in the 24 hours preceding the interview

	% of children received food prepared by				% children who received food prechewed by caretaker	% children whose caretakers washed hands before cooking	% children washed hands before eating	% children receiving food in separate bowl	% children using hands to eat	% children eating without feeding help from caretaker	Number of children age 0-23 months
	Mother	Father	Grandparent	Other							
Attapeu	89.6	2.4	6.0	2.0	47.0	95.6	86.3	44.6	41.4	18.9	182
Type of area											
Urban	83.4	4.7	10.5	1.4	34.6	96.0	79.5	53.7	49.7	19.5	166
Rural with road	84.3	3.7	8.6	3.3	44.4	90.9	73.5	40.6	66.0	20.9	934
Rural without road	87.5	4.3	5.1	3.0	38.0	83.5	80.7	24.6	74.1	32.3	137
Wealth index quintile											
Poorest	90.1	3.0	4.4	2.5	38.1	87.3	68.4	22.8	76.3	31.0	287
Second	88.9	4.0	3.6	3.6	46.2	90.9	75.6	35.6	72.8	21.8	280
Middle	82.3	4.2	10.6	3.0	42.2	92.9	76.4	36.1	67.5	23.6	236
Fourth	77.0	5.9	14.4	2.7	49.9	90.5	75.5	52.0	54.1	15.5	209
Richest	81.6	3.0	12.3	3.1	36.0	92.8	81.5	63.7	46.8	15.0	224
Ethno-linguistic group of household head											
Lao-Tai	80.2	3.1	13.8	3.0	47.3	90.8	71.9	55.6	55.2	12.5	423
Mon-Khmer	87.3	4.2	5.4	3.1	42.9	90.9	76.4	28.9	74.1	27.8	682
Hmong-Mien	.	.	.	.	.	.	.	.	.	.	16
Chinese-Tibetan	83.5	6.1	8.5	1.9	22.8	90.3	80.9	54.7	47.7	22.0	117

Table IYCF.10: Feeding support for infant and young child feeding

Feeding of children 0-23 months who received solid, semi-solid or soft foods in the 24 hours preceding the interview and who did eat without assistance

	% of children fed by				% children whose caretaker washed hands before feeding	Number of children age 0-23 months
	Mother	Father	Grandparent	Other		
Age						
0-2 months	89.0	0.0	5.6	5.3	84.5	47
3-5 months	90.0	0.0	6.4	3.6	87.4	62
6-8 months	87.0	1.1	10.0	2.0	89.7	155
9-11 months	88.1	3.5	6.1	2.2	92.7	176
12-17 months	82.3	4.4	11.3	2.0	93.2	285
18-23 months	82.6	4.5	9.7	3.2	90.5	240
0-5 months	89.6	0.0	6.1	4.3	86.2	108
6-23 months	84.4	3.6	9.6	2.4	91.7	856
Sex						
Male	83.0	3.7	10.8	2.5	91.4	466
Female	87.3	2.8	7.7	2.2	90.5	480
Province						
Luangnamtha	89.2	3.9	6.2	.8	94.1	140
Oudomxay	85.7	3.2	9.5	1.6	90.5	219
Saravane	81.0	2.9	12.5	3.6	89.6	363
Sekong	86.2	3.5	6.4	3.9	88.2	96
Attapeu	89.1	3.5	5.0	2.5	94.6	148
Type of area						
Urban	88.9	2.2	5.3	3.7	92.8	134
Rural with road	83.3	3.7	10.5	2.5	90.5	738
Rural without road	92.7	1.3	4.4	1.6	92.8	93
Wealth index quintile						
Poorest	89.8	1.9	5.8	2.6	88.8	198
Second	91.9	1.8	4.0	2.2	90.1	219
Middle	78.9	3.4	13.6	4.1	92.6	181
Fourth	78.0	5.6	16.0	.4	91.5	176

Richest	84.3	3.9	8.0	3.8	92.7	191
Ethno-linguistic group of household head						
Lao-Tai	81.8	2.7	12.5	3.0	90.9	370
Mon-Khmer	87.8	2.7	6.8	2.6	91.2	492
Hmong-Mien	90.9	9.1	0.0	0.0	90.9	12
Chinese-Tibetan	81.7	7.4	9.8	1.2	91.4	91

V. Infant and Young Child Feeding Communication, Knowledge and Attitudes

Access to Mass Media

The FNSS collected information on exposure to mass media. Information was collected on exposure to newspapers/magazines, radio and television among women and men age 15-49 years. The proportion of women who read a newspaper or magazine, listen to the radio and watch television at least once a week is shown in table MT.1.

In urban areas 1 out of 5 women reads a newspaper or magazine on a weekly basis, compared to less than 5% in rural areas. Television is by far the most popular medium. More than 4 out of 5 women in urban areas and 2 out of 3 women in rural areas with roads watches television on a weekly basis. In rural areas without roads 54.9% of women watch television. Radio is the second most popular medium, but less than 1/3 of women report listening to the radio on a weekly basis in urban and rural areas. Nearly 2/3 of women from the poorest households do not access any type of media at least once a week, compared to 4.8% of women from the richest households.

Table KA.1 (MT.1): Exposure to mass media (women)

Percentage of women age 15-49 years who are exposed to specific mass media on a weekly basis, *FNSS, 2015*

	Percentage of women age 15-49 years who:						
	Read a newspaper at least once a week	Listen to the radio at least once a week	Watch television at least once a week	All three media at least once a week[1]	Any media at least once a week	None of the media at least once a week	Number of women age 15-49 years
Age							
15-19	11.8	25.1	75.6	5.3	78.9	20.6	1639
20-29	7.5	23.3	69.8	3.8	73.8	25.8	2737
30-39	4.5	16.8	68.2	2.2	71.4	28.2	2115
40-49	4.3	17.6	66.6	1.5	71.6	28.2	1494
Province							
Luangnamtha	7.6	13.1	80.9	3.2	81.9	17.6	1277
Oudomxay	8.2	20.9	69.6	3.9	73.2	26.7	2328
Saravane	3.7	22.5	63.2	1.6	68.7	30.8	2505
Sekong	7.8	18.9	68.8	4.0	72.3	27.3	806
Attapeu	10.9	27.9	74.2	5.1	78.5	21.1	1070
Type of Area							
Urban	20.0	26.9	91.9	9.6	93.3	6.3	1396

Table KA.1 (MT.1): Exposure to mass media (women)

Percentage of women age 15-49 years who are exposed to specific mass media on a weekly basis, *FNSS, 2015*

	Percentage of women age 15-49 years who:						
	Read a newspaper at least once a week	Listen to the radio at least once a week	Watch television at least once a week	All three media at least once a week[1]	Any media at least once a week	None of the media at least once a week	Number of women age 15-49 years
Rural with road	4.4	19.6	66.6	1.8	71.0	28.6	5869
Rural without road	3.5	19.4	54.9	2.6	59.2	40.7	721
Education							
None	.1	10.5	49.6	.0	53.5	46.3	2582
Primary	2.3	21.8	72.5	1.2	77.1	22.7	2915
Lower secondary	10.2	27.2	82.9	4.8	86.7	12.3	1290
Upper secondary	21.9	31.9	92.9	10.2	94.4	5.1	751
Post secondary non tertiary	36.9	34.7	89.8	13.9	94.8	3.9	174
Higher	47.4	40.3	97.4	22.7	99.1	.8	275
Wealth index quintile							
Poorest	1.4	13.1	26.4	.6	33.4	66.1	1399
Second	2.7	16.1	56.0	1.1	61.3	38.5	1495
Middle	3.3	18.7	76.6	1.5	79.9	19.8	1530
Fourth	7.3	24.0	86.8	3.7	89.3	10.2	1662
Richest	17.3	29.5	92.9	7.8	94.9	4.8	1900
Language group of household head							
Lao-Tai	11.1	25.5	84.3	5.0	88.2	11.4	2788
Mon-Khmer	5.1	19.8	61.9	2.5	65.8	33.8	4385
Hmong-Mien	0.0	12.1	67.6	0.0	69.4	30.6	91
Chinese-Tibetan	3.3	11.2	63.6	1.6	66.9	32.6	709

[1] **MICS indicator 10.1 - Exposure to mass media**

Exposure to Communication on Infant and Young Child Feeding

The FNSS collected information from women age 15-49 years on exposure to mass media messages and interpersonal communication on breastfeeding, complementary feeding, handwashing, and multiple micronutrient powder. Results for handwashing are presented in the chapter on water and sanitation, and multiple micronutrient powder results are presented in the chapter on fortification and child micronutrient supplementation. Breastfeeding and complementary feeding results are presented in Tables KA.2, KA.3, and KA.4.

Table KA.2 shows that 2/3 of women in urban areas, 39.4% of women in rural areas with roads, and 34.8% of women in rural areas without roads were exposed to messages on breastfeeding through mass media. Of the women who received mass media messages on breastfeeding, close to 2/3 reported getting breastfeeding messages from mass media within the last year in urban and rural areas. Television was the most common source of mass media breastfeeding messages, and the Lao Star Channel was most commonly reported as the channel where messages were seen.

Table KA.2: Exposure to breastfeeding mass media

Percentage of women age 15-49 years who are exposed to mass media on breastfeeding, the type of media, and the television channel, *FNSS, 2015*

				Among women exposed to breastfeeding message in media, percentage exposed through:								Among women exposed to TV message on breastfeeding, percentage exposed through channel:				
	Exposed to breastfeeding message in media	Number of women	In the past year	Radio	TV	Internet	Newspaper or magazine	Poster, billboard or sign	Pamphlet or brochure	Village voice announcement	Number of Women	Lao Star	Lao National TV	Both Lao Star and Lao National TV	Other channel	Number of women
Age																
15-19	40.3	1639	74.8	35.4	66.0	9.0	17.3	19.6	20.0	16.9	661	40.8	28.3	28.0	3.0	436
20-29	47.5	2737	70.0	36.9	62.5	8.2	15.9	20.0	18.9	15.1	1301	43.8	22.4	28.5	5.4	814
30-39	45.4	2115	60.2	28.9	67.5	5.9	11.7	18.4	17.8	17.5	960	41.4	25.3	29.3	4.0	649
40-49	38.2	1494	51.2	36.9	69.3	6.1	13.6	13.8	17.6	18.4	570	42.0	30.8	23.5	3.7	395
Province																
Luangnamtha	43.9	1277	61.1	21.1	75.0	4.9	16.9	18.2	11.0	7.6	561	35.6	9.6	45.5	9.3	421
Oudomxay	48.2	2328	71.8	39.8	77.6	14.6	24.1	24.5	23.3	21.8	1122	39.3	20.9	36.6	3.3	870
Saravane	35.5	2505	63.8	37.5	53.2	2.4	4.8	7.3	12.8	14.2	888	48.8	37.3	10.4	3.5	473
Sekong	41.4	806	63.0	21.8	53.7	4.5	12.3	19.6	14.0	11.2	334	51.1	35.3	8.9	4.6	179
Attapeu	54.9	1070	59.7	39.3	59.	5.1	10.9	30.3	28.3	22.3	587	44.	36.8	17.6	1.5	351

Table KA.2: Exposure to breastfeeding mass media

Percentage of women age 15-49 years who are exposed to mass media on breastfeeding, the type of media, and the television channel, *FNSS, 2015*

				Among women exposed to breastfeeding message in media, percentage exposed through:								Among women exposed to TV message on breastfeeding, percentage exposed through channel:				
	Exposed to breastfeeding message in media	Number of women	In the past year	Radio	TV	Internet	Newspaper or magazine	Poster, billboard or sign	Pamphlet or brochure	Village voice announcement	Number of Women	Lao Star	Lao National TV	Both Lao Star and Lao National TV	Other channel	Number of women
					7							1				
Type of Area																
Urban	66.7	1396	62.2	30.7	76.6	10.9	25.3	34.3	25.3	16.3	931	42.2	23.4	30.7	3.7	713
Rural with road	39.4	5869	66.3	34.9	61.8	5.4	10.0	14.5	15.8	16.1	2310	42.2	27.5	25.9	4.5	1427
Rural without road	34.8	721	66.2	43.8	61.0	12.4	18.0	19.4	19.8	23.3	251	43.0	21.1	31.5	4.5	153
Education																
None	25.3	2582	61.6	27.6	59.5	2.4	3.1	6.8	9.8	15.8	652	37.8	31.4	21.7	9.1	388
Primary	44.0	2915	61.6	35.7	62.6	4.8	7.4	16.9	14.3	16.0	1281	43.7	26.4	26.0	3.8	802
Lower secondary	53.2	1290	68.6	35.0	67.5	6.3	17.6	25.7	21.4	15.6	686	43.4	23.9	30.1	2.6	463
Upper secondary	67.1	751	70.7	33.8	71.4	14.0	23.1	33.4	25.8	18.7	504	44.7	23.1	29.7	2.6	360
Post secondary non tertiary	86.3	174	70.8	37.2	74.3	13.7	40.7	48.4	31.2	16.8	150	39.2	18.4	40.9	1.5	111

Table KA.2: Exposure to breastfeeding mass media

Percentage of women age 15-49 years who are exposed to mass media on breastfeeding, the type of media, and the television channel, *FNSS, 2015*

				Among women exposed to breastfeeding message in media, percentage exposed through:								Among women exposed to TV message on breastfeeding, percentage exposed through channel:				
	Exposed to breastfeeding message in media	Number of women	In the past year	Radio	TV	Internet	Newspaper or magazine	Poster, billboard or sign	Pamphlet or brochure	Village voice announcement	Number of Women	Lao Star	Lao National TV	Both Lao Star and Lao National TV	Other channel	Number of women
Higher	80.0	275	69.8	45.1	76.6	20.9	45.2	48.0	36.3	21.9	220	38.5	25.6	31.1	4.7	169
Wealth index quintile																
Poorest	25.3	1399	71.0	34.1	38.6	2.8	4.3	9.3	13.6	14.1	354	45.7	24.6	21.9	7.9	137
Second	32.4	1495	69.3	35.5	58.4	4.0	9.2	12.0	13.6	16.4	484	36.5	30.6	27.3	5.6	282
Middle	40.8	1530	63.9	33.1	64.1	2.6	7.4	13.7	14.5	12.1	624	37.8	29.3	29.1	3.8	400
Fourth	48.5	1662	63.9	35.6	68.9	6.7	13.4	20.7	17.0	17.5	807	44.3	26.1	24.6	5.0	556
Richest	64.4	1900	63.3	33.9	75.1	12.9	24.4	31.8	25.2	19.3	1223	44.1	22.7	30.1	3.0	918
Language group of household head																
Lao-Tai	52.0	2788	61.6	33.1	69.3	9.2	17.5	22.3	21.3	19.0	1448	46.0	24.5	26.0	3.5	1004
Mon-Khmer	42.2	4385	68.5	36.1	62.2	5.6	12.4	17.4	16.8	15.0	1851	39.8	28.0	29.7	2.5	1151
Hmong-Mien	38.9	91	47.7	31.0	76.	10.8	7.7	15.0	12.4	12.4	36	36.	6.1	18.0	39.8	27

Table KA.2: Exposure to breastfeeding mass media

Percentage of women age 15-49 years who are exposed to mass media on breastfeeding, the type of media, and the television channel, *FNSS, 2015*

				Among women exposed to breastfeeding message in media, percentage exposed through:								Among women exposed to TV message on breastfeeding, percentage exposed through channel:				
	Exposed to breastfeeding message in media	Number of women	In the past year	Radio	TV	Internet	Newspaper or magazine	Poster, billboard or sign	Pamphlet or brochure	Village voice announcement	Number of Women	Lao Star	Lao National TV	Both Lao Star and Lao National TV	Other channel	Number of women
					9							1				
Chinese-Tibetan	20.9	709	62.3	26.1	69.6	9.7	15.7	8.5	16.7	16.3	148	36.1	19.8	22.9	21.2	103
Area																
Non-MYCNSIA	42.5	4980	66.2	32.7	71.2	9.3	17.8	16.8	16.5	14.5	2117	40.9	18.6	35.4	5.1	1506
MYCNSIA	45.8	3006	63.5	37.0	57.2	4.3	9.8	21.0	21.8	20.0	1376	44.8	39.6	13.1	2.6	787
Non-NPAN	43.9	5989	64.3	36.1	64.4	7.4	14.9	20.5	20.4	18.0	2628	43.9	27.7	23.8	4.6	1693
NPAN	43.3	1997	67.7	29.4	69.5	7.4	13.8	11.9	13.1	12.7	865	37.5	20.4	38.9	3.2	601

Interpersonal communication refers to messages received via word-of-mouth from other people. Table KA.3 presents the percentage of women who received messages on breastfeeding from other people, and who they received messages from. In urban and rural areas the majority of women reported receiving messages on breastfeeding from other people, and medical professionals were most commonly reported as the person giving the message. Community volunteers are more active in rural areas, where more than 1 out of 5 women who received messages on breastfeeding reported receiving them from community volunteers. Among the women who received interpersonal communication on breastfeeding, close to ½ reported receiving a message from a medical professional or a community volunteer in the past year. Traditional birth attendants were not an important source of information on breastfeeding in any area.

Table KA.3: Exposure to breastfeeding interpersonal communication

Percentage of women age 15-49 years who are exposed to interpersonal communication on breastfeeding, and among women exposed to interpersonal communication, the person breastfeeding messages received from and timing of the message, *FNSS, 2015*

	Exposed to breastfeeding messge through:				Among women exposed to breastfeeding message in personal communication, percentage exposed through:					
	Personal communication	Mass media **or** personal communication	Mass media **and** personal communication	Number of women	Mother, other relative or friend	Medical professional	Traditional birth attendant	Community volunteer	Medical professional or community volunteer in past year	Number of Women
Age										
15-19	49.5	58.9	30.9	1639	56.1	56.9	.8	23.9	48.0	812
20-29	64.6	71.7	40.4	2737	51.3	77.1	.4	20.5	54.1	1769
30-39	63.9	70.1	39.2	2115	45.9	78.2	2.0	21.1	48.3	1350
40-49	58.2	63.3	33.0	1494	42.2	77.9	1.5	19.1	42.7	869
Province										
Luangnamtha	62.0	66.1	39.9	1277	58.2	66.7	2.6	17.0	39.0	792
Oudomxay	60.7	68.8	40.1	2328	66.3	71.9	.6	19.7	54.8	1413
Saravane	58.2	65.2	28.5	2505	33.1	75.9	.1	14.2	48.2	1458
Sekong	61.5	67.1	35.8	806	30.2	76.6	.6	38.1	50.8	495
Attapeu	60.0	69.1	45.8	1070	50.1	82.4	3.0	31.0	51.9	642
Type of Area										
Urban	71.0	79.7	58.0	1396	57.0	78.2	.4	13.2	52.3	991
Rural with road	57.8	64.6	32.6	5869	45.2	73.7	1.2	23.2	48.5	3393
Rural without road	57.8	63.3	29.3	721	60.7	68.4	1.8	21.5	49.6	417
Education										
None	51.1	55.4	21.0	2582	54.5	67.4	1.9	23.2	45.8	1320

Table KA.3: Exposure to breastfeeding interpersonal communication

Percentage of women age 15-49 years who are exposed to interpersonal communication on breastfeeding, and among women exposed to interpersonal communication, the person breastfeeding messages received from and timing of the message, *FNSS, 2015*

	Exposed to breastfeeding messge through:				**Among women exposed to breastfeeding message in personal communication, percentage exposed through:**					
	Personal communication	Mass media **or** personal communication	Mass media **and** personal communication	Number of women	Mother, other relative or friend	Medical professional	Traditional birth attendant	Community volunteer	Medical professional or community volunteer in past year	Number of Women
Primary	62.3	69.5	36.7	2915	41.6	78.2	1.1	22.1	45.9	1815
Lower secondary	59.5	68.7	44.0	1290	47.7	75.5	.4	20.0	55.1	768
Upper secondary	67.9	80.4	54.6	751	56.6	70.9	.6	17.7	55.8	510
Post secondary non tertiary	87.5	94.3	79.5	174	54.1	87.4	.7	14.9	63.7	152
Higher	85.9	90.8	75.2	275	59.6	75.0	.8	14.4	54.4	236
Wealth index quintile										
Poorest	52.0	55.7	21.7	1399	56.3	70.4	1.7	27.5	53.9	728
Second	56.7	61.7	27.4	1495	49.8	69.1	1.3	26.5	48.6	847
Middle	59.4	66.4	33.8	1530	44.4	74.1	.8	22.6	45.2	909
Fourth	59.7	67.9	40.3	1662	44.1	76.4	1.5	18.6	46.5	992
Richest	69.7	79.6	54.5	1900	51.1	77.8	.6	14.6	52.4	1324
Language group of household head										
Lao-Tai	62.0	71.1	42.8	2788	42.8	79.3	.8	13.5	47.5	1729
Mon-Khmer	60.8	67.3	35.7	4385	49.5	74.1	1.0	26.8	52.5	2665
Hmong-Mien	55.7	58.7	35.9	91	71.9	52.6	0.0	4.3	26.8	51
Chinese-Tibetan	48.5	50.7	18.7	709	71.6	51.4	3.8	15.6	37.4	344
Area										

Table KA.3: Exposure to breastfeeding interpersonal communication

Percentage of women age 15-49 years who are exposed to interpersonal communication on breastfeeding, and among women exposed to interpersonal communication, the person breastfeeding messages received from and timing of the message, *FNSS, 2015*

	Exposed to breastfeeding messge through:				**Among women exposed to breastfeeding message in personal communication, percentage exposed through:**					
	Personal communication	Mass media **or** personal communication	Mass media **and** personal communication	Number of women	Mother, other relative or friend	Medical professional	Traditional birth attendant	Community volunteer	Medical professional or community volunteer in past year	Number of Women
Non-MYCNSIA	58.7	65.8	35.4	4980	51.7	73.2	1.0	15.6	47.7	2923
MYCNSIA	62.5	69.3	39.0	3006	44.7	75.6	1.3	29.4	51.9	1878
Non-NPAN	59.1	66.3	36.6	5989	50.1	73.1	1.3	21.4	48.7	3537
NPAN	63.3	69.5	37.2	1997	45.9	77.0	.7	19.9	51.2	1264

The FNSS did not include questions on exposure to complementary feeding (providing food to young children in addition to breastmilk) messages because there was no mass media communication campaign on complementary feeding. Table KA.4 shows the percentage of women exposed to interpersonal communication on complementary feeding and the source of the messages. 58.7% of women in urban areas, 46% of women in rural areas with roads, and 41.1% of women in rural areas without roads reported receiving messages on complementary feeding via interpersonal communication. Like breastfeeding messages, the most common reported source of complementary feeding messages was a medical professional. Of the women that received interpersonal communication on complementary feeding, more than 70% reported receiving messages from a medical professional in urban and rural areas.

Table KA.4: Exposure to complementary feeding interpersonal communication

Percentage of women age 15-49 years who are exposed to interpersonal communication on complementary feeding, and among women exposed to interpersonal communitcation, the person complementary feeding messages received from and timing of the message, *FNSS, 2015*

			Among women exposed to complementary feeding message in personal communication, percentage exposed through:					
	Exposed to complementary feeding messge through personal communication	Number of women	Mother, other relative or friend	Medical professional	Traditional birth attendant	Community volunteer	Medical professional or community volunteer in past year	Number of Women
Age								
15-19	37.4	1639	44.0	56.2	1.1	30.6	58.2	612
20-29	54.3	2737	34.5	73.1	.8	28.7	64.0	1486
30-39	50.7	2115	31.4	74.7	1.3	30.8	60.1	1072
40-49	43.2	1494	27.1	76.6	1.6	25.1	57.7	645
Province								
Luangnamtha	50.7	1277	33.0	59.9	2.7	31.3	50.4	648
Oudomxay	50.8	2328	45.1	69.3	.6	36.1	70.5	1182
Saravane	42.8	2505	21.7	78.5	.4	12.5	58.6	1073
Sekong	49.3	806	23.3	70.7	1.4	42.7	64.1	397
Attapeu	48.1	1070	42.9	76.6	1.8	33.6	54.3	515
Type of Area								
Urban	58.7	1396	46.7	72.4	.2	17.7	54.2	820
Rural with road	46.0	5869	29.1	71.2	1.3	32.7	62.5	2698
Rural without road	41.1	721	42.7	70.3	2.4	27.0	64.8	297
Education								
None	36.9	2582	28.5	69.0	1.9	35.5	63.0	953
Primary	51.1	2915	29.0	73.8	1.2	30.6	63.2	1490
Lower secondary	47.6	1290	35.3	72.6	.6	26.1	57.8	614
Upper secondary	56.6	751	50.8	62.7	.4	21.8	53.3	425

Table KA.4: Exposure to complementary feeding interpersonal communication

Percentage of women age 15-49 years who are exposed to interpersonal communication on complementary feeding, and among women exposed to interpersonal communitcation, the person complementary feeding messages received from and timing of the message, *FNSS, 2015*

	Exposed to complementary feeding messge through personal communication	Number of women	Among women exposed to complementary feeding message in personal communication, percentage exposed through:					Number of Women
			Mother, other relative or friend	Medical professional	Traditional birth attendant	Community volunteer	Medical professional or community volunteer in past year	
Post secondary non tertiary	77.1	174	40.8	82.1	0.0	19.3	63.8	134
Higher	72.4	275	50.9	72.7	.6	16.9	57.5	199
Wealth index quintile								
Poorest	38.5	1399	32.0	75.2	.7	38.5	70.3	538
Second	43.8	1495	29.1	69.6	3.3	38.9	70.0	654
Middle	47.3	1530	30.2	67.1	.9	32.3	57.0	723
Fourth	48.6	1662	32.2	70.2	.6	28.2	58.2	808
Richest	57.4	1900	41.5	74.4	.6	16.9	55.4	1091
Language group of household head								
Lao-Tai	52.4	2788	33.7	74.6	.8	16.3	54.9	1460
Mon-Khmer	46.5	4385	33.9	73.7	.8	36.5	66.8	2039
Hmong-Mien	41.9	91	64.2	37.1	0.0	12.9	34.3	38
Chinese-Tibetan	37.9	709	30.0	41.5	5.5	43.9	52.6	269
Area								
Non-MYCNSIA	48.1	4980	35.1	68.1	1.1	27.9	60.9	2393
MYCNSIA	47.3	3006	31.9	76.9	1.2	30.9	60.9	1422
Non-NPAN	46.8	5989	34.2	70.0	1.2	30.5	60.6	2800
NPAN	50.8	1997	33.2	75.2	1.0	25.0	61.8	1014

Infant and Young Child Feeding Knowledge and Attitudes

The FNSS collected information on infant and young child feeding (IYCF) knowledge, attitudes and practice. IYCF practice is presented as a separate chapter. This section covers IYCF knowledge and attitudes.

Exclusive breastfeeding is recommended for the first six months of a child's life, which means that the child should not receive any liquids or foods other than breastmilk until the age of six months. In all five provinces six months was the most common age identified, but less than ½ of women correctly identified 6 months as the age at which to introduce liquids other than breastmilk. Among women that were currently pregnant or who had a live birth in the last 2 years, 47.1% identified six months as the age for introducing other liquids. For the introduction of food into a child's diet, 55.6% of women in urban areas correctly identified 6 months as the age for introduction, compared to 43.1% in rural areas with roads, and 35.4% in rural areas without roads. In rural area without roads the majority of women believe that food should be introduced to a child's diet either before or after six months of age.

Table KA.5: Knowledge on introduction of liquids and solids to a child's diet

Percentage of women age 15-49 years who believe liquids and food should be introduced at a specific time after delivery, *FNSS, 2015*

	After giving birth liquid other than breastmilk should be given to child:					After giving birth food other than breastmilk should be given to child					
	Within first month	From 1 to 5 months	**RECOMMENDED** At six months	After 7 months	Don't know when	Within first month	From 1 to 5 months	**RECOMMENDED** At six months	After 7 months	Don't know when	Number of Women
Age											
15-19	7.0	17.8	34.1	4.4	36.7	5.4	13.9	36.5	8.8	35.4	1639
20-29	12.1	21.5	47.4	8.5	10.5	8.9	17.4	50.6	13.1	10.1	2737
30-39	17.3	26.0	40.0	10.8	6.0	13.5	20.6	46.4	14.7	4.8	2115
40-49	25.1	24.6	35.4	10.2	4.7	21.1	21.3	39.7	13.9	4.0	1494
Province											
Luangnamtha	8.3	26.1	41.6	8.7	15.3	6.3	15.8	50.4	13.8	13.7	1277
Oudomxay	5.4	32.9	39.8	8.3	13.6	6.2	27.7	42.7	10.7	12.7	2328
Saravane	25.9	12.5	39.7	10.1	11.8	21.7	13.3	42.4	11.0	11.5	2505
Sekong	11.6	22.2	45.0	6.8	14.4	3.8	14.4	53.1	15.0	13.8	806
Attapeu	19.9	19.2	39.0	6.8	15.1	12.3	15.0	40.2	18.8	13.7	1070
Type of Area											
Urban	13.4	19.5	48.6	6.5	11.9	6.7	15.1	55.6	11.7	10.8	1396
Rural with road	15.3	22.0	39.3	8.9	14.4	12.5	17.9	43.1	13.0	13.5	5869
Rural without road	13.8	32.3	34.0	9.8	10.1	14.5	27.4	35.4	12.7	10.1	721
Maternity Status											
Not pregnant, no recent birth	14.8	22.3	38.0	7.9	17.0	11.3	18.3	42.2	12.0	16.2	5786

Table KA.5: Knowledge on introduction of liquids and solids to a child's diet

Percentage of women age 15-49 years who believe liquids and food should be introduced at a specific time after delivery, *FNSS, 2015*

	After giving birth liquid other than breastmilk should be given to child:					After giving birth food other than breastmilk should be given to child					
	Within first month	From 1 to 5 months	**RECOMMENDED** At six months	After 7 months	Don't know when	Within first month	From 1 to 5 months	**RECOMMENDED** At six months	After 7 months	Don't know when	Number of Women
Currently pregnant or birth in last 2 years	15.1	22.9	47.1	10.3	4.6	12.6	18.2	50.8	14.8	3.6	2200
Education											
None	16.1	30.7	32.0	9.7	11.5	14.5	25.2	34.9	14.5	10.9	2582
Primary	17.9	20.7	40.5	10.0	11.0	14.2	17.7	44.7	13.5	10.0	2915
Lower secondary	11.5	17.4	44.3	5.8	21.1	7.6	12.7	50.0	9.9	19.8	1290
Upper secondary	8.1	15.0	48.9	6.5	21.4	3.7	11.3	52.9	11.6	20.6	751
Post secondary non tertiary	10.0	11.6	69.8	3.3	5.2	4.3	8.1	74.5	7.9	5.2	174
Higher	8.5	15.2	60.6	5.3	10.3	3.3	10.1	67.6	9.4	9.5	275
Wealth index quintile											
Poorest	14.8	30.0	33.1	9.1	13.0	14.6	24.9	36.0	12.1	12.4	1399
Second	13.1	22.7	40.6	8.1	15.5	13.1	19.3	40.3	12.5	14.8	1495
Middle	14.0	25.2	38.8	9.5	12.5	9.8	20.6	44.4	13.1	12.0	1530
Fourth	15.3	20.1	39.8	9.0	15.8	10.8	15.8	45.0	14.2	14.2	1662
Richest	16.5	16.7	47.8	7.5	11.5	10.6	12.8	54.0	12.0	10.7	1900
Language group of household head											
Lao-Tai	20.6	15.7	43.8	8.3	11.6	16.1	12.6	49.7	10.5	11.1	2788
Mon-Khmer	12.5	25.6	40.6	8.2	13.1	10.5	21.6	43.3	12.4	12.3	4385

Table KA.5: Knowledge on introduction of liquids and solids to a child's diet

Percentage of women age 15-49 years who believe liquids and food should be introduced at a specific time after delivery, *FNSS, 2015*

	After giving birth liquid other than breastmilk should be given to child:					After giving birth food other than breastmilk should be given to child					
	Within first month	From 1 to 5 months	**RECOMMENDED** At six months	After 7 months	Don't know when	Within first month	From 1 to 5 months	**RECOMMENDED** At six months	After 7 months	Don't know when	Number of Women
Hmong-Mien	27.5	23.8	21.6	9.7	17.4	1.8	32.2	32.3	18.7	15.0	91
Chinese-Tibetan	5.3	30.0	28.8	12.2	23.7	2.9	18.3	33.7	23.7	21.3	709
Area											
Non-MYCNSIA	13.4	24.2	39.2	9.5	13.6	12.5	19.7	42.9	12.0	12.9	4980
MYCNSIA	17.2	19.6	42.6	7.0	13.5	10.2	15.9	47.4	14.0	12.5	3006
Non-NPAN	16.7	22.9	38.6	7.8	14.1	11.7	17.9	43.9	13.4	13.1	5989
NPAN	9.4	21.3	46.2	11.1	12.0	11.5	19.3	46.5	11.1	11.7	1997

Colostrum is breastmilk that comes before mature milk in the first few days after giving birth. Colostrum is highly nutritious and supports digestion and the immune system; it is recommended to feed colostrum to the child, but some traditional practice calls for discarding colostrum. Table KA.6 presents beliefs on colostrum and the duration of breastfeeding.

More than 2/3 of women in urban and rural areas believe that colostrum should be fed to the child, and among women that are currently pregnant or who had a birth in the last 2 years, 82.5% support feeding the colostrum. A preference for discarding colostrum appears to be higher in certain ethno-linguistic groups, such as the Chinese-Tibetan. Nearly 1/3 of Chinese-Tibetan women report that colostrum should be discarded, compared to 9.5% among Lao-Tai women.

Breastfeeding is recommended for 2 years. In the FNSS women were asked how many months a child should be breastfed. Nearly 3 out of 4 women who were currently pregnant or who had a live birth in the last 2 years, did not correctly report that a woman should breastfeed for 2 years. In Sekong and Attapeu, 9.5% and 11.2% of women reported that a child should be breastfed for only 6 months.

Table KA.6: Knowledge on breastfeeding duration and colostrum

Percentage of women age 15-49 years who believe children should be breastfed for a specific amount of time and percentage who believe colostrum (breastmilk that comes in the first few days after pregnancy that is a different color than normal breastmilk) should be discarded or fed to the child, *FNSS, 2015*

	Amount of time a child should be breastfed:										Colostrum should be			
	Birth to 5 months	6 months	7 to 11 months	1 Year	13 to 17 months	1.5 years	19 to 23 months	**RECOMMENDED** 2 years	25 to 35 months	3 years	Don't know	Discarded	**RECOMMENDED** Fed to the child	Don't know	Number of Women
Age															
15-19	1.6	6.2	3.3	19.2	13.5	4.1	.7	14.7	.5	3.2	33.0	15.2	44.5	40.3	1639
20-29	2.0	4.9	3.5	19.9	23.6	8.2	1.3	20.8	1.3	4.6	9.9	14.3	75.0	10.8	2737
30-39	1.4	3.0	3.8	17.1	25.5	9.9	2.7	22.1	2.0	8.3	4.2	17.0	78.5	4.5	2115
40-49	1.1	3.5	3.4	19.4	23.9	8.0	1.7	25.9	2.7	7.3	3.1	19.2	77.7	3.1	1494
Province															
Luangnamtha	1.0	1.9	4.4	20.3	29.2	5.9	.7	12.2	1.2	10.1	13.1	20.1	67.8	12.1	1277
Oudomxay	.9	2.4	3.8	21.1	22.6	10.5	2.5	16.9	1.7	5.3	12.3	22.1	65.0	12.9	2328
Saravane	2.7	3.0	2.8	16.2	18.6	6.7	1.4	28.8	1.7	6.7	11.6	9.1	77.3	13.6	2505
Sekong	1.5	9.5	2.9	20.2	21.6	4.9	1.1	25.3	1.1	1.8	10.2	14.4	68.6	17.0	806
Attapeu	1.5	11.2	4.0	17.9	21.1	8.8	1.8	17.8	1.8	2.7	11.4	16.0	68.7	15.3	1070
Type of Area															
Urban	1.4	6.3	4.4	22.7	32.1	9.6	1.6	10.1	.7	1.3	9.9	10.1	75.9	14.0	1396
Rural with road	1.8	4.2	3.3	18.0	20.6	7.6	1.5	22.8	1.6	6.3	12.4	17.1	68.8	14.1	5869
Rural without road	.8	2.5	3.6	19.5	15.2	5.5	2.3	26.1	3.2	10.0	11.2	20.0	70.2	9.9	721
Maternity Status															
Not pregnant, no recent birth	1.4	4.6	3.6	18.5	21.7	7.6	1.4	19.1	1.4	5.8	14.8	16.7	65.5	17.8	5786
Currently pregnant or birth in last 2 years	2.1	3.9	3.4	20.0	23.2	8.3	2.1	25.3	2.0	5.6	4.0	14.5	82.5	3.0	2200

Table KA.6: Knowledge on breastfeeding duration and colostrum

Percentage of women age 15-49 years who believe children should be breastfed for a specific amount of time and percentage who believe colostrum (breastmilk that comes in the first few days after pregnancy that is a different color than normal breastmilk) should be discarded or fed to the child, *FNSS, 2015*

	Amount of time a child should be breastfed:											Colostrum should be			
	Birth to 5 months	6 months	7 to 11 months	1 Year	13 to 17 months	1.5 years	19 to 23 months	**RECOMMENDED** 2 years	25 to 35 months	3 years	Don't know	Discarded	**RECOMMENDED** Fed to the child	Don't know	Number of Women
Education															
None	1.1	2.8	2.6	15.7	14.8	6.0	1.7	31.2	2.7	11.8	9.7	22.9	67.6	9.5	2582
Primary	1.8	4.1	3.9	19.7	24.8	9.5	1.8	20.0	1.4	4.1	8.9	14.3	75.0	10.7	2915
Lower secondary	1.4	5.5	3.8	18.1	26.3	8.5	1.5	12.5	.9	1.7	19.8	11.5	66.6	21.9	1290
Upper secondary	2.3	8.3	4.4	24.0	24.2	6.7	.9	7.8	.7	1.6	19.0	12.8	60.4	26.8	751
Post secondary non tertiary	2.0	3.3	3.3	26.4	35.0	7.2	2.3	15.6	0.0	.7	4.2	8.1	84.7	7.2	174
Higher	2.6	8.1	3.8	26.3	28.4	6.8	.9	11.3	0.0	.5	11.2	7.8	77.3	15.0	275
Wealth index quintile															
Poorest	.8	2.2	2.6	15.7	12.2	6.7	2.5	32.5	2.6	10.9	11.4	19.9	67.9	12.1	1399
Second	1.0	2.7	1.9	16.8	15.9	7.3	1.6	27.1	2.2	8.8	14.8	16.9	67.1	15.9	1495
Middle	2.1	4.5	3.4	19.3	21.4	6.5	1.5	22.5	1.3	6.9	10.7	18.5	70.1	11.3	1530
Fourth	1.8	5.3	5.2	19.4	25.5	10.0	1.3	15.6	1.5	2.9	11.6	17.0	68.5	14.6	1662
Richest	2.2	6.5	4.0	22.4	31.9	8.1	1.4	10.5	.7	1.2	11.1	9.9	75.7	14.3	1900
Language group of household head															
Lao-Tai	2.5	4.8	4.1	19.7	31.2	8.7	1.6	14.0	1.3	2.3	10.0	9.5	77.8	12.7	2788
Mon-Khmer	1.2	4.7	3.0	18.6	17.1	7.7	1.7	25.9	1.6	6.9	11.6	18.0	68.2	13.8	4385
Hmong-Mien	0.0	0.0	6.0	37.0	18.0	6.6	0.0	11.4	1.2	1.2	18.7	21.5	62.8	15.6	91
Chinese-Tibetan	1.1	1.7	4.1	15.8	17.5	5.3	1.4	17.9	2.7	13.0	19.5	30.0	53.6	16.4	709

Table KA.6: Knowledge on breastfeeding duration and colostrum

Percentage of women age 15-49 years who believe children should be breastfed for a specific amount of time and percentage who believe colostrum (breastmilk that comes in the first few days after pregnancy that is a different color than normal breastmilk) should be discarded or fed to the child, *FNSS, 2015*

	Amount of time a child should be breastfed:											Colostrum should be			
	Birth to 5 months	6 months	7 to 11 months	1 Year	13 to 17 months	1.5 years	19 to 23 months	**RECOMMENDED** 2 years	25 to 35 months	3 years	Don't know	Discarded	**RECOMMENDED** Fed to the child	Don't know	Number of Women
Area															
Non-MYCNSIA	1.5	2.5	4.0	20.5	25.2	8.7	1.8	15.6	1.6	6.0	12.5	18.2	69.2	12.6	4980
MYCNSIA	1.8	7.5	2.7	16.4	16.9	6.2	1.4	29.4	1.6	5.4	10.8	12.7	71.8	15.5	3006
Non-NPAN	1.8	5.1	3.7	19.2	21.8	7.5	1.8	20.2	1.7	5.0	12.2	16.5	68.8	14.6	5989
NPAN	1.2	2.2	2.8	18.3	22.9	8.6	1.1	22.7	1.1	8.2	10.8	14.8	74.1	11.0	1997

In order to assess current attitudes towards child feeding, women who were currently pregnant or who had a live birth in the last 2 years were asked to agree or disagree with a series of statements on child feeding. The exact statements are available in the *Questionnaire Appendix*. Women were also asked if any people close to them disapprove of them breastfeeding.

Disapproval of breastfeeding by family, friends or other people in a woman's social network is low. 3.7% of women in urban areas report that someone in their social network disapproves of their breastfeeding, while the percentage is even lower in rural areas. Women with post-secondary education are the most likely to report that someone in their social network disapproves of breastfeeding.

Women were asked to agree or disagree with four statements on child feeding that covered the following topics: prelacteal feeding of liquids, early introduction of food, the use of infant formula, and the early introduction of liquids. For all four statements the large majority of women correctly agreed or disagreed with the statement. The only statement where less than 80% of women were correct was the statement on prelacteal feeding of liquids. Approximately ¼ of women with no education, primary education, or lower secondary education believe that a child needs liquid other than breastmilk in the first three days of life.

Table KA.7: Attitudes Towards Infant and Young Child Feeding

Percentage of women who are currently pregnant or who had a live birth in the last 2 years who correctly agree or disagree with statements on infant and young child feeding and social network support for breastfeeding, *FNSS, 2015*

	Percentage of women who responded correctly to statement on:					
	A child does not need liquid other than breastmilk in the first three days of life	For the first six months breastmilk alone is enough food for the child	Breastmilk is superior to infant formula for child health and development	In the first six months a healthy child does not need liquids other than breastmilk	Spouse, relative, friend, or other member of social network disapproves of breastfeeding	Number of women age 15-49 years
Province						
Luangnamtha	79.9	95.1	88.6	77.9	2.7	284
Oudomxay	72.5	95.5	95.2	87.1	1.2	557
Saravane	71.2	85.7	82.2	86.3	2.8	704
Sekong	82.1	85.2	88.5	78.6	3.1	235
Attapeu	83.2	87.8	88.0	84.3	2.4	282
Type of Area						
Urban	79.1	92.3	90.7	86.2	3.7	288
Rural with road	75.8	88.4	87.3	84.2	2.4	1532
Rural without road	70.6	96.3	90.4	81.9	.3	242
Education						

Table KA.7: Attitudes Towards Infant and Young Child Feeding

Percentage of women who are currently pregnant or who had a live birth in the last 2 years who correctly agree or disagree with statements on infant and young child feeding and social network support for breastfeeding, *FNSS, 2015*

	Percentage of women who responded correctly to statement on:					
	A child does not need liquid other than breastmilk in the first three days of life	For the first six months breastmilk alone is enough food for the child	Breastmilk is superior to infant formula for child health and development	In the first six months a healthy child does not need liquids other than breastmilk	Spouse, relative, friend, or other member of social network disapproves of breastfeeding	Number of women age 15-49 years
None	73.2	92.3	85.5	81.2	2.0	727
Primary	75.8	87.3	88.2	85.1	2.3	846
Lower secondary	74.9	89.1	90.9	85.5	2.3	263
Upper secondary	81.4	91.2	88.9	88.1	1.6	111
Post secondary non tertiary	83.6	91.9	94.8	83.5	4.5	47
Higher	87.4	95.9	98.6	94.3	7.1	67
Wealth index quintile						
Poorest	73.3	93.1	87.7	83.5	.9	500
Second	73.6	90.6	85.5	82.2	1.3	439
Middle	75.4	89.6	87.4	82.3	3.2	404
Fourth	78.3	86.6	90.3	84.9	4.4	332
Richest	78.7	88.0	90.4	88.8	2.7	387
Language group of household head						
Lao-Tai	77.0	84.3	89.3	88.0	3.6	640
Mon-Khmer	75.4	91.8	87.4	84.4	1.6	1179
Hmong-Mien	85.5	92.8	71.0	54.6	3.6	30
Chinese-Tibetan	70.8	95.6	91.2	75.5	2.9	210

Literacy

The Youth Literacy Rate reflects the outcomes of primary education over the previous 10 years or so. As a measure of the effectiveness of the primary education system, it is often seen as a proxy measure of social progress and economic achievement. In FNSS, since a man's questionnaire was not administered, the results are based only on females age 15-24. Literacy is assessed on the ability of the respondent to read a short simple statement or based on school attendance.

Table KA.8 shows literacy rates among young women age 15-24 years. Literacy is higher for the 15-19 year age group (71.6%) than for the 20-24 year age group (56.9%). The literacy rate in urban areas is more than 90%, while in rural areas it is below 60%. The largest disparities in literacy are seen by wealth and ethno-linguistic groups. 35.7% of women from the poorest households are literate,

compared to 90.2% from the richest households. 79.1% of Lao-Tai are literate, while only 33.5% of Chinese-Tibetan are literate.

Table KA.8 (ED.1): Literacy (young women)

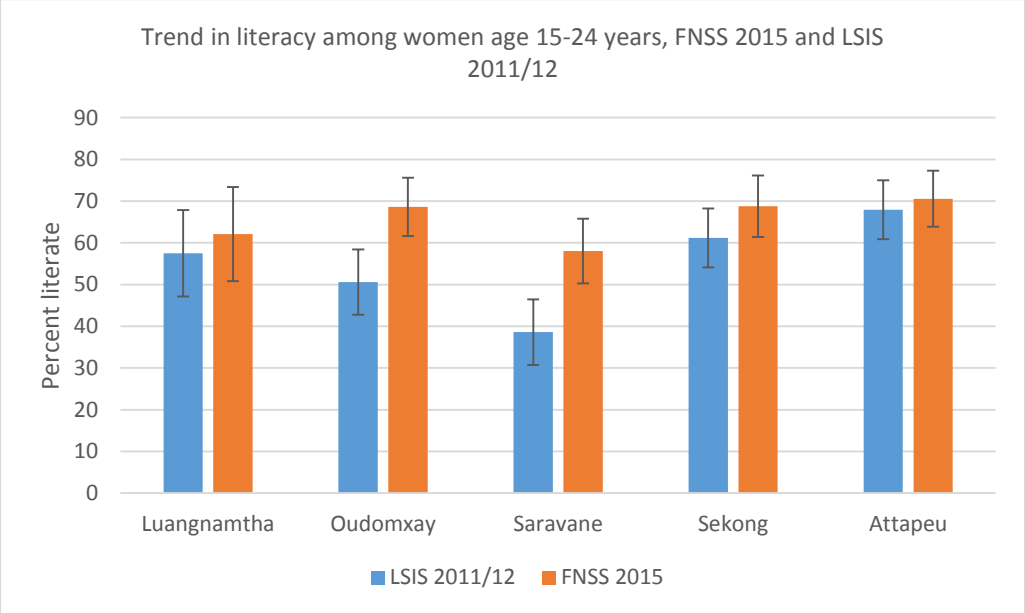
Percentage of women age 15-24 years who are literate, *FNSS, 2015*

	Percentage literate[1]	Percentage not known	Number of women age 15-24 years
Province			
Luangnamtha	62.1	0.0	462
Oudomxay	68.6	0.0	967
Saravane	58.0	0.0	911
Sekong	68.8	0.0	322
Attapeu	70.6	0.0	403
Type of Area			
Urban	91.4	0.0	528
Rural with road	59.7	0.0	2254
Rural without road	55.3	0.0	282
Age			
15-19	71.6	0.0	1639
20-24	56.9	0.0	1425
Wealth index quintile			
Poorest	35.7	0.0	507
Second	49.6	0.0	612
Middle	62.0	0.0	612
Fourth	77.1	0.0	624
Richest	90.2	0.0	710
Language group of household head			
Lao-Tai	79.1	0.0	970
Mon-Khmer	62.3	0.0	1767
Hmong-Mien	42.3	0.0	35
Chinese-Tibetan	33.5	0.0	285

[1] MICS indicator 7.1; MDG indicator 2.3 - Literacy rate among young women

Figure KA.1 presents provincial level trends of the literacy rate for women age 15-24 years. All five provinces show an increase in the literacy rate. The improvement in literacy is most significant in the provinces that had the lowest literacy rates in 2011/12, Oudomxay and Saravane, where the literacy rates increased by nearly 20 percentage points. The provinces that had higher literacy rates in 2011/12 saw smaller improvement over the last three years.

Figure KA.1: Province level trends in literacy, LSIS 2011/12 and FNSS, 2015



VI. Maternal Diet, Food Supplementation and Woman Smoking

Maternal Diet

'Minimum dietary diversity – women' (MDD-W) is a proxy indicator of the micronutrient adequacy of women's diet that was agreed on for global monitoring during a 2014 consensus meeting convened by the UN Food and Agriculture Organization (FAO) and the Food and Nutrition Technical Assistance III Project (FANTA). The FNSS included recall questions for the day and night preceding the survey for women that were currently pregnant or who had a live birth in the 2 years preceding the survey. The diet of women is especially important during pregnancy and while breastfeeding because there are increased nutrient demands. A pregnant woman with poor nutritional status is at-risk for pregnancy complications and her child is at-risk for premature birth, low birth weight, and micronutrient deficiency. Table MD.1 includes the minimum dietary diversity indicator and presents mean food group consumption and the percentage of women consuming specific food groups.

Minimum dietary diversity is defined as consuming at least 5 of the 10 food groups presented in table MD.1. In urban areas, ¾ of selected (currently pregnant or who had a live birth in the last 2 years) women achieve the minimum dietary diversity, while the percentage is only 33.2% and 19.5% in rural areas with and without roads. 26.2% of selected women with no education achieve minimum dietary diversity, compared to 83.4% of selected women with higher education. More than ½ of currently pregnant women do not achieve minimum dietary diversity.

The mean food group consumption ranges from 4.0 in Oudomxay to 4.5 in Luangnamtha. More than 2/3 of women consumed iron-rich flesh foods in the day and night preceding the survey in all five provinces, but consumption of flesh foods is more common in urban and rural areas with roads (88.9% and 74.9%) than in rural areas without roads (57.2%) Consumption of vitamin A rich dark green leafy vegetables was also high, ranging from 65.6% in Luangnamtha to 77.7% in Sekong. In rural areas without roads, consumption of beans and peas, nuts and sweets, and dairy is not common (<7%).

Table MD.1: Maternal Diet

The percentage of minimum dietary diversity (MDD-W) and food group consumption in the last 24 hours among women with a live birth in the last two years or currently pregnant women

	Minimum dietary diversity [a]	Mean number of food groups consumed	Food group consumption:										Number of women
			All starchy staple foods	Beans and peas	Nuts and seeds	Dairy	Flesh foods	Eggs	Vitamin A rich dark green leafy vegetables	Other vitamin A rich fruits and vegetables	Other vegetables	Other fruits	
Maternal Status													
Birth in last 2 years, not pregnant	36.2	4.1	93.5	5.7	13.1	12.6	74.2	28.1	73.0	23.9	58.1	29.0	1699
Currently pregnant	44.1	4.5	94.4	7.7	16.8	24.1	78.5	33.7	69.0	29.3	64.4	34.0	362
Type of Area													
Urban	75.5	6.1	94.4	22.0	31.3	42.0	88.9	59.5	86.9	53.0	74.1	57.2	279
Rural with road	33.2	3.9	93.2	3.6	11.8	10.7	74.9	26.5	69.3	20.8	56.1	26.6	1465
Rural without road	19.5	3.4	93.8	1.7	6.3	3.7	57.2	9.7	72.9	14.4	58.5	18.0	228
Province													
Luangnamtha	47.0	4.5	95.6	9.5	18.9	15.8	70.8	39.4	65.6	36.3	56.8	39.4	275
Oudomxay	33.2	4.0	92.0	6.5	16.3	11.7	66.8	23.4	75.4	17.5	68.3	25.2	542
Saravane	36.4	4.1	94.6	3.0	11.4	13.6	80.7	29.7	68.2	24.5	53.8	32.1	649
Sekong	36.5	4.1	88.4	7.7	9.7	11.0	72.0	27.4	77.7	24.1	64.5	27.0	231
Attapeu	40.5	4.4	95.9	7.1	13.9	22.6	82.9	31.0	77.2	27.7	50.3	26.9	276
Education													
None	26.2	3.6	93.7	2.4	10.7	6.1	66.2	21.8	69.5	18.2	54.4	21.3	718
Primary	32.3	3.9	92.4	3.9	10.4	12.5	75.1	26.0	69.1	19.3	58.2	26.6	789
Lower secondary	54.5	4.9	94.6	10.1	18.0	22.5	84.0	42.0	81.1	33.6	65.4	39.6	251
Upper secondary	69.5	5.7	92.4	19.6	38.7	35.2	86.8	45.4	77.2	51.5	67.0	55.5	106

Table MD.1: Maternal Diet

The percentage of minimum dietary diversity (MDD-W) and food group consumption in the last 24 hours among women with a live birth in the last two years or currently pregnant women

	Minimum dietary diversity [a]	Mean number of food groups consumed	Food group consumption:										
			All starchy staple foods	Beans and peas	Nuts and seeds	Dairy	Flesh foods	Eggs	Vitamin A rich dark green leafy vegetables	Other vitamin A rich fruits and vegetables	Other vegetables	Other fruits	Number of women
Post secondary non tertiary	77.8	5.7	97.2	14.6	22.9	28.6	92.2	52.9	90.9	50.8	68.0	54.4	43
Higher	83.4	6.6	98.6	25.9	30.0	52.8	99.3	59.6	84.4	63.4	75.1	69.3	66
Wealth													
Poorest	19.6	3.4	93.0	.9	7.2	2.8	61.7	12.9	70.0	17.6	57.1	17.0	484
Second	28.7	3.7	94.7	3.5	8.5	6.6	65.6	20.5	69.0	15.2	60.6	26.3	425
Middle	28.3	3.8	93.0	3.1	9.3	8.4	75.8	25.9	67.4	19.0	53.2	20.9	395
Fourth	51.2	4.5	92.4	5.0	16.5	18.3	85.6	37.5	72.8	25.5	61.9	37.8	312
Richest	70.8	5.9	94.1	20.0	32.3	42.3	92.9	58.2	83.8	50.7	63.3	54.6	358
Language group of household head													
Lao-Tai	54.5	5.0	93.2	12.0	20.7	27.1	88.4	42.6	76.3	35.5	59.9	44.6	599
Mon-Khmer	29.2	3.8	93.4	2.9	9.0	8.3	70.0	20.0	70.9	18.8	60.4	23.8	1133
Hmong-Mien	45.4	4.3	96.4	3.6	14.5	10.9	76.3	47.3	69.1	21.7	54.6	30.9	30
Chinese-Tibetan	33.1	3.9	94.0	5.8	21.3	11.0	61.6	38.8	67.3	25.5	48.4	19.6	209
Area													
Non-MYCNSIA	39.1	4.2	93.3	6.8	16.2	14.7	70.6	30.1	73.0	24.7	62.2	31.4	1148
MYCNSIA	35.5	4.1	93.7	4.9	10.8	13.8	80.6	28.1	71.0	24.5	54.5	27.8	825
Non-NPAN	39.7	4.3	93.5	6.5	14.6	16.7	78.8	32.6	72.2	24.3	59.1	31.1	1468
NPAN	31.4	3.8	93.3	4.5	12.0	7.5	63.1	19.5	72.1	25.5	58.7	26.3	505

Table MD.1: Maternal Diet

The percentage of minimum dietary diversity (MDD-W) and food group consumption in the last 24 hours among women with a live birth in the last two years or currently pregnant women

			Food group consumption:										
	Minimum dietary diversity [a]	Mean number of food groups consumed	All starchy staple foods	Beans and peas	Nuts and seeds	Dairy	Flesh foods	Eggs	Vitamin A rich dark green leafy vegetables	Other vitamin A rich fruits and vegetables	Other vegetables	Other fruits	Number of women

[a] Minimum dietary diversity is defined as receiving foods from at least 5 of 10 food groups

The FNSS also asked currently pregnant women and women who had a live birth in the last two years how many meals they consumed in the day or night preceding the survey, if they changed their eating habits due to having a baby, and if they ever received supplementary food during their last pregnancy. The large majority of women consumed 3+ meals in the day and night preceding the survey. Fewer meals (1-2) was more likely in urban areas (11.3%) compared to rural areas with and without roads (6.3% and 5.4%). The poorest and the richest households had a higher percentage than the middle wealth quintiles of women who consumed only 1-2 meals.

In general, women who are not overweight or obese need to eat more during pregnancy and lactation to satisfy increased nutrient demands. Eating more food during pregnancy or after having a baby does not appear to be a widespread cultural practice in the five surveyed provinces. Less than 1/3 of women reported eating more food, meals, or snacks in all language groups. Mon-Khmer had the lowest percentage (20.7%) consuming more during or after pregnancy. 19% of women from the poorest households reported consuming more during pregnancy and while higher than the poorest households, only ½ of women in the richest wealth quintile reported eating more.

Providing supplementary food during pregnancy is a strategy to improve maternal nutrition. In urban areas 35.7% of women reported receiving supplementary food or rice during their last pregnancy, compared to 31.0% and 39.7% in rural areas with and without roads. The largest differences in receiving supplementary food were by province. 61.5% of women in Oudomxay received supplementary food, while only 2.7% of women received supplementary food in Saravane.

Table MD.2: Maternal eating habits and food supplementation

The number of meals consumed in the last 24 hours, consuming additional food, and receiving supplementary food rations among women with a live birth in the last two years or currently pregnant women, FNSS, 2015

	Number of meals consumed			Percentage who after becoming pregnant or having a baby consumed				During most recent pregnancy, percentage who received			
	1-2 meals	3 meals	4+ meals	More food	More meals	More snacks	More food, meals, or snacks	Supplementary food (RSB, CSB or nutributter)	Rice	Supplementary food or rice	Number of women
Maternal Status											
Birth in last 2 years, not pregnant	6.6	91.9	1.4	15.5	8.9	13.3	22.8	28.1	24.7	33.2	1699
Currently pregnant	7.9	90.0	1.5	23.5	9.4	19.3	32.7	22.4	17.4	24.7	362
Type of Area											
Urban	11.3	85.1	3.7	29.0	16.5	30.7	45.4	30.0	20.8	35.7	279
Rural with road	6.3	92.5	1.0	14.7	7.7	11.7	21.3	26.0	23.0	31.0	1465
Rural without road	5.4	93.5	1.1	13.1	9.3	10.8	16.5	37.4	36.3	39.7	228
Province											

Table MD.2: Maternal eating habits and food supplementation

The number of meals consumed in the last 24 hours, consuming additional food, and receiving supplementary food rations among women with a live birth in the last two years or currently pregnant women, FNSS, 2015

	Number of meals consumed			Percentage who after becoming pregnant or having a baby consumed				During most recent pregnancy, percentage who received			
	1-2 meals	3 meals	4+ meals	More food	More meals	More snacks	More food, meals, or snacks	Supplementary food (RSB, CSB or nutributter)	Rice	Supplementary food or rice	Number of women
Luangnamtha	6.3	92.1	1.6	21.6	11.9	15.1	26.0	37.9	44.8	50.6	275
Oudomxay	2.5	95.4	1.5	20.6	12.0	21.5	30.5	61.5	47.7	64.0	542
Saravane	5.6	93.6	.7	9.5	3.9	4.5	13.3	2.7	1.3	3.5	649
Sekong	12.2	86.4	1.2	14.4	9.5	15.2	24.9	26.8	34.1	43.2	231
Attapeu	14.7	82.9	2.4	21.5	12.8	21.5	34.8	12.0	3.0	13.0	276
Education											
None	8.6	90.3	1.0	13.7	9.2	10.1	19.0	24.9	22.8	29.3	718
Primary	5.4	93.2	.9	15.1	7.8	11.7	22.1	28.2	24.2	32.2	789
Lower secondary	4.7	93.7	1.6	19.0	8.3	20.0	29.3	27.4	24.9	33.5	251
Upper secondary	8.5	89.0	2.5	22.0	14.8	30.3	38.5	33.7	28.3	44.2	106
Post secondary non tertiary	11.7	81.1	7.3	39.2	16.8	35.6	43.4	35.0	32.8	43.8	43
Higher	8.2	88.3	3.5	30.2	13.2	29.0	50.0	44.5	25.2	45.9	66
Wealth											
Poorest	9.4	89.2	1.1	10.2	5.5	8.8	14.4	25.1	23.7	28.2	484
Second	7.3	91.6	1.0	12.9	7.9	9.1	18.9	30.4	25.8	34.7	425
Middle	4.9	94.4	.7	20.7	11.6	13.3	26.1	30.3	28.2	37.7	395
Fourth	3.7	94.0	1.5	17.7	10.6	14.0	27.4	28.5	24.1	33.5	312
Richest	8.0	89.3	2.8	23.7	11.5	29.1	38.7	25.4	18.6	29.9	358
Language group of household head											
Lao-Tai	4.9	93.3	1.8	17.5	8.6	17.4	28.1	17.8	12.5	20.7	599
Mon-Khmer	8.6	90.4	.8	14.9	7.7	11.4	20.7	31.8	28.7	36.5	1133
Hmong-Mien	3.6	92.8	3.6	14.5	14.5	23.7	30.9	32.6	36.2	36.2	30
Chinese-Tibetan	3.9	92.4	2.9	21.8	17.6	18.6	30.2	34.5	31.7	44.9	209
Area											
Non-MYCNSIA	3.3	95.1	1.3	17.4	10.0	15.2	24.8	38.8	33.5	43.2	1148
MYCNSIA	11.8	86.6	1.4	15.2	7.9	12.9	23.3	12.8	11.3	18.1	825
Non-NPAN	7.9	90.8	1.2	17.1	9.9	15.5	25.6	24.2	18.8	29.4	1468
NPAN	3.8	93.8	1.8	14.7	6.8	10.7	20.0	38.6	40.0	42.1	505

Dietary Beliefs

In the FNSS all women age 15-49 were asked if there are foods or liquids that should not be consumed during pregnancy or while breastfeeding. Table MD.3 presents results for pregnancy, and Table MD.4 present results for breastfeeding.

Avoiding certain foods and liquids while breastfeeding appears to be more common than during pregnancy in the five surveyed provinces, particularly in rural areas. In rural areas without roads 68.3% of women reported that alcohol should be avoided while breastfeeding (Table MD.4), while 46.5% reported alcohol should be avoided during pregnancy (Table MD.3). The percentage of women reporting that caffeine should be avoided is also higher in rural areas for breastfeeding than for pregnancy. In rural areas with roads 55.2% of women reported that raw meat should not be eaten while breastfeeding (Table MD.4), compared to 31.4% during pregnancy (Table MD.3).

Table MD.3: Dietary Beliefs During Pregnancy

The percentage of women age 15-49 years who identify certain foods that should not be consumed during pregnancy

	Percentage who reported that during pregnancy a woman should not eat or drink:											Number of women age 15-49 years
	Meat	Raw meat	Fish or shellfish	Raw fish or shellfish	Certain vegetables	Certain fruit	Insects	Spciy food	Caffeine	Alcohol	Other	
Age												
15-19	5.3	29.0	4.1	24.7	3.5	2.8	3.0	9.8	27.7	55.4	5.1	1639
20-29	7.4	33.9	6.0	30.1	5.9	5.2	3.8	13.3	34.3	57.4	4.9	2737
30-39	7.2	32.8	5.4	28.7	5.1	3.8	4.0	13.9	33.3	56.5	4.2	2115
40-49	9.0	31.9	7.2	28.0	6.5	5.2	3.8	10.8	28.8	51.5	3.0	1494
Type of Area												
Urban	8.3	41.1	7.5	36.4	7.4	6.6	6.3	19.4	52.2	72.7	3.5	1396
Rural with road	6.9	31.4	5.1	27.5	4.8	3.8	3.4	11.0	28.4	52.7	4.7	5869
Rural without road	7.5	21.7	6.5	18.3	6.1	3.7	1.0	8.6	18.7	46.5	3.9	721
Province												
Luangnamtha	8.6	39.0	2.7	27.4	2.4	2.4	2.0	8.1	21.4	48.2	6.8	1277
Oudomxay	14.0	26.5	12.8	25.1	12.5	8.3	6.5	12.1	33.5	56.0	2.9	2328
Saravane	1.8	35.9	1.1	33.6	1.2	1.7	1.3	8.6	29.8	49.6	5.1	2505
Sekong	3.5	30.5	2.0	22.6	1.8	1.3	6.6	24.9	33.6	71.0	3.1	806
Attapeu	6.3	29.5	7.0	27.8	5.7	6.2	2.9	16.7	42.9	66.4	4.2	1070
Education												
None	9.9	27.5	7.2	22.9	6.6	4.9	3.4	9.9	20.2	43.3	4.8	2582
Primary	6.3	33.5	5.0	29.6	4.8	3.9	3.8	11.6	34.3	57.2	4.4	2915

Lower secondary	5.0	30.6	4.4	27.8	4.0	3.3	3.0	12.5	34.3	61.3	3.9	1290
Upper secondary	6.7	35.1	5.4	30.7	5.5	5.5	4.1	13.9	42.9	69.1	4.5	751
Post secondary non tertiary	4.9	49.7	5.7	47.1	4.7	4.0	6.0	26.1	57.8	77.0	2.7	174
Higher	4.8	52.3	5.0	46.9	4.9	4.8	5.0	27.2	51.9	79.2	4.4	275
Wealth												
Poorest	9.0	27.0	6.2	22.8	6.1	4.3	3.7	12.0	22.5	44.7	4.4	1399
Second	8.7	30.3	6.7	25.9	5.8	4.3	3.3	10.7	25.7	50.3	4.3	1495
Middle	6.8	30.4	4.9	26.5	4.8	3.6	2.8	10.2	28.5	54.1	5.2	1530
Fourth	6.2	33.3	5.4	30.3	5.1	4.6	4.5	10.7	32.6	56.6	4.4	1662
Richest	6.1	38.2	5.3	33.7	5.0	4.7	3.9	16.8	44.9	68.4	3.9	1900
Language group of household head												
Lao-Tai	3.9	38.2	3.5	34.4	3.1	3.5	2.4	13.4	41.7	63.6	3.6	2788
Mon-Khmer	8.4	27.5	7.1	24.5	6.8	5.0	4.4	11.6	26.9	52.9	4.6	4385
Hmong-Mien	14.4	40.7	9.7	30.0	12.1	7.8	9.0	16.8	30.0	47.9	1.2	91
Chinese-Tibetan	12.4	36.4	5.0	26.9	4.0	3.0	3.0	11.1	21.4	42.1	7.0	709
Area												
Non-MYCNSIA	9.1	32.6	6.8	28.1	6.6	4.9	3.9	9.5	31.2	52.6	3.9	4980
MYCNSIA	4.1	31.7	3.7	28.5	3.3	3.3	3.3	16.9	32.5	60.8	5.2	3006
Non-NPAN	7.4	34.0	5.9	29.8	5.4	4.4	4.3	14.5	34.0	58.8	4.8	5989
NPAN	6.7	26.9	4.8	23.5	5.3	4.0	1.8	5.6	24.6	46.2	3.2	1997

Table MD.4: Dietary Beliefs During Lactation

The percentage of women age 15-49 years who identify certain foods that should not be consumed while breastfeeding

	Percentage who reported that while breastfeeding a woman should not eat or drink:											Number of women age 15-49 years
	Meat	Raw meat	Fish or shellfish	Raw fish or shellfish	Certain vegetables	Certain fruit	Insects	Spciy food	Caffeine	Alcohol	Other	
Age												
15-19	15.8	48.6	8.5	38.3	9.1	8.2	14.5	36.4	37.3	61.4	5.5	1639
20-29	22.3	57.4	14.0	48.2	13.3	11.3	18.5	42.9	44.5	66.5	5.2	2737
30-39	23.3	60.8	14.9	51.1	12.9	12.5	18.9	44.6	43.4	67.1	5.4	2115
40-49	25.0	57.6	14.2	46.5	15.3	12.5	17.8	38.5	42.3	63.4	5.2	1494
Type of Area												
Urban	19.5	59.4	14.4	51.4	11.0	10.4	19.7	49.7	55.7	74.2	5.3	1396
Rural with road	23.3	55.2	13.1	44.8	13.5	11.8	17.6	40.0	40.2	62.5	5.2	5869
Rural without road	13.2	61.9	11.0	52.5	9.7	8.0	13.9	34.5	33.5	68.3	6.3	721
Province												
Luangnamtha	25.1	61.3	12.9	43.7	10.8	9.1	23.0	42.5	29.4	64.7	8.9	1277
Oudomxay	31.8	73.8	20.6	59.8	15.1	10.8	18.5	31.4	51.6	77.7	3.4	2328
Saravane	16.2	49.7	7.2	44.5	13.9	15.4	17.8	40.6	39.2	50.7	6.3	2505
Sekong	8.7	38.5	6.1	30.6	11.0	8.2	14.5	61.3	41.4	74.4	1.6	806
Attapeu	18.7	42.8	16.4	38.4	8.2	6.7	11.5	47.3	45.6	64.3	5.6	1070
Education												
None	26.8	53.4	15.6	41.6	13.5	9.1	14.0	33.7	31.1	56.8	5.0	2582
Primary	21.7	59.6	13.2	50.2	14.3	13.9	19.3	44.9	46.4	66.6	5.3	2915
Lower secondary	18.6	53.9	10.7	44.4	10.6	10.1	17.6	40.6	43.8	66.9	6.0	1290
Upper secondary	14.2	53.6	10.2	45.4	10.5	8.9	17.4	42.6	49.8	72.9	5.5	751
Post secondary non tertiary	16.4	68.8	11.4	64.0	7.0	11.6	31.3	57.4	68.2	87.6	4.3	174
Higher	13.0	65.9	10.4	59.4	7.9	12.2	26.7	60.8	60.7	81.3	5.8	275
Wealth												
Poorest	24.7	52.7	14.6	41.4	11.6	7.2	13.3	33.0	33.9	61.8	5.1	1399
Second	24.2	54.6	15.1	43.8	13.2	11.2	16.1	35.8	36.7	61.5	4.2	1495
Middle	25.1	57.0	12.4	45.2	15.7	14.5	19.9	42.7	41.1	62.4	5.6	1530
Fourth	19.7	58.1	12.9	50.2	12.0	11.4	18.4	43.1	44.0	64.6	5.5	1662
Richest	16.7	59.2	11.3	50.7	11.2	11.2	19.7	48.5	52.5	72.8	6.0	1900
Language group of household head												
Lao-Tai	17.5	59.7	9.6	52.5	12.2	12.9	19.8	46.7	51.0	67.6	5.1	2788
Mon-Khmer	24.0	54.6	14.8	43.6	12.8	10.0	15.8	37.4	38.1	65.2	5.3	4385
Hmong-Mien	19.2	41.3	14.4	31.8	13.8	14.4	16.2	29.9	30.6	58.7	3.6	91
Chinese-Tibetan	24.8	57.8	16.9	43.9	13.5	11.6	20.7	43.5	35.5	54.2	6.8	709

Area												
Non-MYCNSIA	25.4	65.5	14.5	52.5	15.3	14.1	21.3	37.5	45.4	67.4	5.4	4980
MYCNSIA	15.7	41.6	10.9	37.0	8.4	6.4	11.6	47.3	37.2	61.1	5.1	3006
Non-NPAN	20.9	53.7	13.6	45.3	12.2	10.0	16.2	43.2	43.4	64.4	5.5	5989
NPAN	24.3	64.9	11.7	50.7	14.3	14.8	22.0	35.0	39.2	66.9	4.8	1997

Smoking

Smoking causes a wide range of illnesses and smoking cessation is a public health priority in countries around the world. During pregnancy, smoking can lead to pregnancy complications and a low birth weight baby. The FNSS asked women if they ever smoked and if they are currently smoking. Smoking is most common in rural areas without roads, where more than 1/3 of women age 15-49 years ever smoked cigarettes or a pipe. There are large differences in smoking by ethno-linguistic group. 29.7% of Mon-Khmer women currently smoke, compared to 3.6% of Lao-Tai women, 1.0% of Chinese-Tibetan women, and 0.0% of Hmong Mien women. 16.6% of all currently pregnant women report that they are currently smoking.

The FNSS also asked women if there is a time a woman should not smoke, such as during pregnancy. More than 1/3 of Mon-Khmer women reported that a woman can smoke during pregnancy or that they did not know if there is a time when a woman should not smoke. In all other ethno-linguistic groups more than 4 out of 5 women reported that a woman should not smoke during pregnancy.

Table MD.5: Current and ever use of cigarettes or pipes (women)

Percentage of women age 15-49 years by pattern of use of tobacco, *FNSS, 2015*

			Percentage who believe:			
	Ever smoked cigarettes or pipe	Currently smokes cigarettes or pipe	Women should stop smoking during pregnancy	Women can smoke anytime, including pregnancy	Don't know if there is a time when a woman should not smoke	Number of women age 15-49 years
Age						
15-19	10.1	7.8	74.0	5.8	17.5	1639

Table MD.5: Current and ever use of cigarettes or pipes (women)

Percentage of women age 15-49 years by pattern of use of tobacco, *FNSS, 2015*

			Percentage who believe:			
	Ever smoked cigarettes or pipe	Currently smokes cigarettes or pipe	Women should stop smoking during pregnancy	Women can smoke anytime, including pregnancy	Don't know if there is a time when a woman should not smoke	Number of women age 15-49 years
20-29	19.3	16.1	78.0	8.8	10.9	2737
30-39	33.3	28.4	70.1	14.8	11.8	2115
40-49	40.6	34.8	68.5	15.2	12.4	1494
Province						
Luangnamtha	10.1	8.1	86.6	3.7	9.2	1277
Oudomxay	12.7	9.6	68.7	13.1	13.2	2328
Saravane	30.5	26.9	72.6	8.5	15.0	2505
Sekong	46.8	38.8	67.8	15.4	16.4	806
Attapeu	40.9	35.3	73.1	17.5	8.4	1070
Type of Area						
Urban	8.5	4.7	86.2	2.1	8.2	1396
Rural with road	27.8	23.9	71.4	11.5	14.0	5869
Rural without road	35.6	31.1	64.2	23.5	11.6	721
Education						
None	38.6	34.6	62.7	19.4	15.6	2582
Primary	28.3	23.4	74.0	9.7	13.1	2915
Lower secondary	10.2	7.6	80.4	4.2	11.6	1290
Upper secondary	4.2	1.2	84.9	3.0	9.0	751
Post secondary non tertiary	7.4	2.9	90.6	3.4	2.7	174
Higher	2.6	.9	88.7	4.2	5.4	275
Wealth index quintile						
Poorest	39.8	36.6	60.8	21.1	16.3	1399
Second	33.9	28.6	67.6	15.2	14.8	1495
Middle	27.8	23.4	72.7	10.0	14.1	1530
Fourth	19.6	16.2	76.8	7.3	12.1	1662
Richest	9.9	6.5	84.5	4.2	8.2	1900
Maternal Status						
Not pregnant	25.4	21.4	73.1	11.0	12.8	7560
Currently pregnant	19.7	16.6	77.1	9.8	12.8	426

Table MD.5: Current and ever use of cigarettes or pipes (women)

Percentage of women age 15-49 years by pattern of use of tobacco, *FNSS, 2015*

			Percentage who believe:			
	Ever smoked cigarettes or pipe	Currently smokes cigarettes or pipe	Women should stop smoking during pregnancy	Women can smoke anytime, including pregnancy	Don't know if there is a time when a woman should not smoke	Number of women age 15-49 years
Language group of household head						
Lao-Tai	16.8	13.6	80.3	4.7	10.3	2788
Mon-Khmer	34.6	29.7	67.4	16.2	14.1	4385
Hmong-Mien	0.0	0.0	84.9	1.8	13.3	91
Chinese-Tibetan	2.2	1.0	80.5	4.5	14.3	709
Area						
Non-MYCNSIA	15.0	12.2	74.2	8.4	13.1	4980
MYCNSIA	41.8	36.0	71.8	15.2	12.2	3006
Non-NPAN	23.9	20.2	74.3	9.7	12.6	5989
NPAN	28.7	24.1	70.2	14.7	13.3	1997

Table MD.4 shows the frequency of cigarette or pipe use among current smokers. The table also presents data from the same question on smoking during pregnancy that was presented in Table MD.3, but in Table MD.4 the denominator is only women who are current smokers. In all five provinces the large majority of women smoke less than 10 cigarettes per day. Beliefs on smoking during pregnancy among current smokers are different from the general population. In urban and rural areas the majority of current smokers believe that a woman can smoke during pregnancy or they do not know if there is a time when a woman should not smoke. Among the Mon-Khmer, 43.3% of current smokers report that a women can smoke during pregnancy, and 49.9% of current smokers who are also currently pregnant report that a woman can smoke during pregnancy.

Table MD.6: Frequency of cigarette or pipe use (women)

Percent distribution of current smokers by the number of cigarettes smoked in the last 24 hours, FNSS, 2015

	Number of cigarettes in the last 24 hours among current smokers				Percentage of current smokers who believe:			
	Less than 5	5-9	10-19	20+	Women should stop smoking during pregnancy	Women can smoke anytime, including pregnancy	Don't know if there is a time when a woman should not smoke	Number of women age 15-49 years who are current smokers

Table MD.6: Frequency of cigarette or pipe use (women)

Percent distribution of current smokers by the number of cigarettes smoked in the last 24 hours, FNSS, 2015

	Number of cigarettes in the last 24 hours among current smokers				Percentage of current smokers who believe:			
	Less than 5	5-9	10-19	20+	Women should stop smoking during pregnancy	Women can smoke anytime, including pregnancy	Don't know if there is a time when a woman should not smoke	Number of women age 15-49 years who are current smokers
Age								
15-19	68.8	18.0	10.1	3.1	42.6	39.2	18.2	128
20-29	62.8	25.0	8.9	3.4	47.2	37.8	14.5	441
30-39	61.6	24.6	9.6	4.2	44.2	42.0	12.8	602
40-49	58.5	25.2	13.0	3.3	46.9	34.7	16.9	520
Province								
Luangnamtha	74.1	18.7	6.2	1.1	40.9	39.6	19.5	104
Oudomxay	65.7	29.1	3.0	2.2	28.4	53.0	18.7	223
Saravane	63.9	24.9	9.6	1.6	54.0	30.0	14.4	675
Sekong	54.0	21.8	16.1	8.2	45.5	36.7	17.4	312
Attapeu	57.6	24.3	13.1	5.0	42.4	46.2	10.4	377
Type of Area								
Urban	64.3	16.2	13.9	5.6	49.6	25.3	25.0	65
Rural with road	61.0	24.7	10.4	3.9	46.6	37.0	15.3	1402
Rural without road	63.9	24.9	10.0	1.3	38.7	51.2	9.8	225
Education								
None	58.1	27.2	10.7	4.0	37.0	46.8	15.5	893
Primary	65.0	21.8	10.1	3.1	52.4	31.0	15.3	683
Lower secondary	67.2	17.6	11.9	3.3	71.9	18.0	10.0	99
Upper secondary	.	.	.	.	.	.	.	9
Post secondary non tertiary	.	.	.	.	.	.	.	5
Higher	.	.	.	.	.	.	.	2
Wealth index quintile								
Poorest	60.0	27.9	8.6	3.5	32.7	50.1	16.3	512
Second	61.6	23.0	12.1	3.4	45.3	39.4	14.1	427
Middle	64.1	19.9	12.5	3.5	50.3	34.3	15.0	358
Fourth	63.6	24.9	7.2	4.3	54.7	30.5	13.4	270
Richest	55.7	26.5	14.3	3.5	67.6	16.5	15.5	124
Maternal Status								

Table MD.6: Frequency of cigarette or pipe use (women)

Percent distribution of current smokers by the number of cigarettes smoked in the last 24 hours, FNSS, 2015

	Number of cigarettes in the last 24 hours among current smokers				Percentage of current smokers who believe:			
	Less than 5	5-9	10-19	20+	Women should stop smoking during pregnancy	Women can smoke anytime, including pregnancy	Don't know if there is a time when a woman should not smoke	Number of women age 15-49 years who are current smokers
Not pregnant	61.3	24.4	10.7	3.7	46.1	38.0	15.0	1620
Currently pregnant	66.6	24.8	6.6	1.9	36.6	49.9	12.4	71
Language group of household head								
Lao-Tai	60.5	24.4	11.6	3.4	60.6	22.0	16.1	380
Mon-Khmer	61.7	24.3	10.3	3.7	41.6	43.3	14.3	1302
Hmong-Mien	.	.	.	.	.	.	.	0
Chinese-Tibetan	.	.	.	.	.	.	.	7
Area								
Non-MYCNSIA	64.2	24.8	8.8	2.2	40.9	36.7	20.8	610
MYCNSIA	60.0	24.1	11.5	4.4	48.3	39.4	11.6	1081
Non-NPAN	59.0	24.6	12.0	4.4	46.2	38.4	14.4	1211
NPAN	67.8	23.9	6.7	1.6	44.4	38.7	16.2	480

VII. Micronutrient Fortification and Child Micronutrient Supplementation

Staple Food Fortification - Salt Iodization

Iodine Deficiency Disorders (IDD) is the world's leading cause of preventable mental retardation and impaired psychomotor development in young children. In its most extreme form, iodine deficiency causes cretinism. It also increases the risks of stillbirth and miscarriage in pregnant women. Iodine deficiency is most commonly and visibly associated with goitre. IDD takes its greatest toll in impaired mental growth and development, contributing in turn to poor school performance, reduced intellectual ability, and impaired work performance. The global indicator is the percentage of households consuming adequately iodized salt (≥15 parts per million), but the Rapid Test Kits commonly used in household surveys do not accurately distinguish between less than or greater than 15 parts per million. The FNSS uses Rapid Test Kits that measure the presence of any iodine.

Table MNFS.1 (NU.10): Iodized salt consumption

Percent distribution of households by consumption of iodized salt, *FNSS, 2015*

	Percentage of households in which salt was tested	Number of households	Percent of households with:				Number of households in which salt was tested or with no salt
				Salt test result			
			No salt	Not iodized 0 PPM	Iodized >0 PPM	Total	
Province							
Luangnamtha	98.5	1059	0.0	3.4	96.6	100.0	1042
Oudomxay	98.3	1803	0.0	16.7	83.3	100.0	1773
Saravane	97.5	2067	.3	8.8	90.9	100.0	2020
Sekong	98.3	579	.5	32.3	67.3	100.0	572
Attapeu	96.8	880	1.1	19.8	79.1	100.0	862
Type of Area							
Urban	99.0	1058	.1	11.5	88.4	100.0	1048
Rural with road	97.6	4739	.3	13.3	86.4	100.0	4639
Rural without road	97.9	591	.5	21.8	77.7	100.0	581
Wealth index quintile							
Poorest	97.0	1304	.7	21.3	78.1	100.0	1274
Second	97.9	1197	.2	15.8	84.0	100.0	1174
Middle	98.5	1207	.2	11.5	88.3	100.0	1190
Fourth	98.4	1291	.2	10.5	89.3	100.0	1273
Richest	97.5	1389	.2	10.1	89.7	100.0	1357
Area							
Non-MYCNSIA	97.9	4066	.1	10.0	89.9	100.0	3983

MYCNSIA	97.8	2321	.7	20.4	78.9	100.0	2285
Non-NPAN	97.5	4881	.4	13.4	86.2	100.0	4775
NPAN	99.1	1506	.0	15.0	85.0	100.0	1493

[1] **MICS indicator 2.19 - Iodized salt consumption**

In more than 97 percent of households in all five provinces, salt used for cooking was tested for iodine content by using salt test kits. Table NU.10 shows that there were very few households with no salt available. These households are included in the denominator of the indicator. Use of iodized salt was lowest in Sekong (67.3 percent) and highest in Luangnamtha (96.6 percent) (Figure MFNS.1). Households in rural areas without roads and the poorest households are less likely to have iodized salt, but the largest differences are by province. Before testing salt, the FNSS asked respondents whether or not they believed their salt to be iodized. Figure MFNS.2 shows the results of salt testing by respondent response. More than 4 out of 5 households believed they used iodized salt, and within these households 90% of salt tested positive for iodine. 11.7% of respondents did not know if their salt was iodized, and within this group 84% of the salt was iodized. 5.5% of respondents believed that their salt was not iodized, and within this group only 26% of salt tested positive for iodine. Figure MFNS.2 suggests that in some places non-iodized salt is available and that some households are choosing to purchase and consume non-iodized salt.

Figure MNFS.1: Consumption of iodized salt, FNSS, 2015

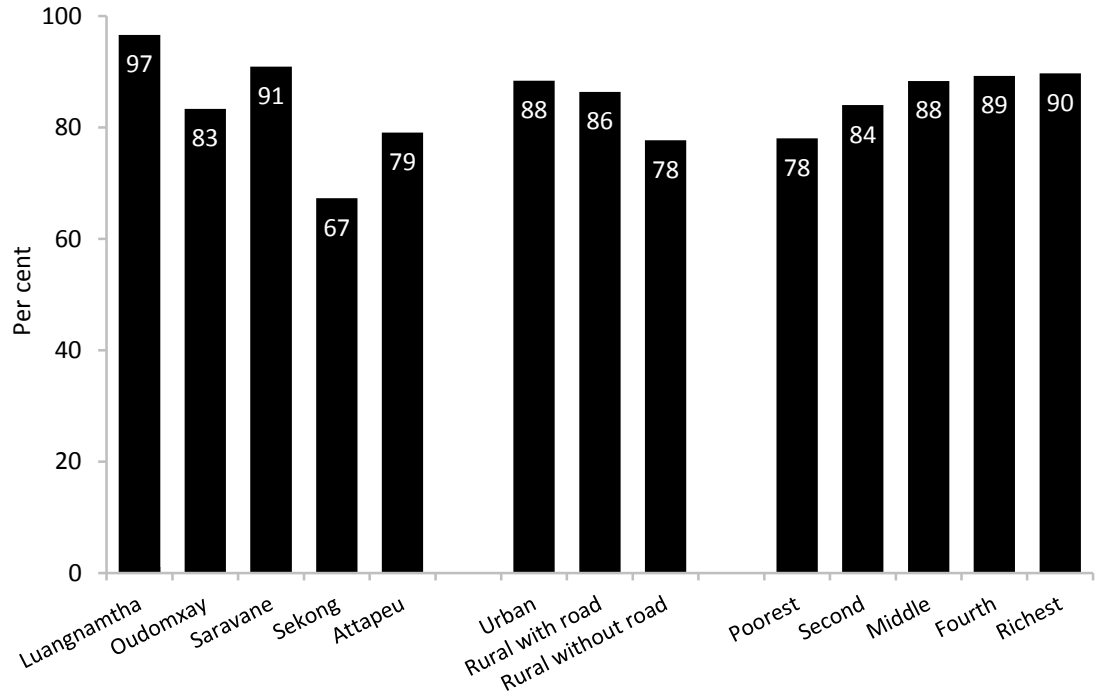


Figure MNFS.2: Iodized salt knowledge, FNSS, 2015

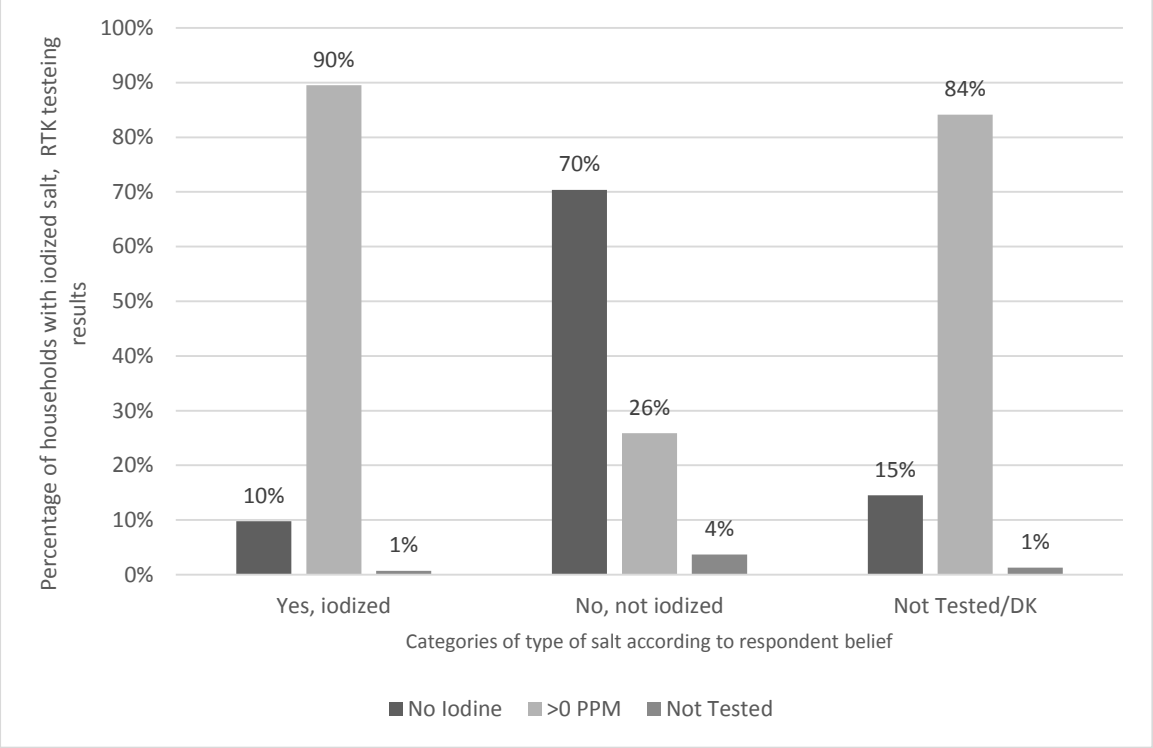
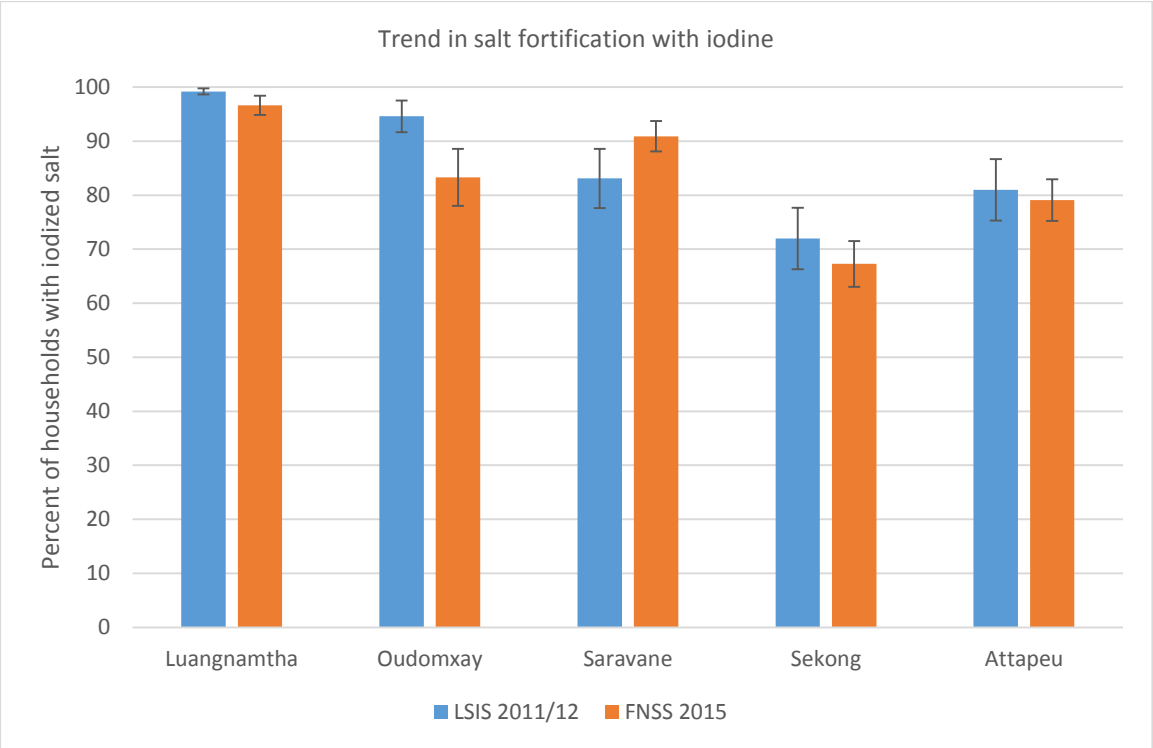


Figure MNFS.2 Crosstabulation

			Iodine Testing with RTK				
			No Iodine	Iodine >0 PPM	No Salt	Not tested	Total
Interviewee Response: Does the salt you use to cook meals contain iodine?	Yes	N					5223
		% within Yes	9.8%	89.5%	.2%	.5%	100.0%
		% of Total					82.8%
	No	N					348
		% within No	70.4%	25.9%	1.1%	2.6%	100.0%
		% of Total					5.5%
	Do not Know	N					737
		% within Don't Know	14.5%	84.1%	.5%	.8%	100.0%
		% of Total					11.7%

Figure MNFS.3 compares the coverage of iodized salt between the 2011/12 LSIS and the 2015 FNSS. In three of the five provinces the change in the percent of households with iodized salt is small enough that the confidence intervals overlap, and the trends are not likely to be meaningful. In two provinces there was statistically significant change, but the trends move in different directions. In Oudomxay there was a decrease in coverage, while in Saravane there was an increase in coverage.

Figure MNFS.3: Province level trends in households with iodized salt, 2011/12 LSIS and 2015 FNSS



In-Home Food Fortification – Multiple Micronutrient Powder

In-home food fortification is a strategy to improve infant and young child diet by providing caretakers with vitamins and minerals in powder form. The powder can be added to the child's food by the caretaker. In-home fortification with multiple micronutrient powder is seen as an important strategy for child anemia reduction in Laos because the powder contains iron, and iron deficiency is one of the causes of anemia. In Laos, there is no iron fortification of staple foods and there is no iron supplementation for children. Like other countries in the region, there is a high prevalence of inherited blood disorders that cause anemia in Laos. Iron overload is a concern when iron is added to the diet of individuals that are not iron deficient and who have inherited blood disorders. In the context of a high prevalence of blood disorders, an option for reducing anemia caused by iron deficiency is to target populations that have high iron needs and are likely to be iron deficient, such as young children and pregnant women.

In Laos, multiple micronutrient powder, branded as SuperKid, is offered for free through the public health system to children 6-23 months of age. Public sector distribution began in Saravane Province. SuperKid is also available 'for-sale' to children 6-59 months across various provinces in the country.

In Saravane ½ of the children have caretakers that have heard of the MNP brand SuperKid, compared to 13.5% in Attapeu and less than 5% in the other three provinces. In Sarvane province 60.9% of caretakers who reported hearing of SuperKid correctly identified SuperKid as a vitamin or food additive, and 2/3 reported that they heard of SuperKid from another person. Of the caretakers who report hearing about SuperKid from another person, 85% report hearing about SuperKid from a health professional. Interpersonal communication from health professionals appears to be the most common source of information on SuperKid. In Saravane only ¼ of caretakers who heard of SuperKid reported hearing about SuperKid in the media, and SuperKid messages were reported to come from TV (31.5%), radio (32.7), and posters/signs/pamphlets (30.4%) primarily.

Table MNFS.2: Multiple micronutrient powder (MNP) - Exposure to information

Caretaker exposure to media and interpersonal communication on SuperKid MNP among children 6-59 months

			Among children whose caretaker heard of SuperKid MNP, percentage				Among children whose caretaker heard of SuperKid in media, percentage exposed through						Among children whose caretaker heard of SuperKid from another person, percentage heard from			
	Percentage of children whose caretaker heard of SuperKid MNP	Number of children	who heard, saw, or read about Superkid in media	who heard about Superkid from another person	who correctly Identified Superkid as a vitamin or food additive	Number of children	Radio	TV	Newspaper or magazine	Poster, sign, or pamphlet	Village voice announcement	Number of children	Relative or friend	Doctor, nurse or other health professional	Volunteer or traditional birth attendant	Number of children
Sex																
Male	20.5	1869	26.3	63.4	54.3	384	26.1	37.3	16.0	42.3	18.2	101	14.9	86.3	16.9	243
Female	21.6	1871	28.3	64.5	62.0	404	34.0	32.9	7.8	36.8	19.8	114	19.2	84.1	12.5	260
Type of Area																
Urban	19.5	477	46.0	50.7	65.8	93	31.0	50.4	39.2	57.3	20.2	43	13.4	98.4	15.7	47
Rural with road	23.4	2875	25.4	64.3	55.6	673	30.4	30.8	4.9	34.3	18.2	171	17.9	83.6	15.3	433
Rural without road	7.7	444	7.4	86.0	86.0	34	.	.	.	.	.	3	8.6	89.8	8.6	29
Province																
Luangnamtha	5.3	550	36.9	48.0	26.0	29	.	.	.	.	.	11	.	.	.	14
Oudomxay	2.9	1003	11.8	29.4	35.3	30	.	.	.	.	.	3	.	.	.	9
Saravane	50.1	1305	24.9	66.7	60.9	653	31.5	32.7	7.3	30.4	21.3	163	15.4	85.0	13.5	436
Sekong	4.5	421	.	.	.	19	.	.	.	.	.	4	.	.	.	11

Table MNFS.2: Multiple micronutrient powder (MNP) - Exposure to information

Caretaker exposure to media and interpersonal communication on SuperKid MNP among children 6-59 months

			Among children whose caretaker heard of SuperKid MNP, percentage				Among children whose caretaker heard of SuperKid in media, percentage exposed through						Among children whose caretaker heard of SuperKid from another person, percentage heard from			
	Percentage of children whose caretaker heard of SuperKid MNP	Number of children	who heard, saw, or read about Superkid in media	who heard about Superkid from another person	who correctly Identified Superkid as a vitamin or food additive	Number of children	Radio	TV	Newspaper or magazine	Poster, sign, or pamphlet	Village voice announcement	Number of children	Relative or friend	Doctor, nurse or other health professional	Volunteer or traditional birth attendant	Number of children
Attapeu	13.5	517	50.5	56.8	57.9	70	16.7	31.3	12.5	77.1	14.6	35	22.2	88.9	18.5	40
Age																
6-11 months	19.8	420	30.2	62.3	59.9	83	47.0	48.7	20.1	17.3	18.6	25	13.4	80.4	20.9	52
12-17 months	21.1	398	23.0	63.9	59.4	84	.	.	.	.	.	19	7.3	93.2	8.3	54
18-23 months	26.7	426	28.3	58.0	67.5	114	31.0	34.5	20.1	53.5	16.8	32	19.0	80.3	25.7	66
24-35 months	24.1	875	24.8	66.6	64.4	211	25.3	31.6	4.8	32.2	28.7	52	10.3	94.3	11.5	141
36-47 months	17.2	916	26.6	67.0	43.2	158	30.8	28.3	11.0	35.0	16.3	42	24.1	80.5	17.2	106
48-59 months	19.8	761	29.9	60.6	55.9	150	29.2	34.9	11.1	46.1	18.3	45	25.0	78.7	10.5	91
Wealth index quintile																
Poorest	14.5	965	24.6	65.1	35.3	140	30.0	15.6	0.0	37.9	8.3	34	22.6	86.1	11.5	91
Second	17.0	852	26.8	75.9	38.8	145	39.8	28.	0.0	38.4	18.2	39	25.8	76.1	12.8	110

Table MNFS.2: Multiple micronutrient powder (MNP) - Exposure to information

Caretaker exposure to media and interpersonal communication on SuperKid MNP among children 6-59 months

			Among children whose caretaker heard of SuperKid MNP, percentage				Among children whose caretaker heard of SuperKid in media, percentage exposed through						Among children whose caretaker heard of SuperKid from another person, percentage heard from			
	Percentage of children whose caretaker heard of SuperKid MNP	Number of children	who heard, saw, or read about Superkid in media	who heard about Superkid from another person	who correctly Identified Superkid as a vitamin or food additive	Number of children	Radio	TV	Newspaper or magazine	Poster, sign, or pamphlet	Village voice announcement	Number of children	Relative or friend	Doctor, nurse or other health professional	Volunteer or traditional birth attendant	Number of children
								5								
Middle	23.0	725	19.7	65.6	68.6	166	39.5	30.9	2.2	39.3	7.6	33	9.9	90.4	17.1	109
Fourth	23.8	654	27.9	62.0	73.5	156	15.6	43.8	14.9	33.8	22.4	43	9.0	92.1	12.9	97
Richest	32.2	600	34.5	52.9	67.6	193	31.1	44.4	26.8	43.6	28.1	67	17.2	82.7	20.2	102
Language group of household head																
Lao-Tai	39.3	1182	25.0	61.5	69.5	464	37.9	41.7	16.4	36.7	27.2	116	14.4	85.7	13.8	286
Mon-Khmer	15.0	2143	30.3	67.4	43.4	322	21.7	27.4	5.1	41.8	9.5	98	19.3	85.3	16.4	217
Hmong-Mien	6.8	58	.	.	.	4	.	.	.	.	.	0	.	.	.	2
Chinese-Tibetan	2.4	414	.	.	.	10	.	.	.	.	.	2	.	.	.	4
Area																
Non-MYCNSIA	20.0	2269	20.9	61.6	73.9	454	29.5	38.9	17.3	27.2	25.1	95	15.8	83.9	9.7	280
MYCNSIA	22.7	1528	35.0	66.3	37.3	346	31.6	31.	7.1	48.5	14.1	121	18.3	87.0	21.4	229

Table MNFS.2: Multiple micronutrient powder (MNP) - Exposure to information

Caretaker exposure to media and interpersonal communication on SuperKid MNP among children 6-59 months

			Among children whose caretaker heard of SuperKid MNP, percentage				Among children whose caretaker heard of SuperKid in media, percentage exposed through						Among children whose caretaker heard of SuperKid from another person, percentage heard from			
	Percentage of children whose caretaker heard of SuperKid MNP	**Number of children**	who heard, saw, or read about Superkid in media	who heard about Superkid from another person	who correctly Identified Superkid as a vitamin or food additive	Number of children	Radio	TV	Newspaper or magazine	Poster, sign, or pamphlet	Village voice announcement	Number of children	Relative or friend	Doctor, nurse or other health professional	Volunteer or traditional birth attendant	Number of children
Non-NPAN	20.2	2903	28.8	63.0	56.4	587	36.2	32.2	9.9	44.3	21.8	169	15.4	83.8	17.7	370
NPAN	23.8	893	21.9	65.4	62.7	213	10.7	44.2	17.6	20.5	8.3	47	21.0	89.4	7.7	139

Table MNFS.3a: Multiple micronutrient powder (MNP) intake among children 6-59 months

Ever receiving or buying MNP and current MNP consumption among children 6-59 months whose caretakers heard of MNP

	Percentage of children whose caretaker heard of SuperKid MNP	Number of children	Among children whose caretaker heard of SuperKid MNP, percentage					Among children consuming MNP within last 6 months, percentage			
			Ever received MNP	Ever bought MNP	Ever received or bought MNP	Consumed MNP within last 6 months	Number of children	Consuming 1-29 sachets in last 6 months	Consuming 30-59 sachets in last 6 months	Consuming 60+ sachets in last 6 months	Number of children
Sex											
Male	20.5	1869	74.1	17.5	77.7	52.2	384	48.3	43.4	8.4	200
Female	21.6	1871	63.7	14.8	67.4	46.0	404	45.4	39.2	15.4	186
Type of Area											
Urban	19.5	477	55.2	31.0	63.2	46.3	93	55.9	30.7	13.3	43
Rural with road	23.4	2875	70.2	14.4	73.0	50.3	673	47.4	41.0	11.6	338
Rural without road	7.7	444	72.0	10.5	79.3	33.0	34	.	.	.	11
Province											
Luangnamtha	5.3	550	33.1	33.4	44.3	33.4	29	.	.	.	10
Oudomxay	2.9	1003	29.4	11.8	35.3	5.9	30	.	.	.	2
Saravane	50.1	1305	73.9	14.6	76.4	53.1	653	43.7	44.3	12.0	347
Sekong	4.5	421	.	.	.	.	19	.	.	.	5
Attapeu	13.5	517	63.2	22.1	68.4	42.1	70	80.0	17.5	2.5	29
Age											

Table MNFS.3a: Multiple micronutrient powder (MNP) intake among children 6-59 months

Ever receiving or buying MNP and current MNP consumption among children 6-59 months whose caretakers heard of MNP

			Among children whose caretaker heard of SuperKid MNP, percentage					Among children consuming MNP within last 6 months, percentage			
	Percentage of children whose caretaker heard of SuperKid MNP	Number of children	Ever received MNP	Ever bought MNP	Ever received or bought MNP	Consumed MNP within last 6 months	Number of children	Consuming 1-29 sachets in last 6 months	Consuming 30-59 sachets in last 6 months	Consuming 60+ sachets in last 6 months	Number of children
6-11 months	19.8	420	59.5	28.0	67.6	63.3	83	67.6	24.4	7.9	53
12-17 months	21.1	398	76.7	15.0	77.8	59.9	84	52.5	31.0	16.5	50
18-23 months	26.7	426	78.8	10.5	80.5	61.6	114	42.8	45.5	11.8	70
24-35 months	24.1	875	76.3	15.2	79.3	50.0	211	42.9	48.4	8.7	106
36-47 months	17.2	916	57.0	18.0	63.6	32.5	158	45.8	52.8	1.4	51
48-59 months	19.8	761	62.5	14.2	64.1	41.8	150	41.7	34.9	23.4	63
Wealth index quintile											
Poorest	14.5	965	73.4	12.7	73.9	46.9	140	36.9	57.4	5.6	65
Second	17.0	852	67.5	7.6	69.9	46.4	145	39.9	46.8	13.3	67
Middle	23.0	725	72.1	9.6	74.3	50.4	166	49.6	38.8	11.5	84
Fourth	23.8	654	74.6	18.8	76.7	52.9	156	54.8	36.0	9.2	82
Richest	32.2	600	58.0	28.8	67.1	48.5	193	52.5	31.0	16.5	94
Language group of household head											
Lao-Tai	39.3	1182	66.8	16.9	70.7	51.8	464	54.7	29.8	15.5	240
Mon-Khmer	15.0	2143	72.4	13.9	75.2	45.4	322	34.5	60.7	4.8	146
Hmong-Mien	6.8	58	.	.	.	.	4	.	.	.	2

Table MNFS.3a: Multiple micronutrient powder (MNP) intake among children 6-59 months

Ever receiving or buying MNP and current MNP consumption among children 6-59 months whose caretakers heard of MNP

			Among children whose caretaker heard of SuperKid MNP, percentage					Among children consuming MNP within last 6 months, percentage			
	Percentage of children whose caretaker heard of SuperKid MNP	Number of children	Ever received MNP	Ever bought MNP	Ever received or bought MNP	Consumed MNP within last 6 months	Number of children	Consuming 1-29 sachets in last 6 months	Consuming 30-59 sachets in last 6 months	Consuming 60+ sachets in last 6 months	Number of children
Chinese-Tibetan	2.4	414	.	.	.	.	10	.	.	.	4
Area											
Non-MYCNSIA	20.0	2269	64.0	18.4	68.4	49.1	454	53.9	29.8	16.3	223
MYCNSIA	22.7	1528	74.6	13.2	77.1	49.0	346	39.4	55.3	5.3	170
Non-NPAN	20.2	2903	67.9	15.0	71.7	49.1	587	47.5	38.8	13.7	288
NPAN	23.8	893	70.4	19.4	73.6	48.9	213	47.9	46.6	5.5	104

Table MNFS.3b: Multiple micronutrient powder intake among children 6-24 months

Ever receiving or buying MNP and current MNP consumption among children 6-24 months whose caretakers heard of MNP

			Among children whose caretaker heard of SuperKid MNP, percentage					Among children consuming MNP within last 6 months, percentage			
	Percentage of children whose caretaker heard of SuperKid MNP	**Number of children**	Ever received MNP	Ever bought MNP	Ever received or bought MNP	Consumed MNP within last 6 months	Number of children	Consuming 1-29 sachets in last 6 months	Consuming 30-59 sachets in last 6 months	Consuming 60+ sachets in last 6 months	Number of children
Sex											
Male	23.3	617	78.2	15.7	81.7	60.5	144	49.8	38.1	12.1	87
Female	21.9	609	65.5	19.0	69.0	61.6	133	55.4	32.2	12.4	82
Type of Area											
Urban	24.7	168	60.4	34.4	70.6	58.5	42	51.9	29.4	18.7	24
Rural with road	24.9	924	73.7	14.6	76.1	63.3	230	52.9	36.0	11.1	146
Rural without road	6.2	152	.	.	.	.	9	.	.	.	3
Province											
Luangnamtha	4.9	173	.	.	.	.	9	.	.	.	1
Oudomxay	3.2	328	.	.	.	.	10	.	.	.	0
Saravane	53.8	417	79.3	16.6	81.5	68.3	224	50.6	37.7	11.7	153
Sekong	5.0	143	.	.	.	.	7	.	.	.	3
Attapeu	16.7	184	69.0	21.4	76.2	52.4	31	81.8	13.6	4.5	16
Age											

Table MNFS.3b: Multiple micronutrient powder intake among children 6-24 months

Ever receiving or buying MNP and current MNP consumption among children 6-24 months whose caretakers heard of MNP

			Among children whose caretaker heard of SuperKid MNP, percentage					Among children consuming MNP within last 6 months, percentage			
	Percentage of children whose caretaker heard of SuperKid MNP	**Number of children**	Ever received MNP	Ever bought MNP	Ever received or bought MNP	Consumed MNP within last 6 months	Number of children	Consuming 1-29 sachets in last 6 months	Consuming 30-59 sachets in last 6 months	Consuming 60+ sachets in last 6 months	Number of children
6-11 months	19.8	420	59.5	28.0	67.6	63.3	83	67.6	24.4	7.9	53
12-17 months	21.1	398	76.7	15.0	77.8	59.9	84	52.5	31.0	16.5	50
18-23 months	26.7	426	78.8	10.5	80.5	61.6	114	42.8	45.5	11.8	70
Wealth index quintile											
Poorest	14.6	287	78.1	6.8	78.1	53.3	42	37.1	51.6	11.3	22
Second	15.6	294	67.5	13.4	75.1	60.7	46	50.1	40.8	9.1	28
Middle	23.4	246	84.7	3.7	86.0	67.2	58	47.3	40.7	12.0	39
Fourth	29.7	197	83.9	30.3	86.0	72.0	58	65.2	28.8	6.0	42
Richest	35.1	221	54.7	24.5	60.1	54.6	77	57.0	22.9	20.1	42
Language group of household head											
Lao-Tai	42.5	398	73.3	21.0	77.3	68.6	169	59.7	26.8	13.5	116
Mon-Khmer	15.6	692	72.9	10.4	75.5	51.8	108	40.6	52.3	7.1	56
Hmong-Mien	.	15	.	.	.	.	0	.	.	.	0
Chinese-Tibetan	2.8	140	.	.	.	.	4	.	.	.	1
Area											
Non-	22.5	723	72.1	19.3	75.2	62.7	163	59.4	24.7	15.9	102

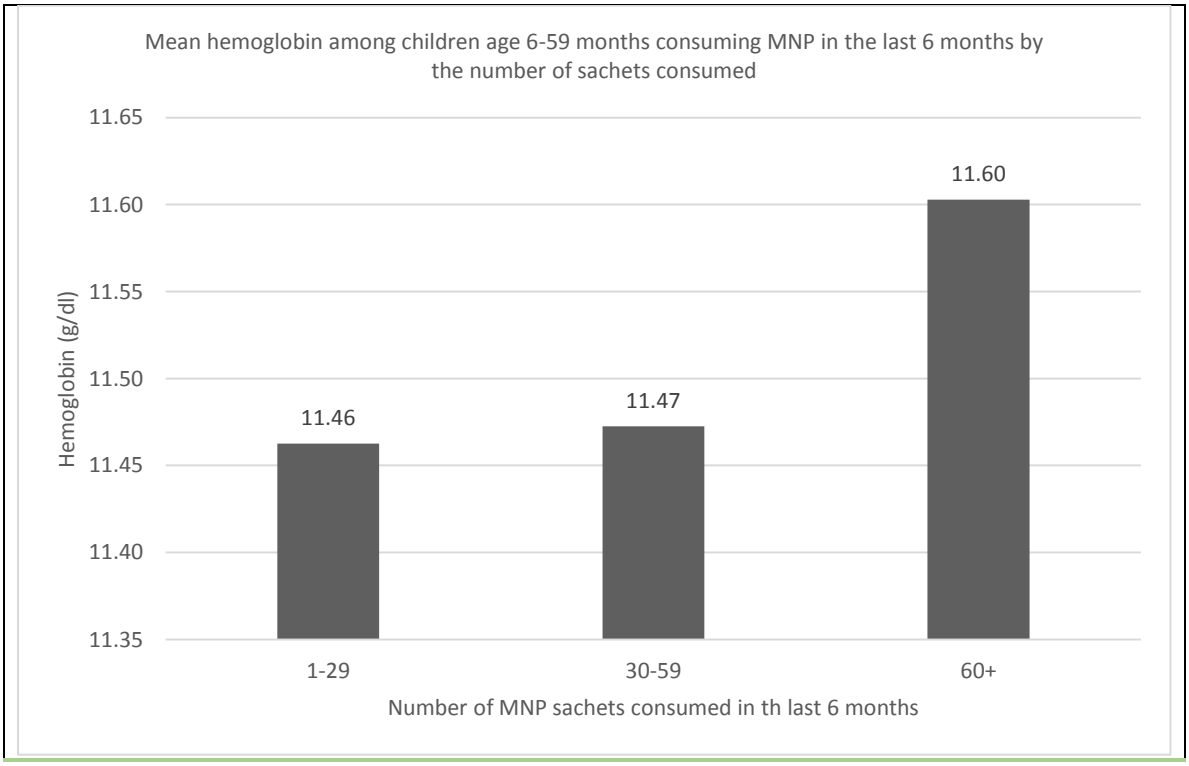
Table MNFS.3b: Multiple micronutrient powder intake among children 6-24 months

Ever receiving or buying MNP and current MNP consumption among children 6-24 months whose caretakers heard of MNP

			Among children whose caretaker heard of SuperKid MNP, percentage					Among children consuming MNP within last 6 months, percentage			
	Percentage of children whose caretaker heard of SuperKid MNP	**Number of children**	Ever received MNP	Ever bought MNP	Ever received or bought MNP	Consumed MNP within last 6 months	Number of children	Consuming 1-29 sachets in last 6 months	Consuming 30-59 sachets in last 6 months	Consuming 60+ sachets in last 6 months	Number of children
MYCNSIA											
MYCNSIA	22.7	521	73.0	13.9	76.9	60.2	118	44.3	49.4	6.3	71
Non-NPAN	22.0	964	70.3	16.6	73.7	59.6	212	51.3	36.3	12.4	126
NPAN	24.7	281	79.0	18.2	82.7	67.7	69	58.3	31.0	10.8	47

In the FNSS, questions on MNP use were only asked to respondents who reported hearing about the MNP brand SuperKid[13]. For other interventions, such as Vitamin A supplementation, respondents are prompted by showing a capsule. Respondents were not prompted for MNP. Tables MFNS3.a and 3.b show the use of MNP among children age 6-59 months and 6-24 months whose caretakers heard of SuperKid. In Saravane Province 53.8% of children 6-24 months had caretakers who heard of MNP, and 68.3% of those children consumed MNP in the last 6 months (MFNS.3b). Of the children that consumed MNP in the last 6 months only 11.7% consumed the recommended minimum of 60 sachets. Figure MNFS.3 shows the mean hemoglobin and prevalence of anemia among children that consumed MNP in the last 6 months by the number of sachets consumed. Mean hemoglobin increases and anemia prevalence decreases among children consuming 60+ sachets, but 30-59 sachets does not appear to be sufficient to affect mean hemoglobin and anemia prevalence.

Figure MNFS.4: Micronutrient powder consumption and anemia, FNSS, 2015



[13] Questions to calculate MNP coverage were meant to be asked to all respondents, but the addition of a skip to the final questionnaire inadvertently skipped respondents who had not heard of SuperKid.

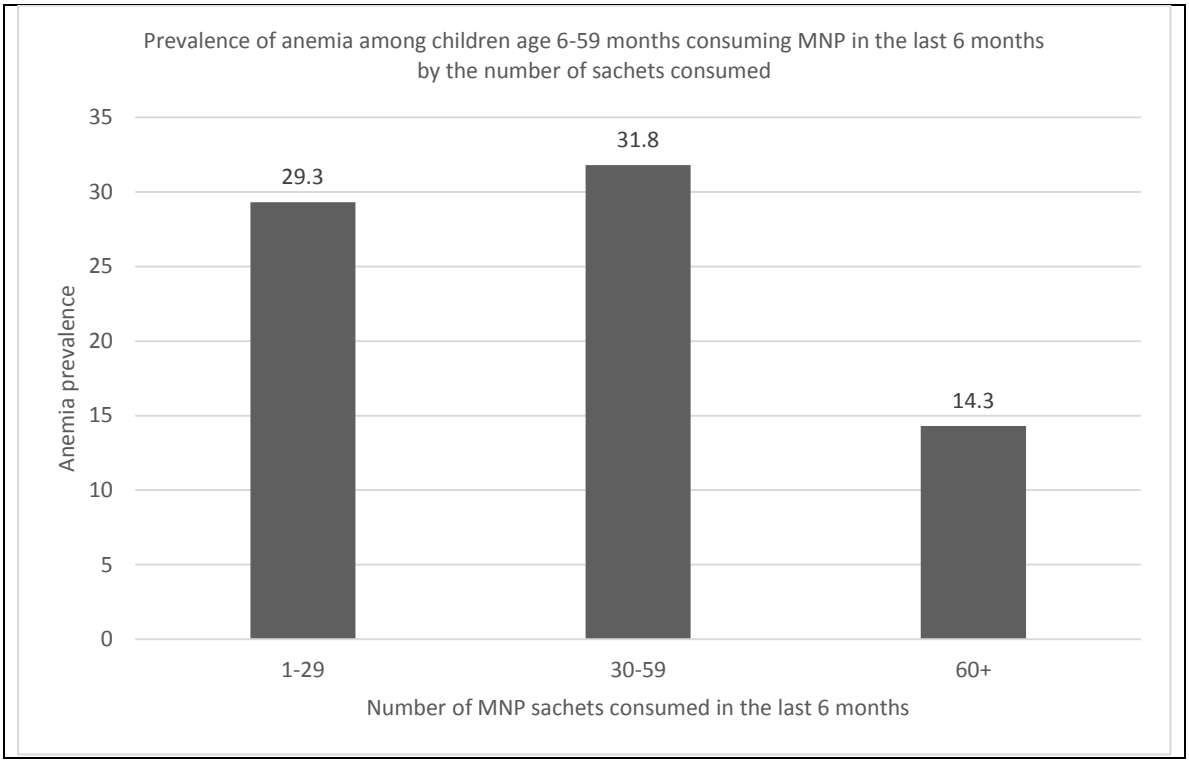

Prevalence of anemia among children age 6-59 months consuming MNP in the last 6 months by the number of sachets consumed
Anemia prevalence
35
30
25
20
15
10
5
0
29.3
31.8
14.3
1-29
30-59
60+
Number of MNP sachets consumed in the last 6 months

Table MNFS.4: Multiple micronutrient powder - consumption adherence

Among children age 6-59 months who have consumed MNP in the last 6 months the percentage that consume entire or partial sachet and among children age 6-59 months who have consumed MNP in the last two weeks the frequency of sachet consumption

	Recommended				Recommended			Over		Under	
	Percentage consuming entire sachet	Percentage consuming part of sachet with sharing	Percentage consumng part of sachet without sharing	Number of children	Percentage consuming one sachet per day	Percentage consuming one sachet per two days	Percentage consuming one sachet per three days	Percentage consuming 3+ sachets per day	Percentage consuming 2 sachets per day	Percentage consuming 1 sachet per 4+ days	Number of children
Sex											
Male	84.0	2.3	12.5	198	47.7	4.5	23.1	3.8	19.9	1.0	143
Female	77.8	4.6	16.2	186	53.3	2.0	21.8	3.0	12.3	7.6	142
Age											
6-11 months	73.2	1.5	25.3	50	50.9	6.8	26.6	1.6	8.2	5.8	43
12-17 months	79.0	10.9	10.0	50	69.5	2.7	14.6	7.3	4.8	1.1	44
18-23 months	68.9	4.6	19.3	70	19.4	9.9	30.3	4.3	23.5	12.7	33
24-35 months	86.4	2.5	11.1	106	59.8	2.4	22.0	1.8	14.1	0.0	81
36-47 months	76.2	9.1	14.7	51	36.3	0.0	14.7	3.6	32.6	12.8	39
48-59 months	91.0	2.2	6.7	63	45.5	1.5	25.9	3.0	18.8	5.3	47
6-23 months	73.2	5.6	18.3	171	49.1	6.1	23.2	4.4	11.1	6.0	121
Wealth index quintile											
Poorest	82.9	3.3	13.8	65	53.2	2.7	2.7	8.0	31.3	2.2	54
Second	80.3	3.8	15.9	67	57.0	7.6	13.8	3.9	16.9	.9	54
Middle	83.4	1.7	8.9	84	51.1	2.5	29.3	5.5	4.8	6.7	59
Fourth	78.6	7.8	13.6	82	50.6	1.2	29.3	0.0	16.2	2.6	59
Richest	76.0	6.0	17.9	91	38.5	3.6	32.6	0.0	13.2	12.1	63
Province											

Saravane	82.5	4.8	11.3	345	51.2	.3	23.6	3.5	17.0	4.5	257
Attapeu	70.0	2.5	27.5	29	41.4	34.5	10.3	3.4	6.9	3.4	21

MNP sachets are designed as a single dose; the entire sachet is meant to be consumed by one child. Adherence to consumption advice was measured among children that consumed MNP in the last 6 months. In Saravane Province less than 5% of child caretakers report sharing the MNP sachet between more than one child, but 11.3% reported that the child could not finish the entire sachet. Inability to consume an entire sachet is highest among the youngest children. In Saravane ¾ of children are consuming the recommended 1 sachet per 1-3 days, while 20.5% of children are consuming too much MNP, with most overconsumption being 2 sachets per day.

Table MNFS.5: Multiple micronutrient powder - preparation adherence

Among children who have consumed MNP in the last 6 months the percentages of how MNP is added to food and they types of food MNP is added to

	Recommended					Recommended						
	MNP added after cooking, cool	MNP added after cooking, hot	MNP added during cooking	Food not cooked / Don't know	Number of children	MNP added to enriched porridge	MNP added to eggs	MNP added to vegetable, fruit, or other food	MNP added to simple rice porridge	MNP added to sticky rice	MNP added to water	Number of children
Sex												
Male	70.2	11.8	3.1	15.0	185	14.1	11.9	3.5	39.3	10.0	18.0	160
Female	66.8	11.3	9.5	12.4	178	9.7	7.8	9.4	52.7	5.7	13.1	161
Age												
6-11 months	84.3	10.4	3.9	1.4	49	9.9	7.5	3.3	61.6	8.6	7.5	43
12-17 months	56.5	21.7	11.5	10.3	50	12.2	5.4	16.9	41.0	12.4	12.1	46
18-23 months	73.4	5.8	2.1	18.7	68	17.6	0.0	4.8	46.4	11.6	8.2	44
24-35 months	72.1	6.7	7.5	13.7	96	9.8	18.9	7.7	39.2	6.1	17.5	93
36-47 months	59.8	10.8	8.5	20.9	50	11.5	11.8	1.6	52.5	8.2	11.9	43
48-59 months	55.5	18.3	3.7	22.5	57	12.9	10.4	2.6	41.1	2.6	29.2	55
6-23 months	71.5	11.9	5.4	11.1	166	13.2	4.3	8.5	49.4	10.9	9.3	134
Wealth index quintile												
Poorest	65.0	12.4	13.4	9.3	64	17.9	0.0	7.2	49.2	14.6	8.8	59
Second	62.9	8.8	5.3	23.0	61	14.9	4.4	8.2	33.8	5.0	28.0	57
Middle	73.1	3.2	8.1	15.6	80	8.0	23.5	10.2	36.9	5.6	15.8	70
Fourth	72.3	17.4	4.2	6.1	77	7.3	11.2	4.8	56.5	7.5	10.1	68
Richest	63.8	14.7	1.3	20.2	88	13.0	10.7	2.0	49.7	6.7	15.4	71
Province												

Saravane	69.0	12.4	6.4	12.1	332	12.6	12.0	7.0	47.7	7.4	12.0	286
Attapeu	71.9	3.1	3.1	21.9	23	11.1	0.0	2.8	41.7	5.6	30.6	26

MNP is designed to be odorless and tasteless. Adding MNP to food that is hot can change the color and taste of the food. In Saravane Province MNP was added to hot food for 18.8% of children who consumed MNP in the last 6 months. The most common food for adding MNP is simple rice porridge, especially among the youngest children. 61.6% of children 6-11 months received MNP in simple rice porridge. In Saravane Province 12.0% of children received MNP mixed with water. Consuming MNP without food can reduce the absorption of fat-soluble vitamins.

Table MNFS.6: Multiple micronutrient powder - cause for not consuming

Percentage of cause for not consuming MNP among children age 6-59 months who ever received MNP and stopped consuming

	Did not receive	Did not buy	Dark stool, diarrhea, or other illness from MNP	Child refuses to eat	Other	Number of children
Sex						
Male	53.8	19.0	.5	21.1	5.6	140
Female	63.6	10.7	3.1	11.2	10.7	118
Age						
6-23 months	44.8	18.8	3.8	24.4	8.1	85
24-35 months	63.3	10.4	1.0	18.5	6.8	76
36-47 months	66.6	14.8	.9	7.1	10.6	54
48-59 months	62.1	15.9	0.0	14.4	6.1	47
Wealth index quintile						
Poorest	65.9	6.7	1.5	15.1	10.8	50
Second	72.0	12.0	0.0	10.3	5.8	45
Middle	50.1	15.9	4.7	19.3	10.0	54
Fourth	75.4	8.0	1.4	13.9	1.3	54
Richest	31.5	29.7	.8	25.9	11.0	60
Province						
Saravane	61.6	13.1	1.1	18.3	5.5	221
Attapeu	45.2	12.9	6.5	0.0	35.5	23

Children who have stopped consuming MNP includes children that did not consume in the last six months and those that did not consume in the last two weeks

For children 6-23 months and for children 24-59 months the primary reason for stopping consumption of MNP is that they did not have MNP. For children 6-23 months 44.8% of caretakers cite not receiving MNP as the reason for stopping, and 18.8% said that they stopped because they did not buy MNP. Refusal to eat is also an important reason for stopping, especially among younger

children. Nearly ¼ of caretakers of children 6-23 months report that they stopped using MNP because the child refused to eat. Side effects of MNP, such as dark stool and diarrhea, are seen when MNP is introduced. However, side effects do not appear to be an important reason for stopping MNP consumption. Only 3.8% of caretakers reported to stop using MNP because of side effects.

Vitamin A and Deworming

Vitamin A is important for its role in preventing blindness and reducing child mortality. Children age 6-59 months are to receive a high-dose Vitamin A supplement every six months. Some intestinal parasites can cause bleeding and infestation can contribute to increased anemia. Children age 12-59 months are targeted to receive deworming medication every 6 months. When delivered through outreach in a campaign fashion, Vitamin A and deworming medication can be distributed at the same time.

MNFS.7 Child Vitamin A Supplementation and Deworming

Percentage of children age 6-59 months who received a high-dose Vitamin A supplement and the percentage of children 12-59 months who received deworming medication

	Percentage of children who ever received Vitamin A	Percentage of children who received Vitamin A in the last 6 months	Number of children 6-59 months	Percentage of children who ever received deworming	Percentage of children who received deworming in the last 6 months	Number of children 12-59 months
Sex						
Male	75.0	56.7	1890	55.9	43.6	1687
Female	76.5	57.9	1891	57.9	46.4	1674
Type of Area						
Urban	82.6	65.8	481	59.4	51.1	420
Rural with road	75.2	56.2	2913	57.6	44.7	2601
Rural without road	70.6	54.9	444	50.2	41.7	393
Province						
Luangnamtha	70.2	54.9	552	62.7	50.9	486
Oudomxay	75.0	63.6	1005	46.1	40.7	899
Saravane	83.0	64.9	1341	69.3	55.5	1194
Sekong	71.1	42.8	421	46.7	28.1	376
Attapeu	67.4	39.5	519	48.3	34.7	458
Age						
6-11 months	51.3	40.9	425	.	.	.
12-23 months	73.9	58.1	828	38.5	30.3	828

24-35 months	78.2	61.4	876	58.0	45.9	876
36-47 months	80.9	60.7	940	63.5	49.3	940
48-59 months	81.6	56.6	769	67.6	55.3	769
Wealth index quintile						
Poorest	70.0	50.3	969	50.7	37.7	884
Second	74.9	56.0	863	55.2	44.8	745
Middle	75.6	58.2	734	58.2	46.9	668
Fourth	79.6	59.9	660	60.0	48.0	581
Richest	81.4	66.3	611	64.9	52.7	535
Mother's education						
None	72.0	51.7	1364	50.4	38.4	1227
Primary	76.9	59.1	1442	61.7	49.1	1286
Lower secondary	77.9	60.1	388	62.2	52.7	336
Upper secondary	80.1	62.2	140	59.5	44.4	124
Post secondary non tertiary	89.7	78.7	58	66.8	54.8	46
Higher	85.1	75.4	87	73.1	61.4	71
Language group of household head						
Lao-Tai	79.9	62.8	1211	65.0	52.4	1058
Mon-Khmer	76.4	56.8	2154	53.9	42.3	1937
Hmong-Mien	47.9	31.1	58	47.8	31.6	53
Chinese-Tibetan	62.9	47.2	415	51.1	41.4	365
Area						
Non-MYCNSIA	76.3	61.7	2305	56.2	47.0	2047
MYCNSIA	74.7	50.6	1533	58.1	42.5	1366
Non-NPAN	73.8	54.1	2937	55.7	43.3	2607
NPAN	81.7	67.8	901	60.9	51.2	806

In all five provinces more than 2/3 of children received Vitamin A, but fewer children received supplementation within the last 6 months. The percentage of children receiving Vitamin A in the last 6 months ranges from 39.5% in Attapeu to 64.9% in Saravane. In both urban and rural areas the percentage of children receiving deworming medication is lower than the percentage receiving Vitamin A. In rural areas less than ½ of children received deworming medication within the last 6 months. For both Vitamin A and deworming the lowest coverage is found among the poorest households.

VIII. Maternal Care & Woman Micronutrient Supplementation

Weekly Iron Folic Acid Supplementation

Weekly iron folic acid supplementation (WIF) for women of reproductive age can contribute to anemia reduction and prevention of neural tube defects. Preventing iron deficiency can address one of the major nutritional causes of anemia. In Laos, genetic blood disorders are also a major cause of anemia. A woman who has a genetic blood disorder and who is not iron deficient may not benefit from iron supplementation and there may be a risk of iron overload. The folic acid contained in WIF is important for women who may become pregnant to prevent some child neural tube defects. Neural tube defects develop in the weeks after conception. The daily iron folic acid supplementation received during antenatal care is likely too late to prevent neural tube defects. Pre-pregnancy diet and supplementation are the most important factors for preventing neural tube defects related to folic acid.

Table MCS.1 Weekly Iron Folic Acid Supplementation

	Percentage of women who ever received or bought WIF	Percentage of women who do not know if ever received or bought WIF	Number of women age 15-49 years
Type of area			
Urban	36.9	8.6	1396
Rural with road	27.3	8.1	5869
Rural without road	19.1	5.1	721
Province			
Luangnamtha	25.7	6.6	1277
Oudomxay	23.8	8.0	2328
Saravane	28.7	8.2	2505
Sekong	29.0	7.2	806
Attapeu	39.2	9.2	1070
Age			
15-19 years	24.5	17.8	1639
20-29 years	32.7	6.3	2737
30-39 years	31.1	4.7	2115
40-49 years	20.1	4.8	1494
Education			
None	21.7	7.2	2582
Primary	29.1	5.5	2915
Lower	33.1	11.2	1290

Table MCS.1 Weekly Iron Folic Acid Supplementation

	Percentage of women who ever received or bought WIF	Percentage of women who do not know if ever received or bought WIF	Number of women age 15-49 years
secondary			
Upper secondary	33.5	12.9	751
Post secondary	37.1	9.9	449
Wealth index quintile			
Poorest	22.0	6.6	1399
Second	25.7	8.8	1495
Middle	27.4	6.4	1530
Fourth	29.5	8.6	1662
Richest	34.3	8.8	1900
Language group of household head			
Lao-Tai	31.1	8.2	2788
Mon-Khmer	28.5	7.6	4385
Hmong-Mien	18.0	6.0	91
Chinese-Tibetan	16.3	8.5	709
Area			
Non-MYCNSIA	23.4	8.3	4980
MYCNSIA	36.2	7.3	3006
Non-NPAN	28.9	8.1	5989
NPAN	26.0	7.5	1997

Among women age 15-49 years 19.1% in rural areas without roads, 27.3% in rural areas with roads, and 36.9% in urban areas have received or bought weekly iron folic acid supplements. A high percentage (17.8%) of women age 15-19 years reported that they did not know if they ever received or bought WIF. Coverage of WIF increases with wealth and education, and women age 20-40 are the most likely to have ever had WIF.

Antenatal Care

The antenatal period presents important opportunities for reaching pregnant women with a number of interventions that may be vital to their health, nutrition and well-being and that of their infants. Better understanding of foetal growth and development and its relationship to the mother's health has resulted in increased attention to the potential of antenatal care as an intervention to improve both maternal and newborn health and nutrition. The management of anaemia during pregnancy can significantly improve foetal outcomes and improve maternal health. Adverse outcomes such as low birth weight can be reduced through a combination of interventions to improve women's nutritional status and prevent infections (e.g., malaria and STIs) during pregnancy.

WHO recommends a minimum of four antenatal visits based on a review of the effectiveness of different models of antenatal care. WHO guidelines are specific on the content on antenatal care visits, which include:

- Blood pressure measurement
- Urine testing for bacteriuria and proteinuria
- Blood testing to detect syphilis and severe anaemia
- Weight/height measurement (optional).

It is of crucial importance for pregnant women to start attending antenatal care visits as early in pregnancy as possible in order to prevent and detect pregnancy conditions that could affect both the woman and her baby. Antenatal care should continue throughout the entire pregnancy.

Antenatal care coverage indicators (at least one visit with a skilled provider and 4 or more visits with any providers) are used to track progress toward the Millennium Development Goal 5 of improving maternal health.

Table MC.2 (RH.7): Antenatal care coverage

Percent distribution of women age 15-49 years with a live birth in the last two years by antenatal care provider during the pregnancy for the last birth, *FNSS, 2015*

	Provider of antenatal care[a]									
	Medical doctor	Nurse/ Midwife	Medical assistant	Traditional birth attendant	Community health worker	Other	No antenatal care	Total	Any skilled provider[1,b]	Number of women with a live birth in the last two years
Province										

Luangnamtha	74.8	9.0	6.5	0.0	0.0	2.5	7.2	100.0	83.8	241
Oudomxay	86.5	3.8	3.8	.0	.3	.7	4.8	100.0	90.3	482
Saravane	70.0	3.0	16.3	.0	.1	1.2	9.4	100.0	73.1	622
Sekong	85.6	6.4	2.0	0.0	0.0	.6	5.4	100.0	92.0	229
Attapeu	76.2	6.8	2.8	0.0	3.7	.9	9.6	100.0	83.0	243
Area										
Urban	87.0	8.9	2.2	0.0	0.0	0.0	1.9	100.0	95.9	248
Rural with road	75.7	4.9	9.1	0.0	.8	1.2	8.3	100.0	80.6	1358
Rural without road	80.7	.7	8.5	0.0	.4	1.6	8.2	100.0	81.4	212
Mother's age at birth										
Less than 20	77.1	2.4	12.4	0.0	.3	1.3	6.5	100.0	79.6	263
20-34	79.8	5.9	6.8	0.0	.7	.8	6.0	100.0	85.7	1016
35-49	69.9	5.3	14.9	0.0	1.3	1.3	7.4	100.0	75.1	183
Education										
None	79.9	3.4	4.6	0.0	.6	.5	11.0	100.0	83.3	663
Primary	73.9	4.6	12.1	0.0	.9	2.1	6.5	100.0	78.4	744
Lower secondary	77.2	6.2	10.8	0.0	.3	.5	4.8	100.0	83.5	228
Upper secondary	87.8	8.9	.8	0.0	0.0	0.0	2.5	100.0	96.7	89
Post secondary, non-tertiary	84.2	14.6	0.0	0.0	0.0	0.0	1.2	100.0	98.8	39
Higher	88.1	10.2	1.7	0.0	0.0	0.0	0.0	100.0	98.3	56
Wealth index quintile										
Poorest	77.8	2.9	4.6	0.0	.8	1.2	12.6	100.0	80.7	446
Second	79.9	2.9	6.9	0.0	.6	1.9	7.6	100.0	82.9	394
Middle	72.4	6.4	14.2	0.0	.6	.9	5.4	100.0	78.8	368
Fourth	75.3	7.3	10.7	0.0	.2	.2	6.3	100.0	82.6	294
Richest	83.9	6.6	4.7	0.0	.7	1.0	3.1	100.0	90.5	315
Language group of household head										
Lao-Tai	71.9	6.9	13.3	0.0	.5	2.0	5.4	100.0	78.7	563
Mon-Khmer	79.3	4.3	6.5	0.0	.8	.8	8.3	100.0	83.7	1049
Hmong-Mien	73.4	4.4	0.0	0.0	0.0	0.0	22.1	100.0	77.9	25
Chinese-Tibetan	88.0	2.8	1.8	0.0	0.0	.6	6.8	100.0	90.8	179

[1] MICS indicator 5.5a; MDG indicator 5.5 - Antenatal care coverage

[a] Only the most qualified provider is considered in cases where more than one provider was reported.

[b] Skilled providers include *Medical doctor* and *Nurse/Midwife*.

The type of personnel providing antenatal care to women age 15-49 years who gave birth in the two years preceding is presented in Table RH.7. The results show that a relatively small percentage of

women do not receive antenatal care. In all five provinces, the majority of antenatal care is provided by skilled providers while a minority of women receive care from medical assistants or community health workers. No women reported only receiving antenatal care from a traditional birth attendant.

Figure MCS.1 shows the trends in coverage of at least one antenatal care visit with a skilled provider between LSIS 2011/12 and FNSS 2015. There was dramatic improvement in all five provinces. In 2011/12 four of the five provinces had coverage below 50%. By 2015, coverage in all five provinces is above 70%. The largest increase was seen in Oudomxay, where coverage increased by approximately 55 percentage points. Non-overlapping confidence intervals in all five provinces shows that the trends are statistically significant.

Figure MCS.1: Province level trends in antenatal care with a skilled provider, LSIS 2011/12 and FNSS 2015

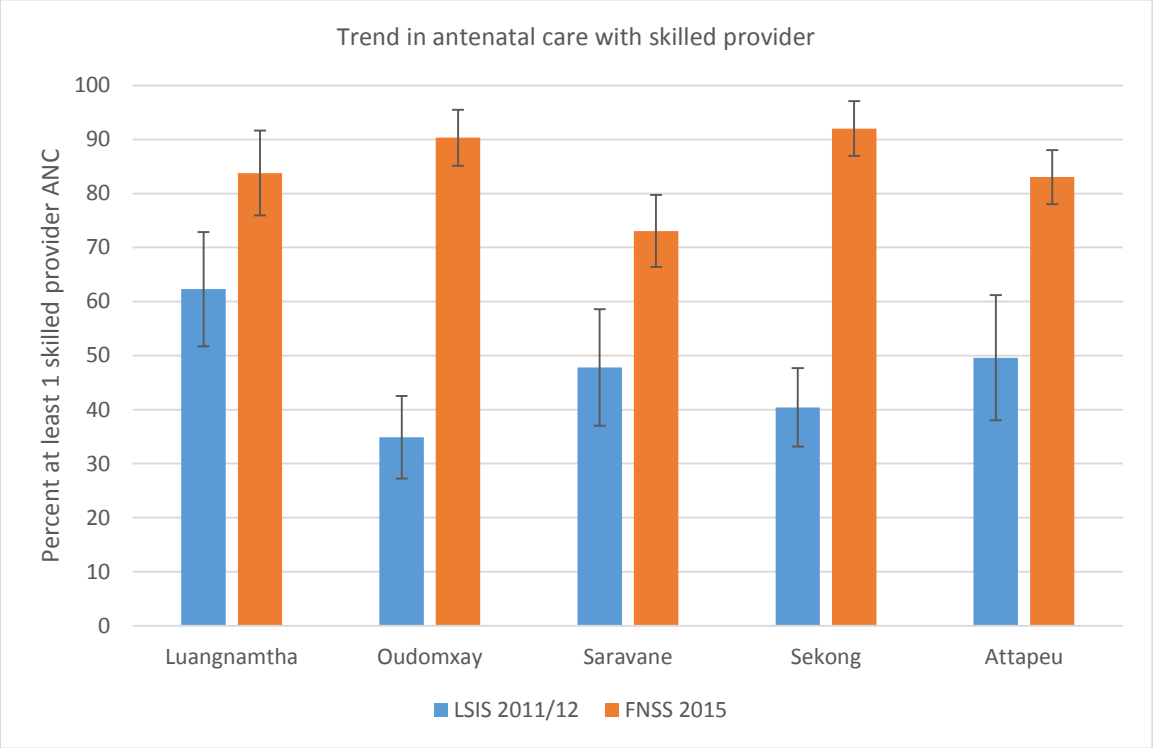


Table MCS.3 (RH.8): Number of antenatal care visits and timing of first visit

Percent distribution of women age 15-49 years with a live birth in the last two years by number of antenatal care visits by any provider and by the timing of first antenatal care visits, *FNSS, 2015*

	Percent distribution of women who had:							Percent distribution of women by number of months pregnant at the time of first antenatal care visit							Number of women with a live birth in the last two years	Median months pregnant at first ANC visit	Number of women with a live birth in the last two years who reported number of ANC visits
	No antenatal care visits	One visit	Two visits	Three visits	4 or more visits[1]	DK / Missing	Total	No antenatal care visits	First trimester	4-5 months	6-7 months	8+ months	DK / Missing	Total			
Province																	
Luangnamtha	7.2	4.1	1.8	6.6	62.2	18.0	100.0	7.2	43.6	40.6	5.9	0.5	2.2	100.0	241	4.0	218
Oudomxay	4.8	4.2	5.9	8.0	61.2	15.9	100.0	4.8	45.0	42.9	5.9	1.0	0.3	100.0	482	4.0	457
Saravane	9.4	1.9	7.2	10.2	48.8	22.5	100.0	9.4	58.7	22.8	8.3	0.3	0.4	100.0	622	3.0	561
Sekong	5.4	1.8	5.4	8.6	51.1	27.7	100.0	5.4	67.8	21.6	4.0	1.0	0.2	100.0	229	3.0	216
Attapeu	9.6	5.6	5.9	9.0	40.4	29.6	100.0	9.6	67.3	18.5	4.0	0.6	0.0	100.0	243	3.0	220
Area																	
Urban	1.9	0.8	1.3	8.4	78.5	9.1	100.0	1.9	63.2	31.9	2.4	0.0	0.7	100.0	248	3.0	241
Rural with road	8.3	3.8	6.1	9.2	50.4	22.2	100.0	8.3	54.2	29.4	6.8	0.8	0.6	100.0	1358	3.0	1236
Rural without road	8.2	2.8	8.6	6.6	40.0	33.9	100.0	8.2	53.9	29.9	7.2	0.8	0.0	100.0	212	3.0	195
Mother's age at birth																	
Less than 20	6.5	4.5	6.1	8.1	61.6	13.2	100.0	6.5	51.9	31.9	7.6	0.9	1.2	100.0	263	3.0	243
20-34	6.0	2.7	6.3	9.6	57.0	18.3	100.0	6.0	56.0	31.3	5.8	0.4	0.5	100.0	1016	3.0	949
35-49	7.4	3.4	4.7	5.9	48.6	30.1	100.0	7.4	58.9	25.9	7.4	0.5	0.0	100.0	183	3.0	170
Education																	
None	11.0	4.1	6.4	6.9	37.1	34.5	100.0	11.0	59.1	22.0	6.8	0.5	0.6	100.0	663	3.0	586
Primary	6.5	3.2	7.2	10.7	53.6	18.8	100.0	6.5	53.4	32.7	6.3	0.8	0.3	100.0	744	3.0	693
Lower secondary	4.8	3.6	2.0	11.1	68.6	9.9	100.0	4.8	45.5	40.2	7.1	0.7	1.7	100.0	228	4.0	213

Table MCS.3 (RH.8): Number of antenatal care visits and timing of first visit

Percent distribution of women age 15-49 years with a live birth in the last two years by number of antenatal care visits by any provider and by the timing of first antenatal care visits, *FNSS, 2015*

	Percent distribution of women who had:							Percent distribution of women by number of months pregnant at the time of first antenatal care visit							Number of women with a live birth in the last two years	Median months pregnant at first ANC visit	Number of women with a live birth in the last two years who reported number of ANC visits
	No antenatal care visits	One visit	Two visits	Three visits	4 or more visits[1]	DK / Missing	Total	No antenatal care visits	First trimester	4-5 months	6-7 months	8+ months	DK / Missing	Total			
Upper secondary	2.5	0.0	2.8	4.6	89.6	0.5	100.0	2.5	58.9	35.0	3.6	0.0	0.0	100.0	89	3.0	87
Post secondary, non-tertiary	1.2	0.0	2.8	5.5	86.1	4.3	100.0	1.2	59.1	35.0	4.8	0.0	0.0	100.0	39	3.0	38
Higher	0.0	0.0	0.0	5.1	91.0	3.8	100.0	0.0	69.6	29.1	0.0	1.4	0.0	100.0	56	3.0	56
Wealth index quintile																	
Poorest	12.6	5.5	6.6	7.5	29.0	38.7	100.0	12.6	57.4	22.1	6.7	0.7	0.5	100.0	446	3.0	388
Second	7.6	3.5	7.9	6.8	47.9	26.3	100.0	7.6	54.4	28.6	7.7	1.3	0.3	100.0	394	3.0	362
Middle	5.4	4.0	6.8	11.3	55.6	16.9	100.0	5.4	54.3	30.4	8.3	0.9	0.8	100.0	368	3.0	345
Fourth	6.3	0.7	5.0	11.3	66.6	10.0	100.0	6.3	48.8	39.0	5.3	0.0	0.6	100.0	294	3.0	274
Richest	3.1	1.2	1.3	7.7	77.9	8.8	100.0	3.1	61.2	32.8	2.1	0.2	0.7	100.0	315	3.0	303
Language group of household head																	
Lao-Tai	5.4	1.2	4.0	11.1	66.4	11.9	100.0	5.4	57.6	30.5	6.3	0.1	0.0	100.0	563	3.0	532
Mon-Khmer	8.3	4.3	6.8	7.7	47.0	25.8	100.0	8.3	55.3	29.4	5.7	1.0	0.3	100.0	1049	3.0	959
Hmong-Mien	22.1	4.4	4.4	8.9	42.2	18.0	100.0	22.1	31.2	37.8	8.9	0.0	0.0	100.0	.	.	19
Chinese-Tibetan	6.8	3.4	4.9	8.0	47.2	29.7	100.0	6.8	52.1	27.9	8.6	0.6	3.9	100.0	179	3.0	160

[1] MICS indicator 5.5b; MDG indicator 5.5 - Antenatal care coverage

Table MCS.3 shows the number of antenatal care visits during the latest pregnancy that took place within the two years preceding the survey, regardless of provider, by selected characteristics. The percentage of mothers who received antenatal care at least four times ranges from 48.8% in Saravane Province to 62.2% in Luangnamtha. However, there is a substantial percentage of mothers who responded that they do not know the number of ANC visits. 9.1% of women in urban areas, 22.2% in rural areas with roads, and 33.9% in rural areas without roads responded “don’t know.”

Table MCS.3 also provides information about the timing of the first antenatal care visit. In urban and rural areas the majority of women with a live birth in the last two years had their first antenatal care visit during the first trimester of their last pregnancy, with a median of 3 months of pregnancy at the first visit among those who received antenatal care in both urban and rural areas.

Figure MCS.2 compares the percent of women attending at least four antenatal care visits between the 2011/12 LSIS and the 2015 FNSS. All five provinces show increases in coverage. The smallest increase was in Attapeu. In the remaining four provinces the increases were large enough that confidence intervals do not overlap. The largest increase was seen in Oudomxay, where coverage increased by nearly 50 percentage points.

Figure MCS.2: Province level trends in 4+ antenatal care with any provider, LSIS 2011/12 and FNSS 2015

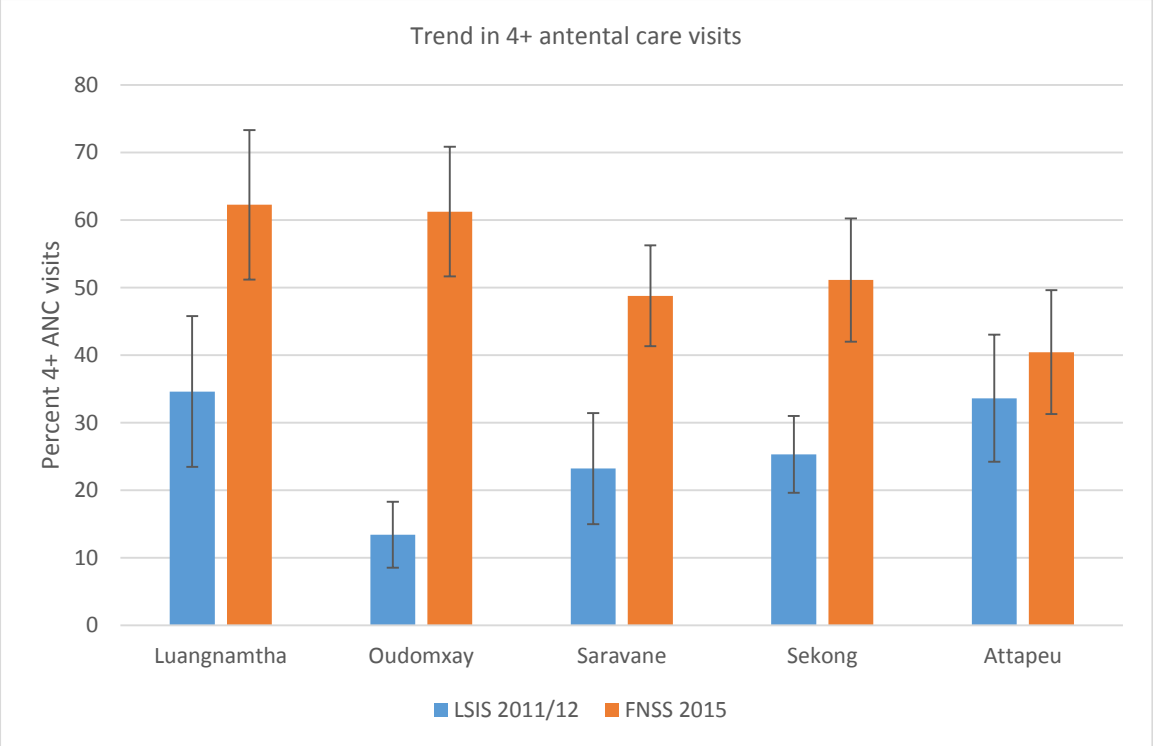


Table MCS.4 (RH.9): Content of antenatal care

Percentage of women age 15-49 years with a live birth in the last two years who, at least once, had their blood pressure measured, urine sample taken, and blood sample taken as part of antenatal care, during the pregnancy for the last birth, *FNSS, 2015*

	Percentage of women who, during the pregnancy of their last birth, had core services:				Percentage of women who, during the pregnancy of their last birth, had additional services:						Number of women with a live birth in the last two years
	Blood pressure measured	Urine sample taken	Blood sample taken	Blood pressure measured, urine and blood sample taken[1]	Weight measured	Counseling on IFA	Counseling on weight gain / diet	Counseling on breastfeeding	Counseling on infant formula	Counseling on complementary feeding	
Province											
Luangnamtha	62.6	25.5	34.1	15.7	69.8	52.2	35.6	57.4	13.0	38.8	241
Oudomxay	73.4	28.4	16.6	13.8	78.2	57.8	47.4	55.4	21.8	38.1	482
Saravane	50.9	15.5	18.7	8.3	66.6	39.0	22.1	50.1	12.2	29.6	622
Sekong	45.9	22.0	21.2	8.8	63.5	43.9	31.4	48.3	12.6	29.7	229
Attapeu	45.4	20.1	19.1	9.9	55.9	45.7	35.8	46.3	17.0	27.5	243
Area											
Urban	78.5	34.7	41.8	25.0	89.5	75.3	64.6	77.7	28.2	54.2	248
Rural with road	54.8	20.9	18.8	9.7	66.2	43.6	29.2	48.3	14.1	30.3	1358
Rural without road	46.3	11.5	7.1	3.1	56.6	37.9	25.5	43.5	9.7	23.8	212
Mother's age at birth											
Less than 20	64.6	20.6	17.6	8.8	77.0	54.0	37.8	60.7	15.1	39.1	263
20-34	61.0	24.2	24.8	13.3	74.3	51.5	37.6	56.8	18.3	36.7	1016
35-49	45.1	16.5	13.7	9.0	55.4	35.0	22.4	41.1	7.8	23.8	183
Education											
None	40.7	17.7	14.3	7.9	50.8	34.2	25.6	38.1	10.8	22.6	663
Primary	59.1	20.7	18.4	9.4	72.0	47.0	29.9	52.7	14.0	32.2	744
Lower secondary	72.4	26.9	25.3	13.6	82.9	60.5	44.6	64.0	23.6	43.6	228

Table MCS.4 (RH.9): Content of antenatal care

Percentage of women age 15-49 years with a live birth in the last two years who, at least once, had their blood pressure measured, urine sample taken, and blood sample taken as part of antenatal care, during the pregnancy for the last birth, *FNSS, 2015*

	Percentage of women who, during the pregnancy of their last birth, had core services:				Percentage of women who, during the pregnancy of their last birth, had additional services:						Number of women with a live birth in the last two years
	Blood pressure measured	Urine sample taken	Blood sample taken	Blood pressure measured, urine and blood sample taken[1]	Weight measured	Counseling on IFA	Counseling on weight gain / diet	Counseling on breastfeeding	Counseling on infant formula	Counseling on complementary feeding	
Upper secondary	83.7	22.6	41.1	21.8	97.0	70.4	58.3	76.3	26.4	52.5	89
Post secondary, non-tertiary	94.5	59.1	46.0	37.5	98.8	87.2	74.5	84.2	31.9	65.5	39
Higher	93.2	32.1	53.8	25.5	99.2	87.4	65.6	87.4	31.4	64.9	56
Wealth index quintile											
Poorest	35.7	12.5	9.5	5.8	45.3	30.2	22.2	32.6	8.3	19.6	446
Second	50.0	20.1	15.6	7.0	62.4	39.5	30.0	45.6	14.1	30.2	394
Middle	63.6	23.2	18.0	10.8	73.5	49.7	31.0	56.0	15.4	34.7	368
Fourth	67.6	27.0	27.3	14.3	82.9	57.0	38.9	63.4	16.3	37.0	294
Richest	78.6	29.9	39.2	20.7	88.4	69.1	52.3	70.5	27.1	48.6	315
Language group of household head											
Lao-Tai	69.4	21.4	26.5	12.5	82.2	55.2	35.2	60.1	18.5	39.0	563
Mon-Khmer	51.8	21.0	16.5	8.9	63.2	44.1	33.6	49.4	14.4	30.9	1049
Hmong-Mien	51.0	33.3	37.8	33.3	51.0	37.8	31.0	31.0	4.4	4.4	25
Chinese-Tibetan	49.4	23.9	22.3	14.7	56.2	41.5	28.3	41.1	13.5	27.7	179
Area											
Non-MYCNSIA	67.0	22.7	18.4	11.5	75.6	49.5	35.7	54.8	16.4	35.2	1054
MYCNSIA	43.3	20.3	23.6	10.4	58.2	44.1	30.6	47.4	14.4	29.5	763

Table MCS.4 (RH.9): Content of antenatal care

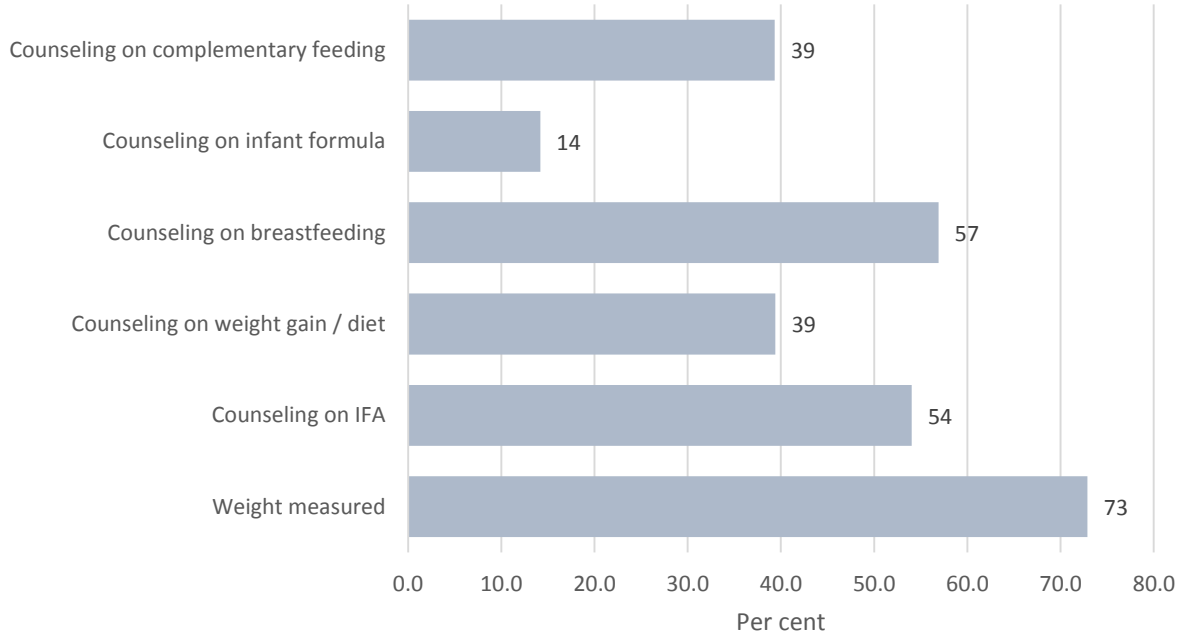
Percentage of women age 15-49 years with a live birth in the last two years who, at least once, had their blood pressure measured, urine sample taken, and blood sample taken as part of antenatal care, during the pregnancy for the last birth, *FNSS, 2015*

	Percentage of women who, during the pregnancy of their last birth, had core services:				**Percentage of women who, during the pregnancy of their last birth, had additional services:**						Number of women with a live birth in the last two years
	Blood pressure measured	Urine sample taken	Blood sample taken	Blood pressure measured, urine and blood sample taken[1]	Weight measured	Counseling on IFA	Counseling on weight gain / diet	Counseling on breastfeeding	Counseling on infant formula	Counseling on complementary feeding	
Non-NPAN	55.0	23.2	24.5	13.1	66.7	44.9	31.6	49.9	16.0	30.6	1357
NPAN	62.9	17.2	9.0	4.8	72.9	54.0	39.4	56.9	14.2	39.3	460

[1] MICS indicator 5.6 - Content of antenatal care

The coverage of key services that pregnant women are expected to receive during antenatal care are shown in Table RH.9. Among those women who had a live birth during the two years preceding the survey, only 25% of women in urban areas and less than 10% of women in rural areas received all three core services of blood pressure, urine, and blood tests. The most common component of ANC received was a weight measurement, which more than ½ of women received in both urban and rural areas. Counselling was relatively common in urban areas, where more than ½ of women reported receiving counselling on how to take iron folic acid supplements, on weight gain / diet, on breastfeeding and on complementary feeding. Counselling services were lower in rural areas. With the high percentage of women that now receive antenatal care across all five provinces, there is an opportunity to reach more women with essential services to improve both maternal and child health and nutrition.

Figure MCS.3: Antenatal care additional services in NPAN areas, FNSS, 2015



Micronutrient Supplementation and Deworming During Pregnancy

Table MCS.5: Micronutrient supplementation and deworming during pregnancy

Percentage of women age 15-49 years with a live birth in the last two years who received or bought iron folic acid supplements, deworming medication, and multiple micronutrient supplements during the pregnancy for the last birth, FNSS, 2015

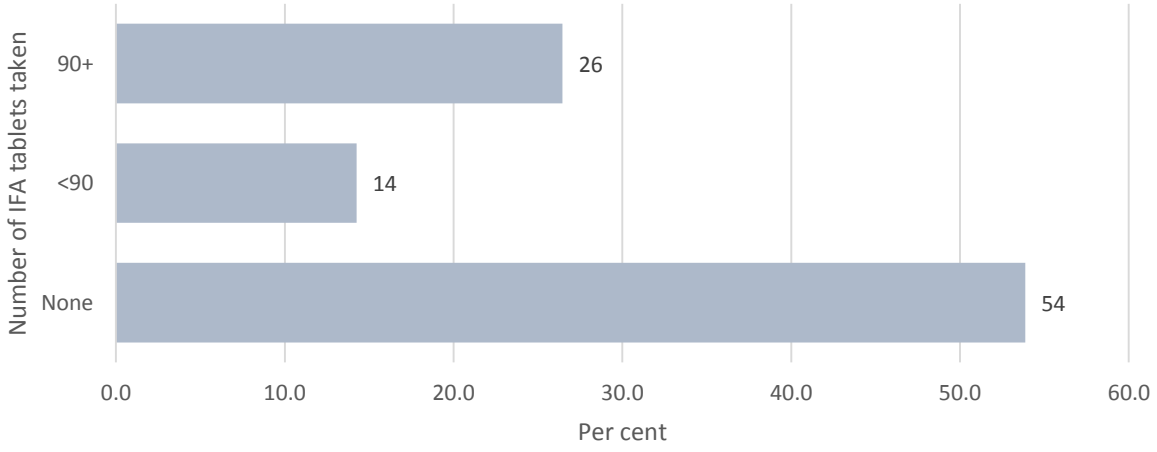
	Received or bought IFA	Iron folic acid pills taken during pregnancy				Received or bought deworming medication	Received or bought multiple micronutrient supplement	Don't know received or bought multiple micronutrient supplement	Number of women with a live birth in the last two years
		None	<90	90+	DK / Missing				
Area									
Urban	69.5	32.0	19.8	39.6	8.6	5.4	43.1	6.3	248
Rural with road	43.8	57.3	15.9	22.8	3.8	2.9	26.2	23.2	1358
Rural without road	36.2	63.8	15.8	15.8	4.6	0.0	19.0	34.3	212
Province									
Luangnamtha	61.7	39.2	16.2	37.9	6.2	5.4	33.7	20.3	241
Oudomxay	46.7	54.7	10.7	26.6	7.6	1.0	18.7	15.2	482
Saravane	42.9	57.5	17.1	22.1	3.3	2.3	32.7	23.4	622
Sekong	40.9	59.9	14.8	22.1	3.0	3.4	29.7	28.3	229
Attapeu	44.8	57.1	27.5	13.9	1.5	5.2	25.0	29.0	243
Mother's age at birth									
Less than 20	51.3	49.5	22.2	24.0	4.3	2.8	31.0	14.9	263
20-34	51.3	49.2	17.4	28.1	5.2	2.7	31.2	17.9	1016
35-49	32.2	68.7	12.3	17.1	1.9	3.5	24.0	32.1	183
Education									
None	33.4	67.0	14.3	13.0	5.5	2.5	15.6	35.3	663
Primary	46.0	55.7	17.6	23.6	3.0	2.7	31.8	19.6	744
Lower secondary	63.2	38.2	18.4	39.9	3.5	4.7	35.8	9.8	228
Upper secondary	70.1	29.9	16.8	42.5	10.8	6.0	44.2	.5	89
Post secondary, non-tertiary	69.9	30.1	19.0	44.7	6.3	1.2	47.5	1.2	39
Higher	85.1	14.9	15.3	62.9	6.8	0.0	43.2	0.0	56
Wealth index quintile									
Poorest	28.1	72.7	9.7	12.2	4.8	.6	12.5	38.9	446
Second	38.4	61.8	16.3	19.4	2.5	2.1	18.7	27.3	394
Middle	52.0	49.3	20.8	24.4	5.4	4.4	29.8	19.2	368
Fourth	56.4	45.1	20.5	31.7	2.7	3.2	40.5	10.5	294
Richest	66.6	35.0	17.0	40.7	7.3	5.2	46.1	6.5	315
Language group of household head									

Table MCS.5: Micronutrient supplementation and deworming during pregnancy

Percentage of women age 15-49 years with a live birth in the last two years who received or bought iron folic acid supplements, deworming medication, and multiple micronutrient supplements during the pregnancy for the last birth, FNSS, 2015

	Received or bought IFA	Iron folic acid pills taken during pregnancy				Received or bought deworming medication	Received or bought multiple micronutrient supplement	Don't know received or bought multiple micronutrient supplement	Number of women with a live birth in the last two years
		None	<90	90+	DK / Missing				
Lao-Tai	56.6	44.6	17.3	34.1	4.1	4.1	41.7	11.6	563
Mon-Khmer	41.3	59.6	15.9	20.0	4.4	1.9	21.2	25.9	1049
Hmong-Mien	42.2	57.8	26.6	8.9	6.8	0.0	37.8	18.0	25
Chinese-Tibetan	44.4	56.8	15.0	20.2	6.4	5.5	19.7	34.6	179
Area									
Non-MYCNSIA	48.0	53.1	13.2	27.9	5.6	2.6	31.0	17.1	1054
MYCNSIA	44.3	56.7	20.8	19.3	3.1	3.3	23.1	29.3	763
Non-NPAN	46.4	54.8	17.1	23.6	4.2	3.5	29.7	23.4	1357
NPAN	46.5	53.9	14.3	26.5	5.4	1.1	21.7	18.6	460

Figure MCS.4: IFA supplementation during pregnancy in NPAN areas, FNSS, 2015



There were fewer women that reported receiving or buying iron folic acid supplements than there were that reported at least one antenatal care visit, especially in rural areas. While at least one ANC visit was over 90% in all areas, any IFA coverage was 69.5% in urban areas, 43.8% in rural areas with roads, and 36.2% in rural areas without roads. In order to prevent anemia and have an impact on maternal and child health, at least 90 IFA tablets should be taken during pregnancy. The percentage of women taking 90+ IFA tablets ranged from 13.9% in Attapeu to 37.9% in Luangnamtha. Women

from the poorest households were the least likely to take 90+ tablets (12.2%), while those from the richest households were the most likely (40.7%).

Deworming during pregnancy is not common, with less than 6% of women reporting having deworming medication during their last pregnancy across all five provinces. Multiple micronutrient supplementation (including iron and folic acid) during pregnancy is not yet recommended by WHO to replace IFA supplementation, but it is the standard of care in many countries. In urban areas more than 4 out of 10 women reported having multiple micronutrient supplements during their last pregnancy. In rural areas many women responded that they did not know if they received or bought multiple micronutrient supplements.

Place of Delivery

Increasing the proportion of births that are delivered in health facilities is an important factor in reducing the health risks to both the mother and the baby. Proper medical attention and hygienic conditions during delivery can reduce the risks of complications and infection that can cause morbidity and mortality to either the mother or the baby. Table MCS.6 presents the percent distribution of women age 15-49 who had a live birth in the two years preceding the survey by place of delivery, and the percentage of births delivered in a health facility, according to background characteristics.

Table MCS.6 (RH.11): Place of delivery

Percent distribution of women age 15-49 years with a live birth in the last two years by place of delivery of their last birth, *Survey name, Year*

	Place of delivery							
	Health facility							
	Public sector	Private sector	Home	Other	Missing / DK	Total	Delivered in health facility[1]	Number of women with a live birth in the last two years
Province								
Luangnamtha	56.4	0.5	41.9	0.8	0.5	100.0	56.8	241
Oudomxay	50.5	0.0	48.8	0.3	0.3	100.0	50.5	482
Saravane	42.4	0.0	52.9	3.5	1.3	100.0	42.4	622
Sekong	38.9	0.0	60.1	0.6	0.4	100.0	38.9	229
Attapeu	28.1	0.0	71.3	0.3	0.3	100.0	28.1	243
Area								
Urban	80.7	0.4	18.6	0.3	0.0	100.0	81.1	248
Rural with road	40.2	0.0	57.2	1.8	0.9	100.0	40.2	1358
Rural without road	26.2	0.0	72.5	1.1	0.2	100.0	26.2	212
Mother's age at birth								

Less than 20	54.9	0.0	42.7	1.2	1.2	100.0	54.9	263
20-34	47.9	0.1	50.4	1.3	0.3	100.0	48.0	1016
35-49	31.9	0.0	63.8	1.5	2.9	100.0	31.9	183
Number of antenatal care visits								
None	3.8	0.0	92.1	4.1	0.0	100.0	3.8	135
1-3 visits	36.2	0.0	61.1	2.7	0.0	100.0	36.2	323
4+ visits	65.7	0.1	33.3	0.5	0.4	100.0	65.8	964
Education								
None	25.2	0.0	71.3	3.2	0.3	100.0	25.2	663
Primary	42.7	0.0	55.1	0.9	1.4	100.0	42.7	744
Lower secondary	65.9	0.0	34.1	0.0	0.0	100.0	65.9	228
Upper secondary	86.4	1.2	12.4	0.0	0.0	100.0	87.6	89
Post secondary, non-tertiary	88.5	0.0	11.5	0.0	0.0	100.0	88.5	39
Higher	99.2	0.0	0.8	0.0	0.0	100.0	99.2	56
Wealth index quintile								
Poorest	16.5	0.0	80.1	2.7	0.7	100.0	16.5	446
Second	30.0	0.0	67.1	2.1	0.7	100.0	30.0	394
Middle	48.8	0.0	48.8	1.3	1.1	100.0	48.8	368
Fourth	59.3	0.0	40.3	0.5	0.0	100.0	59.3	294
Richest	80.9	0.3	17.8	0.2	0.8	100.0	81.2	315
Language group of household head								
Lao-Tai	63.2	0.0	35.9	0.1	0.9	100.0	63.2	563
Mon-Khmer	34.3	0.0	62.5	2.6	0.6	100.0	34.3	1049
Hmong-Mien	55.5	0.0	44.5	0.0	0.0	100.0	55.5	25
Chinese-Tibetan	38.9	0.6	59.9	0.0	0.6	100.0	39.5	179

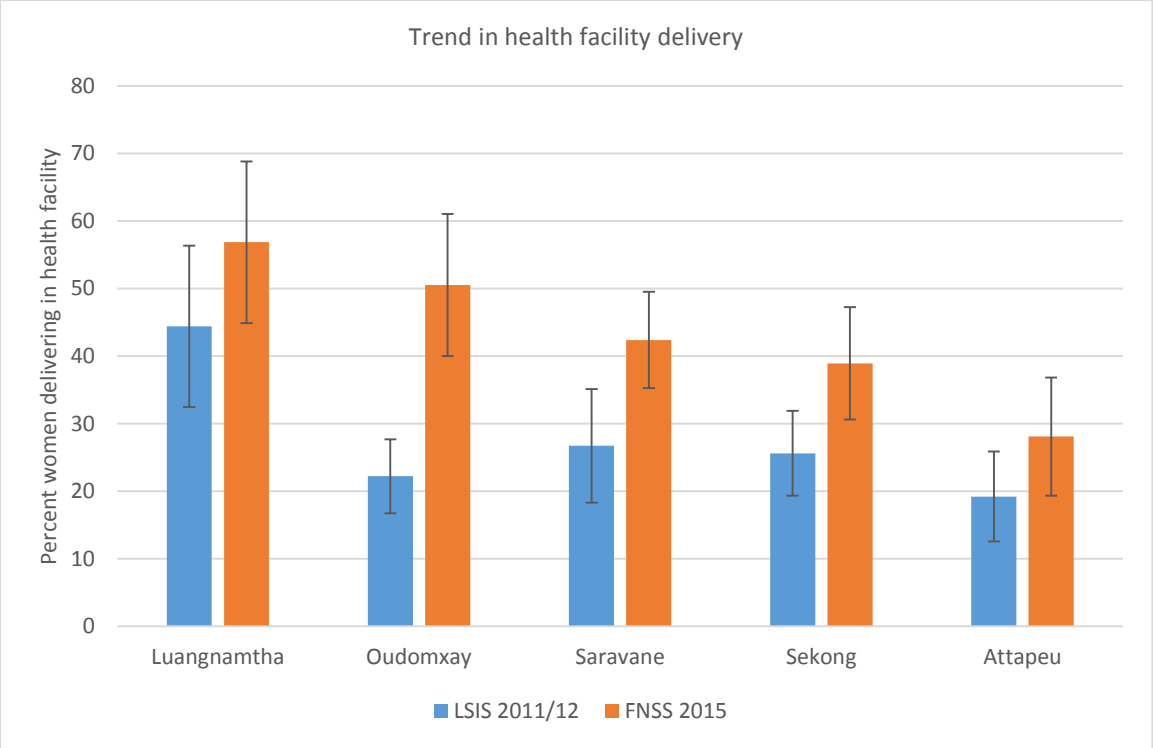
[1] MICS indicator 5.8 - Institutional deliveries

The percent of births in that are delivered in a health facility differs widely by province, from 28.1% in Attapeu to 56.8% in Luangnamtha. The type of area shows the biggest differences in health facility deliveries. In urban areas 4 out of 5 women give birth in a health facility, compared to less than 1 out of 2 in rural areas. Health facility deliveries occur almost exclusively in the public sector and nearly all of the women who do not deliver in a health facility give birth at home. Delivery in a health facility increases as wealth increases, showing that poverty remains an important barrier to safe delivery. More than 9 out of 10 women who received no antenatal care services delivered at home.

Figure MCS.5 shows the percent of women who delivered in a health facility in the 2011/12 LSIS and the 2015 FNSS. Health facility deliveries increased in all five provinces. As with ANC, the largest improvement was in Oudomxay, where the percent of women delivering in a health facility

increased by nearly 30 percentage points. The smallest improvements were seen in Luangnamtha and Attapeu, where confidence intervals are overlapping. In Saravane and Sekong health facility delivery increased by approximately 15 percentage points and the change is statistically significant.

Figure MCS.5: Province level trend in health facility delivery, LSIS 2011/12 and FNSS 2015



Post-natal Supplementation

The time of birth and immediately after is a critical window of opportunity to deliver lifesaving interventions for both the mother and newborn. Across the world, approximately 3 million newborns annually die in the first month of life[14] and the majority of these deaths occur within a day or two of birth[15], which is also the time when the majority of maternal deaths occur[16]. Post-natal anemia prevention interventions include iron folic acid supplementation and deworming medication.

[14] UN Interagency Group for Child Mortality Estimation. 2013. *Levels and Trends in Child Mortality: Report 2013*
[15] Lawn, JE et al. 2005. *4 million neonatal deaths: When? Where? Why?* Lancet 2005; 365:891–900.
[16] WHO, UNICEF, UNFPA, The World Bank. 2012. *Trends in Maternal Mortality: 1990-2010*. World Health Organization.

Table MCS.7: Post-natal iron-folic acid supplementation and deworming

Percentage of women age 15-49 years with a live birth in the last two years who received iron folic acid supplements and deworming medication, *FNSS, 2015*

	Received or bought iron folic acid supplements	Iron folic acid taken after delivery					Received or bought deworming medication	Number of last live births in the last two years
		None	1-29	30-44	45+	DK / Missing		
Province								
Luangnamtha	22.2	77.8	6.7	8.9	4.0	2.7	3.6	241
Oudomxay	14.9	85.1	6.6	4.5	1.4	2.4	3.8	482
Saravane	16.6	83.4	6.3	7.6	2.0	.7	4.9	622
Sekong	20.0	80.0	10.6	5.2	2.8	1.4	6.2	229
Attapeu	9.6	90.4	5.6	.9	2.2	.9	13.6	243
Area								
Urban	30.0	70.0	11.0	11.0	4.0	3.9	10.5	248
Rural with road	15.4	84.6	6.8	5.4	1.9	1.3	5.5	1358
Rural without road	6.3	93.7	2.7	1.5	2.1	0.0	2.1	212
Mother's age at birth								
Less than 20	17.0	83.0	5.3	7.0	2.7	2.0	5.2	263
20-34	19.0	81.0	7.9	6.7	2.7	1.7	6.8	1016
35-49	10.3	89.7	3.9	3.2	2.8	0.5	6.0	183
Place of delivery								
No health facility	7.3	92.7	4.7	1.1	0.9	0.7	5.7	1016
Health facility	27.9	72.1	9.7	11.6	3.9	2.6	5.9	802
Education								
None	12.0	88.0	4.9	3.8	1.7	1.6	2.8	663
Primary	13.5	86.5	6.6	4.9	1.7	0.4	6.8	744
Lower secondary	22.4	77.6	8.2	8.4	3.9	2.0	6.0	228
Upper secondary	36.3	63.7	15.6	10.7	4.2	5.8	13.1	89
Post secondary, non-tertiary	36.5	63.5	11.0	15.3	5.8	4.3	14.6	39
Higher	35.3	64.7	11.7	14.5	3.4	5.8	8.6	56
Wealth index quintile								
Poorest	9.4	90.6	4.8	2.3	1.6	0.8	3.1	446
Second	10.4	89.6	6.0	3.2	0.8	0.5	4.1	394
Middle	16.1	83.9	6.7	5.6	1.9	1.9	6.0	368
Fourth	21.0	79.0	8.7	8.4	3.1	0.8	6.0	294

Richest	29.5	70.5	9.6	11.5	4.5	4.0	11.0	315
Language group of household head								
Lao-Tai	20.8	79.2	7.2	9.3	3.1	1.2	7.7	563
Mon-Khmer	13.9	86.1	6.4	4.0	2.1	1.4	5.0	1049
Hmong-Mien	28.9	71.1	8.9	13.3	0.0	6.8	0.0	25
Chinese-Tibetan	14.4	85.6	8.6	2.4	0.6	2.8	4.9	179
Area								
Non-MYCNSIA	14.6	85.4	6.1	5.2	1.5	1.7	4.6	1054
MYCNSIA	18.8	81.2	7.9	6.4	3.1	1.3	7.4	763
Non-NPAN	17.6	82.4	6.8	6.5	2.4	1.9	7.5	1357
NPAN	12.7	87.3	7.0	3.4	1.8	0.5	0.5	460

Across all five provinces less than 1 out of 4 women received or bought iron-folic acid supplements after giving birth. Women who delivered in a health facility were much more likely to receive IFA than women who did not deliver in a health facility, 27.9% versus 7.3%, but the majority of women with a facility delivery did not receive IFA. Coverage of post-natal deworming medication is low, ranging from 3.6% in Luangnamtha to 13.6% in Attapeu. As more women receive antenatal care and deliver in public hospitals and clinics, there is an opportunity for anemia prevention services to reach more women.

IX. Child Illness and Specialized Feeding

A key strategy for accelerating progress toward MDG 4 is to tackle the diseases that are the leading killers of children under 5. Diarrhoea and pneumonia are two such diseases. The Global Action Plan for the Prevention and Control of Pneumonia and Diarrhoea (GAPPD) aims to end preventable pneumonia and diarrhoea death by reducing mortality from pneumonia to 3 deaths per 1000 live births and mortality from diarrhoea to 1 death per 1000 live births by 2025.

Table CH.4 presents the percentage of children under 5 years of age who were reported to have had an episode of diarrhoea, symptoms of acute respiratory infection (ARI), or fever during the 2 weeks preceding the survey. These results are not measures of true prevalence, and should not be used as such, but rather the period-prevalence of those illnesses over a two-week time window.

The definition of a case of diarrhoea or fever, in this survey, was the mother's or caretaker's report that the child had such symptoms over the specified period; no other evidence were sought beside the opinion of the mother. A child was considered to have had an episode of ARI if the mother or caretaker reported that the child had, over the specified period, an illness with a cough with rapid or difficult breathing, and whose symptoms were perceived to be due to a problem in the chest or both a problem in the chest and a blocked nose. While this approach is reasonable in the context of a household survey, these basically simple case definitions must be kept in mind when interpreting the results, as well as the potential for reporting and recall biases. Further, diarrhoea, fever and ARI are not only seasonal but are also characterized by the often rapid spread of localized outbreaks from one area to another at different points in time. The timing of the survey and the location of the teams might thus considerably affect the results, which must consequently be interpreted with caution. For these reasons, although the period-prevalence over a two-week time window is reported, these data should not be used to assess the epidemiological characteristics of these diseases but rather to obtain denominators for the indicators related to use of health services and treatment.

Diarrhea, Acute Respiratory Infection, and Fever

Table CI.1 (CH.4): Reported disease episodes

Percentage of children age 0-59 months for whom the mother/caretaker reported an episode of diarrhoea, symptoms of acute respiratory infection (ARI), and/or fever in the last two weeks, *FNSS, 2015*

	Percentage of children who in the last two weeks had:			Number of children age 0-59 months
	An episode of diarrhoea	Symptoms of ARI	An episode of fever	
Sex				
Male	10.7	3.5	18.2	2093
Female	9.3	2.8	17.1	2118
Province				
Luangnamtha	13.8	3.4	14.1	610
Oudomxay	9.8	1.4	14.7	1131
Saravane	6.8	2.0	13.3	1497
Sekong	11.7	8.6	31.4	476
Attapeu	12.9	4.7	26.8	575
Area				
Urban	8.2	1.4	16.8	523
Rural with road	10.3	3.3	17.9	3269
Rural without road	9.1	3.8	16.5	498
Age				
0-11 months	11.3	2.9	19.4	867
12-23 months	12.6	3.4	18.5	828
24-35 months	10.4	4.1	18.5	876
36-47 months	8.8	3.0	15.5	940
48-59 months	6.3	2.1	16.2	769
Mother's education				
None	11.9	3.1	17.5	1534
Primary	7.9	3.9	18.0	1622
Lower secondary	11.9	2.5	18.5	439
Upper secondary	9.1	2.9	17.4	156
Post secondary non tertiary	5.0	2.7	16.8	65
Higher	3.1	0.5	16.4	95
Wealth index quintile				
Poorest	11.9	3.6	19.2	1094
Second	11.2	4.0	17.8	947

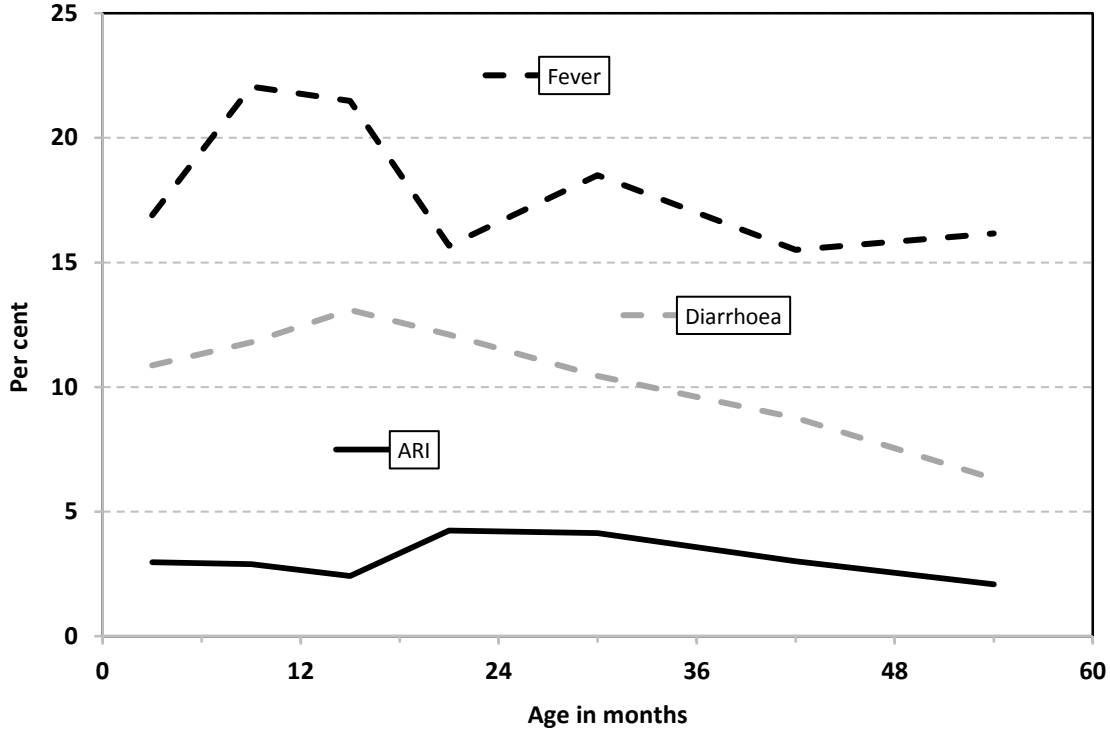
Table CI.1 (CH.4): Reported disease episodes

Percentage of children age 0-59 months for whom the mother/caretaker reported an episode of diarrhoea, symptoms of acute respiratory infection (ARI), and/or fever in the last two weeks, *FNSS, 2015*

	Percentage of children who in the last two weeks had:			Number of children age 0-59 months
	An episode of diarrhoea	Symptoms of ARI	An episode of fever	
Middle	10.6	2.6	18.0	825
Fourth	6.7	4.1	18.5	738
Richest	7.7	0.8	13.4	685
Language group of household head				
Lao-Tai	5.2	1.6	13.4	1341
Mon-Khmer	11.6	4.2	21.0	2424
Hmong-Mien	7.1	7.1	16.4	70
Chinese-Tibetan	15.2	1.7	12.3	454
Area				
Non-MYCNSIA	9.3	2.2	14.0	2574
MYCNSIA	10.8	4.5	23.0	1716
Non-NPAN	9.9	3.1	17.9	3270
NPAN	9.9	3.3	16.8	1020

10.7% percent of boys under five and 9.3% of girls were reported to have had diarrhoea in the two weeks preceding the survey, 3.5% and 2.8% symptoms of ARI, and 18.2% and 17.1% percent an episode of fever (Table CH.4). For the five provinces period-prevalence ranges from 6.8% to 13.8% in the case of diarrhoea, 1.4% to 8.6% in the case of ARI, and 13.3% to 31.4% in the case of fever. There are minor differences between urban and rural areas for diarrhoea, ARI and fever.

Figure CI.1: Children under-5 with diarrhea, acute respiratory infection, and fever by age, FNSS, 2015



The highest period-prevalence for diarrhea and fever is seen among children age 6-18 months which grossly corresponds to the weaning period. The lowest period-prevlance for all illnesses is seen after two years.

Feeding and Treatment of Diarrhoea

Diarrhoea is a leading cause of death among children under five worldwide. Most diarrhoea-related deaths in children are due to dehydration from loss of large quantities of water and electrolytes from the body in liquid stools. Management of diarrhoea – either through oral rehydration salts (ORS) or a recommended home fluid (RHF) – can prevent many of these deaths. In addition, provision of zinc supplements has been shown to reduce the duration and severity of the illness as well as the risk of future episodes within the next two or three months. Preventing dehydration and malnutrition by increasing fluid intake and continuing to feed the child are also important strategies for managing diarrhoea.

In the FNSS, mothers or caretakers were asked whether their child under age five years had an episode of diarrhoea in the two weeks prior to the survey. In cases where mothers reported that the child had diarrhoea, a series of questions were asked about the treatment of the illness, including what the child had been given to drink and eat during the episode and whether this was more or less than what was usually given to the child.

Table CI.2 (CH.5): Care-seeking during diarrhoea

Percentage of children age 0-59 months with diarrhoea in the last two weeks for whom advice or treatment was sought, by source of advice or treatment, *FNSS, 2015*

	Percentage of children with diarrhoea for whom:						
	Advice or treatment was sought from:						Number of children age 0-59 months with diarrhoea in the last two weeks
	Health facilities or providers						
	Public	Private	Community health provider[a]	Other source	A health facility or provider[1, b]	No advice or treatment sought	
Sex							
Male	57.5	6.1	11.8	5.6	60.7	35.4	224
Female	48.6	8.5	7.5	4.8	53.6	42.3	197
Province							
Luangnamtha	47.8	10.3	8.2	5.1	53.0	44.5	84
Oudomxay	53.1	9.4	9.1	4.7	60.9	37.5	111
Saravane	50.1	3.9	2.4	0.0	53.3	44.6	101
Sekong	60.2	5.1	8.1	16.9	60.2	24.6	56
Attapeu	58.4	6.9	21.9	4.0	60.4	36.6	74
Area							
Urban	60.6	27.6	0.0	3.6	81.9	19.2	43
Rural with road	54.5	4.6	11.2	4.7	56.7	39.6	338
Rural without road	36.6	8.0	10.8	10.0	39.0	50.3	45
Age							
0-11 months	46.2	6.4	5.6	1.4	49.0	49.0	98
12-23 months	46.5	5.8	8.1	3.7	52.3	44.0	104
24-35 months	55.8	13.0	7.7	8.2	61.9	31.3	91
36-47 months	64.7	4.5	10.9	4.9	65.6	29.3	82
48-59 months	58.6	6.0	18.2	10.3	63.7	35.4	49
Wealth index quintile							
Poorest	46.1	2.4	13.2	6.4	47.7	46.7	130
Second	52.8	2.2	10.7	4.7	53.8	40.6	106
Middle	57.7	6.5	10.8	3.6	60.5	37.1	88
Fourth	69.9	10.2	2.2	5.3	75.6	21.9	49
Richest	48.6	28.1	6.7	5.2	65.9	33.6	53
Language group of household head							
Lao-Tai	40.1	10.9	8.4	3.2	49.3	50.7	70
Mon-Khmer	60.0	4.7	10.7	5.4	61.6	33.5	282
Hmong-Mien	.	.	.	.	.	.	5
Chinese-Tibetan	39.7	11.9	5.8	6.6	46.9	49.0	69

[1] **MICS indicator 3.10 - Care-seeking for diarrhoea**

[a] Community health providers includes both public (*Community health worker and Mobile/Outreach clinic*) and private (*Mobile clinic*) health facilities

[b] Includes all public and private health facilities and providers, but excludes private pharmacy

Table CI.2 shows the percentage of children with diarrhoea in the two weeks preceding the survey for whom advice or treatment was sought and where. In urban areas a health facility or provider was seen in 81.9 percent of cases, and 60.6% and 27.6% sought care from the public and private sectors respectively. In rural areas nearly all care-seeking was done in the public sector, but health providers were seen in fewer cases. In rural areas with roads a health facility or provider was seen in 56.7% of cases, while the percentage was 39.0% in rural areas without roads.

Table CI.3 (CH.6): Feeding practices during diarrhoea

Percent distribution of children age 0-59 months with diarrhoea in the last two weeks by amount of liquids and food given during episode of diarrhoea, *FNSS, 2015*

	Drinking practices during diarrhoea							Eating practices during diarrhoea							Number of children age 0-59 months with diarrhoea in the last two weeks
	Child was given to drink:							Child was given to eat:							
	Much less	Somewhat less	About the same	More	Nothing	Missing/DK	Total	Much less	Somewhat less	About the same	More	Nothing	Missing/DK	Total	
Sex															
Male	23.3	47.4	18.3	5.1	3.1	2.9	100.0	18.5	53.4	20.0	4.3	1.7	2.0	100.0	224
Female	31.5	38.9	18.3	7.0	2.8	1.5	100.0	17.4	51.5	21.4	2.6	4.4	2.7	100.0	197
Province															
Luangnamtha	27.6	43.0	16.5	3.9	2.6	6.4	100.0	12.4	59.6	17.8	2.6	3.9	3.9	100.0	84
Oudomxay	45.5	40.9	9.1	3.0	1.5	0.0	100.0	38.5	46.2	12.3	1.5	1.5	0.0	100.0	111
Saravane	12.8	46.0	27.2	9.4	4.5	0.0	100.0	4.8	55.4	27.9	8.1	3.8	0.0	100.0	101
Sekong	25.6	44.6	10.8	9.9	3.3	5.7	100.0	18.5	56.3	10.9	2.5	4.2	7.5	100.0	56
Attapeu	17.6	46.1	27.5	4.9	2.9	1.0	100.0	9.8	48.0	33.3	2.0	2.9	3.9	100.0	74
Area															
Urban	41.1	24.1	22.3	3.4	4.2	5.0	100.0	19.3	49.5	24.2	1.7	1.1	4.2	100.0	43
Rural with road	26.6	44.6	17.7	6.5	3.0	1.7	100.0	19.1	51.5	19.5	3.9	3.6	2.4	100.0	338
Rural without road	15.9	57.3	18.5	4.5	1.0	2.9	100.0	6.2	63.6	25.2	2.4	1.6	1.0	100.0	45
Age															
0-11 months	20.8	42.5	31.4	1.7	1.6	2.0	100.0	14.2	43.6	32.0	0.7	6.3	3.2	100.0	98
12-23 months	25.1	49.2	17.5	5.3	2.5	0.4	100.0	17.5	58.6	16.1	2.9	3.3	1.6	100.0	104
24-35 months	26.5	49.2	10.5	8.4	3.5	2.0	100.0	17.5	58.1	16.5	4.4	2.7	0.8	100.0	91
36-47 months	34.1	35.3	13.6	11.3	4.1	1.6	100.0	18.7	58.3	14.1	4.8	1.5	2.6	100.0	82

Table CI.3 (CH.6): Feeding practices during diarrhoea

Percent distribution of children age 0-59 months with diarrhoea in the last two weeks by amount of liquids and food given during episode of diarrhoea, *FNSS, 2015*

	Drinking practices during diarrhoea							Eating practices during diarrhoea							Number of children age 0-59 months with diarrhoea in the last two weeks
	Child was given to drink:							Child was given to eat:							
	Much less	Somewhat less	About the same	More	Nothing	Missing/DK	Total	Much less	Somewhat less	About the same	More	Nothing	Missing/DK	Total	
48-59 months	31.4	39.2	16.0	2.4	3.5	7.4	100.0	24.8	37.4	25.9	6.6	0.0	5.3	100.0	49
Wealth index quintile															
Poorest	21.0	57.9	13.8	4.0	2.9	0.3	100.0	13.6	63.6	16.8	1.9	3.2	0.9	100.0	130
Second	30.7	44.9	13.0	5.2	2.2	3.9	100.0	25.0	49.1	14.2	0.0	5.9	5.8	100.0	106
Middle	28.0	35.0	22.3	11.5	1.4	1.8	100.0	19.6	42.0	24.5	11.1	2.3	0.5	100.0	88
Fourth	35.8	32.8	23.0	4.1	2.2	2.2	100.0	15.6	49.9	27.0	5.5	1.9	0.0	100.0	49
Richest	23.5	31.3	28.7	4.8	7.6	4.1	100.0	12.8	52.0	30.3	0.0	0.0	4.8	100.0	53
Language group of household head															
Lao-Tai	17.8	28.5	33.9	10.6	6.1	3.1	100.0	6.6	43.8	37.2	8.9	0.0	3.6	100.0	70
Mon-Khmer	29.5	45.2	15.1	6.0	2.5	1.8	100.0	22.3	52.1	17.0	2.7	3.6	2.4	100.0	282
Hmong-Mien	.	.	.	.	.	.	.	.	.	.	.	.	.	.	5
Chinese-Tibetan	25.3	51.9	16.6	1.6	1.6	3.1	100.0	11.9	60.3	20.0	1.6	4.7	1.6	100.0	69
Area															
Non-MYCNSIA	31.9	39.2	18.2	5.9	2.6	2.2	100.0	22.2	48.4	20.2	4.7	3.1	1.3	100.0	240
MYCNSIA	20.3	50.0	18.2	6.1	3.3	2.1	100.0	12.1	58.1	21.0	1.9	3.2	3.8	100.0	185
Non-NPAN	28.0	42.1	17.9	6.1	3.3	2.5	100.0	18.1	51.8	20.9	3.0	3.4	2.9	100.0	325
NPAN	23.4	49.4	19.2	5.3	1.6	1.0	100.0	16.8	55.1	19.5	5.2	2.3	1.0	100.0	101

Table CI.3 provides statistics on drinking and feeding practices during diarrhoea. In all five provinces less than 10% of under five children with diarrhoea were given more than usual to drink, and the majority were given less. Increasing fluid intake is important treatment for diarrhea to prevent dehydration. Continued feeding during diarrhoea is needed to fight infection and to prevent malnutrition. In urban and rural areas with roads more than 20% of children with diarrhoea were fed much less or nothing at all. Across all five provinces most children continued feeding, but were fed somewhat less than normal.

Table CI.4 (CH.7): Oral rehydration solutions, recommended homemade fluids, and zinc

Among children age 0-59 months with diarrhoea in the last two weeks, and treatment with oral rehydration salts (ORS), recommended homemade fluids, and zinc, *FNSS, 2015*

				Zinc				
	Any ORS	Any recommended homemade fluid	ORS or any recommended homemade fluid	Tablet	Syrup	Any zinc	ORS and zinc[1]	Number of children age 0-59 months with diarrhoea in the last two weeks
Sex								
Male	56.0	18.5	60.7	3.1	4.5	6.6	4.7	224
Female	55.0	14.9	59.0	2.6	1.9	3.6	1.9	197
Province								
Luangnamtha	46.6	6.6	50.6	0.0	0.0	0.0	0.0	82
Oudomxay	51.6	23.4	54.7	7.8	6.3	10.9	6.3	111
Saravane	58.0	7.8	58.7	2.5	3.2	5.7	3.2	100
Sekong	63.0	26.6	75.0	1.7	2.6	3.5	3.5	55
Attapeu	62.6	23.2	68.7	0.0	3.0	3.0	3.0	73
Area								
Urban	73.7	29.5	79.4	8.1	13.8	17.9	9.8	43
Rural with road	57.0	15.1	60.5	1.8	2.5	3.7	2.4	338
Rural without road	29.7	15.6	38.1	5.5	0.0	5.5	5.5	45
Age								
0-11 months	35.0	7.3	39.6	2.2	3.7	3.7	3.7	98
12-23 months	57.1	13.5	60.4	4.1	4.2	6.6	5.0	104
24-35 months	60.0	21.3	63.5	0.0	5.2	5.2	0.5	91
36-47 months	69.0	19.5	76.4	4.8	0.0	4.8	2.7	82
48-59 months	65.0	28.7	67.5	3.6	3.6	7.1	7.1	49
Wealth index quintile								
Poorest	49.7	15.3	54.8	3.0	0.4	3.4	2.1	130
Second	51.4	15.5	56.1	0.0	1.4	1.4	1.4	106
Middle	59.9	18.8	63.0	3.4	4.2	7.1	4.2	88

Table CI.4 (CH.7): Oral rehydration solutions, recommended homemade fluids, and zinc

Among children age 0-59 months with diarrhoea in the last two weeks, and treatment with oral rehydration salts (ORS), recommended homemade fluids, and zinc, *FNSS, 2015*

	Any ORS	Any recommended homemade fluid	ORS or any recommended homemade fluid	Zinc			ORS and zinc[1]	Number of children age 0-59 months with diarrhoea in the last two weeks
				Tablet	Syrup	Any zinc		
Fourth	66.9	17.3	70.0	3.5	5.9	5.9	5.9	49
Richest	61.9	17.7	66.6	6.6	11.2	14.5	7.9	53
Language group of household head								
Lao-Tai	53.9	20.2	55.0	0.0	6.3	6.3	2.7	70
Mon-Khmer	59.9	17.3	64.4	3.7	3.0	5.3	4.0	282
Hmong-Mien	21.7	56.6	78.3	0.0	34.9	34.9	0.0	5
Chinese-Tibetan	43.2	7.2	46.3	2.5	0.0	2.5	2.5	69
Area								
Non-MYCNSIA	48.5	15.2	51.3	4.7	3.9	7.2	3.9	240
MYCNSIA	65.1	18.5	71.4	0.5	2.7	3.0	3.0	185
Non-NPAN	55.2	19.6	60.4	1.9	3.2	4.4	2.8	325
NPAN	57.3	6.9	59.1	5.9	4.2	8.4	5.9	101

[1] **MICS indicator 3.11 - Diarrhoea treatment with oral rehydration salts (ORS) and zinc**

Table CI.4 shows the percentage of children receiving ORS, recommended homemade fluid (such as coconut water and rice water with salt) and zinc during the episode of diarrhoea. Since children may have been given more than one type of liquid, the percentages do not necessarily add to 100. Overall, more than ½ of children received fluids from ORS packets. In all five provinces more than ½ of children received either ORS packets or recommended homemade fluids. However, very few children received zinc supplements to reduce the severity and duration of the diarrhoea episode, and less than 10% of children received ORS and zinc in urban and rural areas. There is a large geographic difference; 38.1% of children in rural areas without roads received ORS or a recommended homemade fluid, compared to 79.4% in urban areas. Figure CI.2 shows differences by province, type of area and wealth.

Figure CI.2: Children under-5 with diarrhoea who received ORS or recommended homemade liquids, FNSS, 2015

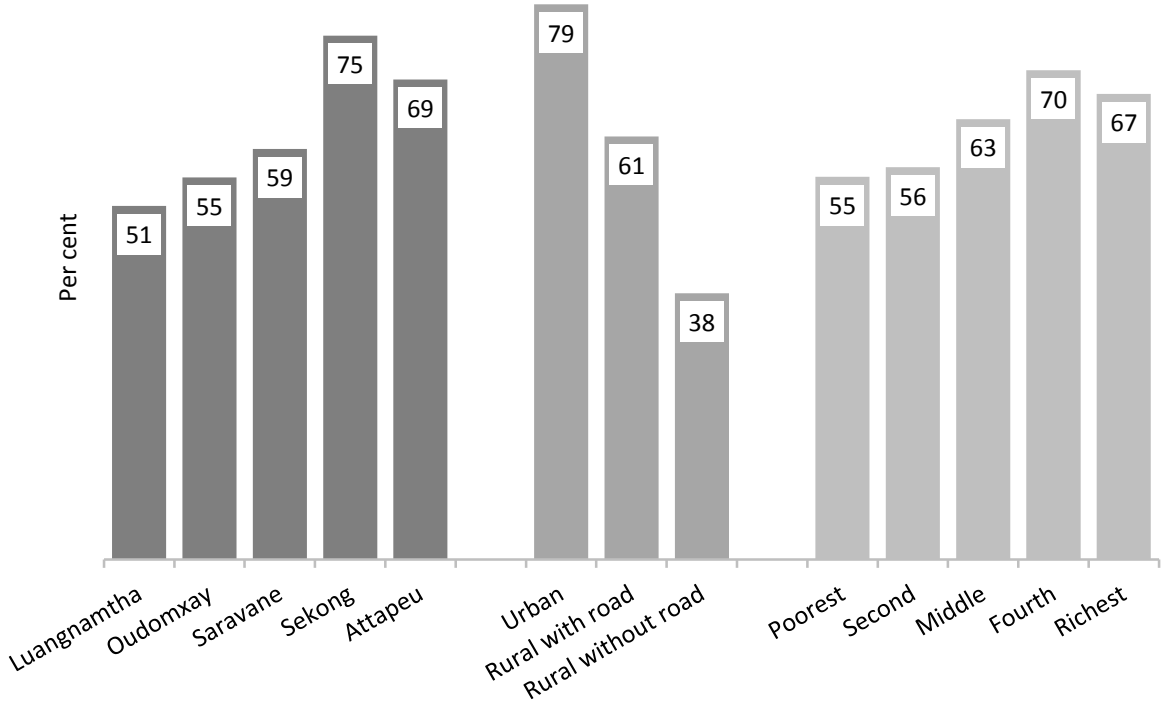


Table CI.5 (CH.8): Oral rehydration therapy with continued feeding and other treatments

Percentage of children age 0-59 months with diarrhoea in the last two weeks who were given oral rehydration therapy with continued feeding and percentage who were given other treatments, *FNSS, 2015*

				Other treatments											
				Pill or syrup				Injection							
	ORS or increased fluids	ORT (ORS or recommended homemade fluids or increased fluids)	ORT with continued feeding[1]	Anti-biotic	Anti-motility	Other	Unknown	Anti-biotic	Non-antibiotic	Unknown	Intra-venous	Home remedy, herbal medicine	Other	Not given any treatment or drug	Number of children age 0-59 months with diarrhoea in the last two weeks
Sex															
Male	56.2	60.7	45.6	10.6	16.9	2.7	6.2	0.8	0.0	2.4	0.0	2.3	0.4	27.3	224
Female	55.6	59.6	45.7	14.8	13.8	1.7	7.5	1.5	0.0	0.7	0.7	3.0	0.6	26.5	197
Province															
Luangnamtha	46.6	50.6	40.2	7.6	1.3	1.3	12.8	1.3	0.0	1.3	0.0	1.3	1.3	35.3	82
Oudomxay	51.6	54.7	32.8	15.6	20.3	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	35.9	111
Saravane	58.0	58.7	53.4	6.7	14.9	2.8	10.6	0.7	0.0	0.7	0.0	1.4	0.1	26.7	100
Sekong	64.7	75.8	50.0	10.4	9.5	0.9	4.3	0.0	0.0	0.0	0.0	7.8	0.7	16.4	55
Attapeu	63.6	69.7	57.6	23.2	29.3	2.0	7.1	4.0	0.0	7.1	2.0	6.1	0.9	12.1	73
Area															
Urban	73.7	79.4	55.7	9.2	24.1	9.8	3.4	1.7	0.0	1.7	1.7	1.1	0.3	12.6	43
Rural with road	57.5	60.9	45.9	12.4	14.1	1.5	7.2	1.2	0.0	1.0	0.2	2.5	0.4	27.6	338
Rural without road	29.7	38.1	34.7	15.2	17.1	0.0	6.4	0.0	0.0	6.4	0.0	4.8	0.7	36.0	45
Age															
0-11 months	35.5	40.1	34.6	22.9	12.1	0.7	5.0	0.7	0.0	4.1	0.0	2.5	0.2	38.9	98
12-23 months	57.1	60.4	43.9	9.1	13.1	2.4	3.5	0.7	0.0	1.4	0.0	1.8	0.5	30.9	104
24-35 months	60.5	63.5	46.0	12.4	22.3	4.0	9.4	2.0	0.0	0.0	0.8	3.0	0.1	18.8	91

Table CI.5 (CH.8): Oral rehydration therapy with continued feeding and other treatments

Percentage of children age 0-59 months with diarrhoea in the last two weeks who were given oral rehydration therapy with continued feeding and percentage who were given other treatments, *FNSS, 2015*

				Other treatments											
				Pill or syrup				Injection							
	ORS or increased fluids	ORT (ORS or recommended homemade fluids or increased fluids)	ORT with continued feeding[1]	Anti-biotic	Anti-motility	Other	Unknown	Anti-biotic	Non-antibiotic	Unknown	Intra-venous	Home remedy, herbal medicine	Other	Not given any treatment or drug	Number of children age 0-59 months with diarrhoea in the last two weeks
36-47 months	69.0	76.4	60.7	5.9	16.5	0.9	8.0	0.9	0.0	0.9	0.9	3.5	1.8	16.3	82
48-59 months	66.5	69.0	46.9	9.5	12.6	3.6	10.4	1.5	0.0	1.5	0.0	2.5	2.0	26.4	49
Wealth index quintile															
Poorest	50.3	55.3	45.2	10.7	16.3	1.4	8.1	1.1	0.0	2.0	0.0	2.2	0.8	28.6	130
Second	52.3	56.6	38.2	10.9	18.6	2.0	8.7	0.7	0.0	2.7	0.0	4.2	0.6	33.8	106
Middle	59.9	63.0	47.4	8.9	6.2	1.3	7.6	2.1	0.0	1.7	0.0	0.0	0.2	26.0	88
Fourth	66.9	70.0	55.7	23.7	13.8	0.0	3.6	0.0	0.0	0.0	0.0	3.9	0.1	19.8	49
Richest	61.9	66.6	49.9	15.1	23.9	8.0	0.9	1.4	0.0	0.0	2.8	3.7	0.5	17.8	53
Language group of household head															
Lao-Tai	53.9	55.0	45.7	12.6	13.0	1.0	2.4	0.0	0.0	0.0	1.1	2.1	0.3	29.4	70
Mon-Khmer	60.4	64.8	47.5	13.5	18.5	2.1	6.5	1.7	0.0	2.1	0.3	3.1	0.4	23.4	282
Hmong-Mien	.	.	.	.	.	.	.	.	.	.	.	.	.	.	5
Chinese-Tibetan	43.2	46.3	36.0	6.2	4.1	1.6	12.5	0.0	0.0	1.6	0.0	1.6	1.1	39.7	69
Area															
Non-MYCNSIA	48.5	51.3	36.6	10.8	11.9	1.9	6.5	0.4	0.0	0.4	0.0	0.4	0.4	36.4	240
MYCNSIA	66.0	72.0	57.5	14.4	20.0	2.6	7.1	2.0	0.0	3.1	0.8	5.4	0.5	14.8	185
Non-NPAN	55.7	60.7	44.5	12.0	14.5	1.7	4.7	0.9	0.0	1.9	0.5	3.4	0.5	28.8	325

Table CI.5 (CH.8): Oral rehydration therapy with continued feeding and other treatments

Percentage of children age 0-59 months with diarrhoea in the last two weeks who were given oral rehydration therapy with continued feeding and percentage who were given other treatments, *FNSS, 2015*

				Other treatments											
				Pill or syrup				Injection							
	ORS or increased fluids	ORT (ORS or recommended homemade fluids or increased fluids)	ORT with continued feeding[1]	Anti-biotic	Anti-motility	Other	Unknown	Anti-biotic	Non-antibiotic	Unknown	Intra-venous	Home remedy, herbal medicine	Other	Not given any treatment or drug	Number of children age 0-59 months with diarrhoea in the last two weeks
NPAN	57.3	59.1	49.4	13.8	18.4	3.9	13.2	1.8	0.0	0.7	0.0	0.0	0.3	21.1	101

[1] **MICS indicator 3.12 - Diarrhoea treatment with oral rehydration therapy (ORT) and continued feeding**

Table CI.5 provides the proportion of children age 0-59 months with diarrhoea in the last two weeks who received oral rehydration therapy with continued feeding, and the percentage of children with diarrhoea who received other treatments. Overall, approximately 6 out of 10 children received ORT (ORS or recommended homemade fluids or increased fluids). Combining the information in Table CI.4 with that of Table CI.5 on oral rehydration therapy, it is observed that less than ½ of children received ORT and, at the same time, feeding was continued, as is the recommendation. In Oudomxay 33% of children received ORT and continued feeding, compared to 58% in Attapeu. Differences by province, type of area and wealth are presented in Figure CI.3.

Figure CI.3: Children under-5 with diarrhoea receiving oral rehydration therapy (ORT) and continued feeding, FNSS, 2015

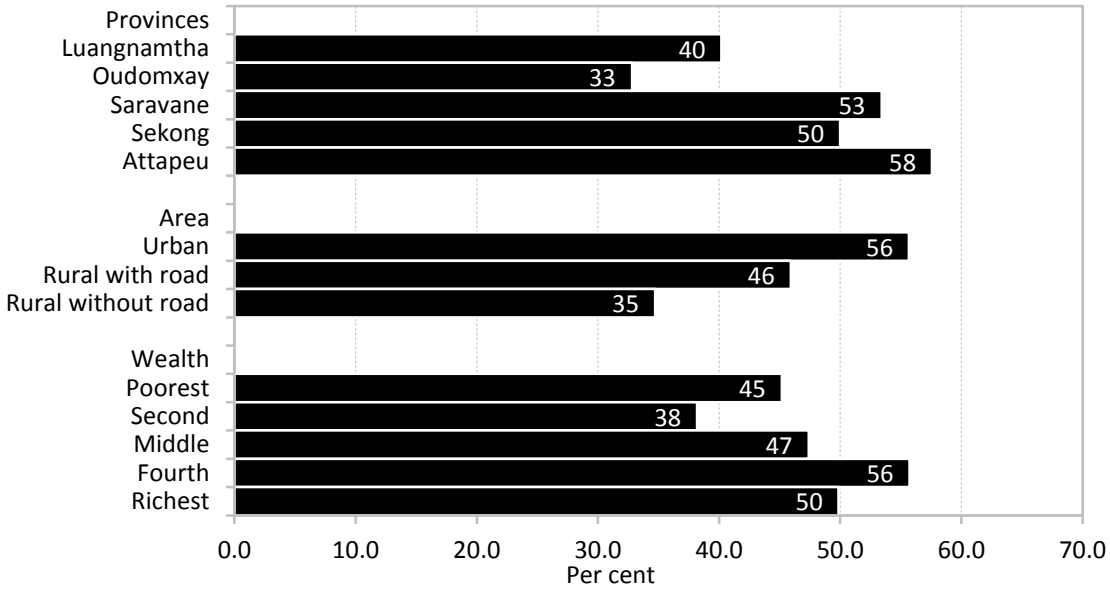


Table CI.6 (CH.9): Source of ORS and zinc

Percentage of children age 0-59 months with diarrhoea in the last two weeks who were given ORS, and percentage given zinc, by the source of ORS and zinc, *FNSS, 2015*

	Percentage of children for whom the source of ORS was:										Number of children age 0-59 months who were given ORS as treatment for diarrhoea in the last two weeks
	Health facilities or providers										
	Public hospital	Public health center	Other public	Any public	Private pharmacy	Any private	Community health provider[a]	Shop	Any other source (including shop)	A health facility or provider[b]	
Sex											
Male	32.5	44.9	13.1	81.9	13.7	19.9	15.1	2.7	5.6	86.2	125
Female	32.0	37.6	8.9	72.9	8.8	15.6	8.5	5.8	7.3	80.3	108
Province											
Luangnamtha	38.5	36.8	11.0	78.0	11.0	16.5	11.0	0.0	2.7	89.0	39
Oudomxay	35.3	38.2	8.8	76.5	5.9	17.6	8.8	2.9	5.9	85.3	57
Saravane	33.7	40.9	3.6	75.7	15.2	20.7	7.9	5.5	5.5	81.2	59
Sekong	29.3	49.4	14.7	90.7	4.0	7.9	13.3	5.3	8.0	90.7	35
Attapeu	25.0	43.8	20.3	71.9	20.3	25.0	20.3	6.3	9.4	75.0	47
Area											
Urban	52.9	4.8	0.0	52.9	30.9	46.3	0.0	6.9	6.9	71.6	32
Rural with road	29.5	48.3	12.7	83.3	6.9	12.6	13.7	3.5	5.5	86.9	192
Rural without road	26.8	27.7	13.4	57.1	32.1	32.1	13.4	5.4	16.3	65.1	14
Age											
0-11 months	28.9	32.0	7.4	64.9	15.5	25.3	7.4	9.6	9.6	72.7	34
12-23 months	27.3	47.0	6.5	74.6	12.1	22.3	6.5	2.4	2.4	81.8	60
24-35 months	36.0	46.9	10.8	84.6	11.1	15.9	10.8	1.3	5.0	89.7	55

Table CI.6 (CH.9): Source of ORS and zinc

Percentage of children age 0-59 months with diarrhoea in the last two weeks who were given ORS, and percentage given zinc, by the source of ORS and zinc, *FNSS, 2015*

	Percentage of children for whom the source of ORS was:										Number of children age 0-59 months who were given ORS as treatment for diarrhoea in the last two weeks
	Health facilities or providers										
	Public hospital	Public health center	Other public	Any public	Private pharmacy	Any private	Community health provider[a]	Shop	Any other source (including shop)	A health facility or provider[b]	
36-47 months	37.3	39.3	12.0	77.2	6.9	8.2	11.2	6.0	7.3	78.5	57
48-59 months	31.8	35.6	22.2	87.3	15.2	24.5	30.2	2.3	10.1	98.5	32
Wealth index quintile											
Poorest	25.3	49.4	18.1	81.5	0.7	6.5	18.1	2.9	7.1	85.8	65
Second	29.7	43.8	10.1	79.1	8.7	11.9	10.1	6.4	9.5	79.1	54
Middle	29.0	45.4	12.6	83.6	16.4	22.1	16.5	4.2	4.2	88.4	53
Fourth	50.1	41.9	0.0	84.4	9.0	16.4	0.0	0.0	0.0	92.8	33
Richest	39.7	13.8	6.7	51.7	33.3	48.3	6.7	6.8	9.0	70.0	33
Language group of household head											
Lao-Tai	23.5	25.7	8.4	53.8	18.5	35.5	8.4	11.3	13.3	71.8	38
Mon-Khmer	33.7	47.1	12.5	84.8	9.9	13.1	13.7	3.2	4.2	86.9	169
Hmong-Mien	.	.	.	.	.	.	.	.	.	.	1
Chinese-Tibetan	34.7	29.7	5.8	66.7	13.1	26.1	5.8	0.0	9.4	79.7	30

[a] Community health provider includes both public (*Community health worker and Mobile/Outreach clinic*) and private (*Mobile clinic*) health facilities

[b] Includes all public and private health facilities and providers

Table CI.6 provides information on the source of ORS for children who benefitted from these treatments. The main source of ORS is the public sector. In all five province more than 70% of children got access to ORS through the public sector, with most receiving ORS from public hospitals or health centers. 46.3% of children in urban areas received ORS from the private sector and the most important private sector source is a pharmacy.

Supplementary and Therapeutic Feeding

Supplementary food can be distributed to all children in a specific age group for the prevention of child malnutrition or the food can be targeted to children with moderate acute malnutrition (moderate wasting). Therapeutic food is designed for the treatment of severe acute malnutrition (severe wasting). Therapeutic feeding and targeted supplementary feeding require that children are screened for acute malnutrition. Weight and height or mid-upper arm circumference are used to identify children with acute malnutrition.

Table CI.7 Supplementary and therapeutic food

Percentage of children 6-59 months whose nutritional status was checked by a health worker and who received supplementary or therapeutic food. FNSS, 2015

	Nutrition status checked by health worker	Food ever received					Nutrition status checked by health worker in last 4 months	Food received in last 4 months					Number of children 6-59 months of age
		RUSF	Other SF	RUTF	Therapeutic milk	No SF or TF received		RUSF	Other SF	RUTF	Therapeutic milk	No SF or TF received	
Sex													
Male	20.6	23.3	8.8	4.5	0.8	74.1	12.5	15.4	6.5	3.3	0.5	82.6	1890
Female	20.6	25.4	8.9	4.1	0.9	72.0	13.0	17.0	6.2	3.0	0.3	81.6	1891
Area													
Urban	33.4	20.1	7.2	3.4	0.9	77.2	19.2	11.6	4.4	2.3	0.3	86.6	481
Rural with road	19.0	24.0	8.4	4.4	0.9	73.1	11.8	16.2	6.1	3.4	0.5	81.9	2913
Rural without road	17.4	30.3	13.5	4.9	1.3	68.6	11.4	20.3	10.5	3.2	0.6	78.8	444
Province													
Luangnamtha	22.1	45.6	8.6	1.6	0.8	50.1	16.3	20.6	4.5	1.2	0.4	76.3	552
Oudomxay	26.9	54.2	19.0	10.5	0.9	46.5	22.1	43.2	17.1	9.7	0.5	56.0	1005
Saravane	12.1	0.7	1.3	1.1	0.4	97.9	5.4	0.6	0.6	0.5	0.4	99.2	1341
Sekong	20.2	25.7	5.8	4.6	0.6	71.7	5.7	14.1	2.5	1.3	0.2	85.0	421
Attapeu	29.1	3.1	11.4	3.7	2.8	85.7	15.1	0.7	5.9	1.3	0.8	92.8	519
Age													
6-11 months	13.5	16.0	4.5	1.3	0.6	82.8	9.0	14.3	3.6	1.2	0.2	85.0	425
12-23 months	21.2	23.1	8.4	4.1	0.8	73.3	14.2	20.3	7.5	3.4	0.7	77.0	828
24-35 months	20.0	27.9	10.0	5.7	1.2	69.2	11.6	18.0	7.0	3.9	0.4	80.3	876
36-47 months	23.1	27.0	10.1	5.2	1.2	70.6	14.6	15.8	6.9	3.7	0.6	82.6	940
48-59 months	21.7	22.4	8.9	3.9	0.6	74.7	12.0	10.7	5.6	2.7	0.2	87.7	769

Table CI.7 Supplementary and therapeutic food

Percentage of children 6-59 months whose nutritional status was checked by a health worker and who received supplementary or therapeutic food. FNSS, 2015

	Nutrition status checked by health worker	Food ever received					Nutrition status checked by health worker in last 4 months	Food received in last 4 months					Number of children 6-59 months of age
		RUSF	Other SF	RUTF	Therapeutic milk	No SF or TF received		RUSF	Other SF	RUTF	Therapeutic milk	No SF or TF received	
Wealth index quintile													
Poorest	18.5	26.0	10.6	4.8	0.7	71.6	11.0	18.5	7.7	3.5	0.3	80.0	969
Second	23.3	29.5	9.0	5.0	0.9	68.4	15.8	22.5	7.0	4.3	0.6	76.1	863
Middle	19.7	27.1	7.8	4.0	0.4	68.6	12.4	17.0	6.1	2.8	0.3	80.7	734
Fourth	16.8	20.6	8.7	4.5	1.9	77.4	10.6	11.0	6.0	3.2	0.8	87.2	660
Richest	25.4	14.6	7.2	3.2	1.0	82.6	13.7	7.6	4.4	1.7	0.4	90.4	611
Language group of household head													
Lao-Tai	16.4	9.5	3.3	1.5	0.6	89.4	8.9	4.5	1.8	0.9	0.3	94.6	1211
Mon-Khmer	22.8	27.5	11.0	5.7	1.1	69.5	13.6	20.1	8.3	4.0	0.5	78.1	2154
Hmong-Mien	14.2	39.7	14.2	3.0	3.7	54.7	11.2	12.4	10.5	3.0	1.9	82.0	58
Chinese-Tibetan	22.4	48.4	13.1	6.1	0.8	46.5	19.6	29.6	9.5	5.7	0.4	66.8	415
Area													
Non-MYCNSIA	19.1	34.5	10.6	5.0	0.6	64.5	14.4	23.7	8.5	4.5	0.3	75.1	2305
MYCNSIA	22.9	8.8	6.3	3.5	1.5	85.9	10.1	4.6	3.2	1.3	0.7	92.7	1533
Non-NPAN	21.8	21.7	8.2	4.0	1.1	74.7	13.6	13.5	5.7	2.6	0.4	84.3	2937
NPAN	16.8	32.7	11.0	5.5	0.5	67.6	9.7	24.6	8.8	5.1	0.5	75.2	901

RUSF - ready to use supplementary food; SF - supplementary food; RUTF - ready to use therapeutic food; TF - therapeutic food

Overall, 20.6% of children were ever checked by a health worker for nutritional status according to their caretaker. Children in urban areas were two times more likely to have had their nutritional status checked, 33.4% versus 17.4%. In the FNSS caretakers were asked to identify the type of supplementary or therapeutic food received for their child. In Luangnamtha and Oudomxay approximately 1/2 of children received food, with the most common type being ready-to-use supplementary food. In Oudomxay 10.5% of caretakers reported receiving therapeutic food, compared to less than 5% in all other provinces. In the FNSS caretakers were also asked about services received within the last 4 months. 12.5% of boys and 13.0% of girls had their nutritional status checked within the last 4 months. The percentage of children receiving ready-to-use supplementary food is lower within the last 4 months, particularly among older children who may no longer be in the age group targeted for supplementary feeding.

Of the children whose nutritional status was checked, more than 9 out of 10 received anthropometric measurements. Most children were measured with both MUAC and weight/height. The percentage of children whose caretaker did not know the result of the MUAC screening was high across ethno-linguistic groups. 48.0% of Lao-Tai reported that the health worker did not say or that they did not know the result, while the percentage was 38.4% among Mon-Khmer and 32.5% among Chinese-Tibetan. 'Normal' was the most common result of MUAC screening overall, but there were large differences by area type. 2.1% reported "severely wasted' in urban areas, compared to 4.8% in rural areas with roads and 10.4% in rural areas without roads. More than ½ of the children from rural areas without roads were reported to be 'moderately wasted.'

Table CI.8 Malnutrition screening

Among children 6-59 months whose nutritional status was checked in the last 4 months, the percentage that received anthropometry measurements and the results of mid-upper arm circumference (MUAC) measurements

	Measured with MUAC or weight/height	MUAC measured	Weight or height measured	Both MUAC and weight/height measured	Number of children 6-59 months checked for nutritional status	Result of nutritional status screening among children measured with MUAC					Number of children 6-59 months screened with MUAC
						Severely wasted (red)	Moderately wasted (yellow)	Wasted with unknown severity	Normal (green)	Health worker did not say / DK	
Sex											
Male	92.3	80.1	81.2	68.9	237	5.4	19.9	1.2	32.9	40.5	190
Female	91.2	79.2	73.3	61.3	245	4.8	25.7	0.5	32.7	36.3	194
Area											
Urban	80.2	56.0	75.1	51.0	92	2.1	4.8	0.0	39.2	54.0	52
Rural with road	95.0	86.3	80.5	71.8	344	4.8	21.1	1.1	33.8	39.2	297
Rural without road	91.0	79.2	58.9	47.1	51	10.4	55.9	0.0	17.3	16.4	40
Province											
Luangnamtha	95.2	80.9	95.2	80.9	90	3.0	1.5	1.5	46.9	47.2	73
Oudomxay	93.0	80.5	67.2	54.7	222	4.9	37.9	0.0	20.4	36.9	179
Saravane	85.1	70.7	77.3	62.9	72	2.8	6.9	0.0	42.7	47.6	51
Sekong	92.2	80.4	74.5	62.7	24	.	.	.	.	.	19
Attapeu	90.7	85.0	86.0	80.4	78	11.0	18.7	1.1	40.7	28.6	67
Age											
6-11 months	81.0	71.3	69.5	59.7	38	16.7	9.0	0.0	47.9	26.4	27
12-23 months	89.9	83.1	78.5	71.6	118	5.0	23.6	1.6	32.1	37.7	98
24-35 months	93.9	74.5	80.8	61.4	101	1.4	17.0	2.2	41.8	37.5	76
36-47 months	94.3	78.6	77.0	61.4	137	5.0	25.2	0.0	26.7	43.1	108

Table CI.8 Malnutrition screening

Among children 6-59 months whose nutritional status was checked in the last 4 months, the percentage that received anthropometry measurements and the results of mid-upper arm circumference (MUAC) measurements

	Measured with MUAC or weight/height	MUAC measured	Weight or height measured	Both MUAC and weight/height measured	Number of children 6-59 months checked for nutritional status	Result of nutritional status screening among children measured with MUAC					Number of children 6-59 months screened with MUAC
						Severely wasted (red)	Moderately wasted (yellow)	Wasted with unknown severity	Normal (green)	Health worker did not say / DK	
48-59 months	92.7	86.9	75.3	69.6	92	4.5	27.4	0.0	28.3	39.8	80
Wealth index quintile											
Poorest	91.2	82.9	69.2	60.9	106	5.6	28.5	1.9	20.6	43.5	88
Second	96.5	85.1	76.9	65.6	136	5.6	30.9	0.4	24.2	38.9	116
Middle	98.0	87.0	85.9	74.9	91	7.1	17.7	1.4	31.2	42.6	79
Fourth	96.8	78.2	89.1	70.5	70	4.7	21.8	0.0	40.5	33.0	55
Richest	73.9	60.8	68.7	55.6	83	0.0	1.4	0.0	67.9	30.7	51
Language group of household head											
Lao-Tai	80.9	63.5	76.5	59.0	107	1.6	3.7	0.0	46.8	48.0	68
Mon-Khmer	95.6	86.7	75.4	66.5	292	6.9	28.8	0.8	25.1	38.4	253
Hmong-Mien	.	.	.	.	6	.	.	.	.	.	6
Chinese-Tibetan	91.8	75.0	83.2	66.4	81	1.8	19.9	1.8	44.0	32.5	61
Area											
Non-MYCNSIA	91.0	76.5	73.7	59.2	332	4.3	27.1	0.4	27.8	40.5	254
MYCNSIA	93.6	87.1	84.8	78.3	155	6.5	14.0	1.6	42.3	35.6	135
Non-NPAN	91.8	79.3	80.8	68.3	399	4.3	18.0	1.0	36.3	40.3	317
NPAN	91.8	82.0	61.3	51.6	88	8.2	42.5	0.0	17.3	32.0	72

X. Water and Sanitation

Safe drinking water is a basic necessity for good health. Unsafe drinking water can be a significant determinant of diseases such as cholera and typhoid. Drinking water can also be contaminated with chemical and physical contaminants with harmful effects on human health. In addition to preventing disease, improved access to drinking water may be particularly important for women and children, especially in rural areas, who bear the primary responsibility for carrying water, often for long distances.[17]

Inadequate disposal of human excreta and personal hygiene is associated with a range of diseases including diarrhoeal diseases and polio and is an important determinant for stunting. Improved sanitation can reduce diarrheal disease by more than a third[18], and can significantly lessen the adverse health impacts of other disorders responsible for death and disease among millions of children in developing countries.

The MDG target (7, C) is to reduce by half, between 1990 and 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation.

For more details on water and sanitation and to access some reference documents, please visit data.unicef.org[19] or the website of the WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation[20].

Use of Improved Water Sources

The distribution of the population by main source of drinking water is shown in Table WS.1. The population using *improved sources* of drinking water are those using any of the following types of supply: piped water (into dwelling, compound, yard or plot, to neighbour, public tap/standpipe), tube well/borehole, protected well, protected spring, and rainwater collection. Bottled water is considered as an improved water source only if the household is using an improved water source for handwashing and cooking.

[17] WHO/UNICEF. 2012. *Progress on Drinking water and Sanitation: 2012 update*.
[18] Cairncross, S et al. 2010. *Water, sanitation and hygiene for the prevention of diarrhoea*. International Journal of Epidemiology 39: i193-i205
[19] http://data.unicef.org/water-sanitation
[20] http:// www.wssinfo.org

Table WS.1: Use of improved water sources

Percent distribution of household population according to main source of drinking water and percentage of household population using improved drinking water sources, *FNSS, 2015*

	Main source of drinking water																
	Improved sources									Unimproved sources							
	Piped water																
	Into dwelling	Into yard/ plot	To neigh-bour	Public tap/ stand-pipe	Tube-well/ bore-hole	Pro-tected well	Pro-tected spring	Rain-water collection	Bottled water[a]	Unpro-tected well	Unpro-tected spring	Surface water	Bottled water[a]	Other	Total	Percentage using improved sources of drinking water[1]	Number of household members
Province																	
Luangnamtha	4.3	2.5	.4	6.9	1.0	3.1	42.6	0.0	35.1	.1	2.2	.5	1.4	0.0	100.0	95.8	5627
Oudomxay	6.6	9.4	.5	27.8	.1	1.5	17.9	.8	16.4	2.9	2.6	9.4	4.0	0.0	100.0	81.1	9728
Saravane	1.5	.6	.4	5.4	35.7	1.9	10.4	13.6	11.2	3.8	1.6	10.4	.9	2.6	100.0	80.8	11612
Sekong	9.7	9.4	.4	4.0	15.2	4.5	23.3	2.2	11.0	2.9	5.4	10.3	1.0	.8	100.0	79.6	3676
Attapeu	2.1	1.1	.4	4.4	20.9	2.5	5.2	15.9	24.5	8.4	1.1	6.2	5.6	1.7	100.0	77.0	4620
Type of Area																	
Urban	9.4	2.0	.5	1.8	3.5	1.8	1.9	1.1	65.2	1.0	1.2	3.5	6.9	.3	100.0	87.1	5187
Rural with road	2.5	4.6	.4	11.6	20.0	2.5	20.7	8.3	11.1	4.3	2.5	8.3	1.9	1.2	100.0	81.8	26582
Rural without road	10.3	6.1	.3	25.4	6.6	1.8	23.7	6.1	2.1	.6	1.9	12.6	0.0	2.5	100.0	82.4	3493
Wealth index quintile																	
Poorest	.7	2.9	.6	23.8	13.2	1.3	24.8	1.6	.5	3.8	4.5	19.7	.3	2.2	100.0	69.5	7054
Second	1.2	6.1	.9	15.5	18.5	2.5	28.7	4.8	2.5	4.2	3.2	9.4	.8	1.5	100.0	80.9	7053
Middle	4.6	5.7	0.0	11.1	20.5	2.8	23.2	9.0	6.3	5.6	2.0	6.1	1.8	1.2	100.0	83.3	7053
Fourth	8.3	4.8	.5	6.7	20.0	3.0	11.7	12.0	20.9	2.5	1.3	3.8	3.7	.7	100.0	87.8	7050
Richest	6.6	2.1	.1	.6	9.2	2.1	2.9	7.5	60.6	1.1	.3	.8	5.6	.3	100.0	91.8	7052

Language group of household head																
Lao-Tai	4.2	2.7	.4	2.6	17.0	1.7	7.8	13.7	36.4	2.7	.7	5.8	4.2	.1	100.0	86.5	11475
Mon-Khmer	4.1	6.0	.4	15.6	18.9	2.5	21.3	4.2	6.9	4.6	2.5	9.4	1.7	2.0	100.0	79.9	19800
Hmong-Mien	18.1	0.0	2.9	13.7	0.0	4.3	16.5	0.0	31.5	0.0	3.5	7.1	2.4	0.0	100.0	87.0	497
Chinese-Tibetan	3.7	.9	.3	17.9	1.5	3.3	35.6	2.0	20.0	0.0	6.2	7.7	1.0	0.0	100.0	85.1	3451
Area																
Non-MYCNSIA	4.5	5.1	.5	15.3	9.4	1.9	24.4	7.3	19.9	1.3	1.7	6.5	2.3	0.0	100.0	88.1	21760
MYCNSIA	3.9	3.1	.3	5.5	27.3	3.2	8.4	6.6	15.4	6.9	3.2	10.4	2.7	3.0	100.0	73.8	13501
Non-NPAN	5.0	3.6	.4	10.4	16.3	2.7	12.9	9.3	20.0	4.6	2.8	8.5	2.6	1.0	100.0	80.6	26647
NPAN	2.1	6.6	.5	15.0	16.2	1.2	34.8	0.0	12.5	0.0	.8	6.5	2.0	1.7	100.0	89.0	8614

[1] MICS indicator 4.1; MDG indicator 7.8 - Use of improved drinking water sources

[a] Households using bottled water as the main source of drinking water are classified into improved or unimproved drinking water users according to the water source used for other purposes such as cooking and handwashing.

The vast majority of the population uses an improved source of drinking water – 87.1 percent in urban areas, 81.8 percent in rural areas with roads, and 82.4 percent in rural areas without roads. The situation in Luangnamtha is considerably better than in other regions; 95.8 percent of the population in this region gets its drinking water from an improved source.

The source of drinking water for the population varies strongly by wealth (Table WS.1). In the richest households, 2/3 of the population uses bottled water for drinking water. In the poorest households less than 1 percent uses bottled water and 19.7% uses surface water. The main sources of drinking water in NPAN areas are depicted in Figure WS.1. The main source of drinking water in NPAN areas is a protected well or spring (36%) and the second leading source is a public tap or standpipe (15%). 12 percent of the households use drinking water from an unimproved source and most of the unimproved water comes from surface water.

Figure WS.1 presents data from the 2011/12 LSIS and the 2015 FNSS for the use of an improved source of drinking water. In Luangnamtha coverage of improved water was nearly universal in 2011/12 and there was no significant change in 2015. In the remaining four provinces there were increases in the use of an improved source of water, and the largest increases were seen in the provinces with the lowest coverage in 2011/12, Saravane and Attapeu. In these two provinces the use of improved water increased by approximately 20 percentage points and the change was statistically significant. In Oudomxay and Sekong there was only a slight increase and confidence intervals are overlapping.

Figure WS.1: Province level trends in use of an improved source of drinking water, LSIS 2011/12 and FNSS 2015

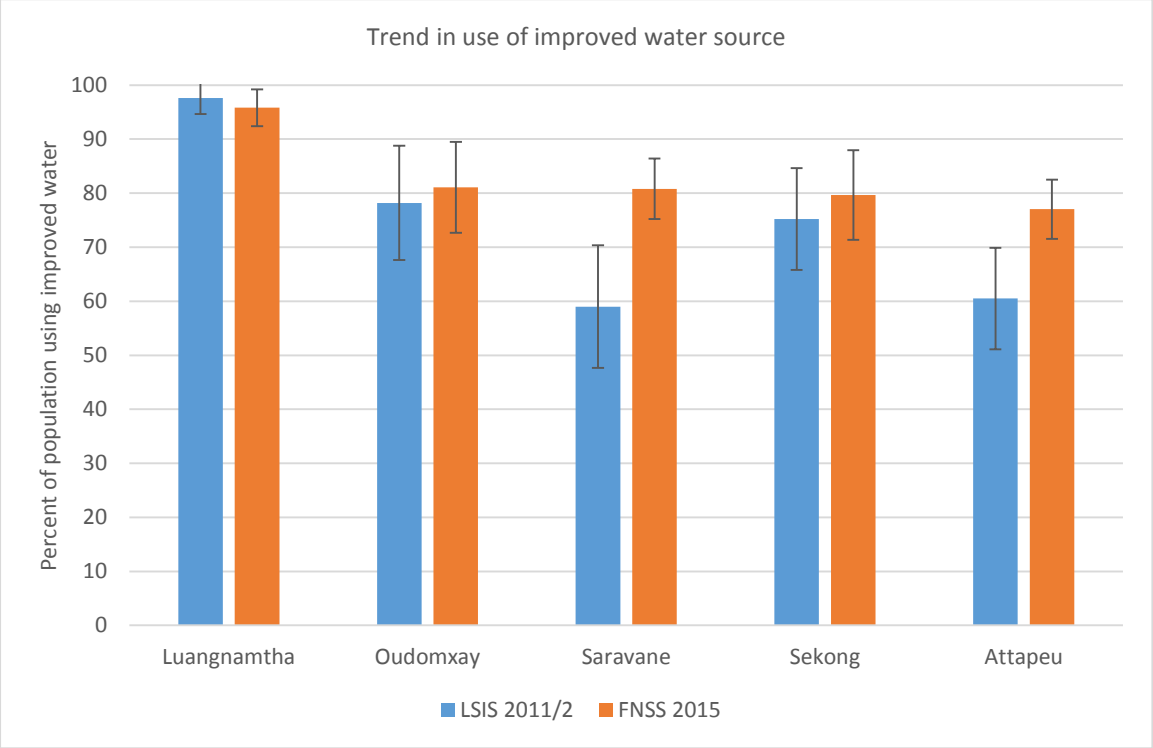
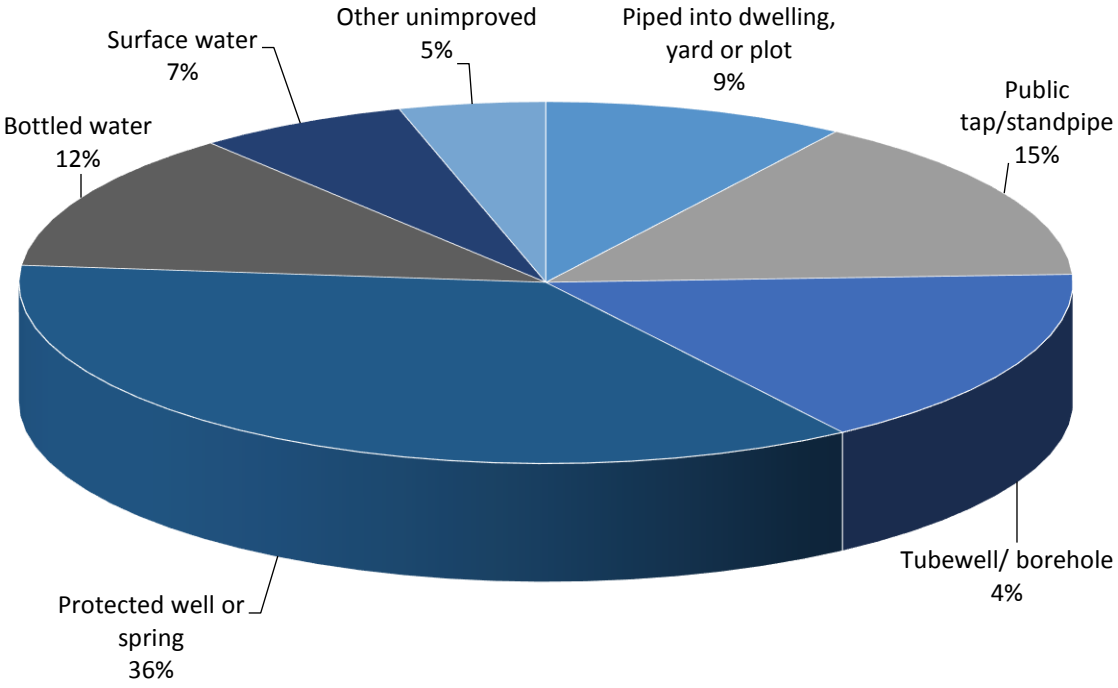


Figure WS.2: Percent distribution of household members by source of drinking water in MNFSAP areas, FNSS, 2015



Use of household water treatment is presented in Table WS.2. Households were asked about ways they may be treating water at home to make it safer to drink. Boiling water, adding bleach or chlorine, using a water filter, and using solar disinfection are considered as effective treatment of drinking water. The table shows water treatment by all household members and the percentage of those living in households using unimproved water sources but using appropriate water treatment methods. 65.7 percent of households with an unimproved drinking water source are using an appropriate water treatment method, which for nearly all of the households is boiling. The use of other appropriate water treatment methods, such as bleach/chlorine, solar disinfection, or water filters, is not common in any province.

Table WS.2: Household water treatment

Percentage of household population by drinking water treatment method used in the household, and for household members living in households where an unimproved drinking water source is used, the percentage who are using an appropriate treatment method, *FNSS, 2015*

	Water treatment method used in the household											
	None	Boil	Add bleach/ chlorine	Strain through a cloth	Use water filter	Solar dis-infection	Let it stand and settle	Other	Missing/DK	Number of household members	Percentage of household members in households using unimproved drinking water sources and using an appropriate water treatment method[1]	Number of household members in households using unimproved drinking water sources
Province												
Luangnamtha	40.8	53.6	.1	.9	.3	0.0	14.2	.7	.2	5627	46.8	236
Oudomxay	23.3	75.2	.1	.1	.7	0.0	8.4	.6	0.0	9728	72.2	1840
Saravane	35.2	59.8	.9	3.7	1.9	.2	1.5	2.1	1.7	11612	63.1	2230
Sekong	24.7	71.2	.4	1.7	3.5	.2	.7	.8	0.0	3676	69.0	748
Attapeu	37.1	55.9	.4	7.5	.9	.1	5.4	2.2	0.0	4620	61.7	1062
Type of Area												
Urban	60.6	35.3	.6	1.0	1.7	.3	2.7	1.7	0.0	5187	61.6	667
Rural with road	28.8	67.3	.4	2.6	1.1	.1	5.3	1.4	.8	26582	64.8	4835
Rural without road	13.5	78.9	.4	4.5	2.7	0.0	14.6	.2	0.0	3493	77.3	614
Main source of drinking water												
Improved	31.8	63.5	.5	2.7	1.4	.1	6.1	1.5	.7	29146	na	na
Unimproved	32.9	64.9	.0	1.9	1.1	.1	4.9	.7	0.0	6116	65.7	6116
Wealth index quintile												
Poorest	22.4	74.6	.2	1.9	.2	.0	5.9	.9	.0	7054	71.2	2155
Second	21.9	73.6	.4	2.5	1.5	0.0	7.5	.7	.3	7053	69.2	1348
Middle	24.5	71.4	.4	3.3	1.3	.0	7.3	.4	0.0	7053	65.5	1181

Table WS.2: Household water treatment

Percentage of household population by drinking water treatment method used in the household, and for household members living in households where an unimproved drinking water source is used, the percentage who are using an appropriate treatment method, *FNSS, 2015*

	Water treatment method used in the household											
	None	Boil	Add bleach/ chlorine	Strain through a cloth	Use water filter	Solar dis-infection	Let it stand and settle	Other	Missing/DK	Number of household members	Percentage of household members in households using unimproved drinking water sources and using an appropriate water treatment method[1]	Number of household members in households using unimproved drinking water sources
Fourth	31.9	64.1	.7	3.5	1.9	.1	5.6	1.2	.6	7050	60.2	857
Richest	59.2	35.0	.4	1.5	1.8	.4	3.0	3.5	1.9	7052	45.9	575
Language group of household head												
Lao-Tai	50.5	43.7	.5	3.0	2.1	.3	2.5	1.3	.1	11475	50.2	1548
Mon-Khmer	21.0	75.5	.5	2.7	1.2	.0	6.6	1.6	1.0	19800	69.3	3989
Hmong-Mien	20.3	77.4	0.0	0.0	0.0	0.0	13.3	0.0	0.0	497	100.0	65
Chinese-Tibetan	34.3	61.3	0.0	.3	0.0	0.0	11.6	.3	0.0	3451	80.3	513
Area												
Non-MYCNSIA	32.4	63.8	.4	1.1	.8	.1	7.6	1.3	.9	21760	66.7	2582
MYCNSIA	31.3	63.6	.5	4.8	2.3	.2	3.1	1.5	0.0	13501	65.0	3534
Non-NPAN	34.0	61.9	.3	2.9	1.4	.1	5.6	1.6	.7	26647	64.9	5170
NPAN	25.8	69.5	1.0	1.5	1.1	.2	6.7	.7	.3	8614	69.9	946

[1] MICS indicator 4.2 - Water treatment

na: not applicable

The amount of time it takes to obtain water is presented in Table WS.3 and the person who usually collects the water in Table WS.4. Note that for Table WS.3, household members using water on premises are also shown in this table and for others, the results refer to one roundtrip from home to drinking water source. Information on the number of trips made in one day was not collected.

Table WS.3 shows that for 96.3 percent of the urban population and 76.9 percent of the rural population without roads, the drinking water source is on premises. The availability of water on premises is associated with greater use, better family hygiene and better health outcomes. For a water collection round trip of 30 minutes or more it has been observed that households carry progressively less water and are likely to compromise on the minimal basic drinking water needs of the household.[21] There are very few households where it takes the household more than 30 minutes to get to the water source and bring water. 0.3 percent of those using an improved drinking water source and 0.7 percent of those using an unimproved drinking water source in rural areas without roads spend 30 minutes or more per round trip.

Table WS.3: Time to source of drinking water

Percent distribution of household population according to time to go to source of drinking water, get water and return, for users of improved and unimproved drinking water sources, *FNSS, 2015*

	Time to source of drinking water									
	Users of improved drinking water sources				Users of unimproved drinking water sources					
	Water on premises	Less than 30 minutes	30 minutes or more	Missing/DK	Water on premises	Less than 30 minutes	30 minutes or more	Missing/DK	Total	Number of household members
Province										
Luangnamtha	74.7	20.6	.3	.2	1.7	1.6	.9	0.0	100.0	5627
Oudomxay	72.0	9.1	0.0	0.0	11.3	6.5	1.1	0.0	100.0	9728
Saravane	67.5	11.7	1.5	.1	5.8	10.1	2.7	.7	100.0	11612
Sekong	64.0	14.0	1.6	.1	9.4	8.9	2.0	.1	100.0	3676
Attapeu	59.6	15.7	1.6	.0	14.0	6.7	2.1	.2	100.0	4620
Type of Area										
Urban	85.1	1.8	.2	0.0	11.2	1.7	0.0	.0	100.0	5187
Rural with road	64.8	15.8	1.1	.1	7.9	7.7	2.3	.3	100.0	26582
Rural without road	71.8	10.4	.3	0.0	5.1	11.7	.7	.1	100.0	3493
Wealth index quintile										
Poorest	40.3	26.9	2.3	0.0	6.9	18.2	4.9	.6	100.0	7054

[21] Cairncross, S and Cliff, JL. 1987. *Water use and Health in Mueda, Mozambique*. Transactions of the Royal Society of Tropical Medicine and Hygiene 81: 51-4.

Table WS.3: Time to source of drinking water

Percent distribution of household population according to time to go to source of drinking water, get water and return, for users of improved and unimproved drinking water sources, *FNSS, 2015*

	Time to source of drinking water									
	Users of improved drinking water sources				Users of unimproved drinking water sources					
	Water on premises	Less than 30 minutes	30 minutes or more	Missing/DK	Water on premises	Less than 30 minutes	30 minutes or more	Missing/DK	Total	Number of household members
Second	58.7	20.8	1.3	.0	7.6	9.5	1.7	.2	100.0	7053
Middle	70.0	12.4	.7	.2	9.2	5.4	1.7	.4	100.0	7053
Fourth	82.0	5.5	.2	.2	9.1	2.5	.5	0.0	100.0	7050
Richest	91.4	.4	.1	0.0	7.6	.4	.2	0.0	100.0	7052
Language group of household head										
Lao-Tai	81.0	5.1	.4	.1	7.0	5.2	.9	.4	100.0	11475
Mon-Khmer	62.8	15.6	1.3	.1	9.3	8.2	2.4	.2	100.0	19800
Hmong-Mien	73.6	13.5	0.0	0.0	3.6	9.4	0.0	0.0	100.0	497
Chinese-Tibetan	58.5	26.2	.4	0.0	5.5	7.6	1.8	0.0	100.0	3451
Area										
Non-MYCNSIA	76.7	11.3	.1	.1	6.1	4.7	.9	.2	100.0	21760
MYCNSIA	55.2	16.3	2.3	.1	11.3	11.2	3.3	.4	100.0	13501
Non-NPAN	66.1	13.4	1.1	.1	8.8	8.5	1.8	.3	100.0	26647
NPAN	75.9	12.5	.5	.1	5.8	3.3	1.9	0.0	100.0	8614

Table WS.4 shows that approximately ¼ of households in rural areas and ½ of the poorest households do not have water on the premises. In the majority of households an adult female usually collects drinking water when the source is not on the premises. When children collect water it is more likely to be a female child than a male child. In 7.3% of the poorest households female children under age are the usual water collector.

Table WS.4: Person collecting water

Percentage of households without drinking water on premises, and percent distribution of households without drinking water on premises according to the person usually collecting drinking water used in the household, *FNSS, 2015*

	Percentage of households without drinking water on premises	Number of households	Person usually collecting drinking water						Number of households without drinking water on premises
			Adult woman	Adult man	Female child under age 15	Male child under age 15	Missing/DK	Total	
Province									
Luangnamtha	22.0	1059	81.8	12.6	4.3	.4	.9	100.0	233
Oudomxay	15.7	1803	86.9	3.6	8.9	.6	0.0	100.0	284
Saravane	25.9	2067	75.5	17.2	6.4	1.0	0.0	100.0	535
Sekong	23.5	579	68.1	16.5	9.7	4.0	1.7	100.0	136
Attapeu	25.5	880	68.2	25.2	5.3	1.3	0.0	100.0	225
Type of Area									
Urban	3.5	1058	82.4	16.4	1.2	0.0	0.0	100.0	37
Rural with road	26.2	4739	77.0	15.1	6.6	1.1	.1	100.0	1241
Rural without road	23.0	591	75.0	12.3	8.9	1.7	2.1	100.0	136
Wealth index quintile									
Poorest	51.6	1304	77.3	13.9	7.3	1.3	.2	100.0	673
Second	33.0	1197	77.8	12.6	7.6	1.7	.3	100.0	395
Middle	19.1	1207	74.0	20.4	5.2	.3	.2	100.0	230
Fourth	8.0	1291	80.9	14.5	3.0	.7	1.0	100.0	103
Richest	.	.	.	.	.	.	.	.	13
Language group of household head									
Lao-Tai	11.6	2323	71.8	23.0	4.7	.5	0.0	100.0	269

Mon-Khmer	27.1	3391	77.9	12.9	7.3	1.4	.5	100.0	918
Hmong-Mien	.	.	.	.	.	.	.	.	18
Chinese-Tibetan	35.1	591	78.2	13.8	6.7	1.3	0.0	100.0	207
Area									
Non-MYCNSIA	16.6	4066	78.9	12.7	7.8	.4	.3	100.0	674
MYCNSIA	31.9	2321	75.2	16.9	5.7	1.9	.3	100.0	739
Non-NPAN	23.4	4881	76.3	16.1	6.1	1.2	.3	100.0	1141
NPAN	18.1	1506	79.8	9.8	9.1	.9	.4	100.0	272

Use of Improved Sanitation

Inadequate disposal of human excreta and personal hygiene are associated with a range of diseases including diarrhoeal diseases and polio and are important determinants of stunting. Improved sanitation can reduce diarrhoeal disease by more than a third[22], and can substantially lessen the adverse health impacts of other disorders among millions of children in many countries.

An improved sanitation facility is defined as one that hygienically separates human excreta from human contact. Improved sanitation facilities for excreta disposal include flush or pour flush to a piped sewer system, septic tank, or pit latrine; ventilated improved pit latrine, pit latrine with slab, and use of a composting toilet. The data on the use of improved sanitation facilities are provided in Table WS.5.

2/3 of the population in Saravane Province are living in households using open defecation (Table WS.5). The percentage of open defecation is 7.7% in urban areas, 48.3 percent in rural areas with roads, and 63.9% in rural areas without roads. The most common type of sanitation facility in urban areas is a septic tank, followed by pit latrine and piped sewer system. In Oudomxay Province 1/3 of the population uses a piped sewer system; the next highest is 5.9% in Attapeu Province. In rural areas open defecation is the most common, followed by septic tanks and pit latrines. More than ¾ of the poorest households use open defecation.

[22] Cairncross, S. 2010. *Water, sanitation and hygiene for the prevention of diarrhoea*. Int. J. Epidemiology 39: i193-i205.

Table WS.5: Types of sanitation facilities

Percent distribution of household population according to type of toilet facility used by the household, *FNSS, 2015*

	Type of toilet facility used by household											
	Improved sanitation facility						Unimproved sanitation facility			Open defecation (no facility, bush, field)	Total	Number of household members
	Flush/Pour flush to:											
	Piped sewer system	Septic tank	Pit latrine	Ventilated improved pit latrine	Pit latrine with slab	Compos-ting toilet	Flush/Pour flush to somewhere else	Pit latrine without slab/ open pit	Other			
Province												
Luangnamtha	4.0	27.2	36.8	0.0	0.0	.1	0.0	.5	.1	31.3	100.0	5627
Oudomxay	33.4	13.9	15.9	.3	.2	.2	.1	5.2	.1	30.7	100.0	9728
Saravane	.9	27.7	4.9	.1	0.0	0.0	.1	0.0	.1	66.2	100.0	11612
Sekong	1.5	33.1	24.5	.0	.7	.5	0.0	8.0	.6	31.2	100.0	3676
Attapeu	5.9	21.5	27.4	.3	1.6	.2	.1	2.0	.2	40.9	100.0	4620
Type of Area												
Urban	22.1	41.5	27.2	.6	.1	.2	0.0	.5	.2	7.7	100.0	5187
Rural with road	8.9	21.5	17.5	.1	.3	.1	.1	3.0	.1	48.3	100.0	26582
Rural without road	11.5	12.4	8.2	.2	.9	.4	0.0	2.4	.1	63.9	100.0	3493
Wealth index quintile												
Poorest	7.3	4.9	5.0	0.0	.6	.4	.1	4.0	.2	77.5	100.0	7054
Second	9.5	11.4	13.4	0.0	.9	0.0	0.0	5.0	0.0	59.9	100.0	7053
Middle	8.2	21.1	19.1	.2	.1	.1	.1	3.2	.1	47.8	100.0	7053
Fourth	11.4	30.4	26.6	.4	.2	.2	.0	.8	.2	29.8	100.0	7050
Richest	19.0	49.9	26.1	.2	0.0	0.0	0.0	.1	.2	4.6	100.0	7052

Table WS.5: Types of sanitation facilities

Percent distribution of household population according to type of toilet facility used by the household, *FNSS, 2015*

	Type of toilet facility used by household											
	Improved sanitation facility						Unimproved sanitation facility			Open defecation (no facility, bush, field)	Total	Number of household members
	Flush/Pour flush to:											
	Piped sewer system	Septic tank	Pit latrine	Ventilated improved pit latrine	Pit latrine with slab	Compos-ting toilet	Flush/Pour flush to somewhere else	Pit latrine without slab/ open pit	Other			
Language group of household head												
Lao-Tai	10.7	36.8	17.4	.2	.2	0.0	.0	.1	.2	34.3	100.0	11475
Mon-Khmer	11.9	18.1	16.5	.1	.5	.3	.0	4.5	.1	48.1	100.0	19800
Hmong-Mien	7.5	5.1	52.6	0.0	0.0	0.0	0.0	0.0	0.0	34.8	100.0	497
Chinese-Tibetan	8.1	13.3	24.2	.3	0.0	0.0	.3	.3	.1	53.3	100.0	3451
Area												
Non-MYCNSIA	16.3	24.7	17.4	.2	.1	.1	.0	2.4	.0	38.7	100.0	21760
MYCNSIA	2.7	21.8	19.0	.1	.7	.2	.1	2.8	.3	52.3	100.0	13501
Non-NPAN	9.1	24.3	20.8	.2	.4	.2	.1	3.2	.2	41.6	100.0	26647
NPAN	17.3	21.4	9.6	0.0	0.0	0.0	0.0	.7	0.0	51.1	100.0	8614

The MDGs and the WHO / UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation classify otherwise acceptable sanitation facilities which are public or shared between two or more households as unimproved. Therefore, “use of improved sanitation” is used both in the context of this report and as an MDG indicator to refer to improved sanitation facilities, which are not public or shared. Data on the use of improved sanitation are presented in Tables WS.6 and WS.7.

As shown in Table WS.6, 89.0% of the urban population is using an improved sanitation facility that is not shared, compared to 46.2% in rural areas with roads and 32.8% in rural areas without roads. Sharing improved sanitation facilities is not common. The highest rate of sharing improved sanitation facilities is found among the Hmong-Mien (2.9%). Figure WS.2 presents the distribution of the survey population by use and sharing of sanitation facilities in NPAN areas. The figure shows that for the most part households are either using a private improved sanitation facility or nothing at all.

Table WS.6: Use and sharing of sanitation facilities

Percent distribution of household population by use of private and public sanitation facilities and use of shared facilities, by users of improved and unimproved sanitation facilities, *FNSS, 2015*

	Users of improved sanitation facilities					Users of unimproved sanitation facilities			Open defecation (no facility, bush, field)	Total	Number of household members
			Shared by				Shared by				
	Not shared[1]	Public facility	5 households or less	More than 5 households	Missing/DK	Not shared	5 households or less	Missing/DK			
Province											
Luangnamtha	66.2	.2	1.7	0.0	.2	.6	0.0	0.0	31.3	100.0	5627
Oudomxay	61.7	.6	1.4	.2	0.0	5.4	0.0	0.0	30.7	100.0	9728
Saravane	31.3	.0	1.9	.4	0.0	.1	0.0	0.0	66.2	100.0	11612
Sekong	58.1	.7	.9	.5	0.0	8.5	.1	0.0	31.2	100.0	3676
Attapeu	55.3	.4	1.0	.2	0.0	2.1	.0	.1	40.9	100.0	4620
Type of Area											
Urban	89.0	.8	1.0	.5	.2	.7	.0	0.0	7.7	100.0	5187
Rural with road	46.2	.2	1.7	.2	0.0	3.2	.0	0.0	48.3		26582
Rural without road	32.8	0.0	.8	0.0	0.0	2.4	0.0	.1	63.9	100.0	3493
Wealth index quintile											
Poorest	17.5	.2	.4	.1	0.0	4.3	.0	.1	77.5	100.0	7054
Second	33.9	.1	1.0	.2	.0	5.0	0.0	0.0	59.9	100.0	7053
Middle	46.0	.4	2.5	.0	0.0	3.4	.0	0.0	47.8	100.0	7053
Fourth	65.7	.3	2.5	.6	0.0	1.1	0.0	0.0	29.8	100.0	7050
Richest	93.0	.5	1.2	.3	.1	.2	.0	0.0	4.6	100.0	7052
Language group of household head											

Table WS.6: Use and sharing of sanitation facilities

Percent distribution of household population by use of private and public sanitation facilities and use of shared facilities, by users of improved and unimproved sanitation facilities, *FNSS, 2015*

	Users of improved sanitation facilities					Users of unimproved sanitation facilities			Open defecation (no facility, bush, field)	Total	Number of household members
			Shared by				Shared by				
	Not shared[1]	Public facility	5 households or less	More than 5 households	Missing/DK	Not shared	5 households or less	Missing/DK			
Lao-Tai	63.1	.2	1.7	.3	0.0	.3	.0	0.0	34.3	100.0	11475
Mon-Khmer	45.3	.4	1.2	.2	.0	4.6	.0	.0	48.1	100.0	19800
Hmong-Mien	62.3	0.0	2.9	0.0	0.0	0.0	0.0	0.0	34.8	100.0	497
Chinese-Tibetan	43.2	0.0	2.3	.4	.1	.7	0.0	0.0	53.3	100.0	3451
Area											
Non-MYCNSIA	56.4	.3	1.8	.3	.0	2.5	0.0	0.0	38.7	100.0	21760
MYCNSIA	42.8	.3	1.0	.3	0.0	3.2	.0	.0	52.3	100.0	13501
Non-NPAN	52.9	.4	1.3	.3	.0	3.4	.0	.0	41.6	100.0	26647
NPAN	45.9	.1	2.0	.3	0.0	.7	0.0	0.0	51.1	100.0	8614

[1] MICS indicator 4.3; MDG indicator 7.9 - Use of improved sanitation

Figure WS.3 compares the use of improved sanitation facilities between the LSIS 2011/12 and the FNSS 2015. In 2011/12 Luangnamtha had the highest percent of people using improved sanitation and there was no change in that province in 2015. In all of the other provinces use of improved sanitation increased from 2011/12 to 2015. The largest increases were seen in Oudomxay, Sekong, and Attapeu, where coverage increased by approximately 20 percentage points and confidence intervals are not overlapping. In Saravane there was a 10 percentage point increase, but the gap between coverage in Saravane and the other provinces grew larger.

Figure WS.3: Province level trend in use of improved sanitation facilities, LSIS 2011/12 and FNSS 2015

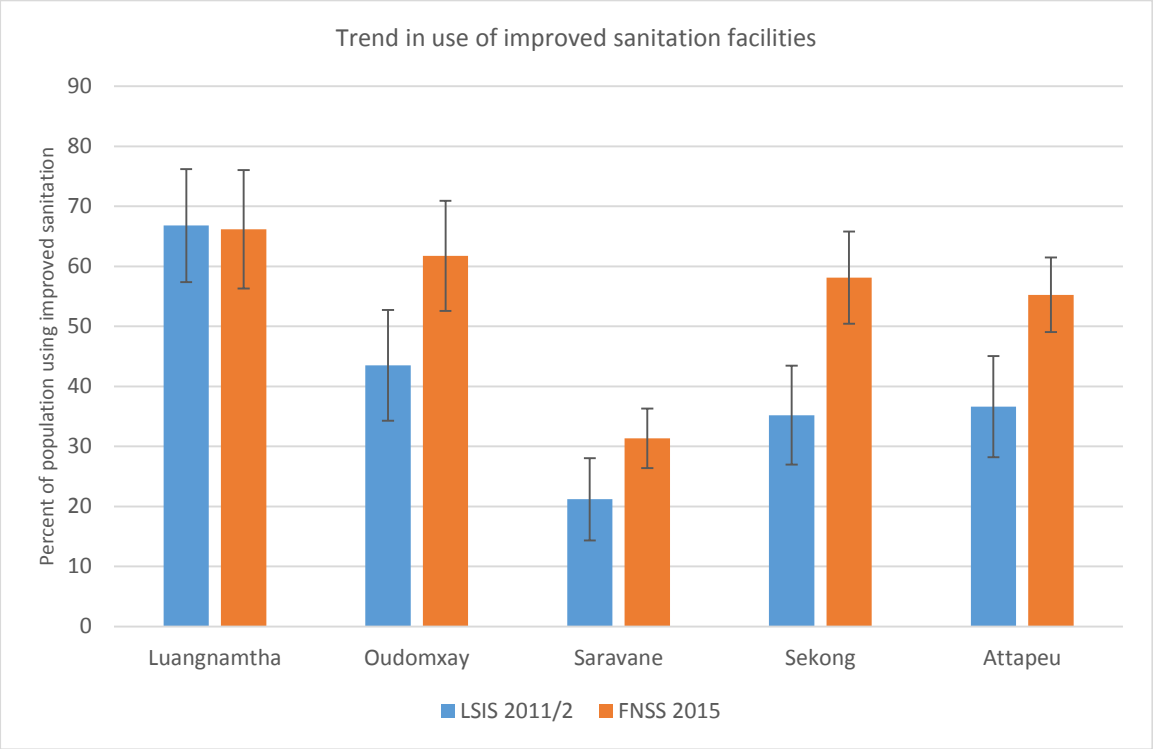
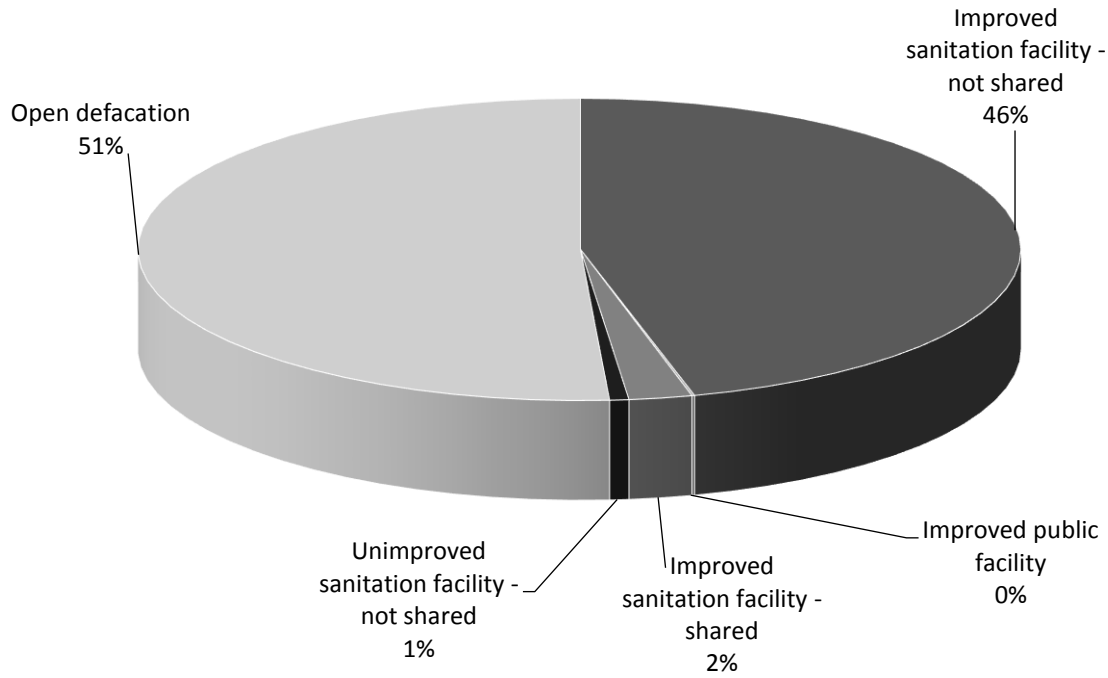


Figure WS.4: Percent distribution of household members by use and sharing of sanitation facilities in NPAN areas, FNSS, 2015



Having access to both an improved drinking water source and an improved sanitation facility brings the largest public health benefits to a household.[23] In its 2008 report[24], the JMP developed a new way of presenting the access figures, by disaggregating and refining the data on drinking-water and sanitation and reflecting them in "ladder" format. This ladder allows a disaggregated analysis of trends in a three rung ladder for drinking-water and a four-rung ladder for sanitation. For sanitation, this gives an understanding of the proportion of population with no sanitation facilities at all – who revert to open defecation, of those reliant on technologies defined by JMP as "unimproved," of those sharing sanitation facilities of otherwise acceptable technology, and those using "improved" sanitation facilities.

Table WS.7 presents the percentages of household population by these drinking water and sanitation ladders. The table also shows the percentage of household members using both improved sources of drinking water[25] and an improved sanitary means of excreta disposal. At 4.2%,

[23] Wolf, J et al. 2014. *Systematic review: Assessing the impact of drinking water and sanitation on diarrhoeal disease in low- and middle-income settings: systematic review and meta-regression*. Tropical Medicine and International Health 2014. DfID. 2013. *Water, Sanitation and Hygiene: Evidence Paper*. DfID: http://r4d.dfid.gov.uk/pdf/outputs/sanitation/WASH-evidence-paper-april2013.pdf

[24] WHO/UNICEF JMP. 2008. *MDG assessment report*. *http://www.wssinfo.org/fileadmin/user_upload/resources/1251794333-JMP_08_en.pdf*

[25] Those indicating bottled water as the main source of drinking water are distributed according to the water source used

Luangnamtha Province has the fewest households using unimproved drinking water; all other provinces are close to 20%. Luangnamtha also has the most households using improved sanitation (66.2%). All of the other provinces, except Saravane, have more than 50% using improved sanitation. For both improved drinking water sources and improved sanitation, Saravane has the lowest percent of households (28.4%), primarily because of the lack of sanitation facilities in the province. These results are presented by wealth quintiles in Figure WS.3. The figure shows large disparity. 85% of the wealthiest households have both improved water sources and improved sanitation, compared to 16% of the poorest households.

for other purposes such as cooking and handwashing.

Table WS.7: Drinking water and sanitation ladders

Percentage of household population by drinking water and sanitation ladders, *FNSS, 2015*

	Percentage of household population using:										
	Improved drinking water[1, a]				Unimproved sanitation						
	Piped into dwelling, plot or yard	Other improved	Unimproved drinking water	Total	Improved sanitation[2]	Shared improved facilities	Unimproved facilities	Open defecation	Total	Improved drinking water sources and improved sanitation	Number of household members
Province											
Luangnamtha	26.9	68.9	4.2	100.0	66.2	2.0	.6	31.3	100.0	64.7	5627
Oudomxay	29.4	51.7	18.9	100.0	61.7	2.2	5.4	30.7	100.0	54.2	9728
Saravane	5.7	75.1	19.2	100.0	31.3	2.3	.1	66.2	100.0	28.4	11612
Sekong	27.3	52.4	20.4	100.0	58.1	2.1	8.6	31.2	100.0	52.2	3676
Attapeu	12.6	64.4	23.0	100.0	55.3	1.6	2.3	40.9	100.0	45.8	4620
Type of Area											
Urban	61.7	25.4	12.9	100.0	89.0	2.6	.7	7.7	100.0	80.0	5187
Rural with road	10.4	71.4	18.2	100.0	46.2	2.2	3.2	48.3	100.0	41.4	26582
Rural without road	18.5	64.0	17.6	100.0	32.8	.8	2.5	63.9	100.0	30.9	3493
Wealth index quintile											
Poorest	3.7	65.8	30.5	100.0	17.5	.7	4.3	77.5	100.0	15.7	7054
Second	7.6	73.3	19.1	100.0	33.9	1.3	5.0	59.9	100.0	30.3	7053
Middle	12.4	70.9	16.7	100.0	46.0	2.9	3.4	47.8	100.0	40.1	7053
Fourth	23.0	64.9	12.2	100.0	65.7	3.4	1.1	29.8	100.0	58.8	7050
Richest	47.1	44.7	8.2	100.0	93.0	2.1	.3	4.6	100.0	85.5	7052
Language group of household head											

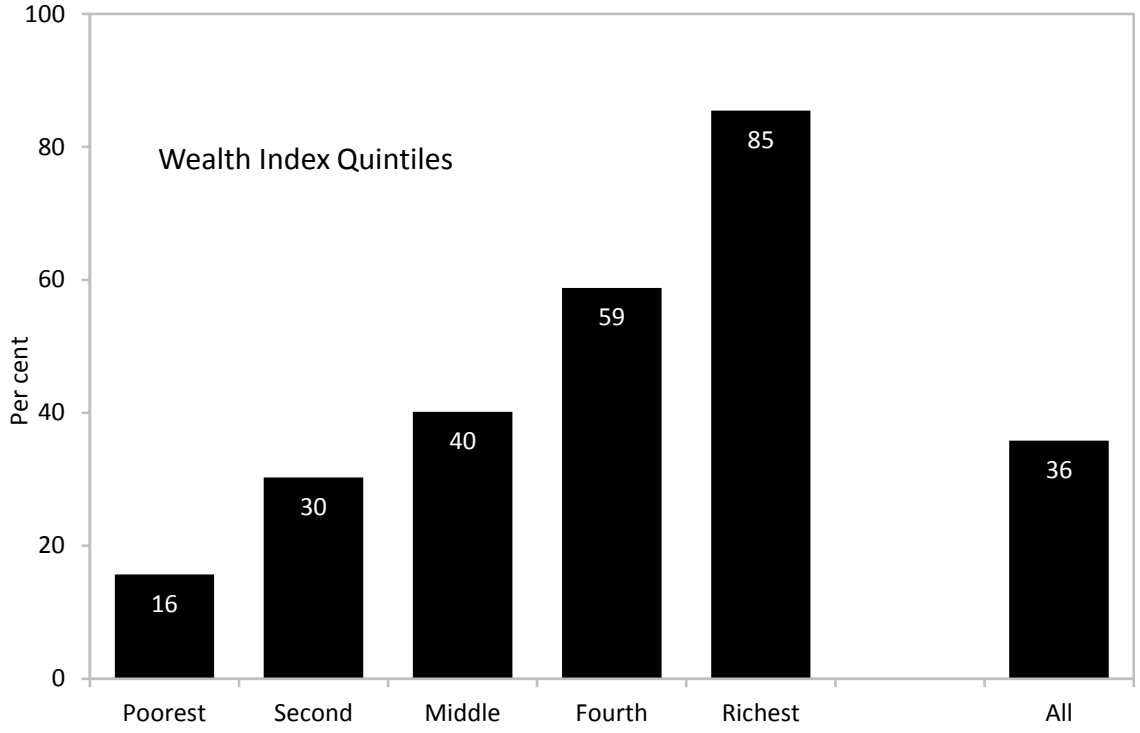
Lao-Tai	28.1	58.4	13.5	100.0	63.1	2.2	.3	34.3	100.0	57.3	11475
Mon-Khmer	13.7	66.1	20.1	100.0	45.3	1.9	4.7	48.1	100.0	39.9	19800
Hmong-Mien	37.7	49.3	13.0	100.0	62.3	2.9	0.0	34.8	100.0	62.3	497
Chinese-Tibetan	13.6	71.6	14.9	100.0	43.2	2.8	.7	53.3	100.0	41.1	3451
Area											
Non-MYCNSIA	21.4	66.7	11.9	100.0	56.4	2.4	2.5	38.7	100.0	52.1	21760
MYCNSIA	14.5	59.3	26.2	100.0	42.8	1.6	3.2	52.3	100.0	36.4	13501
Non-NPAN	18.9	61.7	19.4	100.0	52.9	2.0	3.5	41.6	100.0	47.3	26647
NPAN	18.2	70.8	11.0	100.0	45.9	2.3	.7	51.1	100.0	42.2	8614

[1] MICS indicator 4.1; MDG indicator 7.8 - Use of improved drinking water sources

[2] MICS indicator 4.3; MDG indicator 7.9 - Use of improved sanitation

[a] Those indicating bottled water as the main source of drinking water are distributed according to the water source used for other purposes such as cooking and handwashing.

Figure WS.5: Use of improved drinking water sources and improved sanitation facilities by household members, FNSS, 2015



Safe disposal of a child's faeces is disposing of the stool, by the child using a toilet or by rinsing the stool into a toilet or latrine. Putting disposable diapers with solid waste, a very common practice throughout the world has thus far been classified as an inadequate means of disposal of child faeces for concerns about poor disposal of solid waste itself. This classification is currently under review. Disposal of faeces of children 0-2 years of age is presented in Table WS.8. In urban areas the most common method of disposal of child faeces is a latrine, followed by throwing into the garbage and burying. In urban areas 35% of children had their stools disposed of safely. In rural areas the most common method of disposal is leaving it in the open, followed by burying. Less than 10% of children had their stools disposed of safely in rural areas.

Table WS.8: Disposal of child's faeces

Percent distribution of children age 0-2 years according to place of disposal of child's faeces, and the percentage of children age 0-2 years whose stools were disposed of safely the last time the child passed stools, *FNSS, 2015*

	Place of disposal of child's faeces									Percentage of children whose last stools were disposed of safely[1]	Number of children age 0-2 years
	Child used toilet/latrine	Put/rinsed into toilet or latrine	Put/rinsed into drain or ditch	Thrown into garbage	Buried	Left in the open	Other	Missing/DK	Total		
Type of sanitation facility used by household members											
Improved	15.4	9.9	3.0	11.6	24.8	27.2	7.5	.6	100.0	23.6	807
Unimproved	1.0	3.2	4.2	4.3	27.8	56.9	1.0	1.6	100.0	4.2	47
Open defecation	.3	1.0	2.0	2.6	30.6	56.4	6.0	1.0	100.0	1.2	842
Province											
Luangnamtha	20.3	8.2	5.8	6.6	13.7	29.2	14.8	1.5	100.0	27.3	220
Oudomxay	8.7	4.4	1.6	7.5	9.5	60.3	7.5	.4	100.0	12.7	449
Saravane	2.1	3.0	3.6	3.8	42.1	42.7	1.8	1.0	100.0	4.7	565
Sekong	5.3	7.6	1.0	8.6	30.1	39.0	6.6	1.8	100.0	12.5	193
Attapeu	5.7	6.7	.6	11.1	40.0	27.9	7.9	0.0	100.0	12.1	236
Type of Area											
Urban	25.4	12.7	3.7	23.9	14.9	11.0	8.4	0.0	100.0	35.0	211
Rural with road	5.5	4.2	2.5	4.6	30.7	45.1	6.5	1.0	100.0	9.3	1280
Rural without road	1.3	4.2	1.8	3.9	22.8	59.9	5.5	.6	100.0	5.3	205
Mother's education											
None	3.1	3.8	2.4	4.2	21.5	56.0	7.9	1.1	100.0	6.6	600
Primary	4.9	3.5	2.0	4.2	34.0	45.5	5.4	.5	100.0	8.0	629
Lower Secondary	13.0	8.4	3.1	9.6	37.3	20.7	5.6	2.3	100.0	20.7	180

Table WS.8: Disposal of child's faeces

Percent distribution of children age 0-2 years according to place of disposal of child's faeces, and the percentage of children age 0-2 years whose stools were disposed of safely the last time the child passed stools, *FNSS, 2015*

	Place of disposal of child's faeces									Percentage of children whose last stools were disposed of safely[1]	Number of children age 0-2 years
	Child used toilet/latrine	Put/rinsed into toilet or latrine	Put/rinsed into drain or ditch	Thrown into garbage	Buried	Left in the open	Other	Missing/DK	Total		
Upper Secondary	28.9	8.5	3.6	18.9	20.1	11.5	8.4	0.0	100.0	35.9	71
Post Secondary, non-tertiary	20.4	15.9	0.0	36.2	15.7	7.9	3.8	0.0	100.0	35.0	29
Higher	27.1	25.0	7.2	21.8	9.1	4.6	5.1	0.0	100.0	50.3	50
Wealth index quintile											
Poorest	.4	2.3	1.7	2.8	21.0	63.6	6.6	1.6	100.0	2.7	407
Second	4.0	3.3	2.0	3.0	22.0	58.8	6.6	.4	100.0	7.0	381
Middle	5.5	3.1	2.5	3.4	36.9	39.1	7.9	1.6	100.0	8.3	336
Fourth	9.1	4.7	3.7	9.7	39.7	27.6	5.3	.2	100.0	12.9	277
Richest	22.8	15.1	3.4	19.7	23.5	9.4	6.2	0.0	100.0	34.6	295
Language group of household head											
Lao-Tai	10.6	6.5	3.7	12.3	42.6	19.2	4.5	.6	100.0	15.7	531
Mon-Khmer	4.4	4.6	2.2	3.8	23.9	54.7	5.5	1.0	100.0	8.7	958
Hmong-Mien	19.3	8.4	0.0	16.8	17.7	29.4	8.4	0.0	100.0	26.6	27
Chinese-Tibetan	12.7	4.6	1.6	5.6	9.1	47.4	18.4	.6	100.0	16.5	178
Area											
Non-MYCNSIA	9.6	5.1	3.1	5.7	24.3	44.5	7.2	.5	100.0	13.8	996
MYCNSIA	4.2	5.4	1.7	8.5	32.7	40.5	5.7	1.2	100.0	9.3	700
Non-NPAN	8.6	5.5	2.6	8.0	28.6	39.0	7.0	.7	100.0	13.6	1295

Table WS.8: Disposal of child's faeces

Percent distribution of children age 0-2 years according to place of disposal of child's faeces, and the percentage of children age 0-2 years whose stools were disposed of safely the last time the child passed stools, *FNSS, 2015*

	Place of disposal of child's faeces									Percentage of children whose last stools were disposed of safely[1]	Number of children age 0-2 years
	Child used toilet/latrine	Put/rinsed into toilet or latrine	Put/rinsed into drain or ditch	Thrown into garbage	Buried	Left in the open	Other	Missing/DK	Total		
NPAN	3.1	4.3	2.2	3.2	25.1	55.7	5.2	1.2	100.0	6.9	400

[1] **MICS indicator 4.4 - Safe disposal of child's faeces**

Handwashing

Handwashing with water and soap is the most cost effective health intervention to reduce both the incidence of diarrhoea and pneumonia in children under five[26]. It is most effective when done using water and soap after visiting a toilet or cleaning a child, before eating or handling food and, before feeding a child. Monitoring correct handwashing behaviour at these critical times is challenging. A reliable alternative to observations or self-reported behaviour is assessing the likelihood that correct handwashing behaviour takes place by asking if a household has a specific place where people wash their hands and, if yes, observing whether water and soap (or other local cleansing materials) are available at this place[27].

[26] Cairncross, S and Valdmanis, V. 2006. *Water supply, sanitation and hygiene promotion* Chapter 41 in *Disease Control Priorities in Developing Countries*. 2nd Edition, Edt. Jameson et al. The World Bank.
[27] Ram, P et al. editors. 2008. *Use of a novel method to detect reactivity to structured observation for measurement of handwashing behavior*. American Society of Tropical Medicine and Hygiene.

Table WS.9: Water and soap at place for handwashing

Percentage of households where place for handwashing was observed, percentage with no specific place for handwashing, and percent distribution of households by availability of water and soap at specific place for handwashing, *FNSS, 2015*

	Percentage of households:				Place for handwashing observed								
					Water is available and:			Water is not available and:					
						No soap:							
	Where place for handwashing was observed	With place for handwashing in the dwelling, yard, or plot, but not observed	With no specific place for handwashing in the dwelling, yard, or plot	Number of households	Soap present	Ash, mud, or sand present	No other cleansing agent present	Soap present	No other cleansing agent present	No specific place for handwashing in the dwelling, yard, or plot	Total	Percentage of households with a specific place for handwashing where water and soap or other cleansing agent are present[1]	Number of households where place for handwashing was observed or with no specific place for handwashing in the dwelling, yard, or plot
Province													
Luangnamtha	59.8	17.7	22.5	1059	59.4	.3	12.5	.1	.2	27.4	100.0	59.8	872
Oudomxay	45.1	19.7	35.2	1803	32.8	0.0	10.6	7.1	5.6	43.9	100.0	32.8	1448
Saravane	21.8	53.6	24.6	2067	38.3	0.0	7.0	.6	.9	53.1	100.0	38.3	959
Sekong	24.2	20.2	55.7	579	20.1	.2	6.8	.1	3.1	69.7	100.0	20.3	462
Attapeu	61.7	26.2	12.1	880	64.9	0.0	18.2	.3	.2	16.4	100.0	64.9	649
Type of Area													
Urban	56.4	22.6	21.1	1058	63.6	0.0	3.5	4.4	1.3	27.2	100.0	63.6	819
Rural with road	36.8	33.6	29.6	4739	37.8	.1	12.0	2.4	3.0	44.6	100.0	38.0	3149
Rural without road	40.0	28.6	31.4	591	38.3	0.0	17.0	.2	.4	44.0	100.0	38.3	422
Wealth index quintile													
Poorest	31.7	20.4	47.9	1304	21.1	.4	14.8	.3	3.3	60.2	100.0	21.5	1038
Second	39.2	29.3	31.5	1197	32.6	0.0	16.4	3.5	3.0	44.5	100.0	32.6	847
Middle	36.0	35.3	28.7	1207	38.6	0.0	12.1	1.9	3.0	44.4	100.0	38.6	781

Table WS.9: Water and soap at place for handwashing

Percentage of households where place for handwashing was observed, percentage with no specific place for handwashing, and percent distribution of households by availability of water and soap at specific place for handwashing, *FNSS, 2015*

	Percentage of households:				Place for handwashing observed								
					Water is available and:			Water is not available and:					
						No soap:							
	Where place for handwashing was observed	With place for handwashing in the dwelling, yard, or plot, but not observed	With no specific place for handwashing in the dwelling, yard, or plot	Number of households	Soap present	Ash, mud, or sand present	No other cleansing agent present	Soap present	No other cleansing agent present	No specific place for handwashing in the dwelling, yard, or plot	Total	Percentage of households with a specific place for handwashing where water and soap or other cleansing agent are present[1]	Number of households where place for handwashing was observed or with no specific place for handwashing in the dwelling, yard, or plot
Fourth	40.4	38.1	21.4	1291	51.7	0.0	8.1	3.5	2.1	34.7	100.0	51.7	799
Richest	53.2	33.3	13.5	1389	71.8	0.0	3.1	4.0	.9	20.2	100.0	71.8	927
Language group of household head													
Lao-Tai	38.6	44.7	16.7	2323	60.0	0.0	5.3	3.6	.9	30.1	100.0	60.0	1284
Mon-Khmer	40.2	24.8	35.0	3391	33.8	.1	13.7	2.2	3.7	46.6	100.0	33.9	2550
Hmong-Mien	59.8	17.4	22.8	74	64.1	0.0	6.6	0.0	1.7	27.6	100.0	64.1	61
Chinese-Tibetan	45.4	17.4	37.2	591	40.8	.2	11.5	2.1	.3	45.1	100.0	41.0	488
Area													
Non-MYCNSIA	39.0	36.7	24.3	4066	43.4	.1	10.6	4.2	3.2	38.4	100.0	43.5	2575
MYCNSIA	42.8	21.8	35.4	2321	41.7	.1	11.4	.2	1.4	45.3	100.0	41.7	1815
Non-NPAN	40.7	32.4	26.9	4881	44.7	.0	10.5	2.3	2.6	39.8	100.0	44.8	3300
NPAN	39.3	27.6	33.1	1506	36.5	.3	12.2	3.3	2.0	45.7	100.0	36.8	1090

[1] MICS indicator 4.5 - Place for handwashing

In both urban and rural areas most households indicated that there was a place for handwashing, but the location was not always observed. Handwashing places were observed in 56.4% of urban households and in less than ½ of rural households (Table WS.9). Among household where a place for handwashing was observed or in which there was no specific place for handwashing, almost two-thirds had both water and soap present at the specific place in urban areas, compared to 37.8% in rural areas with roads, and 38.3% in rural areas without roads.

83.8 percent of urban households had soap or another cleansing agent in the household, compared to 65.0 percent in rural areas with roads and 53.1 percent in rural areas without roads (Table WS.10). The richest households (89.6%) were more than two times more likely to have soap or another cleansing agent than the poorest households (40.1%).

Table WS.10: Availability of soap or other cleansing agent

Percent distribution of households by availability of soap or other cleansing agent in the dwelling, *FNSS, 2015*

	Place for handwashing observed				Place for handwashing not observed				
		Soap or other cleansing agent not observed at place for handwashing							
	Soap or other cleansing agent observed	Soap or other cleansing agent shown	No soap or other cleansing agent in household	Not able/Does not want to show soap or other cleansing agent	Soap or other cleansing agent shown	No soap or other cleansing agent in household	Not able/Does not want to show soap or other cleansing agent	Percentage of households with soap or other cleansing agent anywhere in the dwelling[1]	Number of households
Province									
Luangnamtha	22.4	15.3	2.6	0.0	49.3	1.2	9.1	72.9	1059
Oudomxay	23.0	30.0	1.9	.1	32.1	3.3	9.7	58.3	1803
Saravane	52.4	20.1	5.4	.4	18.1	1.0	2.5	71.4	2067
Sekong	35.6	38.7	1.4	.1	16.3	2.8	4.8	54.8	579
Attapeu	24.7	12.0	1.3	.3	48.1	2.7	10.6	75.5	880
Type of Area									
Urban	29.6	11.2	2.7	.1	52.7	1.6	2.2	83.8	1058
Rural with road	36.0	23.7	3.3	.2	26.8	2.2	7.6	65.0	4739
Rural without road	23.3	35.2	1.4	.1	27.6	2.3	10.2	53.1	591
Wealth index quintile									
Poorest	21.3	46.2	.8	0.0	17.4	1.5	12.5	40.1	1304
Second	28.5	28.8	2.8	.8	25.5	3.4	10.2	57.3	1197

Table WS.10: Availability of soap or other cleansing agent

Percent distribution of households by availability of soap or other cleansing agent in the dwelling, *FNSS, 2015*

	Place for handwashing observed				Place for handwashing not observed				
		Soap or other cleansing agent not observed at place for handwashing							
	Soap or other cleansing agent observed	Soap or other cleansing agent shown	No soap or other cleansing agent in household	Not able/Does not want to show soap or other cleansing agent	Soap or other cleansing agent shown	No soap or other cleansing agent in household	Not able/Does not want to show soap or other cleansing agent	Percentage of households with soap or other cleansing agent anywhere in the dwelling[1]	Number of households
Middle	38.7	21.6	3.7	.1	26.3	2.3	7.3	67.2	1207
Fourth	42.4	12.9	4.1	.2	34.1	2.3	4.0	78.8	1291
Richest	37.8	5.3	3.6	.0	50.6	1.2	1.4	89.6	1389
Language group of household head									
Lao-Tai	45.4	11.0	4.7	.2	35.2	.7	2.7	81.3	2323
Mon-Khmer	26.9	30.5	2.2	.2	27.1	3.2	9.6	57.3	3391
Hmong-Mien	21.0	16.4	2.7	0.0	53.0	0.0	6.8	74.0	74
Chinese-Tibetan	29.3	24.6	.8	0.0	35.6	1.1	8.3	65.9	591
Area									
Non-MYCNSIA	36.9	19.8	4.1	.2	30.2	1.8	6.9	69.0	4066
MYCNSIA	28.3	27.7	1.0	.3	32.8	2.5	7.1	63.6	2321
Non-NPAN	35.1	20.6	3.4	.3	31.8	2.2	6.5	69.1	4881
NPAN	29.5	29.4	1.8	0.0	29.0	1.8	8.4	60.3	1506

[1] MICS indicator 4.6 - Availability of soap or other cleansing agent

The FNSS asked women age 15-49 if they ever received a message on handwashing from another person (interpersonal communication), and if so, who they received the message from. In urban areas 86% of women reported ever receiving interpersonal communication, compared to 76.2% in rural areas with roads, and 77.1% in rural areas without roads. In both rural and urban areas a medical professional was the most common reported source of information on handwashing. Among women who ever received a message on handwashing, nearly ½ reported receiving a message from a medical professional or community volunteer in the year preceding the survey. Traditional birth attendants were also an important source of information on handwashing, particularly in Saravane Province, where nearly 1 out of 4 women who received interpersonal communication on handwashing reported that the traditional birth attendant was the source.

Table WS.11: Exposure to handwashing interpersonal communication

Percentage of women age 15-49 years who are exposed to interpersonal communication on handwashing, and among women exposed to interpersonal communitcation, the person handwashing messages received from and timing of the message, *FNSS, 2015*

			Among women exposed to handwashing message in personal communication, percentage exposed through:					
	Exposed to handwashing message through personal communication	Number of women	Mother, other relative or friend	Medical professional	Traditional birth attendant	Community volunteer	Medical professional or community volunteer in past year	Number of Women
Age								
15-19	84.1	1639	49.7	49.5	15.1	14.8	38.7	1378
20-29	78.9	2737	41.1	66.3	19.1	21.0	50.8	2160
30-39	75.8	2115	37.2	67.5	18.9	24.6	50.8	1604
40-49	72.8	1494	34.1	67.1	24.1	22.1	42.9	1088
Province								
Luangnamtha	68.5	1277	54.3	55.8	12.9	19.5	39.2	875
Oudomxay	78.5	2328	50.9	71.1	19.5	17.2	57.0	1827
Saravane	78.7	2505	29.5	52.6	24.0	13.4	37.8	1972
Sekong	78.8	806	27.4	62.0	14.4	36.1	45.8	635
Attapeu	86.0	1070	41.4	76.9	16.6	34.0	53.2	920
Type of Area								
Urban	86.0	1396	51.4	69.5	15.7	12.8	46.9	1200
Rural with road	76.2	5869	37.1	61.1	20.2	22.8	46.7	4473
Rural without road	77.1	721	47.7	64.2	16.8	20.6	46.6	556
Education								
None	65.7	2582	41.8	61.6	14.9	23.8	47.0	1696
Primary	80.1	2915	35.1	62.9	22.2	24.5	46.3	2336
Lower secondary	85.1	1290	44.6	60.6	16.3	15.1	43.6	1098
Upper secondary	90.4	751	47.4	63.4	19.5	14.6	46.3	679

Table WS.11: Exposure to handwashing interpersonal communication

Percentage of women age 15-49 years who are exposed to interpersonal communication on handwashing, and among women exposed to interpersonal communitcation, the person handwashing messages received from and timing of the message, *FNSS, 2015*

			Among women exposed to handwashing message in personal communication, percentage exposed through:					
	Exposed to handwashing message through personal communication	Number of women	Mother, other relative or friend	Medical professional	Traditional birth attendant	Community volunteer	Medical professional or community volunteer in past year	Number of Women
Post secondary non tertiary	93.3	174	50.1	77.2	21.4	12.3	64.2	162
Higher	94.2	275	46.7	73.7	27.1	11.3	51.7	259
Wealth index quintile								
Poorest	69.4	1399	47.2	61.0	12.9	24.1	51.7	971
Second	76.0	1495	39.9	60.9	18.2	26.9	49.5	1136
Middle	78.6	1530	34.4	58.1	24.2	22.1	42.2	1202
Fourth	78.7	1662	38.5	63.9	20.8	18.4	43.1	1309
Richest	84.8	1900	44.1	68.6	18.1	15.1	48.1	1611
Language group of household head								
Lao-Tai	79.3	2788	36.5	63.4	22.8	13.8	43.6	2210
Mon-Khmer	82.0	4385	41.2	64.8	18.2	25.3	50.2	3596
Hmong-Mien	63.5	91	67.8	53.9	10.4	8.5	30.4	58
Chinese-Tibetan	49.7	709	58.1	43.6	5.6	19.1	33.0	353
Area								
Non-MYCNSIA	75.4	4980	42.3	58.4	22.8	15.1	43.6	3756
MYCNSIA	82.2	3006	38.5	70.0	13.4	29.2	51.6	2473
Non-NPAN	77.3	5989	40.8	64.8	17.0	22.0	47.3	4629
NPAN	80.1	1997	40.6	57.9	25.0	17.1	45.2	1600

In all five provinces more than 93% of women reported that regularly washing hands with soap is a good idea. Women with post-secondary education were the most likely to report that regularly washing hands with soap is not a good idea. Women who were indifferent to regular handwashing with soap, and those that reported it was a good idea were asked to identify times or situations that they wash their hands. Respondents were not prompted. The most common reported time for handwashing was before eating, which was identified by 86.8% of women in urban areas, 79.1% of women in rural areas with roads and 73.1% of women in rural areas without roads.

Table WS.12: Attitude towards handwashing and regular handwashing practice

Percentage of women age 15-49 years who believe regularly washing hands with soap is a good idea, and among women who think handwashing with soap is a good idea or who are indifferent, the percentage who report washing their hands in specific situations without prompting, *FNSS, 2015*

	Believe that regularly washing hands with soap is:				Among women who believe handwashing is a good idea or are indifferent, the percentage that regularly wash their hands:								
	A good idea	Are indifferent	A bad idea	Number of women	Frequently throughout the day	Before cooking	Before eating	After defecation / urination	When sick	After work	When hands appear dirty	After touching an animal	Number of Women
Age													
15-19	94.4	1.3	4.3	1639	6.9	26.7	81.7	47.1	7.3	32.2	69.0	16.6	1568
20-29	94.3	2.3	3.4	2737	6.7	29.8	80.7	41.5	8.8	34.1	73.0	18.0	2643
30-39	95.6	2.1	2.4	2115	6.5	29.9	78.5	39.3	7.1	32.3	72.5	17.0	2065
40-49	95.8	2.3	1.9	1494	5.9	25.4	78.4	37.2	8.0	34.8	70.9	16.8	1467
Province													
Luangnamtha	93.6	3.1	3.3	1277	2.4	28.4	70.1	38.3	9.7	28.8	82.8	22.1	1235
Oudomxay	94.6	1.8	3.6	2328	9.5	30.4	81.2	46.1	7.9	37.1	75.9	19.2	2245
Saravane	94.4	1.9	3.7	2505	5.3	22.3	80.0	33.9	5.4	32.3	62.7	14.2	2413
Sekong	97.9	1.6	.5	806	2.6	36.8	81.6	52.2	9.1	28.9	66.6	16.3	802
Attapeu	96.3	1.8	2.0	1070	10.9	31.4	87.2	42.7	10.6	36.7	73.9	14.7	1049
Type of Area													
Urban	95.1	2.4	2.5	1396	11.8	40.3	86.8	65.4	16.5	41.0	81.2	24.8	1361
Rural with road	94.7	2.1	3.2	5869	5.5	26.5	79.1	37.9	6.2	31.2	70.0	15.7	5682
Rural without road	96.4	.7	2.9	721	4.6	20.0	73.4	21.6	4.4	36.7	66.4	14.8	700
Education													
None	95.0	2.5	2.6	2582	3.1	21.6	70.6	23.1	3.7	28.1	65.4	11.2	2516

Primary	95.6	1.6	2.8	2915	5.0	26.3	81.5	38.6	5.8	34.0	72.5	16.5	2834
Lower secondary	95.5	1.5	3.0	1290	9.5	32.5	86.3	53.9	10.8	35.2	74.8	20.1	1251
Upper secondary	93.1	2.5	4.4	751	12.2	39.2	88.8	69.2	14.1	36.1	75.7	23.4	717
Post secondary non tertiary	93.3	1.0	5.8	174	14.2	53.9	89.5	77.2	28.9	49.1	85.0	43.1	164
Higher	91.0	3.8	5.1	275	21.3	50.7	91.6	83.5	26.9	51.7	87.6	35.5	261
Wealth index quintile													
Poorest	95.4	2.0	2.6	1399	1.7	24.6	72.7	20.8	3.4	26.6	66.3	10.6	1362
Second	95.4	2.0	2.6	1495	4.8	26.1	77.2	29.1	4.9	31.8	67.6	15.0	1455
Middle	95.1	2.3	2.6	1530	3.5	24.4	77.8	33.4	4.8	34.6	71.1	16.5	1490
Fourth	95.1	1.8	3.0	1662	7.0	26.3	82.3	48.8	7.8	33.4	71.4	16.9	1612
Richest	94.0	2.0	4.0	1900	13.6	38.1	87.2	65.8	16.2	38.7	79.6	24.6	1824
Language group of household head													
Lao-Tai	93.7	2.6	3.7	2788	9.3	30.3	84.1	53.8	11.0	36.7	76.1	21.3	2683
Mon-Khmer	95.9	1.5	2.7	4385	5.1	27.9	80.6	35.7	6.3	33.4	68.3	15.2	4267
Hmong-Mien	95.8	1.2	3.0	91	8.0	39.6	77.9	27.8	9.3	16.1	72.2	10.5	89
Chinese-Tibetan	94.3	3.3	2.3	709	4.6	21.9	59.2	27.5	4.8	22.8	74.8	14.0	693
Area													
Non-MYCNSIA	94.5	2.1	3.4	4980	7.0	27.0	77.9	41.4	7.3	34.0	74.5	18.7	4811
MYCNSIA	95.6	2.0	2.5	3006	5.8	30.6	83.2	41.0	8.8	32.3	67.0	14.7	2933
Non-NPAN	96.1	1.8	2.2	5989	6.8	28.9	80.6	43.4	8.5	31.7	71.8	16.2	5860
NPAN	91.5	2.8	5.7	1997	5.7	26.8	77.7	34.5	6.1	38.8	71.2	20.3	1884

XI. Early Childhood Care and Education

Early Childhood Education

Readiness of children for primary school can be improved through attendance to early childhood education programmes or through pre-school attendance. Early childhood education programmes include programmes for children that have organised learning components as opposed to baby-sitting and day-care which do not typically have organised education and learning.

15.7 percent of male children and 17.3 percent of female children age 36-59 months are attending an organised early childhood education programme (Table CE.1). Urban-rural and regional differentials are notable – the figure is as high as 48.9 percent in urban areas, compared to 10.0 percent in rural areas without roads. Among children age 36-59 months, attendance to early childhood education programmes is least prevalent in Saravane Province (9.2 percent). The largest differences are seen by mother's education. 74.2% of children whose mother has higher education attend an early childhood education programme, compared to 9.0% among children whose mother has no education.

Table CE.1 (CD.1): Early childhood education

Percentage of children age 36-59 months who are attending an organized early childhood education programme, *FNSS, 2015*

	Percentage of children age 36-59 months attending early childhood education[1]	Number of children age 36-59 months
Sex		
Male	15.7	847
Female	17.3	836
Province		
Luangnamtha	21.9	225
Oudomxay	20.3	462
Saravane	9.2	603
Sekong	23.1	178
Attapeu	17.7	215
Area		
Urban	48.9	206
Rural with road	12.6	1306
Rural without road	10.0	197
Age of child		

Table CE.1 (CD.1): Early childhood education

Percentage of children age 36-59 months who are attending an organized early childhood education programme, *FNSS, 2015*

	Percentage of children age 36-59 months attending early childhood education[1]	Number of children age 36-59 months
36-47 months	12.8	940
48-59 months	21.4	769
Mother's education		
None	9.0	630
Primary	16.5	665
Lower secondary	20.7	144
Upper secondary	44.6	55
Post secondary non tertiary	55.5	20
Higher	74.2	28
Wealth index quintile		
Poorest	8.0	473
Second	10.0	377
Middle	15.9	324
Fourth	20.0	286
Richest	40.7	249
Language group of household head		
Lao-Tai	25.9	514
Mon-Khmer	12.7	994
Hmong-Mien	4.4	24
Chinese-Tibetan	14.1	176

[1] MICS indicator 6.1 - Attendance to early childhood education

Quality of Care

It is well recognized that a period of rapid brain development occurs in the first 3-4 years of life, and the quality of home care is a major determinant of the child's development during this period.[28] In this context, engagement of adults in activities with children, and the conditions of care are important indicators of quality of home care. As set out in *A World Fit for Children*, "children should be physically healthy, mentally alert, emotionally secure, socially competent and ready to learn."[29]

Information on a number of activities that support early learning was collected in the survey. These included the involvement of adults with children in the following activities: reading books or looking at picture books, telling stories, singing songs, taking children outside the home, compound or yard, playing with children, and spending time with children naming, counting, or drawing things.

For less than 1/2 of children age 36-59 months, an adult household member engaged in four or more activities that promote learning and school readiness during the 3 days preceding the survey (Table CE.2). The mean number of activities that adults engaged with children was 2.9 for males and 2.8 for females. The table also indicates that the parents' involvement in such activities was somewhat limited. Father's involvement in four or more activities was below 10% and mother's involvement was 10.8% for males and 11.3% for females. Other adult family members, such as grandparents, also play a role in engaging with young children.

[28] Grantham-McGregor, S et al. 2007. *Developmental Potential in the First 5 Years for Children in Developing Countries*. The Lancet 369: 60–70
Belsky, J et al. 2006. *Socioeconomic Risk, Parenting During the Preschool Years and Child Health Age 6 Years*. European Journal of Public Health 17(5): 511–2.
[29] UNICEF. 2002. *A World Fit For Children* adopted by the UN General Assembly at the 27th Special Session, 10 May 2002: 2.

Table CE.2 (CD.2): Support for learning

Percentage of children age 36-59 months with whom adult household members engaged in activities that promote learning and school readiness during the last three days, and engagement in such activities by biological fathers and mothers, *FNSS, 2015*

	Percentage of children with whom adult household members have engaged in four or more activities[1]	Mean number of activities with adult household members	Percentage of children living with their:		Number of children age 36-59 months	Percentage of children with whom biological fathers have engaged in four or more activities[2]	Mean number of activities with biological fathers	Number of children age 36-59 months living with their biological fathers	Percentage of children with whom biological mothers have engaged in four or more activities[3]	Mean number of activities with biological mothers	Number of children age 36-59 months living with their biological mothers
			Biological father	Biological mother							
Sex											
Male	38.8	2.9	94.2	96.0	847	8.6	1.0	797	10.8	1.2	812
Female	37.9	2.8	93.9	97.2	836	6.6	.8	785	11.3	1.3	813
Province											
Luangnamtha	40.2	3.2	96.7	95.7	225	12.8	1.2	218	19.8	1.7	216
Oudomxay	42.5	2.9	96.6	97.0	462	11.3	1.3	446	14.7	1.5	448
Saravane	30.5	2.3	89.8	95.1	603	2.3	.4	541	4.2	.8	573
Sekong	51.0	3.6	95.5	99.2	178	10.9	1.2	170	14.1	1.5	176
Attapeu	39.1	3.1	96.3	98.3	215	6.5	.8	207	10.9	1.4	212
Area											
Urban	63.4	4.0	90.3	94.4	206	11.7	1.2	186	22.6	2.2	194
Rural with road	35.5	2.7	92.9	95.1	1306	7.0	.8	1213	9.4	1.1	1242
Rural without road	32.6	2.9	93.3	95.7	197	8.5	1.2	184	11.7	1.4	189
Age											
36-47 months	38.1	2.8	92.7	95.2	940	7.2	.9	871	11.7	1.3	895
48-59 months	38.9	2.8	92.5	94.9	769	8.4	.9	711	10.6	1.2	730
Mother's education[a]											

Table CE.2 (CD.2): Support for learning

Percentage of children age 36-59 months with whom adult household members engaged in activities that promote learning and school readiness during the last three days, and engagement in such activities by biological fathers and mothers, *FNSS, 2015*

	Percentage of children with whom adult household members have engaged in four or more activities[1]	Mean number of activities with adult household members	Percentage of children living with their:		Number of children age 36-59 months	Percentage of children with whom biological fathers have engaged in four or more activities[2]	Mean number of activities with biological fathers	Number of children age 36-59 months living with their biological fathers	Percentage of children with whom biological mothers have engaged in four or more activities[3]	Mean number of activities with biological mothers	Number of children age 36-59 months living with their biological mothers
			Biological father	Biological mother							
None	25.0	2.2	94.3	96.7	630	5.5	.8	594	7.1	1.0	609
Primary	40.4	3.0	93.0	96.7	665	8.2	.9	619	10.4	1.2	643
Lower secondary	51.4	3.4	93.9	98.0	144	7.7	.9	135	21.7	1.9	141
Upper secondary	75.7	4.3	92.8	96.9	55	8.0	.9	51	26.5	2.6	54
Post secondary non tertiary	78.3	4.8	91.5	91.5	20	.	.	19	.	.	19
Higher	89.8	5.1	88.5	96.2	28	22.7	1.6	25	55.4	3.3	27
Wealth index quintile											
Poorest	24.0	2.2	95.3	97.5	473	5.2	.8	450	5.9	1.0	461
Second	32.4	2.6	92.8	95.6	377	8.8	.9	350	10.0	1.2	360
Middle	41.8	3.0	96.1	96.5	324	9.8	1.0	312	10.9	1.2	313
Fourth	46.8	3.1	91.0	95.4	286	5.6	.8	260	12.6	1.3	273
Richest	61.4	3.8	84.4	87.6	249	10.5	1.0	210	22.1	1.9	218
Language group of household head											
Lao-Tai	47.3	3.1	88.7	93.0	514	5.8	.7	456	12.6	1.3	479
Mon-Khmer	34.4	2.7	94.1	96.9	994	7.5	.9	935	9.8	1.2	963
Hmong-Mien	35.4	2.9	100.0	95.6	24	17.7	1.4	24	22.1	2.0	23

Table CE.2 (CD.2): Support for learning

Percentage of children age 36-59 months with whom adult household members engaged in activities that promote learning and school readiness during the last three days, and engagement in such activities by biological fathers and mothers, *FNSS, 2015*

	Percentage of children with whom adult household members have engaged in four or more activities[1]	Mean number of activities with adult household members	Percentage of children living with their:		Number of children age 36-59 months	Percentage of children with whom biological fathers have engaged in four or more activities[2]	Mean number of activities with biological fathers	Number of children age 36-59 months living with their biological fathers	Percentage of children with whom biological mothers have engaged in four or more activities[3]	Mean number of activities with biological mothers	Number of children age 36-59 months living with their biological mothers
			Biological father	Biological mother							
Chinese-Tibetan	36.6	2.9	94.6	91.2	176	13.1	1.5	167	13.7	1.6	160

[1] MICS indicator 6.2 - Support for learning

[2] MICS Indicator 6.3 - Father's support for learning

[3] MICS Indicator 6.4 - Mother's support for learning

There is little gender difference in terms of engagement of adults in activities with children. Among children living in urban areas (63.4 percent), larger proportions of adults engaged in learning and school readiness activities with children than in rural areas. Strong differentials by region and socio-economic status are also observed: Adult engagement in activities with children was lowest in Saravane Province (30.5 percent), while the proportion was 61.4 percent for children living in the richest households, as opposed to those living in the poorest households (24.0 percent). The largest differences were seen by mother's education. 89.8% of children whose mother has higher education engaged in 4+ activities, compared to 25.0% among children whose mother had no education.

The FNSS also asked if caregivers engaged with children by encouraging them to eat. This activity was not included for indicators in Table CE.2 and is presented separately in Table CE.3. For children under 5, and especially for those under 2, rapid growth results in high nutrient demands. Encouraging children to eat (without force feeding) is a key infant and young child feeding practice to ensure optimal growth and development. More than 60% of children were encouraged to eat in the three days preceding the survey. 78.5% of children in Luangnamtha were encouraged to eat, compared to 50.8% in Saravane. More than 80% of children whose mothers had post-secondary education were encouraged to eat, while only 55.5% of children whose mothers had no education were encouraged to eat.

Table CE.3: Feeding Encouragement

Percentage of children under age 5 encouraged to eat by an adult caregiver, *FNSS, 2015*

	Encouraged to eat	Number of children under age 5
Sex		
Male	61.6	2093
Female	61.2	2118
Province		
Luangnamtha	78.5	589
Oudomxay	59.6	1116
Saravane	50.8	1473
Sekong	77.6	470
Attapeu	61.2	563
Area		
Urban	70.3	523
Rural with road	60.0	3269
Rural without road	61.9	498

Table CE.3: Feeding Encouragement

Percentage of children under age 5 encouraged to eat by an adult caregiver, *FNSS, 2015*

	Encouraged to eat	Number of children under age 5
Age		
0-5 months	36.1	442
6-11 months	61.4	425
12-17 months	67.9	399
18-23 months	66.9	429
24-35 months	65.1	876
36-47 months	65.3	940
48-59 months	61.0	769
Mother's education		
None	55.5	1534
Primary	63.4	1622
Lower secondary	66.9	439
Upper secondary	65.5	156
Post secondary non tertiary	82.0	65
Higher	81.4	95
Wealth index quintile		
Poorest	54.5	1094
Second	61.3	947
Middle	64.9	825
Fourth	65.1	738
Richest	64.9	685
Religion/Language/Ethnicity of household head		
Lao-Tai	61.9	1341
Mon-Khmer	59.2	2424
Hmong-Mien	69.9	70
Chinese-Tibetan	71.4	454
Area		
Non-MYCNSIA	58.4	2574
MYCNSIA	66.1	1716
Non-NPAN	63.9	3270

Table CE.3: Feeding Encouragement

Percentage of children under age 5 encouraged to eat by an adult caregiver, *FNSS, 2015*

	Encouraged to eat	Number of children under age 5
NPAN	53.9	1020

[1] **MICS indicator 6.7 - Inadequate care**

Leaving children alone or in the presence of other young children is known to increase the risk of injuries.[30] In FNSS, two questions were asked to find out whether children age 0-59 months were left alone during the week preceding the interview, and whether children were left in the care of other children under 10 years of age.

Table CE.4 shows that approximately 1 out of 5 children age 0-59 months were left in the care of other children, while 6.2% percent were left alone during the week preceding the interview. Combining the two care indicators, it is calculated that a total of 22.3 percent of male children and 21.2% of female children were left with inadequate care during the past week, either by being left alone or in the care of another child. Inadequate care was more prevalent among children whose mothers had no education (24.4 percent). Children age 24-59 months were left with inadequate care more (27.5 percent) than those who were age 0-23 months (12.7 percent). Oudomxay Province had the highest percent of children left with inadequate care (34.5%).

Table CE.4 (CD.4): Inadequate care

Percentage of children under age 5 left alone or left in the care of another child younger than 10 years of age for more than one hour at least once during the past week, *FNSS, 2015*

	Percentage of children under age 5:			
	Left alone in the past week	Left in the care of another child younger than 10 years of age in the past week	Left with inadequate care in the past week[1]	Number of children under age 5
Sex				
Male	6.1	20.7	22.3	2093
Female	6.3	19.1	21.2	2118
Province				
Luangnamtha	3.1	11.9	13.2	589
Oudomxay	13.4	31.4	34.5	1116

[30] Grossman, DC. 2000. *The History of Injury Control and the Epidemiology of Child and Adolescent Injuries.* The Future of Children, 10(1): 23-52.

Saravane	2.3	11.5	12.7	1473
Sekong	5.4	24.7	26.7	470
Attapeu	6.2	23.3	24.7	563
Area				
Urban	4.7	17.1	19.1	523
Rural with road	5.9	19.1	21.0	3269
Rural without road	9.5	27.8	28.8	498
Age				
0-23 months	2.5	11.7	12.7	1696
24-59 months	8.6	25.2	27.5	2594
Mother's education				
None	7.6	22.4	24.4	1534
Primary	5.2	18.5	20.0	1622
Lower secondary	7.9	19.3	22.3	439
Upper secondary	3.8	19.4	21.0	156
Post secondary non tertiary	0.0	12.6	12.6	65
Higher	0.0	13.3	13.3	95
Wealth index quintile				
Poorest	9.4	25.8	26.8	1094
Second	6.9	21.9	24.4	947
Middle	5.7	19.3	21.9	825
Fourth	4.0	15.6	17.1	738
Richest	3.1	12.7	14.3	685
Religion/Language/Ethnicity of household head				
Lao-Tai	2.2	12.0	13.1	1341
Mon-Khmer	8.2	24.6	26.7	2424
Hmong-Mien	3.1	6.2	7.7	70
Chinese-Tibetan	7.6	19.8	22.6	454

[1] MICS indicator 6.7 - Inadequate care

XII. MYCNSIA Trends in Nutritional Status

Provincial level trends for select indicators are presented in the relevant chapters. This chapter presents trends in target indicators of the Maternal and Young Child Nutrition Security Initiative in Asia programme. The provinces included in the initiative include Saravane, Sekong, and Attapeu. In Saravane approximately ½ of the districts were targeted by the MYCNSIA programme and 2015 FNSS estimates presented in other chapters only include targeted districts. However, the baseline survey for MYCNSIA included all Saravane districts in the MYCNSIA programme area and the baseline database does not include a district variable for disaggregation. For trend analysis, FNSS 2015 estimates were recalculated to include all districts of Saravane for the sake of comparability.

The baseline and endline surveys were re-analyzed to determine standard error, construct confidence intervals and to ensure that indicators from 2011/2 and 2015 were calculated in the same exact manner. For hemoglobin and anemia the baseline survey and the 2015 FNSS differed in a number of aspects. The baseline survey adjusted for smoking, but did not include multiple adjustments for smoking intensity. In addition, the baseline survey applied cutoffs for pregnant women to all pregnant and lactating women. The baseline estimates of anemia in the baseline survey report are likely underestimated. The baseline database did not include information on smoking intensity or pregnancy status, which limited the options for making the two surveys comparable. For trend analysis on hemoglobin and anemia presented in this chapter both the baseline and endline surveys were re-analyzed with the following criteria:

- For all smokers hemoglobin was adjusted by -0.3 g/dl
- All pregnant and lactating women were assessed using the criteria for non-pregnant women

The trends on hemoglobin and anemia are valid because the estimates were calculated in the same manner, but the FNSS 2015 results presented in the chapter on nutritional status should be considered more accurate estimates because the correct adjustments and cutoffs were used. One caveat for interpreting trend results presented in this chapter is that the baseline survey did not include a control group, which limits the ability to attribute changes to the MYCNSIA programme. Where possible trends are compared to the situation in other parts of the country.

Child Stunting

A primary objective of MYCNSIA was to reduce stunting among children under-3 by 5 percentage points. Figure MT.1 shows that under-3 stunting decreased by 8.7 percentage points from 2012 to 2015 (46.1% to 37.4%). The stunting reduction objective was achieved and the results are highly significant statistically, shown by confidence intervals that do not overlap. Results for children under-5 are also included in Figure MT.2. For children U-5 stunting declined from 53.8 to 42.4, a decrease of 11.4 percentage points. From results presented in Chapter 1, we see that non-MYCNSIA provinces also achieved stunting reduction, with ~9 percentage point decreases in Luangnamtha and Oudomxay.

Figure MT.1: Trends in height-for-age (stunting) among children under age 3, MYCNSIA baseline and FNSS 2015

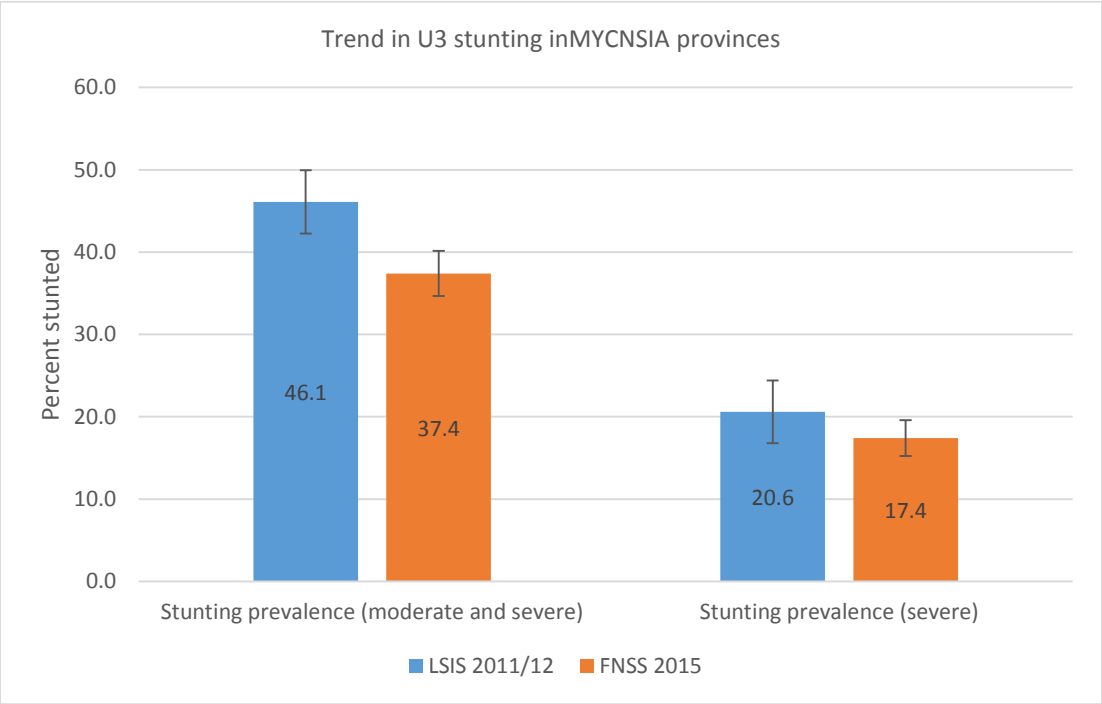
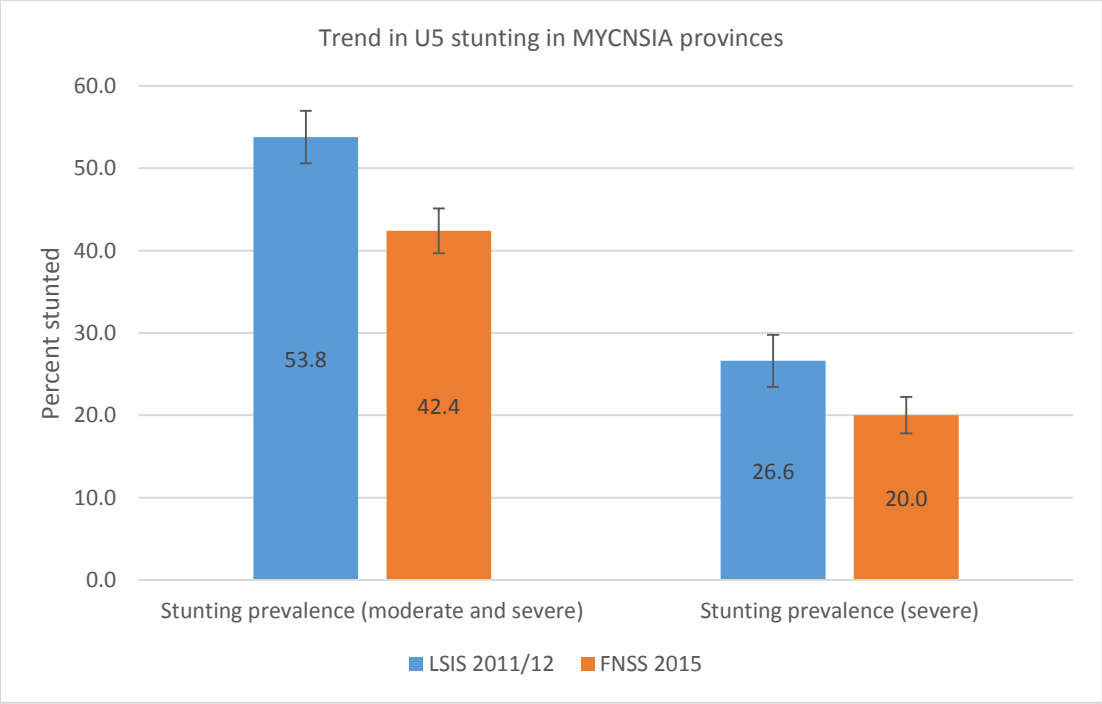


Figure MT.2: Trends in height-for-age (stunting) among children under age 5, MYCNSIA baseline and FNSS 2015



Child Anaemia

For child anaemia the primary objective of MYCNSIA was a 15% reduction in any anaemia for children 6-23 months. Figure MT.3 shows trends in any, mild, moderate and severe anaemia for children 6-23 months. Based on the re-calculated baseline prevalence of 56.6%, a 15% reduction is the equivalent to an 8.5 percentage point reduction. Any anaemia fell from 56.6% to 41.5%, a 15.1 percentage point decrease that corresponds to a 26.7% reduction. The MYCNSIA objective was surpassed and the non-overlapping confidence intervals show that the result is statistically significant.

From Figure MT.3 we can also see that there were reductions in all severity classifications: mild, moderate and severe. This suggests a general improvement in hemoglobin across the entire population, which would not occur from treating severe anaemia alone. The results indicate that there was improvement of diet and/or that there was an increase in the coverage of preventive interventions such as micronutrient supplementation and deworming.

Figure MT.4 shows that there was a statistically significant increase in mean hemoglobin (10.8 to 11.1), which supports the findings that anaemia was reduced.

Figure MT.3: Trends in anemia among children 6-23 months, MYCNSIA baseline and FNSS 2015

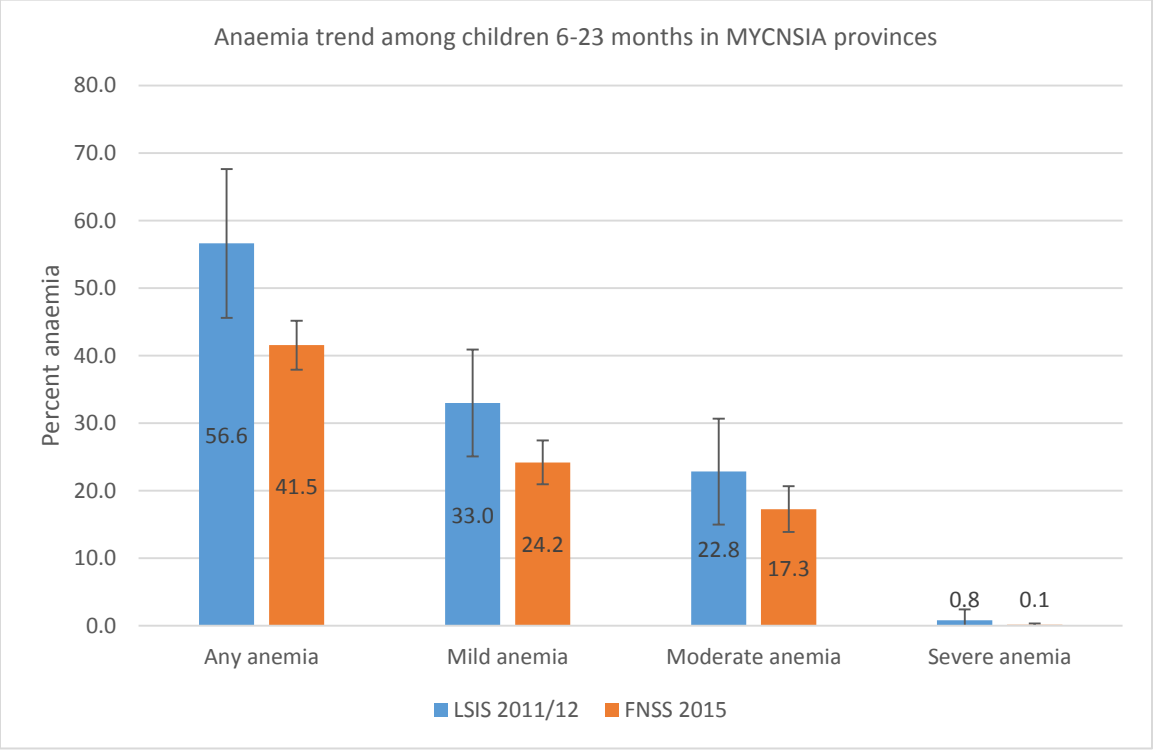
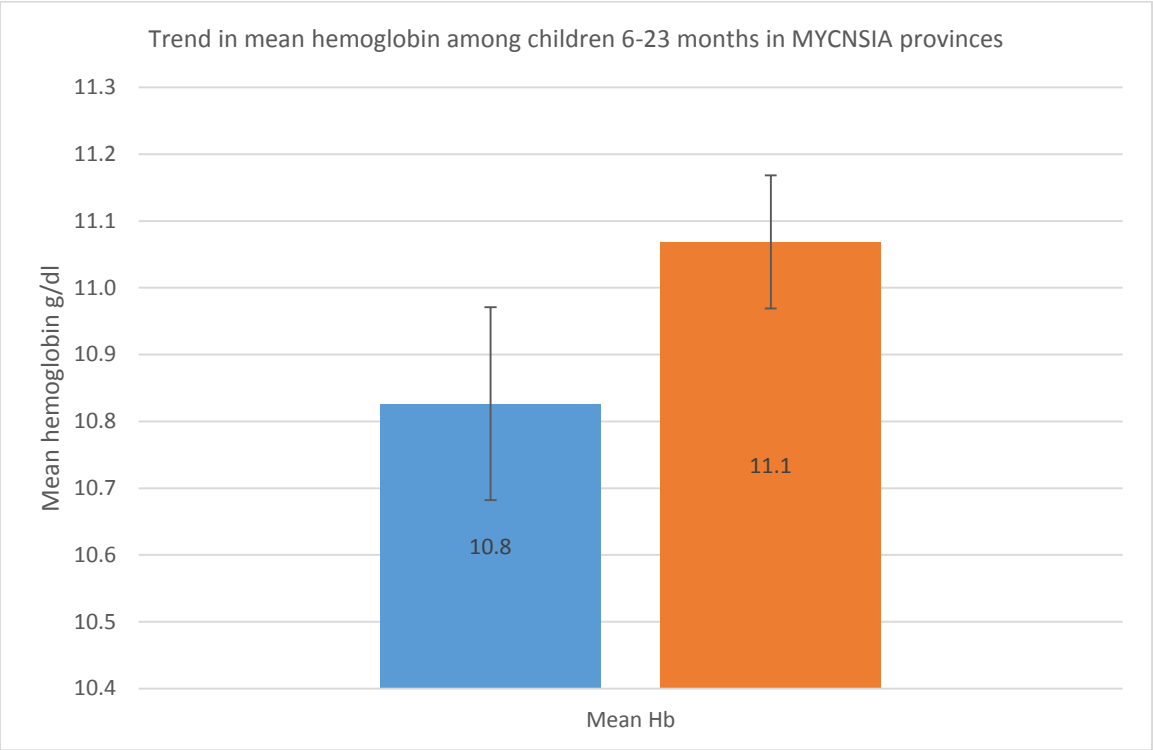


Figure MT.4: Trends in mean hemoglobin among children 6-23 months, MYCNSIA baseline and FNSS 2015



Maternal Anaemia

As with child anaemia, the MYCNSIA primary objective for maternal anaemia was a 15% reduction in any anaemia among pregnant and breastfeeding women. Based on the recalculated baseline prevalence estimate of 53.1%, a 15% reduction represents an 8 percentage point decrease. Figure MT.5 shows that any anaemia declined from 53.1% to 45.3%, a decrease of 7.8 percentage points, or 14.7%. The MYCNSIA objective was basically achieved, but overlapping confidence intervals mean that we cannot be sure of the statistical significance of this finding. In addition, trends are not the same across all categories of anaemia severity. There were reductions in moderate and severe anaemia, but the increase in mild anaemia suggests that some of these women did not become non-anemic. Rather, their hemoglobin improved enough to place them in the category of mild anaemia.

Figure MT.6 shows that mean hemoglobin of pregnant and breastfeeding women increased from 11.7 to 12.1. The increase in mean hemoglobin suggests that the anaemia reduction was real and not simply due to increased measurement precision. As with any anaemia, confidence intervals for mean hemoglobin are overlapping, and statistical tests are needed to determine the statistical significance of these findings.

Table MT.1 presents the results of significance testing for trends in maternal anaemia. Tests were carried out using SPSS Complex Samples to take into account clustering. The 7.8 perentage point drop in any anaemia was not statistically significant (p=.122), but there was a significant drop in moderate and severe anaemia (p=.021 and .004). Combining the moderate and severe categories, there was a decrease from 34.7% to 20.8%, which is a 40% reduction. The increase in mean hemoglobin was somewhat significant at p=.059. Significance testing shows that mean hemoglobin increased in MYCNSIA provinces and there was impressive improvement in the reduction of moderate and severe anaemia.

Figure MT.5: Trends in anaemia among pregnant and lactating women, MYCNSIA baseline and FNSS 2015

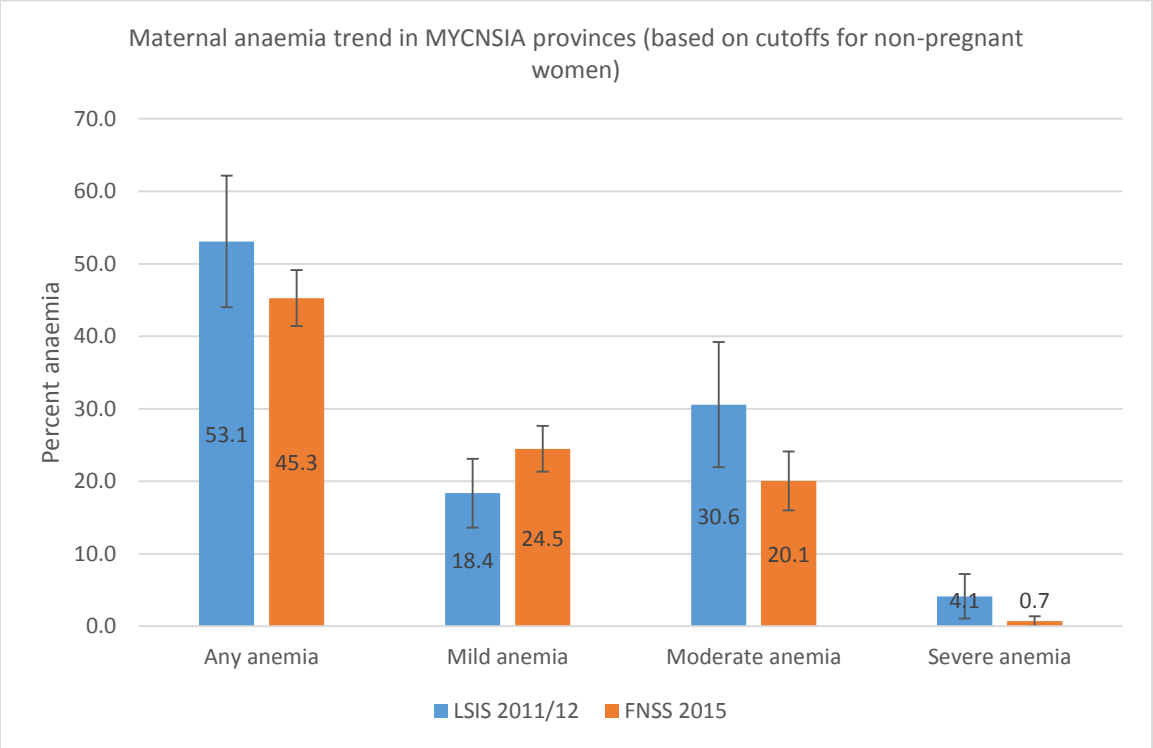


Figure MT.6: Trends in mean hemoglobin among pregnant and lactating women, MYCNSIA baseline and FNSS 2015

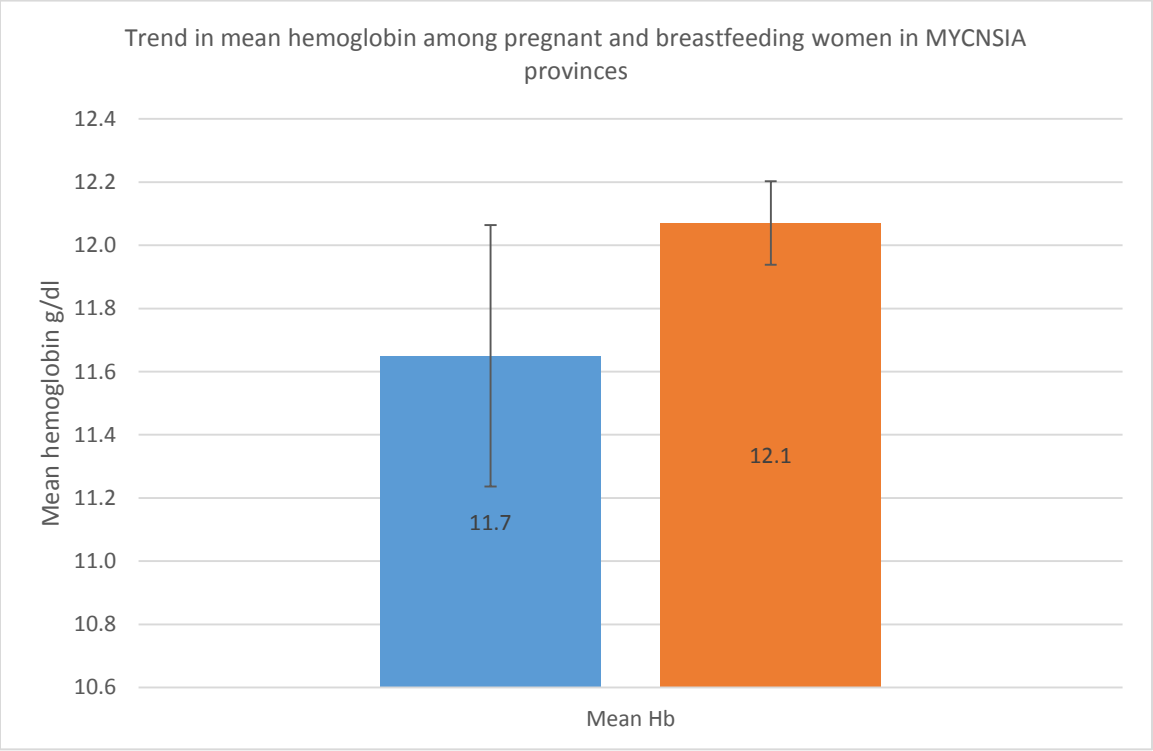


Table MT.1: Significance testing for maternal anemia trends in MYCNSIA provinces

	LSIS 2011/12	FNSS 2015	Difference (endline-baseline)	Odds Ratio (endline:baseline)	Adjusted Chi-Square P-Value
Any anemia	53.1	45.3	-7.8	0.731	0.122
Mild anemia	18.4	24.5	6.1	1.442	0.046
Moderate anemia	30.6	20.1	-10.5	0.57	0.021
Severe anemia	4.1	0.7	-3.4	0.169	0.004
Mean hemoglobin (g/dl)	11.7	12.1	0.4	.	.059 (t-test)

XIII. Food security

Food Consumption Score

The distribution of the households by food consumption score is shown in Table FS.1. Food Consumption Score is a proxy indicator that is based on two types of information 1) dietary diversity – the number of food groups a household consumes and 2) food frequency – the number of days on which a particular food group is consumed Both indicators are measured over a pre-defined reference period of 7 days. This means that the food consumption score is calculated from the types of foods and

the frequencies with which they are consumed0within a seven-day recall period and relative nutritional importance (weight) of different food groups.

The household food consumption score is calculated for each household by multiplying each food group frequency with the relevant food group weight, and then summing these scores to yield one composite score. The households score is compared with pre-established thresholds that indicate the status of the household's food consumption. The following thresholds are applied by WFP in Lao PDR:

Poor food consumption: 0 to 25.5
Borderline food consumption: > 25.5 – 36.5
Acceptable food consumption: > 36.5

Majority of the households fall under the 'acceptable' category of food consumption - 91.5% in urban areas, 73% in rural areas with roads, 73.4% in rural areas without roads. The situation in Luangnamtha, Attapeu and Oudomxay provinces, with more than 85% of households falling under the 'acceptable' category of food consumption. Saravane province shows the high levels of poor consumption (14.3% of surveyed households) and borderline consumption (25.8%).

Food consumption scores also vary strongly by wealth. In the richest quintile, 90% of households have 'acceptable' food consumption scores. In the poorest quintile, 60.5% have acceptable food consumption scores. Non-NPAN area has the highest acceptable food consumption score at 78.3%.

Table FS.1 Food Consumption Score

Percent distribution of households

	Food Consumption Score			
	Poor (<=25.5)	Borderline (>25.5 - 36.5)	Acceptable (>36.5)	Number of households
Province				
Luangnamtha	3.0	9.6	87.4	1059
Oudomxay	.5	13.9	85.6	1803
Saravane	14.3	25.8	59.9	2067
Sekong	7.8	25.8	66.4	579
Attapeu	2.1	10.6	87.3	880
Type of Area				
Urban	2.5	6.1	91.5	1058
Rural with road	7.5	19.5	73.0	4739
Rural without road	3.2	23.4	73.4	591
Wealth Index Quintile				
Poorest	5.6	33.9	60.5	1304
Second	7.4	21.6	71.0	1197
Middle	7.0	18.6	74.4	1207
Fourth	5.7	11.1	83.1	1291
Richest	5.7	4.3	90.0	1389
Language group of household head				
Lao-Tai	8.9	12.2	78.8	2323
Mon-Khmer	4.9	22.7	72.4	3391
Hmong-Mien	3.7	10.5	85.8	74
Chinese-Tibetan	4.0	11.1	84.9	591
Area				
Non-MYCNSIA	6.9	16.2	77.0	4066
MYCNSIA	5.2	20.2	74.6	2321
Non-NPAN	6.8	14.9	78.3	4881
NPAN	4.6	26.5	68.9	1506

Consumption-based Coping Strategy Index

Table FS.2 shows both percentage distribution of the frequency of consumption-based coping strategies over a week's time period, as well as a coping strategy index at household level.

The consumption-based coping strategy index measures consumption-related coping behavior, when households cannot access enough food. There are a number of fairly regular behavioral responses to food insecurity—or coping strategies—that people use to manage household food shortage. In this study, the reduced coping strategy index (reduced CSI) has been used, as it can be used to compare food security across different contexts. The index measures five consumption-based coping behaviors, namely:

- Eating less preferred/expensive foods;
- Borrowing food or relying on help from friends and relatives;
- Limiting portion sizes at meal times;
- Limiting adult intake so that children can eat; and
- Reducing the number of meals per day.

These coping strategies are assigned weights based on their severity. The Coping Strategy Index is calculated by multiplying the frequency with which coping strategy is used by the weight. It is important to note, that the score alone does not explain much about the absolute level of food insecurity experienced by the household. Instead, it allows for comparison of relative food security of different households.

Households in rural areas without roads have the highest reduced CSI (at 3.81) compared to households in rural areas (2.69) with roads and urban households (1.20). The most commonly and frequently reported consumption-based coping strategy is 'relying on less preferred or less expensive foods'. The least commonly and frequently reported consumption-based coping strategy is 'Reducing number of meals eaten in a day'.

Luangnamtha reports the lowest number of coping strategies, with the mean coping strategy index being 0.76. Saravane reports the highest mean coping strategy index at 4.36.

Consumption-based coping strategy indices also vary strongly by wealth. In the richest quintile, the mean coping strategy index stands at .66. In the poorest quintile, the mean coping strategy index is the highest among all the quintiles at 4.85.

The NPAN areas report the highest mean for the coping strategy index at 4.24. The lowest mean for the coping strategy index is reported at 2.03.

Table FS.2 Consumption-based coping strategies

Percent distribution of households reporting consumption-based coping strategies

	Percentage of households reporting consumption-based coping strategies disaggregated by number of times per week																				Reduced Consumption based coping strategy index (mean)	Number of households
	Rely on less preferred, less expensive foods				Borrow food, or rely on help from a friend or relative				Limit portion size at mealtimes				Restrict consumption by adults in order for small children to eat				Reduce the number of meals eaten in a day					
	Daily	3-6 days per week	1 - 2 times per week	Less than per week or never	Daily	3-6 days per week	1 - 2 times per week	Less than per week or never	Daily	3-6 days per week	1 - 2 times per week	Less than per week or never	Daily	3-6 days per week	1 - 2 times per week	Less than per week or never	Daily	3-6 days per week	1 - 2 times per week	Less than per week or never		
Province																						
Luangnamtha	.4	4.1	10.8	84.7	0.0	1.4	3.6	94.9	.3	1.8	4.7	93.2	0.0	.8	1.5	97.7	0.0	.8	1.0	98.3	.76	1059
Oudomxay	2.4	5.7	9.1	82.8	.3	.6	2.5	96.6	.6	.7	3.5	95.3	2.3	1.3	4.1	92.3	.3	.4	1.6	97.7	1.51	1803
Saravane	.2	5.2	15.9	78.7	.3	3.7	6.6	89.5	2.2	4.0	6.6	87.2	8.5	4.9	5.3	81.3	1.2	.9	1.5	96.4	4.36	2067
Sekong	1.4	8.0	8.7	81.9	.4	2.0	6.8	90.7	.3	4.1	5.4	90.1	8.3	3.5	4.4	83.8	.9	3.8	4.1	91.2	3.04	579
Attapeu	.5	4.7	17.6	77.3	.1	1.8	7.7	90.5	.7	3.5	11.1	84.6	.9	3.1	7.5	88.5	.8	1.9	3.5	93.8	2.26	880
Type of Area																						
Urban	.3	3.0	7.9	88.8	0.0	.9	2.0	97.1	.5	1.3	2.5	95.8	2.4	.8	1.1	95.7	.2	.6	1.1	98.1	1.20	1058
Rural with road	.9	5.6	13.9	79.5	.2	2.2	5.7	91.9	1.1	2.6	6.6	89.6	4.3	3.2	5.3	87.2	.7	1.2	2.0	96.1	2.69	4739
Rural without road	3.2	7.1	11.8	77.9	.7	2.8	5.8	90.7	1.4	5.0	6.8	86.8	6.9	3.5	5.0	84.6	1.4	1.0	2.8	94.8	3.81	591
Wealth Index Quintile																						
Poorest	3.4	9.4	17.4	69.9	.7	4.1	11.0	84.2	2.7	4.2	10.1	83.0	7.4	5.3	8.7	78.6	2.5	2.3	4.4	90.8	4.85	1304
Second	.9	7.3	14.6	77.1	.3	2.1	7.7	90.0	1.2	5.2	7.7	85.9	5.2	2.9	7.2	84.6	.4	2.0	2.9	94.7	3.24	1197
Middle	.5	5.2	13.2	81.1	0.0	3.0	4.4	92.5	.9	1.7	6.5	90.9	4.6	2.3	5.0	88.0	.2	.4	1.7	97.7	2.47	1207
Fourth	.1	3.6	13.5	82.8	.1	1.0	2.4	96.5	.5	1.7	4.3	93.5	3.6	1.9	2.1	92.4	.1	.7	.7	98.5	1.70	1291
Richest	.2	1.5	5.6	92.7	0.0	.1	.5	99.4	0.0	.6	1.5	97.9	.8	1.7	.2	97.3	0.0	.2	.1	99.7	.66	1389
Language group of household head																						
Lao-Tai	.3	3.2	12.0	84.5	.0	1.6	2.5	95.8	.9	1.8	2.8	94.5	2.8	2.3	.9	94.0	.0	.4	.4	99.1	1.71	2323
Mon-Khmer	1.5	6.5	13.5	78.6	.4	2.4	6.9	90.3	1.2	3.4	8.2	87.1	5.8	3.6	7.5	83.1	1.2	1.7	3.0	94.1	3.37	3391
Hmong-Mien	0.0	16.9	11.9	71.2	0.0	4.1	5.5	90.4	0.0	4.1	9.6	86.3	0.0	4.1	1.4	94.5	0.0	4.1	0.0	95.9	1.07	74
Chinese-Tibetan	1.3	6.0	11.3	81.5	0.0	1.0	5.3	93.7	.8	1.0	4.3	93.9	1.4	.3	2.6	95.6	0.0	.3	1.8	97.8	1.36	591
Area																						
Non-MYCNSIA	1.2	5.4	12.2	81.2	.2	1.7	3.3	94.8	1.0	2.1	4.2	92.7	4.0	1.9	2.5	91.7	.1	.4	1.1	98.4	2.16	4066
MYCNSIA	.6	5.2	13.7	80.4	.3	2.6	8.3	88.8	1.2	3.7	8.9	86.2	4.7	4.5	8.3	82.5	1.6	2.4	3.5	92.6	3.24	2321
Non-NPAN	.9	5.2	13.4	80.5	.2	1.6	5.0	93.2	.6	2.1	5.8	91.6	2.6	2.7	4.6	90.1	.6	1.2	2.0	96.2	2.03	4881
NPAN	1.3	5.8	10.6	82.3	.2	3.4	5.4	91.0	2.6	4.3	6.4	86.7	9.4	3.1	4.5	82.9	.7	1.0	1.6	96.7	4.24	1506

Livelihood-based Coping Strategies

Table FS.3 shows the percent distribution of households reporting livelihood-based coping strategies disaggregated by severity of coping strategies.

The livelihood coping strategies indicator is derived from a series of questions regarding the household's experience with livelihood stress and asset depletion during the 30 days prior to the survey. This indicator measures stress and insecurity faced by households and describes their capacity regarding future productivity and asset depletion. All strategies are classified into three broad groups, including stress, crisis and emergency strategies. Stress coping strategies include borrowing money, spending savings, selling household assets/good (such as furniture, radio, jewelry, etc.) or selling more animals (non-productive) than usual. Stress coping strategies indicate a reduced ability to deal with future shocks due to a current reduction in resources or increase in debts. Crisis strategies include selling productive assets or means of transport, reducing non-food expenditures on health and education, and withdrawing children from school. These coping strategies directly reduce future productivity, including human capital formation. Emergency coping strategies include begging, selling one's land and selling last female animals. These strategies affect future productivity and are difficult to reverse. Households engaging in routine economic activities that did not involve any of these strategies are considered equivalent to food secure on this indicator.

Overall, the percentage of households reporting 'stress' coping strategies is much higher than households reporting 'crisis' and 'emergency' coping strategies. Urban households are less likely to engage in livelihood-based coping strategies compared to rural households.

Saravane and Attapeu provinces show the highest percentages of households engaging in livelihood-based coping strategies. In Saravane province, 26.6% engage in stress coping strategies, 0.9% in crisis coping strategies, and 1.9% in emergency coping strategies. In Attapeu province, 16.6% engage in stress coping strategies, 7.6% in crisis coping strategies, and 3.8% in emergency coping strategies.

Across the wealth quintiles, the poorest households show highest percentage of household engaging in livelihood-based coping strategies. The percentage decreases further gradually when moving from poorer to wealthier quintile. While the 2.6% of the poorest households report engaging in emergency coping strategies, only 0.7% of the richest report engaging in these coping strategies. MYNCSIA areas have the highest percentages of households engaging in livelihood-based coping strategies: 14.9% reporting stress coping strategies, 3.9% reporting crisis coping strategies, and 1.9% reporting emergency coping strategies.

Table FS.3 Livelihood-based coping strategies

Percentage of households reporting livelihood-based coping strategies disaggregated by severity of coping strategies

	Summary of Asset Depletion				
	Households not adopting coping strategies	**Stress coping strategies**	**crisis coping strategies**	**emergencies coping strategies**	**Total Number of households**
Province					
Luangnamtha	83.3	15.1	1.2	.3	1059
Oudomxay	93.9	4.8	.8	.5	1803
Saravane	70.6	26.6	.9	1.9	2067
Sekong	87.8	9.9	1.1	1.3	579
Attapeu	72.0	16.6	7.6	3.8	880
Type of Area					
Urban	88.9	9.4	.9	.8	1058
Rural with road	79.2	17.3	2.0	1.5	4739
Rural without road	81.5	13.5	2.7	2.3	591
Wealth Index Quintile					
Poorest	76.8	18.1	2.5	2.6	1304
Second	79.5	16.6	2.3	1.5	1197
Middle	83.0	14.2	1.8	1.0	1207
Fourth	78.2	18.0	2.3	1.5	1291
Richest	87.3	11.4	.6	.7	1389
Language group of household head					
Lao-Tai	80.8	17.0	.9	1.3	2323
Mon-Khmer	81.3	14.3	2.6	1.8	3391
Hmong-Mien	80.8	16.4	2.7	0.0	74
Chinese-Tibetan	80.4	18.1	1.1	.3	591
Area					
Non-MYCNSIA	82.0	16.1	.8	1.2	4066
MYCNSIA	79.4	14.9	3.9	1.9	2321
Non-NPAN	80.2	16.2	2.4	1.3	4881
NPAN	83.9	13.9	.3	1.9	1506

Food Shortage

Table FS.4 shows the percentage of households who reported not having enough food in the past 12 months. The table also reports the mean value of number of months households faced food shortage. The mean value is calculated for households who reported facing food shortages in the last 12 months.

Among the five surveyed provinces, Sekong has the highest percentage (51.2%) of households who reported facing not having food to meet household's needs. Saravane and Attapeu also records high percentages (35.2% and 30.7% respectively). The mean number of months, ranges between 3 and 4 months for all provinces.

Rural households are more likely than urban households to report not having enough food in the last 12 months. The mean value for number of months is also higher for rural households compared to urban households.

Poorer households are more likely than households from wealthier quintiles to report not having enough food in the last 12 months. The mean value for number of months is also higher for poorer households compared to wealthier households. Households falling in the MYCNSIA area have the highest percentage of households compared to other areas.

Table FS.4 Food Shortage

Percentage of households reporting not having enough food to meet the household's food needs in the past 12 months

	Households reporting not having enough food to meet the household's food needs in the past 12 months	Number of months in the last 12 months when a household did not have enough food to meet the household's food needs (Mean)	Total Number of Households
Province			
Luangnamtha	27.2%	4.69	1059
Oudomxay	20.5%	4.04	1803
Saravane	35.2%	3.48	2067
Sekong	51.2%	4.40	579
Attapeu	30.7%	3.54	880
Type of Area			
Urban	10.5%	3.20	1058
Rural with road	34.2%	3.88	4739
Rural without road	37.3%	4.52	591
Wealth index quintile			
Poorest	58.0%	4.64	1304
Second	42.3%	3.96	1197
Middle	29.5%	3.35	1207
Fourth	20.4%	2.82	1291
Richest	4.9%	2.76	1389
Language group of household head			
Lao-Tai	17.4%	3.13	2323
Mon-Khmer	40.1%	4.01	3391
Hmong-Mien	24.7%	4.39	74
Chinese-Tibetan	28.7%	4.96	591
Area			
Non-MYCNSIA	25.0%	3.88	4066
MYCNSIA	40.3%	3.95	2321

Non-NPAN	29.7%	3.87	4881
NPAN	33.1%	4.03	1506

XIV. Agriculture

Agriculture Information

Table AG.1 shows data on households who received advice or information on livestock or crop production methods. Data has been disaggregated by percentage of households who received advice/information about livestock and/or crop production methods in the last three years, and source of information as reported by households. The question on type of source involves multiple answers, as such the total response percentages exceed 100%.

Table AG.1 shows that Saravane province reported the lowest percentage of households (56.8%) who received such information, among the surveyed provinces. The highest percentage of households who received information is reported by Oudomxay province at 93.6%. NPAN areas report the highest percentages of information received, at 91.5%, while MYCNSIA reports the lowest at 74.2%. Households from both rural and urban areas, as well as households from all the wealth quintiles report similar percentages of information received.

Table AG.1 also shows that the government agricultural centres[31] are most commonly reported source of information, followed by television. The least commonly reported sources are newspapers and merchants. The sources of information vary between provinces, the types of areas and wealth quintiles. Households in Sekong province report highest percentages of having received information from NGO projects, at 28.8% with the lowest percentage reported in Luang Namtha at 6.6%. Oudomxay reports the highest percentage of information received by government agricultural centres, at 93.5% while Luang Namtha reports the lowest percentage at 63.9%. Luang Namtha reports the highest percentages of households receiving this information from media sources (Radio at 21.2%, television at 52.6%, and newspaper at 17.6%) compared to lowest percentage of media source reported in Sekong (1.4%, 3.6% and 0.4% for radio, television and newspaper respectively). Luang Namtha also reports the highest percentages of households reporting to have received this information from other farmers or merchants (23.8% and 5.1% respectively).

Households from the two wealthiest quintiles report slightly higher percentage (Fourth quintile – 17.9%; Richest – 15.5%) of information received from NGO projects compared to the poorest wealth quintile (11.3%). This trend contrasts with information received through government agricultural research centres. Households from the poorest quintiles (92.8%) are most likely to have received information from government agricultural research centres compared to the richest quintiles (72.8%). Wealthier quintiles are also more likely to receive information from media sources (television, radio, and newspaper) and farmers and merchants compared to poorer households.

Households in urban areas have slightly higher access to information from NGOs compared to rural areas. However rural areas are more likely to receive information from government agricultural centers compared to urban areas.

[31] Government Agriculture Center are at the level of the village cluster. Their main role is to support farmers on agricultural techniques.

Table AG.2 shows the type of technical information/advice received by households and the percentage of households who reported to have applied this knowledge to their agricultural or livestock rearing practices. The question on type of information received involves multiple answers from respondents, as such the total response percentages exceed 100%.

Crop management was the most commonly reported type of agricultural information received by surveyed households, with just over 70% households in Luang Namtha, Oudomxay and Saravane reporting having received this type of information. Attapeu and Sekong reported slightly lower percentages at 64.6% and 54% respectively.

The least commonly reported type of information received was marketing. Luang Namtha has 13.2% of households reporting having received information on marketing – the highest among all the five provinces. Oudomxay, on the other hand, only had 3.3% of households reporting having received this kind of information.

Urban and wealthier households report higher percentages compared to rural and poorer households in nearly each type of information received. The only exception is on the topic of livestock management where both households from poorer quintiles and households from rural areas report having received more information on livestock management compared to their wealthier and urban counterparts.

In terms of applying information to practice, Table AG.2 also shows that households were mostly likely to apply information that were most likely to receive, i.e. crop management to practice. The least applied information is on marketing, which is the least likely information received by households. Pest control and agro-forestry information are also among the least applied types of information, as reported by the surveyed households.

In terms of urban/rural areas and wealth quintiles, the patterns for application of information is the same as the type of information received.

TableAG02. Information about agricultural techniques and subsequent application

Percentage o

Table AG01. Agricultural Information and Sources

Percentage of households, who have received information or advice about agricultural and/or livestock production techniques and the source of information

	Percentage of Households who have received advice/ information about livestock and/or crop production methods within the last 3 years	Percentage of household received information through following channels (multiple responses)								Number of households
		NGO Project	Government Agricultural Service Center	Radio	Television	Newspaper	Farmer	Merchant	Other	
Province										
Luang Namtha	85.0	6.6	63.9	21.2	52.6	17.4	23.8	5.1	0.0	1059
Oudomxay	93.6	12.2	93.5	8.4	17.4	1.1	3.0	2.4	0.0	1803
Saravane	56.8	12.3	79.5	16.0	18.8	2.0	16.0	5.3	0.0	2067
Sekong	70.7	28.9	74.7	1.4	3.6	.4	2.5	2.9	0.0	579
Attapeu	81.7	21.3	89.9	13.8	19.4	4.0	7.7	0.3	0.0	880
Type of Area										
Urban	83.9	17.5	72.5	15.7	41.5	15.4	19.1	3.1	0.0	1058
Rural with road	80.9	13.7	84.7	11.9	21.0	2.6	7.7	3.3	0.0	4739
Rural without road	80.8	12.0	95.2	8.9	13.2	3.3	5.9	0.7	0.0	591
Wealth Index Quintile										
Poorest	81.2	11.3	92.8	7.1	4.1	.3	3.3	0.5	0.0	1304
Second	83.9	11.8	91.5	6.4	14.7	.0	1.3	1.0	0.0	1197
Middle	84.2	13.8	87.3	9.2	18.9	0.8	5.8	2.2	0.0	1207
Fourth	79.4	17.9	77.4	18.9	29.3	3.9	11.5	3.8	0.0	1291
Richest	79.1	15.5	72.8	17.8	45.5	16.6	22.3	6.4	0.0	1389
Language group of household head										
Lao-Tai	74.7	17.2	72.5	16.3	37.4	10.9	18.4	5.2	0.0	2323
Mon-Khmer	84.9	13.4	91.2	9.8	17.7	2.3	4.9	1.7	0.0	3391
Hmong-Mien	83.7	11.7	62.3	36.4	33.8	3.9	3.9	3.9	0.0	74
Chinese-Tibetan	79.4	9.8	67.3	11.1	18.9	3.0	15.2	5.1	0.0	591
Area										
Non-MYCNSIA	85.4	10.8	83.2	13.4	28.2	5.8	11.3	3.8	0.0	4066
MYCNSIA	74.2	21.1	84.9	9.8	14.4	3.0	5.7	1.3	0.0	2321
Non-NPAN	78.5	15.1	80.7	14.6	25.1	5.4	9.3	2.8	0.0	4881
NPAN	91.5	11.3	93.0	4.9	19.2	3.1	10.0	3.5	0.0	1506

	Percentage of households who received information about agricultural practices by type (multiple answers)											Percentage of households who applied agricultural practices (multiple answers)											
	Crop improved varieties	Crop mgmt	Soil fertility mgmt.	Soil and water conservation	Pest control	Agro-forestry	Livestock breeds	Livestock mgmt	Post harv-est han-dling	Mark-eting	Other	Crop improved varieties	Crop mgmt.	Soil fertility mgmt.	Soil and water conservation	Pest control	Agro-forestry	Livestock breeds	Livestock mgmt	Post harvest handling	Mark-eting	Other	Number of house-holds
Province																							
Luang Namtha	58.2	71.0	31.2	47.8	26.0	29.8	37.3	49.9	23.3	13.2	49.9	13.7	26.0	15.3	18.1	12.2	13.2	13.5	23.3	16.0	10.8	23.3	1059
Oudomxay	59.0	72.0	24.5	21.2	19.3	22.6	15.8	67.7	10.6	3.3	67.7	35.1	40.2	6.3	3.3	2.7	6.5	3.3	38.6	6.8	1.4	38.6	1803
Saravane	28.3	71.1	32.6	16.8	20.5	17.0	17.2	44.5	21.1	5.7	44.5	15.2	48.0	17.8	7.4	10.0	10.0	6.4	31.6	16.2	3.3	31.6	2067
Sekong	42.1	54.0	28.5	20.9	17.3	28.4	32.4	39.3	23.7	4.7	39.3	27.7	38.2	18.4	13.7	8.7	16.9	19.4	25.2	16.5	0.7	25.2	579
Attapeu	62.5	64.6	37.8	23.1	34.6	29.3	30.6	67.3	21.0	9.8	67.3	23.9	30.3	14.6	9.3	11.2	10.6	11.4	25.8	9.6	4.5	25.8	880
Type of Area																							
Urban	49.1	64.3	32.0	33.5	25.6	26.6	28.4	55.1	22.7	8.4	55.1	19.7	30.6	13.7	9.6	7.7	9.7	11.1	27.8	12.3	5.3	27.8	1058
Rural with road	53.1	69.0	30.1	25.8	23.8	24.8	24.2	56.5	16.4	6.3	56.5	23.5	35.5	11.4	8.6	7.4	9.3	7.9	29.5	10.5	3.4	29.5	4739
Rural without road	71.6	75.1	21.0	17.7	16.4	23.8	17.6	82.2	15.5	7.8	82.2	52.3	51.7	13.0	7.5	7.4	13.9	8.8	49.4	12.8	6.0	49.4	591
Wealth Index Quintile																							
Poorest	63.6	67.4	16.6	13.3	12.0	14.5	15.0	69.9	12.9	3.0	69.9	37.1	38.5	4.9	3.3	2.8	7.1	5.4	35.4	8.4	1.4	35.4	1304
Second	54.0	70.4	25.4	20.7	19.6	22.8	20.7	62.6	10.5	3.5	62.6	26.4	37.9	8.4	6.1	4.4	8.1	5.3	34.5	8.0	1.0	34.5	1197
Middle	51.7	65.6	31.2	31.3	24.8	27.8	26.2	62.5	16.3	7.4	62.5	25.6	33.8	10.2	10.7	5.8	9.1	9.6	37.1	9.0	2.4	37.1	1207
Fourth	50.1	68.7	30.6	28.3	27.3	28.4	28.6	53.4	18.6	9.1	53.4	20.2	35.6	15.4	11.1	9.7	13.3	9.9	25.4	12.8	6.9	25.4	1291
Richest	53.1	71.2	40.8	35.7	30.9	30.3	29.4	49.3	26.5	10.2	49.3	21.7	35.9	18.8	11.4	13.1	11.2	11.7	26.1	15.8	7.1	26.1	1389
Language group of household head																							
Lao-Tai	49.2	68.1	34.3	31.7	27.2	26.2	27.2	49.4	21.1	8.4	49.4	22.2	35.4	17.5	11.4	12.5	11.3	10.1	27.2	13.4	5.8	27.2	2323
Mon-Khmer	57.2	69.1	29.9	25.5	23.4	25.2	23.7	65.3	17.0	6.8	65.3	28.9	38.2	10.5	8.0	5.7	9.8	8.3	34.7	10.8	3.3	34.7	3391
Hmong-Mien	58.4	77.9	6.5	7.8	7.8	14.3	15.6	39.0	3.9	0.0	39.0	27.3	41.6	6.5	3.9	3.9	6.5	0.0	19.5	0.0	0.0	19.5	74
Chinese-Tibetan	50.0	66.3	12.0	14.7	10.7	21.0	19.6	45.3	8.3	2.0	45.3	13.3	20.7	3.0	4.0	4.0	5.0	5.7	19.4	6.7	4.0	19.4	591
Area																							
Non-MYCNSIA	55.6	71.6	27.1	28.2	21.4	23.6	21.8	60.8	15.4	6.2	60.8	26.4	36.6	9.6	7.8	6.0	8.2	6.2	34.3	10.6	4.3	34.3	4066
MYCNSIA	51.9	63.2	34.4	22.2	27.3	28.0	29.4	55.2	21.3	8.2	55.2	24.8	36.0	16.7	10.3	10.5	13.3	13.1	25.2	11.9	3.4	25.2	2321
Non-NPAN	54.1	66.4	29.7	25.6	23.9	26.9	26.3	52.6	15.2	4.9	52.6	22.3	32.8	10.9	6.6	7.1	9.9	8.9	24.2	9.2	2.6	24.2	4881
NPAN	55.3	76.4	28.8	28.3	21.6	19.2	18.0	78.5	23.8	12.6	78.5	36.7	47.5	15.2	15.0	8.7	9.8	7.3	53.4	16.7	8.1	53.4	1506

Livestock production

Livestock rearing is quite common throughout the country. Table AG.03 shows percentages of surveyed households who reported to raising livestock, households where livestock production is managed by a woman, and the distribution of the types of livestock as reported by the surveyed households.

The percentage of households who report raising livestock range from 76% (Attapeu province) to 86% (Saravane). More than 80% of rural households reported to raising livestock, compared to 70% of urban households. Households in the poorest quintile reported lower percentages of livestock rearing compared to wealthier groups.

In every socio-economic category, more than 60% of households reported that livestock rearing was managed by a woman (female household member).

The most common type of livestock raised is local chicken, followed by pigs, duck, cows and buffalos. The prevalence of chicken raising ranges from the lowest of 73% in Sekong to the highest reported percentage of 85.7% in Luang Namtha. Households in Saravane and Sekong report raising more cows than other provinces, at 48% and 36% respectively while Luang Namtha reports the least percentage of households raising cattle at 15%. A very small percentage of households (less than 3%) report raising commercial chickens and frogs.

Livestock rearing is more prevalent in households living in rural areas compared to urban areas. The exception is households who report raising commercial chicken, ducks, fish (not wild caught), and frogs – where urban households are more likely to raise these livestock compared to their rural counterparts.

Livestock rearing is also more prevalent in wealthier households compared to poorer households. However, the prevalence of raising buffalos, pigs and goats is slightly higher among poorer households compared to wealthier households. Only the wealthiest households reported to raising frogs. While only 0.9% of poorest households reported to raising fish (not wild caught), 14.8% of households in the richest quintile reported to raising fish. Similarly, richest households were nearly six times more likely to raise duck compared to the poorest households.

Table AG03. Livestock Production

Percentage of households who report raising livestock

	Percentage of Households, who raised livestock or other animals the past 12 months	Percentage of households with livestock production managed by a female household member	Percentage of households who reported to raising livestock, disaggregated by type of livestock										Number of households
			Cows	Buffalo	Goats	Local chicken	Commercial chicken	Ducks	Pigs	Fish (not wild caught)	Frog	Other	
Province													
Luang Namtha	85.4	69.0	15.3	14.1	9.0	85.7	1.9	40.3	59.0	2.9	1.1	1.6	1059
Oudomxay	78.8	82.0	21.8	15.2	9.8	80.2	2.0	40.2	65.6	5.0	0.8	3.3	1803
Saravane	86.1	61.9	48.5	28.0	9.3	83.6	.6	41.9	61.4	8.6	0.3	1.1	2067
Sekong	78.0	69.3	36.2	32.8	7.4	73.0	1.2	29.0	67.0	7.1	0.0	1.0	579
Attapeu	75.7	80.3	22.2	33.7	2.1	77.0	2.3	36.4	54.2	2.4	0.3	0.6	880
Type of Area													
Urban	70.1	73.9	20.0	11.2	5.0	83.4	3.7	54.3	36.2	9.3	2.8	4.1	1058
Rural with road	84.4	71.8	33.7	24.4	8.2	81.3	1.1	37.2	64.9	5.4	0.2	1.1	4739
Rural without road	81.6	67.0	26.9	32.3	14.1	77.7	1.2	33.7	74.9	2.8	0.3	3.5	591
Wealth Index Quintile													
Poorest	72.3	68.3	24.7	26.5	10.0	71.5	.5	12.5	69.0	0.9	0.0	2.1	1304
Second	80.2	71.3	30.6	26.1	10.1	77.3	.6	25.0	68.6	2.1	0.1	1.3	1197
Middle	87.9	73.0	34.1	23.8	8.0	79.1	1.3	35.6	66.8	3.8	0.0	1.5	1207
Fourth	88.4	71.2	35.6	22.7	7.3	87.0	1.7	51.6	61.9	5.6	0.0	1.7	1291
Richest	80.4	73.7	29.5	18.0	6.6	89.2	3.0	65.3	44.6	14.8	2.6	2.1	1389
Language group of household head													
Lao-Tai	83.8	70.7	34.5	18.6	7.0	87.2	1.9	54.1	46.3	10.1	1.2	1.5	2323
Mon-Khmer	80.7	71.9	31.1	28.5	9.2	78.2	.9	32.8	70.4	3.5	0.2	1.8	3391
Hmong-Mien	76.7	75.6	25.0	1.8	6.5	89.3	1.8	17.9	47.0	0.0	0.0	3.0	74
Chinese-Tibetan	80.3	73.2	18.0	14.3	8.5	73.6	2.7	18.1	76.5	1.3	0.0	2.0	591
Area													
Non-MYCNSIA	83.4	72.1	28.7	17.0	9.3	83.8	1.4	40.6	60.7	5.7	0.8	2.2	4066
MYCNSIA	78.8	70.7	35.5	34.8	6.4	76.6	1.6	37.0	63.6	5.6	0.2	0.9	2321
Non-NPAN	80.6	74.2	31.9	25.5	6.9	80.8	1.6	41.2	61.0	6.4	0.7	1.5	4881
NPAN	85.6	63.8	28.6	16.3	12.4	82.7	1.0	33.6	63.8	3.7	0.3	2.4	1506

Animal Vaccination

Table AG.04 shows both the mean value of livestock owned by households as well as the mean value of vaccinated livestock, disaggregated by type of livestock. The mean values for cows, buffalos, goats and pigs ranges between 0.5 to 4.5. The mean figures for cows and buffaloes is highest in Attapeu province, while the lowest mean for this type of livestock is reported in Oudomxay. At the mean value of 20 chickens, Luang Namtha reports the highest mean for local chickens compared to the lowest mean of 9.6 chickens in Sekong. Luang Namtha also reports the highest mean value for the number of frogs (14.3) compared to Sekong which reports 0.0.

The mean value is higher for commercial chicken, ducks, fish (not wild caught) in urban areas compared to rural areas. The meal value is higher for all types of livestock in wealthier households compared to poorer households.

Only a small proportion of livestock are vaccinated, and this is especially the case for local chickens and ducks. The mean value for vaccinated livestock increases from the poorest to the wealthiest quintiles.

Table AG04. Vaccination of animals raised in households

Percentage of households reported raising animal and provision of vaccination

	Mean Value of Livestock per household										Mean Value of Vaccinated Livestock per household								
	Cows	Buffaloes	Goats	Local chicken	Commercial chicken	Ducks	Pigs	Fish (not incl. wild caught)	Frogs	Other	Cows	Buffaloes	Goats	Local chicken	Commercial chicken	Ducks	Pigs	Other	**Number of households**
Province																			
Luang Namtha	1.9	1.2	1.9	20.6	1.7	12.7	3.5	356.7	14.3	.3	1.2	0.6	0.1	1.3	1.7	0.7	0.5	0.0	1059
Oudomxay	1.5	1.1	1.3	16.2	2.8	11.4	2.6	1557.6	9.7	0.3	0.7	0.6	0.3	0.7	0.7	0.5	0.5	0.0	1803
Saravane	3.9	2.0	2.4	14.7	0.2	7.5	3.1	807.1	3.5	0.2	1.7	0.9	0.3	0.8	0.0	0.2	0.1	0.0	2067
Sekong	2.4	1.8	1.0	9.6	0.5	5.2	2.5	1911.5	0.0	0.1	0.9	0.7	0.2	1.3	0.0	0.5	0.6	0.0	579
Attapeu	4.5	2.4	0.5	16.6	2.7	9.4	2.4	336.6	1.3	0.2	2.5	1.1	0.0	0.7	2.2	0.8	1.2	0.0	880
Type of Area																			
Urban	2.8	1.0	1.0	20.3	3.4	15.9	2.6	1580.9	16.2	0.4	1.8	0.5	0.5	1.8	1.5	0.9	0.6	0.0	1058
Rural with road	3.1	1.9	1.7	15.3	1.3	8.0	3.0	928.4	1.6	0.2	1.4	0.9	0.2	0.7	0.7	0.3	0.5	0.0	4739
Rural without road	2.4	1.8	1.5	13.3	0.5	6.0	2.6	94.5	9.3	0.2	0.5	0.7	0.1	0.6	0.2	0.9	0.3	0.0	591
Wealth Index Quintile																			
Poorest	1.0	0.9	0.7	7.1	0.1	1.2	1.8	7.4	0.0	0.1	0.3	0.2	0.1	0.2	0.0	0.0	0.2	0.0	1304
Second	1.9	1.6	1.1	9.8	0.2	4.0	2.6	211.4	0.6	0.1	0.7	0.4	0.1	0.2	0.0	0.1	0.2	0.0	1197
Middle	3.1	2.1	2.1	14.7	0.9	6.8	3.0	238.4	.0	0.1	1.1	0.9	0.1	0.3	0.3	0.1	0.9	0.0	1207
Fourth	4.0	2.2	2.5	20.6	5.4	12.8	3.7	3511.7	.0	.7	1.9	1.2	0.3	1.3	0.1	0.4	0.6	0.0	1291
Richest	4.9	2.2	2.0	24.8	3.6	15.3	3.6	1485.9	24.9	.3	3.0	1.5	0.6	2.0	3.4	1.1	0.6	0.0	1389
Language group of household head																			
Lao-Tai	4.0	2.0	2.1	20.9	3.8	12.5	3.4	2169.8	17.5	.4	2.2	1.3	0.4	1.3	2.0	0.6	0.5	0.0	2323
Mon-Khmer	2.6	1.7	1.3	12.7	0.7	7.4	2.5	294.4	1.2	0.1	1.0	0.6	0.2	0.6	0.1	0.4	0.5	0.0	3391
Hmong-Mien	2.8	0.2	0.9	14.4	1.7	4.4	2.7	0.0	0.0	0.3	1.1	0.2	0.0	0.5	0.0	0.0	0.0	0.0	74
Chinese-Tibetan	1.8	1.1	1.2	13.8	1.6	6.4	3.5	565.0	.0	0.5	0.5	0.4	0.0	0.9	2.1	0.5	0.2	0.0	591
Area																			
Non-MYCNSIA	2.7	1.4	1.8	17.6	2.1	10.8	3.0	986.6	10.4	0.3	1.3	0.8	0.3	0.9	0.8	0.5	0.4	0.0	4066
MYCNSIA	3.4	2.1	1.1	12.9	1.4	7.5	2.7	1090.1	0.6	0.1	1.5	0.8	0.1	0.7	1.0	0.5	0.7	0.0	2321
Non-NPAN	3.1	1.8	1.3	15.3	1.7	8.8	2.9	1159.1	7.4	0.2	1.6	0.8	0.2	0.8	0.9	0.4	0.5	0.0	4881
NPAN	2.6	1.4	2.2	18.1	2.2	12.7	3.0	427.7	1.5	0.6	0.8	0.5	0.2	1.2	1.1	0.8	0.3	0.0	1506

Household income from sale of livestock

Table AG.05 shows percentage of households who reported selling their livestock within the past 12 months and average number of livestock sold disaggregated by the type of livestock. Table AG.06 shows the mean incomes from sale of animals in the past 12 months.

All types of livestock sales were reported, ranging from 20% to 30% of households reporting to be engaged in livestock sales. Attapeu records slightly higher percentages of household animal sales in the past twelve months compared to the other provinces.

Urban households and wealthier households are more likely to sell livestock for income and also report higher incomes from livestock sales, compared to rural households and poorer households respectively. Incomes from livestock sales are highest for cows and buffaloes, followed by sales of fish. The mean income of households who sold cows ranges from the lowest of 4.9 million LAK in Saravan to 8.6 million LAK (highest mean) in Attapeu. For households selling buffalo, the average income ranges from 8.6 million LAK in Attapeu to 11.6 million in Luang Namtha.

The means do not vary considerably when disaggregated by type of intervention area. The only exception is one finding that non-NPAN areas have a mean of nearly twice as much for commercial chicken (874,000 LAK) compared to other intervention areas.

Table AG06. Average income from sale of livestock

Table AG05. Sale of livestock

Percentage of households who reported selling livestock and mean income from sale of livestock in the past 12 months (LAK)

	Percentage of households reporting sales of livestock in the past 12 months										Mean income from sale of livestock in the past 12 months (LAK) per households reporting sale of livestock									
	Cows	Buffaloes	Goats	Local chicken	Commercial chicken	Ducks	Pigs	Fish (not including wild caught)	Frog	Other	Cows	Buffaloes	Goats	Pigs	Local chicken	Commercial chicken	Ducks	Frog	Fish (not including wild caught)	Other
Province																				
Luang Namtha	27.9	23.0	33.3	17.8	11.8	18.4	24.8	28.1	20.0	14.4	7,342,951	11,692,683	2,818,601	617,515	775,000	138,021	1,698,594	2,575,000	210,000	489,000
Oudomxay	26.6	25.0	32.5	26.7	35.3	23.7	25.2	22.0	28.6	3.7	1.9	2.2	2.3	13.1	34.5	10.4	2.7	29.0	75.0	1.5
Saravane	23.7	14.3	22.3	20.5	.0	11.3	19.7	4.3	0.0	0.0	1.9	1.8	3.4	12.7	0.0	8.5	4.5	32.7		2.0
Sekong	19.4	12.1	19.4	14.3	16.7	11.0	13.5	10.2	0.0	11.2	2.0	1.6	4.3	10.5	1.5	9.1	2.8	27.5		
Attapeu	33.3	25.9	20.0	26.4	27.3	24.9	23.9	8.7	0.0	16.7	4.2	2.3	2.3	14.8	119.2	14.4	3.8	80.0		3.0
Type of Area																				
Urban	31.0	25.3	34.1	25.3	28.0	21.8	29.3	16.5	25.3	3.5	3.6	2.4	4.3	20.8	37.2	14.9	4.7	40.8	49.5	5.7
Rural with road	24.4	18.9	27.6	21.4	19.4	16.6	21.7	9.5	0.0	5.7	2.0	2.0	2.8	12.1	70.2	10.4	3.4	34.2		1.9
Rural without road	25.1	16.0	22.4	21.0	19.3	15.7	18.9	12.5	0.0	10.0	2.0	1.9	3.0	9.6	3.8	9.2	2.9	5.0		1.0
Wealth Index Quintile																				
Poorest	16.9	9.4	8.6	14.8	9.6	5.5	11.6	19.2	0.0	3.8	1.5	1.3	1.9	6.5	2.0	10.3	2.7	5.0		2.5
Second	20.1	16.6	33.1	16.9	12.9	11.2	18.8	26.8	0.0	0.0	1.4	1.7	2.0	7.9	5.0	9.7	2.3	35.0		
Middle	21.4	18.0	37.4	18.9	17.4	13.9	20.7	5.0	0.0	12.1	1.7	1.7	3.0	10.5	14.0	6.5	2.8	12.6		1.5
Fourth	29.7	27.6	29.3	26.5	32.1	19.6	27.6	5.8	0.0	10.7	2.2	2.4	4.2	13.9	41.1	10.6	3.7	40.7		6.5
Richest	33.5	23.9	30.3	28.4	22.4	21.8	33.9	12.7	20.4	2.2	3.2	2.4	3.4	19.4	78.1	13.9	5.0	39.9	49.5	
Language group of household head																				
Lao-Tai	28.0	21.5	27.0	28.1	27.1	19.1	29.6	10.0	25.7	5.4	2.4	2.5	3.5	15.5	61.9	12.7	4.3	35.5	49.5	12.0
Mon-Khmer	22.9	18.0	24.9	18.4	27.9	15.8	17.8	11.1	0.0	5.2	1.9	1.7	2.5	11.0	35.1	9.5	3.0	29.9		1.8
Hmong-Mien	28.6	0.0	27.3	18.0	0.0	10.0	24.1	0.0	0.0	0.0	5.8		8.0	13.1		5.0	1.7			
Chinese-Tibetan	21.7	16.9	44.2	13.6	0.0	17.2	24.6	76.9	0.0	11.1	1.9	2.1	3.3	12.6		12.4	2.9			1.0
Area																				
Non-MYCNSIA	26.9	21.0	28.9	22.2	25.2	17.8	23.8	12.8	22.2	5.4	1.9	2.0	2.6	13.7	30.8	10.9	3.3	28.6	49.5	3.4
MYCNSIA	22.3	17.1	23.1	21.3	18.0	17.1	19.0	8.6	0.0	8.0	2.7	2.1	4.2	12.6	98.3	12.4	3.8	47.5		2.5
Non-NPAN	25.9	18.4	31.2	23.9	16.5	18.1	23.1	8.0	18.7	9.1	2.3	2.2	3.2	13.8	60.8	11.0	3.6	37.8	58.6	3.2
NPAN	22.4	21.9	21.0	16.1	52.6	15.6	18.8	28.4	27.3	0.0	1.7	1.5	2.5	11.4	35.5	12.9	3.0	25.9	10.0	

	Number of households		Number of households
	Frog	Other	
Province			
Luang Namtha	7.0	6.5	1059
Oudomxay	75.0	1.5	1803
Saravane		2.0	2067
Sekong			579
Attapeu		3.0	880
Type of Area			
Urban	49.5	5.7	1058
Rural with road		1.9	4739
Rural without road		1.0	591
Wealth Index Quintile			
Poorest		2.5	1304
Second			1197
Middle		1.5	1207
Fourth		6.5	1291
Richest	49.5		1389
Language group of household head			
Lao-Tai	49.5	12.0	2323
Mon-Khmer		1.8	3391
Hmong-Mien			74
Chinese-Tibetan		1.0	591
Area			
Non-MYCNSIA	49.5	3.4	4066
MYCNSIA		2.5	2321
Non-NPAN	58.6	3.2	4881
NPAN	10.0		1506

Oudomxay	6,550,204	10,475,862	1,742,407	526,606	908,000	503,699	1,721,957	4,350,000	1,625,000	200,000	1803
Saravane	4,955,239	8,869,143	1,983,089	418,500		380,378	1,232,687	3,698,369			2067
Sekong	6,062,520	9,597,044	1,515,385	364,988	45,000	480,402	1,474,804	3,466,667			579
Attapeu	8,670,625	8,678,378	1,950,000	531,612	435,000	678,902	1,569,188	2,000,000		510,000	880
Type of Area											
Urban	7,223,776	11,658,925	2,722,149	823,589	1,061,112	718,979	2,730,409	5,058,139	1,094,619	700,000	1058
Rural with road	5,757,733	9,694,500	1,817,499	439,896	559,419	507,468	1,384,071	3,275,990		368,625	4739
Rural without road	6,830,328	7,130,224	2,009,001	365,578	137,187	369,503	1,433,842	150,000		200,000	591
Wealth Index Quintile											
Poorest	4,443,114	7,250,813	1,198,749	278,187	40,000	514,226	1,096,670	150,000		510,000	1304
Second	4,951,608	8,733,063	1,417,631	326,268	200,000	332,024	974,184	3,083,333			1197
Middle	5,002,261	7,589,949	2,133,182	404,006	681,632	375,209	1,428,557	481,916		200,000	1207
Fourth	6,261,937	11,247,165	1,903,405	493,812	947,078	487,239	1,577,801	6,412,292		485,000	1291
Richest	7,589,873	11,149,966	2,727,529	709,348	722,602	682,712	2,192,505	4,052,498	1,094,619		1389
Language group of household head											
Lao-Tai	5,677,128	10,047,631	2,011,708	568,108	994,268	597,266	1,783,167	2,796,589	1,094,619	700,000	2323
Mon-Khmer	6,129,025	9,358,499	1,632,662	388,726	327,381	446,674	1,321,621	3,394,811		291,422	3391
Hmong-Mien	15,125,000		8,000,000	657,418		400,000	584,217				74
Chinese-Tibetan	5,888,255	9,395,839	2,466,792	635,762		820,644	1,695,338	9,750,000		270,000	591
Area											
Non-MYCNSIA	5,774,169	10,211,170	1,975,462	517,086	882,273	529,186	1,597,957	3,472,710	1,094,619	355,402	4066
MYCNSIA	6,423,617	8,877,871	1,794,926	451,129	339,751	578,145	1,393,143	4,569,051		510,000	2321
Non-NPAN	6,063,755	9,590,591	2,103,650	498,005	874,116	532,361	1,496,800	3,755,517	1,277,889	380,107	4881
NPAN	5,753,828	9,549,185	1,510,583	488,025	496,667	605,629	1,668,427	3,712,246	300,000		1506

Animals born in the household or received as a gift or through project assistance

Table AG.07 shows the mean value of animals born or received as gift for all households that reported raising animals in the past 12 months. The mean value is disaggregated by type of animal.

In terms of cows, the highest percentage for cows born or received as a gift or through project assistant is reported among households in Attapeu province (1.8 cows per household). Other provinces reported less than 1 animal and the lowest reported in Saravan province. Urban households and wealthier households are more likely to receive born cow and assistance than the poor. There is no significant difference among MYCNSIA and NPAN.

Table AG.07 also shows mean value of 0.5 buffaloes born and received as gift in three of the surveyed provinces. Saravan and Oudomxay households reported lowest mean for buffaloes (0.3 per household). Households from the wealthier quintiles reported higher number of buffaloes born compared to poor households.

Households in each province reported at least one goat born and/or received as a gift but Attapeu province reported a slightly higher mean (2.4 goats) per household. Households in urban areas and in the wealthiest quintiles reported highest percentages of having received goat. Non-NPAN reported slightly higher than others.

Very small percentages of households reported to receiving young animals as part of project assistance in all surveyed provinces. The most commonly reported type of young animal received through such assistance was fish and frogs. Households from urban areas as well as from the three wealthiest quintiles reported to receiving most of young fish and frogs compared to households from rural areas and poorer quintiles.

Table AG.7 Number of animals born in household or received as part of project assistance

Number of animals were born or received as gift during the past 12 months

	Number of animals that were born or received as gifts during the past 12 months (Mean)*										Number of young animals received as part of project assistance (Mean)*									
	Cow	Buffalo	Goats	Local chicken	Commercial chicken	Ducks	Pigs	Fish (not including wild caught)	Frog	Other	Cow	Buffalo	Goats	Local chicken	Commercial chicken	Ducks	Pigs	Fish (not including wild caught)	Frog	Other
Province																				
Luang Namtha	.8	.5	1.5	15.0	5.6	7.8	1.6	824.1	.0	.6	.0	.0	.0	.1	.9	.1	.0	.0	.0	.0
Oudomxay	.4	.3	1.1	6.8	1.0	3.2	.9	209.8	90.0	1.2	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0
Saravane	.7	.3	1.1	7.4	1.6	3.8	.8	4383.7	.0	.3	.0	.0	.0	.0	1.4	.0	.0	11.0	11.0	.0
Sekong	.7	.5	.9	61.8	.9	2.4	1.0	29721.5		.0	.0	.0	.1	.1	.0	.0	.0	7.5	7.5	.0
Attapeu	1.8	.5	2.4	10.7	.8	7.0	1.4	63.6	.0	.0	.0	.0	.7	.1	1.2	.1	.0	.0	.0	.0
Type of Area																				
Urban	1.3	.4	3.2	11.4	1.1	6.7	1.7	8602.3	46.4	.6	.0	.0	.3	.1	.5	.5	.0	20.2	20.2	.0
Rural with road	.7	.4	1.1	14.0	2.7	4.2	1.0	4885.8	.0	.9	.0	.0	.0	.0	.8	.0	.0	2.4	2.4	.0
Rural without road	.8	.5	.7	9.9	1.9	3.7	.9	53.4	.0	.8	.2	.0	.0	.0	.0	.0	.0	.1	.1	.0
Wealth Index Quintile																				
Poorest	.3	.2	.3	4.5	.9	2.5	.6	37.0		.0	.0	.0	.0	.1	.6	.0	.0	.1	.1	.0
Second	.4	.3	.7	5.6	2.3	2.1	.9	23093.2		1.1	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0
Middle	.5	.4	1.3	8.2	2.3	3.4	.9	11957.7		.9	.1	.0	.0	.0	1.2	.0	.0	5.8	5.8	.0
Fourth	.8	.4	1.1	28.5	1.9	4.7	1.2	2314.8		1.5	.0	.0	.0	.0	.7	.0	.0	21.6	21.6	.0
Richest	1.4	.6	3.0	13.9	2.2	6.5	1.6	3399.9	33.6	.5	.0	.0	.1	.0	.5	.3	.0	1.7	1.7	.0
Language group of household head																				
Lao-Tai	.8	.4	2.1	22.5	2.1	5.9	1.0	3589.4	38.9	.8	.0	.0	.1	.0	.5	.0	.0	8.6	8.6	.0
Mon-Khmer	.7	.4	.8	6.5	1.9	3.2	.9	10013.2	.0	.4	.0	.0	.0	.1	1.1	.2	.0	2.5	2.5	.0
Hmong-Mien	1.5	1.0	1.6	6.5	10.0	5.2	2.1			.0	.0	.0	.0	.0	.0	.0	.0			.0
Chinese-Tibetan	.5	.3	.4	9.6	1.8	4.4	1.6	277.8		2.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Area																				
Non-MYCNSIA	.6	.4	1.2	9.3	2.6	4.3	1.0	248.1	36.4	.9	.0	.0	.0	.0	.3	.1	.0	.0	.0	.0
MYCNSIA	.9	.4	1.2	21.2	1.2	5.3	1.0	15549.2	.0	.4	.0	.0	.1	.1	1.2	.1	.0	18.7	18.7	.0
Non-NPAN	.8	.4	1.4	14.5	2.1	4.7	1.1	6534.6	38.9	.6	.0	.0	.0	.1	.8	.1	.0	7.7	7.7	.0
NPAN	.5	.4	.9	9.5	2.0	4.5	.9	626.0	.0	1.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0

*The mean value is calculated for households who reported raising animals within each type

Production and sale of animal products

Table AG.08 reports the percentage of households who produced animal-based products from the animals that they raised. The table also reports the distribution based on the type of animal product and the mean of the product in kilograms. Eggs were the most commonly reported products, followed by dry meat. Among the surveyed provinces, Sekong reported the highest percentage of households who produced such animal products at nearly 31%. The lowest percentage of households was recorded in Luang Namtha, at 3.5%. Rural households are more likely to be engaged in the production of animal products compared to urban households. Wealthier households are also more likely to be engaged compared to poorer households, however, this difference is slight. MYCNSIA areas reported the highest percentage (14.8%) of households producing products from livestock, compared to NPAN areas (3.1%).

Table AG.09 shows the mean quantity of animal products sold in the past 12 months. Comparing tables AG.08 and AG.09, we see that not all households reported to selling animal products. Dry meat was more likely to be sold than eggs, even though eggs were the most commonly produced agricultural products. Households who reported selling dry meat, have the highest mean for Luang Namtha (90 kg) with the lowest reported for Saravane (40 kg).

Table AG.08 Animal Products

Percentage of households who produced animal products and the mean

	% of households who produced products from animals they raised	% of household produced products from animals they raised by type of products										Quantity of products (Mean)**									
		Meat, dry meat	Sausage	Lard	Egg	Tanned skins	Pig skins	Down	Honey	Fish product	Other	Meat, dry meat (kg)	Sausage (kg)	Lard (kg)	Egg (unit)	Tanned skins (kg)	Pig skins (kg)	Down(kg)	Honey(l)	Fish product (kg)	Other (kg)
Province																					
Luang Namtha	3.5	34.9	15.9	25.4	84.1	0.0	0.0	0.0	0.0	3.2	0.0	29.6	17.0	34.4	37.6					100.0	
Oudomxay	4.1	2.9	0.0	0.0	79.4	.0	.0	0.0	.0	17.6	0.0	2.0			16.5					45.0	
Saravane	4.6	17.9	0.0	0.0	79.1	.8	0.0	0.0	0.0	5.8	0.0	21.9			47.8	18.0				27.4	
Sekong	31.4	80.4	0.6	8.7	29.3	2.6	6.5	0.0	0.3	4.5	5.3	23.6	11.0	10.7	31.4	24.3	12.0		10.0	40.6	7.3
Attapeu	10.0	35.8	0.0	1.1	90.9	.0	1.1	0.0	0.0	4.2	0.0	30.1		15.0	36.9		6.0			51.3	
Type of Area																					
Urban	7.7	40.5	0.0	1.2	70.2	0.0	3.6	0.0	.0	11.4	4.8	26.0		15.0	43.8		7.3			55.1	9.6
Rural with road	6.6	48.5	2.1	7.0	58.6	.8	2.7	0.0	0.2	5.1	1.9	23.5	15.8	21.4	38.7	20.9	13.3		10.0	45.9	6.3
Rural without road	11.9	23.1	0.8	3.2	78.7	4.0	0.8	0.0	0.0	8.9	0.0	30.2	20.0	7.0	16.1	25.4	3.0			17.5	
Wealth Index Quintile																					
Poorest	6.7	41.1	3.9	8.3	64.2	2.9	4.4	0.0	0.7	3.8	1.5	19.0	20.0	15.8	21.1	16.3	6.8		10.0	21.4	3.0
Second	7.2	54.0	5.1	10.6	60.3	2.3	2.7	0.0	0.0	2.3	2.0	20.3	13.3	26.2	26.0	26.0	15.5			44.1	6.3
Middle	7.0	46.3	0.0	5.7	55.1	0.6	1.9	0.0	0.0	11.6	1.9	26.9		5.6	35.6	30.0	24.0			32.5	16.7
Fourth	7.7	35.8	0.0	2.6	69.3	.5	3.6	0.0	.0	2.9	4.3	24.4		5.6	42.1	35.0	9.3			46.1	5.3
Richest	7.8	42.3	0.0	2.5	66.1	0.0	.8	0.0	.0	11.6	0.0	30.9		51.8	45.9		6.0			61.4	
Language group of household head																					
Lao-Tai	7.2	29.5	0.0	1.0	71.3	.5	0.3	0.0	0.0	9.5	0.7	22.8		69.5	43.3	18.0	12.0			44.9	6.0
Mon-Khmer	7.9	55.3	0.4	5.9	55.2	1.7	4.4	0.0	0.2	4.6	3.0	25.4	11.0	11.3	28.5	24.3	11.5		10.0	40.6	7.5
Hmong-Mien	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0										
Chinese-Tibetan	5.1	20.9	20.9	29.3	88.8	0.0	0.0	0.0	0.0	7.0	0.0	15.2	17.0	25.0	36.2						
Area																					
Non-MYCNSIA	3.2	22.9	4.7	7.5	73.4	.0	0.0	0.0	0.0	10.3	0.0	26.4	17.0	34.4	29.8					54.2	
MYCNSIA	14.8	51.7	0.3	4.8	59.5	1.6	3.6	0.0	0.2	5.1	2.8	24.0	11.0	11.0	37.9	23.3	11.6		10.0	38.2	7.3
Non-NPAN	8.7	48.3	1.8	6.2	61.4	1.3	2.9	0.0	0.1	5.4	2.2	24.4	16.1	19.9	37.6	23.3	11.6		10.0	48.4	7.3
NPAN	3.1	2.5	0.0	0.0	80.5	.0	0.0	0.0	0.0	16.9	0.0				20.5					17.5	

**The mean value is calculated only for households who reported productions of animal products from their own livestock.

Table AG.09 Animal products, as sold by households

Mean quantity of animal products sold by households in the past 12 months (KG)

	Quantity of animal products households sold in past 12 months**									
	Meat, dry meat (kg)	Sausage (kg)	Lard (kg)	Egg (unit)	Tanned skins (kg)	Pig skins (kg)	Down (kg)	Honey(Liters)	Fish product (kg)	OTHER
Province										
Luang Namtha	90.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oudomxay	58.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0
Saravane	40.7	0.0	0.0	20.0	0.0	0.0	0.0	0.0	35.0	5.0
Sekong	66.7	0.0	0.0	51.3	0.0	0.0	0.0	0.0	77.5	0.0
Attapeu	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Type of Area										
Urban	44.1	0.0	0.0	40.0	0.0	0.0	0.0	0.0	60.0	0.0
Rural with road	49.8	0.0	0.0	57.0	0.0	0.0	0.0	0.0	58.3	5.0
Rural without road	85.3	0.0	0.0	10.0	0.0	0.0	0.0	0.0	5.0	0.0
Wealth Index Quintile										
Poorest	62.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0
Second	31.6	0.0	0.0	30.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle	45.2	0.0	0.0	72.5	0.0	0.0	0.0	0.0	21.9	5.0
Fourth	44.2	0.0	0.0	20.0	0.0	0.0	0.0	0.0	150.0	0.0
Richest	67.0	0.0	0.0	40.0	0.0	0.0	0.0	0.0	57.1	0.0
Language group of household head										
Lao-Tai	45.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.5	0.0
Mon-Khmer	56.5	0.0	0.0	44.6	0.0	0.0	0.0	0.0	60.8	5.0
Hmong-Mien	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chinese-Tibetan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Area										
Non-MYCNSIA	65.3	0.0	0.0	40.0	0.0	0.0	0.0	0.0	32.5	0.0
MYCNSIA	47.1	0.0	0.0	46.9	0.0	0.0	0.0	0.0	58.3	5.0
Non-NPAN	48.9	0.0	0.0	44.6	0.0	0.0	0.0	0.0	58.9	5.0
NPAN	150.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0

**Mean calculated only for households who reported to have sold animal products, within each type

Use of fertilizers

Use of fertilizer in Laos has increased significantly in the past couple of years, especially use of chemical fertilizer on improved rice varieties and other temporary crops. Table AG.10 shows the distribution of households who reported use of fertilizer for agricultural activities, disaggregated by type of activity and type of fertilizer. Households report highest percentages for chemical fertilizer use for household vegetable gardens, followed by crops and orchards. Households also reported to using organic fertilizers, either in combination with chemical fertilizers or as a standalone use. According to the Agricultural Census 2010-11, use of organic fertilizers has gone up by 7 percentage points since 2001. Table AG.10 shows that use of organic fertilizers range from 3%-25% households in the five surveyed provinces.

Saravane reported the highest percentages of households using any kind of fertilizer on both household vegetable gardens and crops. Rural households are more likely to use chemical fertilizers for both household vegetable gardens and crops, compared to urban households.

Wealthier households also report higher use of chemical fertilizers compared to poorer households for crop production. A similar trend is observed, but with use of organic fertilizers for household vegetable garden use.

Table AG10. Use of fertilizer

Percentage of households, who reported use of fertilizer for agriculture activities

Province	Household vegetable garden plot				Crop Production				Nursery, Tree plantation				Orchard				Plantation grazing area			
	Percentage of households who reported used of fertilizer for agricultural activities, disaggregated by type of activity and type of fertilizer																			
	No use	Organic	Chemical	Both organic and chemical	No use	Organic	Chemical	Both organic and chemical	No use	Organic	Chemical	Both organic and chemical	No use	Organic	Chemical	Both organic and chemical	No use	Organic	Chemical	Both organic and chemical
Province																				
Luang Namtha	71.6	12.2	16.2	0.0	83.6	2.4	13.8	0.3	98.3	0.4	1.3	0.0	88.8	0.0	11.2	0.0	100.0	0.0	0.0	0.0
Oudomxay	68.8	26.6	4.6	0.0	93.5	1.5	4.9	0.1	99.1	0.0	0.9	0.0	97.4	2.6	0.0	0.0	0.0	0.0	0.0	0.0
Saravane	64.4	23.8	11.1	0.8	54.2	1.8	42.2	1.8	95.5	3.5	0.0	1.0	97.8	0.0	2.2	0.0	100.0	0.0	0.0	0.0
Sekong	81.3	12.3	6.5	0.0	95.0	1.7	3.2	0.1	94.3	5.7	0.0	0.0	94.2	4.2	1.6	0.0	100.0	0.0	0.0	0.0
Attapeu	65.7	16.1	8.4	9.8	79.3	9.4	6.4	4.8	93.4	3.3	0.0	3.3	82.8	12.1	1.7	3.4	50.0	0.0	0.0	50.0
Type of Area																		0.0	0.0	
Urban	56.8	31.9	9.5	1.8	74.6	5.7	18.2	1.5	98.6	0.8	0.7	0.0	89.4	7.7	1.4	1.4	100.0	0.0	0.0	0.0
Rural with road	71.9	16.5	9.6	2.0	74.6	2.6	21.4	1.4	97.1	1.3	1.0	0.6	93.4	2.8	3.5	0.3	77.2	0.0	0.0	22.8
Rural without road	85.9	12.2	1.9	0.0	96.2	0.8	3.1	0.0	100.0	0.0	0.0	0.0	95.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0
Wealth Index Quintile																				
Poorest	95.2	2.6	1.4	0.9	91.3	1.7	6.7	0.2	100.0	0.0	0.0	0.0	98.0	2.0	0.0	0.0	100.0	0.0	0.0	0.0
Second	88.5	4.8	6.7	0.0	86.4	2.1	10.9	0.6	98.2	1.8	0.0	0.0	99.1	0.9	0.0	0.0	0.0	0.0	0.0	0.0
Middle	82.3	11.7	5.4	0.6	79.5	1.6	17.9	1.0	97.6	0.7	1.0	0.7	87.5	5.5	6.9	0.0	0.0	0.0	0.0	0.0
Fourth	59.7	21.3	17.1	1.9	66.7	2.8	28.3	2.2	96.5	0.5	2.0	1.0	97.5	1.7	0.8	0.0	0.0	0.0	0.0	0.0
Richest	49.4	37.7	8.9	4.0	53.7	6.1	37.4	2.7	97.9	1.6	0.5	0.0	86.0	7.2	4.8	2.0	84.6	0.0	0.0	15.4
Language group of household head																				
Lao-Tai	52.3	31.8	13.7	2.1	53.0	3.9	40.3	2.7	96.3	1.9	1.4	0.4	85.4	4.7	9.8	0.0	66.4	0.0	0.0	33.6
Mon-Khmer	82.5	11.0	4.6	1.9	88.6	2.3	8.5	0.6	99.0	0.5	0.0	0.6	94.6	4.2	0.3	0.9	100.0	0.0	0.0	0.0
Hmong-Mien	68.7	31.3	0.0	0.0	93.6	2.1	2.1	2.1	89.1	5.5	5.5	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chinese-Tibetan	76.0	8.0	16.0	0.0	85.0	0.8	13.8	0.4	98.7	0.0	1.3	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Area																				
Non-MYCNSIA	66.8	23.8	9.4	0.0	77.9	1.3	19.9	0.9	98.1	0.8	1.1	0.0	94.1	1.5	4.4	0.0	100.0	0.0	0.0	0.0
MYCNSIA	73.7	13.3	8.6	4.4	74.9	5.4	17.7	2.0	96.1	2.1	0.0	1.9	91.7	5.6	1.8	0.9	78.2	0.0	0.0	21.8
Non-NPAN	66.1	20.1	11.4	2.4	70.2	3.4	24.7	1.7	97.1	1.3	1.1	0.5	92.2	4.1	3.1	0.6	80.2	0.0	0.0	19.8
NPAN	82.6	16.6	0.8	0.0	96.8	0.6	2.6	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0

Use of pesticides

Pesticide use has been increasing in Lao PDR over recent years. Table AG11 shows percentage of households who reported use of pesticide with their agricultural activities, disaggregated by type of activity.

Pesticide use is slightly less frequently reported than use of fertilizers, with most households reporting use of pesticides for household vegetable gardens, followed by crop production. A small percentage also reported using pesticides on orchards. Among the five surveyed provinces, Luang Namtha reported the highest percentage of 11.4% while Saravane reported that 0% of households were using pesticides for household vegetable or garden plot. No significant difference on use of pesticide was found between urban and rural households. Wealthier quintiles also reported higher use of pesticides compared to poorer households.

Table AG11. Use of Pesticides

Percentage of households, who reported use of pesticides for agriculture activities

	% of households who reported use of pesticides on their agriculture activities					
	Household vegetable or garden plot	Crop Production	Nursery, Tree plantation	Orchard	Plantation grazing area	Number of households
Province						
Luangnamtha	11.4	8.0	0.9	2.2	0.0	1059
Oudomxay	1.8	1.9	0.9	0.0	0.0	1803
Saravane	0.0	2.0	0.0	2.2	0.0	2067
Sekong	4.5	1.0	0.0	0.0	0.0	579
Attapeu	7.7	3.2	0.0	5.2	0.0	880
Type of Area						
Urban	5.9	4.7	0.0	4.3	0.0	1058
Rural with road	4.8	2.9	1.0	0.8	0.0	4739
Rural without road	4.6	1.3	0.0	0.0	0.0	591
Wealth Index Quintile					0.0	
Poorest	0.0	1.3	0.0	0.0	0.0	1304
Second	0.0	1.0	0.0	0.0	0.0	1197
Middle	2.3	3.0	0.0	1.7	0.0	1207
Fourth	8.4	3.8	2.0	0.0	0.0	1291
Richest	8.4	6.6	0.5	4.1	0.0	1389
Language group of household head					0.0	
Lao-Tai	6.5	3.9	0.9	4.1	0.0	2323
Mon-Khmer	2.0	1.0	0.4	0.4	0.0	3391
Hmong-Mien	37.5	8.6	5.5	0.0	0.0	74
Chinese-Tibetan	13.6	11.2	0.0	0.0	0.0	591
Area					0.0	
Non-MYCNSIA	5.3	3.1	0.9	0.9	0.0	4066
MYCNSIA	4.6	2.6	0.0	1.8	0.0	2321
Non-NPAN	5.7	3.9	0.6	1.5	0.0	4881
NPAN	2.4	0.2	0.9	0.0	0.0	1506

Use of Irrigation, management of gardens by female household members, and received assistance on seed, fertilizer and pesticides

Table AG.12 shows that up to 15.4% of households in these five surveyed provinces used irrigation. Most irrigation use is for crop production and household vegetable/garden plots while use of irrigation for other for other activities like nursery and tree plantation and orchard is much lower. In terms of use of irrigation on crop production, Luang Namtha province reports the highest percentage at 15.4% while lowest is in Attapeu 2.8%. For this same type of irrigation use, MYCNSIA and NPAN reported the lowest percentage use at 6.3% and 6.2% respectively compared to nearly 10% for the other intervention areas.

For the household vegetable garden or garden plot, 8.3% of total households in Oudomxay reported use of irrigation compared to only 2.3% in Saravan province. Urban area is more likely to use irrigation more than rural area for all agriculture activities except orchard. Poorer household groups also have lower percentages of use of irrigation for all types of agricultural activities, compared to wealthier groups.

Most of all households in the survey reported that gardens are managed by female members of the family, the highest percent reported being 80.5% in Attapeu while lowest being in Saravan province at 65.5%. Urban areas reported higher percentages of female management of home gardens compared to rural areas. Non-NPAN is reported highest percent of household garden managed by female which is 76.2% and lowest is report for NPAN (57.6%).

In terms of assistance in the form of seed, fertilizer, and pesticides, the percentage of households receiving such assistance ranged from 0.8% to 5.6% in Luang Namtha and Sekong respectively. Poor households are more likely to receive assistance compared to wealthier households. MYCNSIA is reported highest in percent to receive assistance at 3.6%.

Table AG.12 Use of Irrigation and received assistance on seed, fertilizer and pesticides

Percentage of households who reported using irrigation, gender, receiving assistance on fertilizer, pesticide in past 12 months

	% of household who reported using irrigation in past 12 months							
	Household vegetable or garden plot	Crop Production	Nursery, Tree plantation	Orchard	Plantation grazing area	% of households who gardens managed by female	% of household who received fertilizer, seed and pesticides as assistance	Number of households
Province								
Luang Namtha	4.9	15.4	1.3	13.4	.0	66.4	0.8	1059
Oudomxay	8.3	13.7	.0	.0	.0	75.2	1.4	1803
Saravane	2.3	4.4	1.0	2.2	.0	65.5	1.5	2067
Sekong	5.8	10.0	.0	.5	.0	67.5	5.6	579
Attapeu	4.2	2.8	.0	1.7	.0	80.5	3.1	880
Type of Area								
Urban	8.1	23.7	1.3	.0	.0	74.9	0.6	1058
Rural with road	4.9	8.0	.5	3.4	.0	73.9	2.2	4739
Rural without road	5.4	4.2	.0	7.2	.0	49.0	1.1	591
Wealth Index Quintile								
Poorest	.6	2.8	.0	.0	.0	51.7	2.6	1304
Second	2.1	3.2	.0	.0	.0	67.0	2.2	1197
Middle	4.7	8.0	.0	7.7	.0	72.4	1.7	1207
Fourth	7.2	12.9	.5	1.3	.0	81.7	1.9	1291
Richest	8.6	22.7	1.5	3.9	.0	76.4	1.1	1389
Language group of household head								
Lao-Tai	9.5	14.3	1.1	7.7	.0	81.4	1.1	2323
Mon-Khmer	2.4	6.7	.3	1.4	.0	65.1	2.6	3391
Hmong-Mien	.0	15.7	.0	.0	.0	68.7	6.0	74
Chinese-Tibetan	6.4	5.5	1.3	.0	.0	70.8	0.2	591
Area								
Non-MYCNSIA	6.4	10.6	.7	5.3	.0	72.1	1.1	4066
MYCNSIA	4.3	6.3	.6	1.2	.0	71.9	3.6	2321
Non-NPAN	6.7	10.2	.9	2.8	.0	76.2	2.0	4881
NPAN	1.6	6.1	.0	5.6	.0	57.6	1.6	1506

Crop production

Table AG.13 shows data on crop production by type of crops. As households typically grow more than one crop, multiple answers to this question are possible. As such the total percentages exceed 100%.

More than 90% of households reported to growing crops in the past 12 months, with rural area households reporting higher percentages than urban area. The most commonly grown crop is rice. Luang Namtha, Attapeu and Sekong reported the highest percentages of household growing rice crop while households in Saravan and Oudomxay reported percentages of less than 90%. Poor households are more likely to grow rice compared to wealthier households. NPAN reported lowest percent in rice growing (74.7%) while other areas reported more than 90.0%.

Maize is the second most commonly reported crop, with Oudomxay reporting highest percentage of households to grow at 67.1% compared to lowest percentage reported in Saravan at 13.4%. Rural and poor households are more likely to grow maize compared to households from urban areas and wealthier income groups. Non-MYCNSIA and NPAN reported 38.7% and 39% respectively while other areas reported lower than 30%.

Households in Oudomxay and Attapeu province reported highest percentages (24.6% and 24.1% respectively) growing vegetable from 'other' category. While there is a slight difference between urban and rural households on this category, wealthier households are more likely to grow 'other' vegetable compared to poorer households.

Table AG.14 Crop production

Percentage of household who reported growing crops in the past 12 months

		% of household who reported growing crop in past 12 months, by type of crop (multiple answers)													
	% of household grown crops in past 12 months	Rice	Maize	Chili	Tuber (such as cassava, potato, yam, etc.)	Bean seed or nut (such as mung bean, ground nut, sesame, etc.)	Other Vegetable	Mango	Banana	Coconut	other fruit	Other food crop	Other non-food crop	Other	Number of households
Province															
Luangnamtha	93.5	92.9	16.2	6.4	4.2	4.7	15.9	0.4	0.3	0.0	0.7	0.9	1.9	13.9	1059
Oudomxay	96.7	86.7	67.1	21.7	4.1	7.2	24.6	3.5	2.8	0.5	5.8	10.6	3.3	3.3	1803
Saravane	97.6	84.5	13.4	10.0	29.5	8.7	22.1	1.2	5.2	1.0	2.7	2.6	0.3	6.5	2067
Sekong	95.5	91.6	24.1	21.2	15.9	6.9	18.9	1.0	6.4	0.8	12.8	10.8	0.7	8.5	579
Attapeu	93.3	94.8	20.1	20.3	11.5	13.0	24.1	3.4	12.1	1.9	3.9	8.4	0.6	3.7	880
Type of Area															
Urban	83.5	77.1	25.8	8.2	5.1	4.0	20.2	4.1	5.2	0.4	5.1	3.9	1.6	5.9	1058
Rural with road	97.6	89.8	31.1	15.7	16.2	8.1	22.6	1.8	4.7	0.9	4.5	6.0	1.5	5.7	4739
Rural without road	97.9	87.8	42.2	18.0	12.0	10.7	17.7	1.6	3.4	0.8	2.2	9.2	1.4	13.6	591
Wealth Index Quintile															
Poorest	98.1	91.0	36.7	17.5	13.0	6.0	17.4	0.7	2.9	0.3	2.8	6.1	0.4	6.5	1304
Second	97.8	88.8	35.1	18.7	15.9	9.4	20.7	1.4	4.3	0.6	3.9	4.4	1.2	6.9	1197
Middle	98.5	87.2	33.8	16.8	17.6	10.9	21.0	1.7	4.3	0.5	4.4	7.8	1.6	10.0	1207
Fourth	95.4	88.1	28.6	11.7	16.1	6.9	23.6	2.8	4.9	1.1	4.6	6.7	2.4	4.5	1291
Richest	89.0	85.4	21.6	9.8	9.6	6.4	28.5	4.2	7.7	1.8	6.7	5.4	2.3	4.2	1389
Language group of household head															
Lao-Tai	93.5	86.7	16.2	8.3	22.0	5.3	27.1	2.1	4.5	0.9	4.2	4.6	1.9	5.3	2323
Mon-Khmer	97.5	88.9	40.9	21.4	12.2	10.2	21.9	2.3	5.5	0.9	5.0	7.9	1.3	7.0	3391
Hmong-Mien	94.0	80.3	47.2	10.6	6.3	0.0	16.2	3.5	0.0	0.0	2.1	0.0	2.1	10.6	74
Chinese-Tibetan	95.7	90.6	26.9	1.3	5.0	4.5	4.2	0.3	0.3	0.0	0.9	0.8	1.8	7.2	591
Area															
Non-MYCNSIA	96.7	84.7	38.7	13.7	16.4	7.1	23.3	2.0	3.1	0.6	3.4	5.5	2.0	7.9	4066
MYCNSIA	94.6	95.2	18.2	18.2	11.3	9.6	19.0	2.1	7.7	1.2	6.1	7.3	0.5	3.8	2321
Non-NPAN	95.2	92.9	29.2	15.5	13.3	8.0	24.0	2.1	5.2	0.8	4.6	6.1	1.8	3.7	4881
NPAN	98.5	74.7	39.1	14.3	18.7	7.8	15.6	1.7	3.1	1.0	3.5	6.2	0.7	14.9	1506

Appendix A. Sample Design

The major features of the sample design are described in this appendix. Sample design features include target sample size, sample allocation, sampling frame and listing, choice of domains, sampling stages, stratification, and the calculation of sample weights.

The primary objective of the sample design for the FNSS was to produce statistically reliable estimates of most indicators, at the province level, and for MYCNSIA and NPAN areas. Urban, rural areas with roads and rural areas without roads in each of the five provinces were defined as the sampling strata.

A multi-stage, stratified cluster sampling approach was used for the selection of the survey sample.

Sample Size and Sample Allocation

The minimum sample size for the FNSS was calculated as 6,100 households. For the calculation of the sample size, the key indicator used was underweight, stunting and anemia. The following formula was used to estimate the required sample size for this indicator:

$$Power = \varphi\lfloor\Delta\rfloor \Big/ \sqrt{C(p_1 q_1/M_1 + p_2 q_2/M_2)} - z_{1-\alpha}\frac{\sqrt{\bar{p}\bar{q}(1/M_1 + 1/M_2)}}{\sqrt{p_1 q_1/M_1 + p_2 q_2/M_2}}$$

Where,

- C=design effect (estimate for combining two surveys based on intraclass correlation)
- p_1= 1st survey proportion ($q_1 = 1 - p_1$)
- p_2= 2nd survey proportion ($q_2 = 1 - p_2$)
- M_1= 1st survey sample size
- M_2= 2nd survey sample size
- $z_{1-\alpha}$= error (set at .05 acceptable error)

The first step of sample size calculation was to make sure that it is possible to assess MDG 1 target trends for an individual province. For each province, the minimum sample size is based on standards from the LSIS 2011/2 for the minimum number of enumeration areas or clusters (50) and the number of households per enumeration area (20). These minimum standards used in the FNSS give a sample of 1000 households per province. With an estimate of 725 children 0-5 years of age, and a decrease of six percentage points based on the MDG target, trends will be statistically detected ~75% of the time (table below).

Power to detect change in MDG 1 Target of Underweight Prevalence

MDG 1 Targets	LSIS 2011/2	Baseline Sample Size (clusters)	Estimate after 3 years	Endline Sample Size (clusters)	Endline Households	Power
underweight 0-5 years	27%	725 (50)	21%	725 (50)	1000	.74

Sample size determinations were also based on the power to detect the stated impact objectives of each project included as a primary objective of the survey:

- MYCNSIA: 5 percentage point decrease in child u-3 stunting, and 15% reduction in anemia or children 6-24 months and pregnant or lactating women
- NPAN: Achievement of MDG 1 stunting target (stunting decrease from 44% to 34%)

The NPAN target of a 10 percentage point decrease in stunting is a large change, which means that the minimum standard of 1000 households per province was more than sufficient when applied to each of the groups of districts, achieving a power of .96 for baseline/endline or intervention/non-intervention comparison (table below).

Power to detect NPAN child stunting objective

	Baseline Estimate	Baseline Sample Size	Endline Target	Endline Sample Size	Endline Households	Power
Stunting 0-5 years	44%	725 (50)	34%	725 (50)	1000	.96

For MYCNSIA the objective that required the largest sample size was child stunting. For this indicator it was not sufficient to use the same number of clusters as the MYCNSIA baseline survey (161). In order to achieve a minimum of .75 power 180 clusters are needed. This sample size provided sufficient power to detect all of the MYCNSIA objectives (Power to detect MYCNSIA objecti.

Power to detect MYCNSIA objective

	Baseline Estimate	Baseline Sample Size (clusters)	Endline Target	Endline Sample Size (clusters)	Endline Households	Power
stunting 0-3 years	**46%**	**1369 (161)**	**41%**	**1530 (180)**	**3,600**	**.75**
anaemia children aged 6-23 months	55%	778 (161)	47%	870 (180)	3,600	.87
anaemia pregnant/lactating women	33%	1395 (161)	28%	1,560 (180)	3,600	.81

For provinces not included in MYCNSIA (Oudomxay and Luangnamtha) the minimum standard of 50 clusters was sufficient for MDG 1 target reporting and to set a baseline for the NPAN objective. For Attapeu and Sekong Provinces and for MYCNSIA districts of Saravane, 50 clusters was not sufficient to measure the MYCNSIA objectives. 60 clusters were needed in each MYCNSIA area. For the four districts of Saravane province not included in MYCNSIA, 25 clusters were included to provide a provincial estimate, giving Saravane Province a total of 85 clusters. The total minimum required sample was 305 clusters and 6100 households (table below). The number of households included in each enumeration area was increased to 22 to account for 10% non-response, yielding the final sample size of 305 clusters and 6710 households.

Minimum number of survey clusters and households

	Oudomxay	**Saravane**	**Luangnamtha**	**Attapeu**	**Sekong**	**TOTAL**
Clusters	50	85	50	60	60	305
Households	1000	1700	1000	1200	1200	6100

Sampling Frame and Selection of Clusters

The 2015 census frame was used for the selection of clusters. Census enumeration areas were defined as primary sampling units (PSUs), and were selected from each of the sampling strata by using systematic pps (probability proportional to size) sampling procedures, based on the number of households in each enumeration area from the 2015 Population and Housing Census frame. The first stage of sampling was thus completed by selecting the required number of enumeration areas from each of the six sample domains, which were sorted by urban, rural with road and rural without road.

Listing Activities

Since the sampling frame (the 2015 census) was up-to-date, a new listing of households was not conducted in all the sample enumeration areas prior to the selection of households.

Selection of Households

The selection of 22 households in each enumeration area was carried out centrally using random systematic selection procedures.

Calculation of Sample Weights

The FNSS sample is not self-weighting. Essentially, by allocating similar numbers of households to each of the provinces, different sampling fractions were used in each province since the sizes of the provinces varied. For this reason, sample weights were calculated and these were used in the subsequent analyses of the survey data.

The major component of the weight is the reciprocal of the sampling fraction employed in selecting the number of sample households in that particular sampling domain (*h*) and PSU (*i*):

$$W_{hi} = \frac{1}{f_{hi}}$$

The term f_{hi}, the sampling fraction for the *i-th* sample PSU in the *h-th* domain, is the product of probabilities of selection at every stage in each sampling domain:

$$f_{hi} = p_{1hi} \times p_{2hi} \times p_{3hi}$$

where p_{shi} is the probability of selection of the sampling unit at stage *s* for the *i-th* sample PSU in the *h-th* sampling domain. Based on the sample design, these probabilities were calculated as follows:

$$p_{1hi} = \frac{n_h \times M_{hi}}{M_h},$$

n_h = number of sample PSUs selected in domain *h*

M_{hi} = number of households in the 2015 Census frame for the *i-th* sample PSU in domain *h*

M_h = total number of households in the 2015 Census frame for domain *h*

p_{2hi} = proportion of the PSU listed the *i-th* sample PSU domain *h* (in the case of PSUs that were segmented); for non-segmented PSUs, $p_{2hi} = 1$

$p_{3hi} = \frac{20}{M'_{hi}}$

M'_{hi} = number of households listed in the *i-th* sample PSU in domain *h*

A final component in the calculation of sample weights takes into account the level of non-response for the household and individual interviews. The adjustment for household non-response in each domain is equal to:

$$\frac{1}{RR_h}$$

where RR_h is the response rate for the sample households in domain *h*, defined as the proportion of the number of interviewed households in domain *h* out of the number of selected households found to be occupied during the fieldwork in domain *h*.

Similarly, adjustment for non-response at the individual level (women, and under-5 children) for each domain is equal to:

$$\frac{1}{RR_h}$$

where RR_h is the response rate for the individual questionnaires in domain *h*, defined as the proportion of eligible individuals (women, under-5 children) in the sample households in domain *h* who were successfully interviewed.

After the completion of fieldwork, response rates were calculated for each sampling domain. These were used to adjust the sample weights calculated for each cluster.

The non-response adjustment factors for the individual women, and under-5 questionnaires were applied to the adjusted household weights. Numbers of eligible women, and under-5 children were obtained from the roster of household members in the Household Questionnaire for households where interviews were completed.

The design weights for the households were calculated by multiplying the inverse of the probabilities of selection by the non-response adjustment factor for each enumeration area. These weights were then standardized (or normalized), one purpose of which is to make the weighted sum of the interviewed sample units equal to the total sample size for the overall sample. Normalization is achieved by dividing the full sample weights (adjusted for nonresponse) by the average of these weights across all households for the full sample. This is performed by multiplying the sample weights by a constant factor equal to the unweighted number of total households divided by the weighted total number of households (using the full sample weights adjusted for nonresponse). A similar standardization procedure was followed in obtaining standardized weights for the individual women, and under-5 questionnaires.

Sample weights were appended to all data sets and analyses were performed by weighting households, women, or under-5s with these sample weights.

Appendix B. Estimates of Sampling Errors

The sample of respondents selected in the FNSS is only one of the samples that could have been selected from the same population, using the same design and size. Each of these samples would yield results that differ somewhat from the results of the actual sample selected. Sampling errors are a measure of the variability between the estimates from all possible samples. The extent of variability is not known exactly, but can be estimated statistically from the survey data.

The following sampling error measures are presented in this appendix for each of the selected indicators:

- *Standard error* (*se*): Standard error is the square root of the variance of the estimate. For survey indicators that are means, proportions or ratios, the Taylor series linearization method is used for the estimation of standard errors.
- *Coefficient of variation* (*se*/*r*) is the ratio of the standard error to the value (*r*) of the indicator, and is a measure of the relative sampling error.
- *Design effect* (*deff*) is the ratio of the actual variance of an indicator, under the sampling method used in the survey, to the variance calculated under the assumption of simple random sampling based on the same sample size. The *square root of the design effect* (*deft*) is used to show the efficiency of the sample design in relation to the precision. A *deft* value of 1.0 indicates that the sample design of the survey is as efficient as a simple random sample for a particular indicator, while a *deft* value above 1.0 indicates an increase in the standard error due to the use of a more complex sample design.
- *Confidence limits* are calculated to show the interval within which the true value for the population can be reasonably assumed to fall, with a specified level of confidence. For any given statistic calculated from the survey, the value of that statistic will fall within a range of plus or minus two times the standard error (*r* + 2.*se* or *r* – 2.*se*) of the statistic in 95 percent of all possible samples of identical size and design.

The results are shown in the tables that follow. In addition to the sampling error measures described above, the tables also include weighted and unweighted counts of denominators for each indicator. Given the use of normalized weights, by comparing the weighted and unweighted counts it is possible to determine whether a particular domain has been under-sampled or over-sampled compared to the average sampling rate. If the weighted count is smaller than the unweighted count, this means that the particular domain had been over-sampled.

Sampling errors are calculated for indicators of primary interest, for provinces and programme areas.

Table SE.5: Sampling errors: Luangnamtha

Standard errors, coefficients of variation, design effects (*deff*), square root of design effects (*deft*), and confidence intervals for selected indicators, *FNSS, 2015*

	Estimate	Standard error (*se*)	Confidence limits: Lower bound r - 2se	Confidence limits: Upper bound r + 2se	Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count
Household									
Iodized salt	96.7	0.91	94.94	98.52	.009	2.605	1.614	5553	1036
Use of improved drinking water sources	95.8	1.73	92.38	99.23	.018	7.614	2.759	5627	1052
Use of improved sanitation	66.2	5.04	56.20	76.12	.076	11.573	3.402	5627	1052
Women									
Literacy	62.1	5.75	50.78	73.40	.093	6.466	2.543	462	427
Short stature (<145cm)	14.9	1.73	11.49	18.30	.116	2.857	1.690	1209	1118
Total thin	9.8	1.06	7.70	11.86	.108	1.474	1.214	1159	1072
Overweight or obese	17.7	1.88	14.03	21.45	.106	2.832	1.683	1159	1072
Any anemia (pregnant or breastfeeding women)	29.5	4.31	20.98	37.94	.146	1.890	1.375	203	188
Anemia (mild) (pregnant or breastfeeding women)	14.7	2.44	9.86	19.47	.167	1.009	1.004	203	188
Anemia (moderate) (pregnant or breastfeeding women)	14.3	3.27	7.83	20.70	.229	1.850	1.360	203	188
Anemia (severe) (pregnant or breastfeeding women)	0.5	0.52	-0.49	1.57	.977	1.087	1.043	203	188
Antenatal care coverage (1+ times, skilled provider)	83.8	4.01	75.90	91.68	.048	2.982	1.727	241	223
Antenatal care coverage (4+ times, any provider)	62.2	5.65	51.13	73.37	.091	3.422	1.850	241	223
Skilled attendant at delivery	56.8	6.10	44.84	68.85	.107	3.823	1.955	241	223
Under-5s									

Table SE.5: Sampling errors: Luangnamtha

Standard errors, coefficients of variation, design effects (*deff*), square root of design effects (*deft*), and confidence intervals for selected indicators, *FNSS, 2015*

	Estimate	Standard error (*se*)	Confidence limits		Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count
			Lower bound r - 2se	Upper bound r + 2se					
Low birth weight	15.2	1.05	13.10	17.25	.069	1.244	1.116	244	226
Underweight prevalence (moderate and severe)	25.8	2.10	21.71	29.99	.081	1.328	1.152	579	542
Underweight prevalence (severe)	7.6	1.54	4.60	10.69	.202	1.947	1.395	579	542
Stunting prevalence (moderate and severe)	44.4	2.92	38.62	50.17	.066	1.943	1.394	563	527
Stunting prevalence (severe)	19.0	2.62	13.86	24.21	.138	2.496	1.580	563	527
Wasting prevalence (moderate and severe)	7.6	1.41	4.80	10.39	.186	1.583	1.258	559	523
Wasting prevalence (severe)	2.5	0.69	1.08	3.83	.283	1.121	1.059	559	523
Overweight	2.7	0.65	1.41	3.99	.241	.898	.948	559	523
Any anemia	19.4	1.83	15.76	23.01	.095	1.094	1.046	507	474
Anemia (mild)	11.8	1.45	8.97	14.69	.122	1.021	1.010	507	474
Anemia (moderate)	7.3	1.26	4.86	9.82	.171	1.181	1.087	507	474
Anemia (severe)	0.2	0.21	0.00	0.63	1.001	1.085	1.042	507	474
Exclusive breastfeeding	61.4	5.72	49.98	72.74	.093	.796	.892	58	54

Table SE.5: Sampling errors: Oudomxay

Standard errors, coefficients of variation, design effects (*deff*), square root of design effects (*deft*), and confidence intervals for selected indicators, *FNSS, 2015*

	Estimate	Standard error (*se*)	Confidence limits: Lower bound r - 2se	Confidence limits: Upper bound r + 2se	Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count
Household									
Iodized salt	82.5	2.69	77.21	87.84	.033	8.735	2.955	9593	1049
Use of improved drinking water sources	81.1	4.30	72.58	89.58	.053	21.266	4.611	9728	1067
Use of improved sanitation	61.7	4.69	52.47	70.99	.076	16.381	4.047	9728	1067
Women									
Literacy	68.6	3.57	61.60	75.64	.052	5.702	2.388	967	580
Short stature (<145cm)	15.5	1.31	12.90	18.04	.085	2.954	1.719	2252	1351
Total thin	9.4	0.80	7.86	10.99	.084	1.581	1.257	2122	1273
Overweight or obese	12.9	1.54	9.86	15.91	.119	4.490	2.119	2122	1273
Any anemia (pregnant or breastfeeding women)	40.9	3.48	34.09	47.80	.085	2.019	1.421	387	232
Anemia (mild) (pregnant or breastfeeding women)	19.0	2.49	14.07	23.86	.131	1.617	1.271	387	232
Anemia (moderate) (pregnant or breastfeeding women)	21.1	2.75	15.70	26.54	.130	1.832	1.354	387	232
Anemia (severe) (pregnant or breastfeeding women)	0.9	0.60	-0.32	2.05	.699	1.708	1.307	387	232
Antenatal care coverage (1+ times, skilled provider)	90.3	2.65	85.11	95.52	.029	4.024	2.006	482	289
Antenatal care coverage (4+ times, any provider)	61.2	4.89	51.62	70.87	.080	5.070	2.252	482	289
Skilled attendant at delivery	50.5	5.36	39.97	61.07	.106	5.781	2.404	482	289
Under-5s									
Low birth weight	15.6	0.60	14.46	16.82	.038	1.760	1.327	495	297
Underweight prevalence (moderate and severe)	24.1	1.92	20.28	27.88	.080	2.201	1.484	1088	627

Table SE.5: Sampling errors: Oudomxay

Standard errors, coefficients of variation, design effects (*deff*), square root of design effects (*deft*), and confidence intervals for selected indicators, *FNSS, 2015*

	Estimate	Standard error (*se*)	Confidence limits		Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count
			Lower bound r - 2se	Upper bound r + 2se					
Underweight prevalence (severe)	5.9	1.05	3.84	7.97	.177	2.138	1.462	1088	627
Stunting prevalence (moderate and severe)	45.5	2.59	40.43	50.65	.057	2.880	1.697	1071	617
Stunting prevalence (severe)	16.0	1.49	13.09	19.00	.093	1.767	1.329	1071	617
Wasting prevalence (moderate and severe)	5.4	0.75	3.91	6.87	.139	1.162	1.078	1062	612
Wasting prevalence (severe)	1.6	0.60	0.45	2.82	.367	2.359	1.536	1062	612
Overweight	2.1	0.50	1.14	3.11	.234	1.253	1.119	1062	612
Any anemia	23.2	2.34	18.59	27.85	.101	2.936	1.713	949	547
Anemia (mild)	14.1	1.55	11.01	17.14	.110	1.898	1.378	949	547
Anemia (moderate)	8.6	1.54	5.56	11.63	.179	2.865	1.693	949	547
Anemia (severe)	0.4	0.26	0.00	0.88	.706	1.742	1.320	949	547
Exclusive breastfeeding	72.2	5.72	60.85	83.59	.079	2.039	1.428	125	72

Table SE.5: Sampling errors: Saravane

Standard errors, coefficients of variation, design effects (*deff*), square root of design effects (*deft*), and confidence intervals for selected indicators, *FNSS, 2015*

	Estimate	Standard error (*se*)	Confidence limits: Lower bound r - 2se	Confidence limits: Upper bound r + 2se	Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count
Household									
Iodized salt	90.3	1.43	87.50	93.15	.016	4.812	2.194	11346	1724
Use of improved drinking water sources	80.8	2.86	75.14	86.45	.035	11.103	3.332	11612	1754
Use of improved sanitation	31.3	2.52	26.35	36.32	.081	6.229	2.496	11612	1754
Women									
Literacy	58.0	3.96	50.24	65.84	.068	5.869	2.423	911	812
Short stature (<145cm)	24.0	1.67	20.74	27.30	.069	3.530	1.879	2310	2074
Total thin	13.9	1.37	11.19	16.57	.099	3.489	1.868	2220	1998
Overweight or obese	12.2	1.02	10.19	14.19	.083	2.152	1.467	2220	1998
Any anemia (pregnant or breastfeeding women)	35.6	3.78	28.17	43.04	.106	2.910	1.706	449	422
Anemia (mild) (pregnant or breastfeeding women)	21.7	2.53	16.72	26.68	.117	1.763	1.328	449	422
Anemia (moderate) (pregnant or breastfeeding women)	13.3	2.57	8.24	18.34	.193	2.671	1.634	449	422
Anemia (severe) (pregnant or breastfeeding women)	0.6	0.31	0.01	1.21	.500	.720	.849	449	422
Antenatal care coverage (1+ times, skilled provider)	73.1	3.39	66.40	79.73	.046	3.791	1.947	622	562
Antenatal care coverage (4+ times, any provider)	48.8	3.80	41.30	56.26	.078	3.759	1.939	622	562
Skilled attendant at delivery	42.4	3.64	35.22	49.54	.086	3.524	1.877	622	562
Under-5s									

Table SE.5: Sampling errors: Saravane

Standard errors, coefficients of variation, design effects (*deff*), square root of design effects (*deft*), and confidence intervals for selected indicators, *FNSS, 2015*

	Estimate	Standard error (*se*)	Confidence limits		Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count
			Lower bound r - 2se	Upper bound r + 2se					
Low birth weight	20.0	1.20	17.67	22.39	.060	2.339	1.529	633	567
Underweight prevalence (moderate and severe)	33.3	2.24	28.90	37.73	.067	3.267	1.807	1453	1231
Underweight prevalence (severe)	10.5	1.17	8.17	12.80	.112	2.127	1.459	1453	1231
Stunting prevalence (moderate and severe)	41.0	2.05	36.93	45.04	.050	2.443	1.563	1405	1189
Stunting prevalence (severe)	19.1	1.67	15.79	22.37	.087	2.518	1.587	1405	1189
Wasting prevalence (moderate and severe)	12.2	1.46	9.35	15.13	.120	2.803	1.674	1412	1188
Wasting prevalence (severe)	6.2	1.24	3.74	8.65	.200	3.725	1.930	1412	1188
Overweight	0.9	0.31	0.33	1.54	.327	1.413	1.189	1412	1188
Any anemia	26.8	1.67	23.50	30.09	.062	1.801	1.342	1262	1084
Anemia (mild)	18.0	1.32	15.35	20.56	.073	1.491	1.221	1262	1084
Anemia (moderate)	8.4	1.10	6.26	10.62	.131	1.997	1.413	1262	1084
Anemia (severe)	0.4	0.28	0.00	0.96	.709	2.552	1.598	1262	1084
Exclusive breastfeeding	41.4	5.34	30.74	51.97	.129	1.783	1.335	152	130

Table SE.5: Sampling errors: Sekong

Standard errors, coefficients of variation, design effects (*deff*), square root of design effects (*deft*), and confidence intervals for selected indicators, *FNSS, 2015*

	Estimate	Standard error (*se*)	Confidence limits: Lower bound r - 2se	Confidence limits: Upper bound r + 2se	Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count
Household									
Iodized salt	66.4	2.17	62.15	70.74	.033	1.395	1.181	3632	1253
Use of improved drinking water sources	79.6	4.24	71.27	88.02	.053	7.374	2.715	3676	1269
Use of improved sanitation	58.1	3.92	50.36	65.85	.067	4.203	2.050	3676	1269
Women									
Literacy	68.8	3.75	61.42	76.16	.054	2.098	1.448	322	705
Short stature (<145cm)	24.7	2.02	20.70	28.65	.082	1.691	1.301	768	1684
Total thin	10.6	0.90	8.84	12.37	.085	.620	.787	728	1595
Overweight or obese	9.8	0.97	7.87	11.70	.100	.786	.886	728	1595
Any anemia (pregnant or breastfeeding women)	33.9	3.44	27.14	40.67	.101	.855	.925	156	342
Anemia (mild) (pregnant or breastfeeding women)	23.4	2.62	18.24	28.55	.112	.621	.788	156	342
Anemia (moderate) (pregnant or breastfeeding women)	10.5	1.95	6.67	14.35	.186	.658	.811	156	342
Anemia (severe) (pregnant or breastfeeding women)	0.0	.	.	.	.	.	.	156	342
Antenatal care coverage (1+ times, skilled provider)	92.0	2.59	86.92	97.12	.028	2.184	1.478	229	501
Antenatal care coverage (4+ times, any provider)	51.1	4.66	41.94	60.28	.091	2.074	1.440	229	501
Skilled attendant at delivery	38.9	4.24	30.58	47.27	.109	1.807	1.344	229	501
Under-5s									
Low birth weight	21.0	1.14	18.79	23.26	.054	.704	.839	229	502

Table SE.5: Sampling errors: Sekong

Standard errors, coefficients of variation, design effects (*deff*), square root of design effects (*deft*), and confidence intervals for selected indicators, *FNSS, 2015*

	Estimate	Standard error (*se*)	Confidence limits		Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count
			Lower bound r - 2se	Upper bound r + 2se					
Underweight prevalence (moderate and severe)	36.4	2.06	32.32	40.44	.056	.839	.916	460	976
Underweight prevalence (severe)	10.5	1.15	8.19	12.73	.110	.647	.805	460	976
Stunting prevalence (moderate and severe)	49.1	2.22	44.70	53.46	.045	.869	.932	444	941
Stunting prevalence (severe)	25.0	1.80	21.39	28.51	.072	.767	.876	444	941
Wasting prevalence (moderate and severe)	10.8	2.01	6.86	14.82	.186	1.832	1.354	439	931
Wasting prevalence (severe)	4.3	1.23	1.88	6.73	.285	1.592	1.262	439	931
Overweight	3.2	0.52	2.19	4.25	.162	.380	.616	439	931
Any anemia	25.5	1.44	22.70	28.38	.056	.435	.660	399	846
Anemia (mild)	17.4	1.52	14.37	20.38	.088	.647	.804	399	846
Anemia (moderate)	8.2	1.05	6.10	10.23	.128	.586	.766	399	846
Anemia (severe)	0.0	.	.	.	.	.	.	399	846
Exclusive breastfeeding	54.9	4.01	46.94	62.89	.073	.347	.589	53	113

Table SE.5: Sampling errors: Attapeu

Standard errors, coefficients of variation, design effects (*deff*), square root of design effects (*deft*), and confidence intervals for selected indicators, *FNSS, 2015*

	Estimate	Standard error (*se*)	Confidence limits: Lower bound r - 2se	Confidence limits: Upper bound r + 2se	Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count
Household									
Iodized salt	78.2	1.96	74.33	82.07	.025	1.850	1.360	4526	1219
Use of improved drinking water sources	77.0	2.80	71.50	82.55	.036	3.699	1.923	4620	1245
Use of improved sanitation	55.3	3.18	48.98	61.53	.058	3.418	1.849	4620	1245
Women									
Literacy	70.6	3.42	63.85	77.31	.048	2.268	1.506	403	537
Short stature (<145cm)	15.7	1.42	12.92	18.49	.090	1.524	1.235	1004	1337
Total thin	19.8	1.46	16.93	22.69	.074	1.303	1.141	963	1282
Overweight or obese	11.5	1.65	8.23	14.71	.144	2.579	1.606	963	1282
Any anemia (pregnant or breastfeeding women)	46.0	3.81	38.54	53.55	.083	1.271	1.127	209	278
Anemia (mild) (pregnant or breastfeeding women)	28.1	3.21	21.75	34.37	.114	1.106	1.052	209	278
Anemia (moderate) (pregnant or breastfeeding women)	17.6	2.30	13.09	22.16	.131	.794	.891	209	278
Anemia (severe) (pregnant or breastfeeding women)	0.4	0.37	0.00	1.08	1.017	.811	.901	209	278
Antenatal care coverage (1+ times, skilled provider)	83.0	2.54	78.02	88.02	.031	1.164	1.079	243	324
Antenatal care coverage (4+ times, any provider)	40.4	4.67	31.23	49.63	.116	2.306	1.519	243	324
Skilled attendant at delivery	28.1	4.46	19.31	36.86	.159	2.503	1.582	243	324
Under-5s									

Table SE.5: Sampling errors: Attapeu

Standard errors, coefficients of variation, design effects (*deff*), square root of design effects (*deft*), and confidence intervals for selected indicators, *FNSS, 2015*

	Estimate	Standard error (*se*)	Confidence limits		Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count
			Lower bound r - 2se	Upper bound r + 2se					
Low birth weight	18.6	0.93	16.72	20.39	.050	.693	.832	245	326
Underweight prevalence (moderate and severe)	31.3	2.05	27.29	35.37	.065	1.067	1.033	549	750
Underweight prevalence (severe)	10.1	1.30	7.57	12.70	.128	1.017	1.009	549	750
Stunting prevalence (moderate and severe)	40.6	2.43	35.82	45.43	.060	1.319	1.148	539	736
Stunting prevalence (severe)	18.5	2.08	14.36	22.59	.113	1.548	1.244	539	736
Wasting prevalence (moderate and severe)	10.9	1.20	8.47	13.23	.111	.795	.891	533	728
Wasting prevalence (severe)	2.2	0.50	1.20	3.19	.230	.628	.792	533	728
Overweight	2.7	0.70	1.36	4.13	.255	.972	.986	533	728
Any anemia	27.0	2.10	22.85	31.16	.078	1.112	1.055	494	674
Anemia (mild)	19.9	1.66	16.60	23.17	.084	.860	.927	494	674
Anemia (moderate)	7.0	1.05	4.90	9.04	.150	.838	.915	494	674
Anemia (severe)	0.1	0.15	0.00	0.44	1.000	.736	.858	494	674
Exclusive breastfeeding	45.3	5.68	34.04	56.63	.125	.716	.846	55	75

Table SE.5: Sampling errors: NPAN Areas

Standard errors, coefficients of variation, design effects (*deff*), square root of design effects (*deft*), and confidence intervals for selected indicators, *FNSS, 2015*

	Estimate	Standard error (*se*)	Confidence limits: Lower bound r - 2se	Confidence limits: Upper bound r + 2se	Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count
Household									
Iodized salt	84.0	2.20	79.69	88.39	.026	5.591	2.365	8551	1050
Use of improved drinking water sources	89.0	3.19	82.72	95.32	.036	16.225	4.028	8614	1059
Use of improved sanitation	45.9	4.98	36.06	55.72	.108	15.557	3.944	8614	1059
Women									
Short stature (<145cm)	23.0	1.83	19.40	26.59	.079	3.637	1.907	1923	1314
Total thin	12.5	1.37	9.83	15.20	.109	3.138	1.771	1836	1256
Overweight or obese	11.0	1.47	8.07	13.84	.134	4.062	2.015	1836	1256
Any anemia (pregnant or breastfeeding women)	40.1	3.58	33.02	47.10	.089	1.983	1.408	358	270
Anemia (mild) (pregnant or breastfeeding women)	19.2	2.14	14.99	23.42	.112	1.101	1.049	358	270
Anemia (moderate) (pregnant or breastfeeding women)	19.6	3.02	13.68	25.56	.154	2.149	1.466	358	270
Anemia (severe) (pregnant or breastfeeding women)	1.2	0.70	0.00	2.62	.567	1.498	1.224	358	270
Antenatal care coverage (1+ times, skilled provider)	75.3	4.09	67.28	83.36	.054	4.311	2.076	460	342
Antenatal care coverage (4+ times, any provider)	53.4	3.80	45.89	60.84	.071	2.787	1.669	460	342
Institutional deliveries	43.7	4.72	34.40	52.97	.108	4.347	2.085	460	342
Under-5s									
Low birth weight	18.3	1.25	15.81	20.74	.068	2.701	1.643	474	350

Table SE.5: Sampling errors: NPAN Areas

Standard errors, coefficients of variation, design effects (*deff*), square root of design effects (*deft*), and confidence intervals for selected indicators, *FNSS, 2015*

	Estimate	Standard error (*se*)	Confidence limits		Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count
			Lower bound r - 2se	Upper bound r + 2se					
Underweight prevalence (moderate and severe)	34.6	2.64	29.38	39.81	.076	3.043	1.744	991	704
Underweight prevalence (severe)	9.7	1.45	6.84	12.58	.150	2.380	1.543	991	704
Stunting prevalence (moderate and severe)	51.5	2.95	45.68	57.36	.057	3.345	1.829	960	680
Stunting prevalence (severe)	21.5	2.05	17.42	25.52	.095	2.384	1.544	960	680
Wasting prevalence (moderate and severe)	7.7	1.12	5.46	9.87	.145	1.666	1.291	954	677
Wasting prevalence (severe)	3.0	0.65	1.71	4.27	.216	1.363	1.168	954	677
Overweight	1.3	0.46	0.43	2.23	.343	1.500	1.225	954	677
Any anemia	22.3	2.08	18.16	26.37	.093	2.158	1.469	862	617
Anemia (mild)	13.5	1.61	10.35	16.69	.119	1.907	1.381	862	617
Anemia (moderate)	8.7	1.76	5.28	12.21	.201	3.340	1.828	862	617
Anemia (severe)	0.0	.	.	.	.	.	.	862	617
Exclusive breastfeeding	61.1	7.24	46.65	75.46	.119	2.589	1.609	117	83

Table SE.5: Sampling errors: MYCNSIA Areas

Standard errors, coefficients of variation, design effects (*deff*), square root of design effects (*deft*), and confidence intervals for selected indicators, *FNSS, 2015*

	Estimate	Standard error (*se*)	Confidence limits: Lower bound r - 2se	Confidence limits: Upper bound r + 2se	Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count
Household									
Iodized salt	78.1	1.16	75.78	80.38	.015	1.908	1.381	13299	3711
Use of improved drinking water sources	73.8	2.04	69.79	77.86	.028	5.288	2.300	13501	3768
Use of improved sanitation	42.8	1.89	39.12	46.58	.044	3.555	1.886	13501	3768
Women									
Short stature (<145cm)	21.7	1.12	19.48	23.91	.052	2.123	1.457	2843	4578
Total thin	15.3	0.72	13.92	16.76	.047	1.091	1.045	2724	4380
Overweight or obese	10.5	0.77	9.01	12.05	.073	1.730	1.315	2724	4380
Any anemia (pregnant or breastfeeding women)	39.3	2.04	35.28	43.30	.052	1.070	1.034	591	949
Anemia (mild) (pregnant or breastfeeding women)	25.3	1.58	22.17	28.39	.062	.813	.901	591	949
Anemia (moderate) (pregnant or breastfeeding women)	13.4	1.24	10.99	15.85	.092	.807	.899	591	949
Anemia (severe) (pregnant or breastfeeding women)	0.6	0.26	0.08	1.10	.439	.706	.840	591	949
Antenatal care coverage (1+ times, skilled provider)	86.9	1.67	83.61	90.16	.019	1.941	1.393	763	1249
Antenatal care coverage (4+ times, any provider)	44.4	2.59	39.30	49.49	.058	2.165	1.472	763	1249
Skilled attendant at delivery	33.5	2.46	28.65	38.32	.073	2.163	1.471	763	1249
Under-5s									
Low birth weight	20.8	0.68	19.47	22.15	.033	.857	.926	766	1253
Underweight prevalence (moderate and severe)	37.1	1.40	34.30	39.83	.038	1.384	1.176	1651	2635
Underweight prevalence (severe)	12.6	0.88	10.87	14.36	.070	1.168	1.081	1651	2635

Table SE.5: Sampling errors: MYCNSIA Areas

Standard errors, coefficients of variation, design effects (*deff*), square root of design effects (*deft*), and confidence intervals for selected indicators, *FNSS, 2015*

	Estimate	Standard error (*se*)	Confidence limits: Lower bound r - 2se	Confidence limits: Upper bound r + 2se	Coefficient of variation (*se/r*)	Design effect (*deff*)	Square root of design effect (*deft*)	Weighted count	Unweighted count
Stunting prevalence (moderate and severe)	45.3	1.32	42.68	47.90	.029	1.121	1.059	1602	2554
Stunting prevalence (severe)	22.2	1.09	20.01	24.32	.049	1.104	1.051	1602	2554
Wasting prevalence (moderate and severe)	13.4	1.06	11.30	15.49	.079	1.530	1.237	1588	2531
Wasting prevalence (severe)	5.2	0.73	3.78	6.66	.140	1.697	1.303	1588	2531
Overweight	2.2	0.30	1.58	2.76	.138	.668	.817	1588	2531
Any anemia	30.0	1.24	27.59	32.48	.041	1.072	1.035	1464	2330
Anemia (mild)	21.8	0.94	19.90	23.60	.043	.759	.871	1464	2330
Anemia (moderate)	8.2	0.68	6.89	9.59	.083	.908	.953	1464	2330
Anemia (severe)	0.1	0.05	0.00	0.15	1.000	.735	.858	1464	2330
Exclusive breastfeeding	49.0	2.70	43.66	54.40	.055	.516	.718	177	285
Under-3s									
Stunting prevalence (moderate and severe)	39.9	1.42	37.12	42.72	.036	.822	.907	974	1556
Stunting prevalence (severe)	19.6	1.14	17.38	21.89	.058	.811	.900	974	1556
Any anemia	36.7	1.55	33.65	39.79	.042	.869	.932	824	1315
Anemia (mild)	25.1	1.30	22.54	27.67	.052	.752	.867	824	1315
Anemia (moderate)	11.5	0.96	9.63	13.42	.083	.757	.870	824	1315
Anemia (severe)	0.1	0.09	-0.09	0.26	1.001	.748	.865	824	1315

Appendix C. Data Quality Tables

Table Q.1 (DQ.2): Age distribution of interviewed women

Interviewed women age 15-49 years, and percentage of eligible women who were interviewed, by five-year age groups, *FNSS, 2015*

	Interviewed women age 15-49 years		Percentage of eligible women interviewed (Completion rate)
	Number	Percent	
Age			
10-14	na	Na	
15-19	1639	20.5	
20-24	1425	17.8	
25-29	1313	16.4	
30-34	1162	14.5	
35-39	953	11.9	
40-44	856	10.7	
45-49	638	8.0	
50-54	na	Na	
Total (15-49)	7986.0	100.0	91.7

Table Q.2 (DQ.4): Age distribution of children in household and under-5 questionnaires

Children age 0-4 years whose mothers/caretakers were interviewed, and percentage of under-5 children whose mothers/caretakers were interviewed, by single years of age, *FNSS, 2015*

	Under-5s with completed interviews		Percentage of eligible under-5s with completed interviews (Completion rate)
	Number	Percent	
Age			
0	867	20.3	
1	828	19.3	
2	876	20.4	
3	940	21.9	
4	779	18.2	
Total (0-4)	4290	100.0	96.5

Table Q.3 (DQ.6): Birth date and age reporting: Women

Percent distribution of women age 15-49 years by completeness of date of birth/age information, *FNSS, 2015*

	Completeness of reporting of date of birth and age						
	Year and month of birth	Year of birth and age	Year of birth only	Age only	Other/DK/Missing	Total	Number of women age 15-49 years
Total	87.2	12.8	0.0	0.0	0.0	100.0	7986
Region							
Luangnamtha	84.3	15.7	0.0	0.0	0.0	100.0	1277
Oudomxay	90.0	10.0	0.0	0.0	0.0	100.0	2328
Saravane	87.9	12.1	0.0	0.0	0.0	100.0	2505
Sekong	92.0	8.0	0.0	0.0	0.0	100.0	806
Attapeu	79.2	20.8	0.0	0.0	0.0	100.0	1070
Area							
Urban	96.5	3.5	0.0	0.0	0.0	100	1396
Rural with road	85.4	14.6	0.0	0.0	0.0	100.0	5869
Rural without road	83.9	16.1	0.0	0.0	0.0	100.0	721

Table Q.4 (DQ.8): Birth date and age reporting: Under-5s

Percent distribution children under 5 by completeness of date of birth/age information, *FNSS, 2015*

	Completeness of reporting of date of birth and age						
	Year and month of birth	Year of birth and age	Year of birth only	Age only	Other/DK/Missing	Total	Number of under-5 children
Total	93.7	6.3	0.0	0.0	0.0	100.0	4290
Region							
Luangnamtha	93.6	6.4	0.0	0.0	0.0	100.0	589
Oudomxay	95.8	4.2	0.0	0.0	0.0	100.0	1116
Saravane	91.1	8.9	0.0	0.0	0.0	100.0	1473
Sekong	96.1	3.9	0.0	0.0	0.0	100.0	470
Attapeu	94.5	5.5	0.0	0.0	0.0	100.0	563
Area							
Urban	98.5	1.5	0.0	0.0	0.0	100.0	523
Rural with road	92.6	7.4	0.0	0.0	0.0	100.0	3269
Rural without road	95.7	4.3	0.0	0.0	0.0	100.0	498

Table Q.5 (DQ.12): Completeness of information for anthropometric indicators: Underweight

Percent distribution of children under 5 by completeness of information on date of birth and weight, *FNSS, 2015*

	Valid weight and date of birth	Reason for exclusion from analysis				Total	Percent of children excluded from analysis	Number of children under 5
		Weight not measured	Incomplete date of birth	Weight not measured and incomplete date of birth	Flagged cases (outliers)			
Total	96.3	2.7	0.0	.2	.8	100.0	3.7	4290
Age								
<6 months	93.2	4.2	0.0	0.0	2.6	100.0	6.8	442
6-11 months	97.1	1.8	0.0	0.0	1.1	100.0	2.9	425
12-17 months	95.8	3.5	0.0	0.0	.7	100.0	4.2	399
18-23 months	96.6	3.0	0.0	0.0	.3	100.0	3.4	429
24-35 months	96.9	2.2	0.0	0.0	.9	100.0	3.1	876
36-47 months	96.4	3.2	0.0	0.0	.3	100.0	3.6	940
48-59 months	97.9	1.7	0.0	0.0	.4	100.0	2.1	769

Table Q.6 (DQ.13): Completeness of information for anthropometric indicators: Stunting

Percent distribution of children under 5 by completeness of information on date of birth and length or height, *FNSS, 2015*

	Valid length/height and date of birth	Reason for exclusion from analysis				Total	Percent of children excluded from analysis	Number of children under 5
		Length/Height not measured	Incomplete date of birth	Length/Height not measured, incomplete date of birth	Flagged cases (outliers)			
Total	93.8	2.7	0.0	.2	3.2	100.0	6.2	4290
Age								
<6 months	89.2	4.7	0.0	0.0	6.0	100.0	10.8	442
6-11 months	93.1	1.3	0.0	0.0	5.6	100.0	6.9	425
12-17 months	93.4	3.1	0.0	0.0	3.5	100.0	6.6	399
18-23 months	94.9	2.6	0.0	0.0	2.5	100.0	5.1	429
24-35 months	95.5	2.8	0.0	0.0	1.7	100.0	4.5	876
36-47 months	93.8	3.0	0.0	0.0	3.3	100.0	6.2	940
48-59 months	96.0	1.9	0.0	0.0	2.2	100.0	4.0	769

Table Q.7 (DQ.14): Completeness of information for anthropometric indicators: Wasting

Percent distribution of children under 5 by completeness of information on weight and length or height, *FNSS, 2015*

	Valid weight and length/height	Reason for exclusion from analysis			Percent of children excluded from analysis	Number of children under 5
		Weight not measured	Length/Height not measured	Flagged cases (outliers)		
Total	93.4	2.9	2.9	1.9	6.6	4290
Age						
<6 months	87.3	4.2	4.7	5.1	12.7	442
6-11 months	93.9	1.8	1.3	3.5	6.1	425
12-17 months	92.2	3.5	3.1	2.6	7.8	399
18-23 months	93.0	3.0	2.6	3.7	7.0	429
24-35 months	94.8	2.2	2.8	1.2	5.2	876
36-47 months	93.8	3.2	3.0	.6	6.2	940
48-59 months	96.4	1.7	1.9	.2	3.6	769

Table Q.8 (DQ.15): Heaping in anthropometric measurements

Distribution of weight and height/length measurements by digits reported for the decimal points, *FNSS, 2015*

	Weight		Height or length	
	Number	Percent	Number	Percent
Total	4165	100.0	4163	100.0
Digits				
0	490	11.8	1185	28.5
1	413	9.9	291	7.0
2	451	10.8	419	10.1
3	419	10.1	285	6.8
4	417	10.0	317	7.6
5	403	9.7	692	16.6
6	412	9.9	267	6.4
7	392	9.4	225	5.4
8	396	9.5	269	6.5
9	373	9.0	213	5.1
0 or 5	892	21.4	1877	45.1

Table Q.9: Heaping in anthropometric measurements by Province

Distribution of weight and height/length measurements by digits reported for the decimal points, *FNSS, 2015*

Luangnamtha		Weight		Height	
		Number	Percent	Number	Percent
Digits	Total	583	100.0	581	100.0
	0	79	13.5	174	30.0
	1	53	9.0	49	8.5
	2	62	10.6	64	11.0
	3	53	9.2	47	8.1
	4	56	9.6	31	5.4
	5	53	9.1	94	16.2
	6	61	10.5	29	5.0
	7	62	10.6	28	4.8
	8	60	10.2	33	5.7
	9	45	7.7	32	5.5
	0 or 5	131	22.6	268	46.1

Oudomxay		Weight		Height	
		Number	Percent	Number	Percent
Digits	Total	1105	100.0	1105	100.0
	0	123	11.1	298	27.0
	1	115	10.4	90	8.2
	2	115	10.4	106	9.6
	3	116	10.5	66	6.0
	4	106	9.6	76	6.9
	5	113	10.2	186	16.8
	6	127	11.5	73	6.6
	7	94	8.5	62	5.7
	8	95	8.6	82	7.4
	9	102	9.3	66	6.0
	0 or 5	236	21.4	484	43.8

Saravane		Weight		Height	
		Number	Percent	Number	Percent
Digits	Total	1463	100.0	1456	100.0
	0	172	11.8	431	29.6
	1	145	9.9	79	5.4
	2	158	10.8	144	9.9
	3	143	9.7	80	5.5
	4	165	11.3	132	9.0

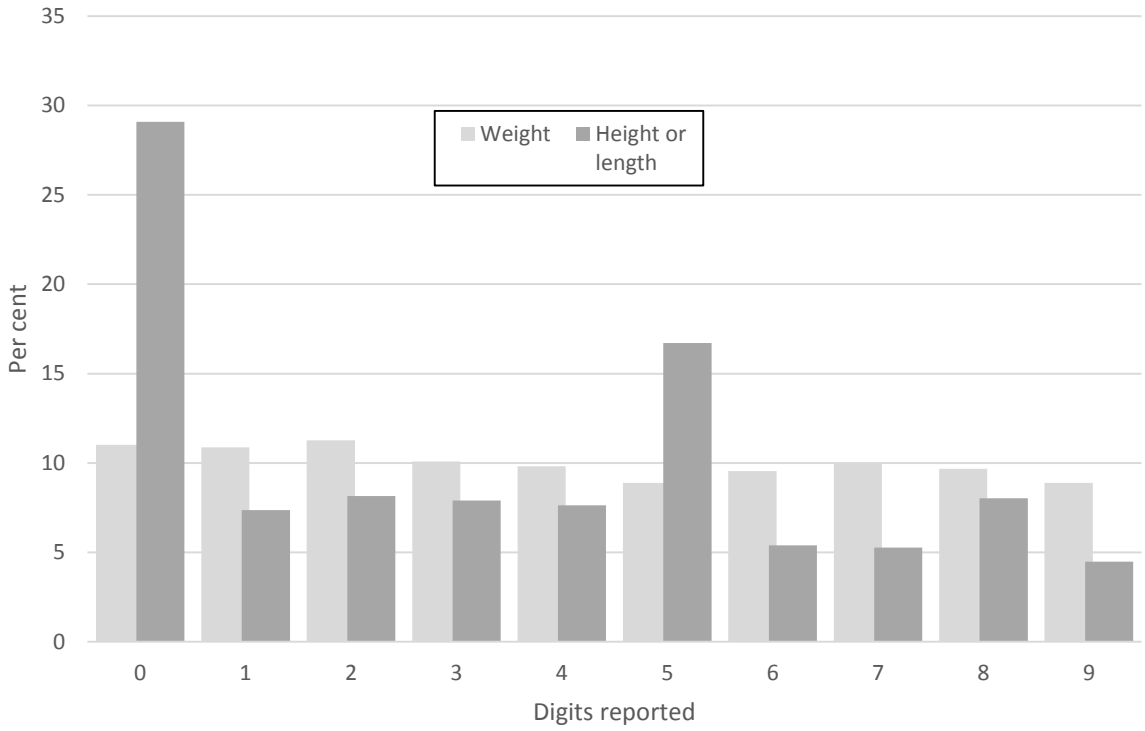
Sekong		Weight		Height	
		Number	Percent	Number	Percent
Digits	Total	462	100.0	463	100.0
	0	55	11.9	119	25.8
	1	41	8.8	32	6.9
	2	54	11.6	60	12.9
	3	51	11.1	48	10.3
	4	37	8.0	36	7.7

	5	138	9.4	251	17.2
	6	122	8.4	110	7.5
	7	143	9.8	78	5.4
	8	142	9.7	84	5.8
	9	134	9.2	68	4.7
	0 or 5	310	21.2	682	46.9

	5	50	10.9	67	14.6
	6	49	10.6	25	5.5
	7	37	8.1	27	5.9
	8	45	9.8	26	5.5
	9	42	9.2	23	4.9
	0 or 5	105	22.8	187	40.3

Attapeu		Weight		Height	
		Number	Percent	Number	Percent
Digits	Total	552	100.0	557	100.0
	0	61	11.0	162	29.1
	1	60	10.9	41	7.4
	2	62	11.3	45	8.2
	3	56	10.1	44	7.9
	4	54	9.8	42	7.6
	5	49	8.9	93	16.7
	6	53	9.5	30	5.4
	7	55	9.9	29	5.3
	8	53	9.7	45	8.0
	9	49	8.9	25	4.5
	0 or 5	110	19.9	255	45.8

Figure Q.1 (DQ.2): Weight and height/length measurements by digits reported for the decimal points, FNSS, 2015



Appendix D. Questionnaires

HOUSEHOLD QUESTIONNAIRE

Lao Subnational Food and Nutrition Security Survey

HOUSEHOLD INFORMATION PANEL.	HH
HH1. Household Number on Village Listing: ___ ___ ___ ___	**HH2**. Household number in Cluster:___ ___
HH3. Interviewer's name and number: Name _____ ___ ___ ___	**HH4**. Team Leader's name and number: Name_____ ___
HH5. Day / Month / Year of interview: ___ ___/___ ___/ 2 0 1 ___	**HH6**. *PROVINCE NAME & CODE:* _____ ___ ___
HH7. AREA: Urban ..... 1 Rural with road..... 2 Rural without road……3	**HH8**. District Name & Code _____ ___ ___ **HH9. Village Name & code** _____ ____ ____ ____ **HH9A. Cluster Code** ___ ___ ___ ___

WE ARE FROM NATIONAL CNETRE OF STATISTICS AND MINISTRY OF HEALTH. WE ARE CONDUCTING A SURVEY ABOUT THE SITUATION OF CHILDREN, FAMILIES AND HOUSEHOLDS. I WOULD LIKE TO TALK TO YOU ABOUT THESE SUBJECTS. THE INTERVIEW WILL TAKE ABOUT ***30*** MINUTES. ALL THE INFORMATION WE OBTAIN WILL REMAIN STRICTLY CONFIDENTIAL AND ANONYMOUS. MAY I START NOW?

☐ *Yes, permission is given ⇨ Go to HH19 to record the time and then begin the interview.*

☐ *No, permission is not given ⇨ Circle 04 in HH10. Discuss this result with your supervisor.*

HH10. Result of household interview:

Completed 01
No household member or no competent respondent at home at time of visit 02
Entire household absent for extended period of time 03
Refused 04

Other (*specify*) 96

After the household questionnaire has been completed, fill in the following information:
HH11. Respondent to Household Questionnaire: Name _____ ___ ___
HH12. Total number of household members:..... ___ ___
HH13. Number of women age 15-49 years:..... ___ ___
HH15.. Number of children under age 5: ..... ___ ___

After all questionnaires for the household have been completed, fill in the following information:
HH14. Number of women's questionnaires completed: ___ ___
HH16. Number of under-5 questionnaires completed:___ ___

HH17. Data Editor name and number:	**HH18**. Main data entry clerk's name and number:
Name_____ __ __	Name_____ __ __

HH19. *Record the time.*

Hour .....__ __

Minutes .....__ __

LIST OF HOUSEHOLD MEMBERS .. HL

FIRST, PLEASE TELL ME THE NAME OF HEAD OF HOUSEHOLD, EACH WOMAN AGE 15-49, AND EACH CHILD AGE 0-59 MONTHS (UNDER 5) WHO USUALLY LIVES HERE, STARTING WITH THE HEAD OF THE HOUSEHOLD.

List the head of the household in line 01. List all household members (HL2), their relationship to the household head (HL3), and their sex (HL4)

Then ask: ARE THERE ANY OTHERS WHO LIVE HERE, EVEN IF THEY ARE NOT AT HOME NOW?

If yes, complete listing for questions HL2-HL4. Then, ask questions starting with HL5 for each person at a time.

Use an additional questionnaire if all rows in the List of Household Members have been used.

		FOR HEAD OF HOUSEHOLD, WOMEN AGE 15-49 AND CHILDREN AGE 0-59 Months								*FOR CHILDREN AGE* **0-59months**				
HL1. *Line no.*	**HL2**. *Name*	**HL3**. WHAT IS THE RELATION-SHIP OF (*name*) TO THE HEAD OF HOUSE-HOLD?	**HL4**. IS (*name*) MALE OR FEMALE? 1 Male 2 Female		**HL5**. WHAT IS (*name*)'S DATE OF BIRTH? 98 DK / DK 99 / 9998 DK			**HL6**. HOW OLD IS (*name*)? *Record in completed years. If age is 95 or above, record '95'.*	**HL6A.** DID (*name*) STAY HERE LAST NIGHT? 1 Yes 2 No	**HL7**. IS (*name*)'S NATURAL MOTHER ALIVE? 1 Yes 2 No↘ HL9 8 DK↘ HL9	**HL8**. DOES (*name*)'S NATURAL MOTHER LIVE IN THIS HOUSE-HOLD? *If "Yes", record line no. of mother If "No", record 00. If mother not listed because of age, record 50*	**HL9**. IS (*name*)'S NATURAL FATHER ALIVE? 1 Yes 2 No↘ HL11 8 DK↘ HL11	**HL10**. DOES (*name*)'S NATURAL FATHER LIVE IN THIS HOUSE-HOLD?	**HL11**. *Record line no. of mother from HL8 if indicated.* *If HL8 is blank or '00' ask:* WHO IS THE PRIMARY CARETAKER OF (*name*)? **IF CARETAKER IS LISTED, WRITE LINE NUMBER. IF CARETAKER IS NOT LISTED, WRITE 96**	
Line	Name	Relation*	M	F	Day	Month	Year	Age	Y N	Y N DK	Mother	Father	Y N DK		
01		**0 1**	1	2	__ __	— —	__ __ __ __	__ __	1 2	1 2 8	___ ___	1 2 8	1 2 8	— —	
02		___ ___	1	2	__ __	— —	__ __ __ __	__ __	1 2	1 2 8	___ ___	1 2 8	1 2 8	— —	
03		___ ___	1	2	__ __	— —	__ __ __ __	__ __	1 2	1 2 8	___ ___	1 2 8	1 2 8	— —	
04		___ ___	1	2	__ __	— —	__ __ __ __	__ __	1 2	1 2 8	___ ___	1 2 8	1 2 8	— —	
05		___ ___	1	2	__ __	— —	__ __ __ __	__ __	1 2	1 2 8	___ ___	1 2 8	1 2 8	— —	

06		___ ___	1	2	__ __	——	__ __ __ __	__ __	1 2	1 2 8	___ ___	1 2 8	1 2 8	——	
07		___ ___	1	2	__ __	——	__ __ __ __	__ __	1 2	1 2 8	___ ___	1 2 8	1 2 8	——	
08		___ ___	1	2	__ __	——	__ __ __ __	__ __	1 2	1 2 8	___ ___	1 2 8	1 2 8	——	
09		___ ___	1	2	__ __	——	__ __ __ __	__ __	1 2	1 2 8	___ ___	1 2 8	1 2 8	——	
10		___ ___	1	2	__ __	——	__ __ __ __	__ __	1 2	1 2 8	___ ___	1 2 8	1 2 8	——	
11		___ ___	1	2	__ __	——	__ __ __ __	__ __	1 2	1 2 8	___ ___	1 2 8	1 2 8	——	
12		___ ___	1	2	__ __	——	__ __ __ __	__ __	1 2	1 2 8	___ ___	1 2 8	1 2 8	——	
13		___ ___	1	2	__ __	——	__ __ __ __	__ __	1 2	1 2 8	___ ___	1 2 8	1 2 8	——	
14		___ ___	1	2	__ __	——	__ __ __ __	__ __	1 2	1 2 8	___ ___	1 2 8	1 2 8	——	
15		___ ___	1	2	__ __	——	__ __ __ __	__ __	1 2	1 2 8	___ ___	1 2 8	1 2 8	——	
				Tick here if additional questionnaire used . ☐											

Probe for additional household members.
Probe especially for any infants or small children not listed, and others who may not be members of the family (such as servants, friends) but who usually live in the household.
Insert names of additional members in the household list and complete form accordingly.

Now for each woman age 15-49 years, write her name and line number and other identifying information in the information panel of a separate Individual Women's Questionnaire.
For each child under age 5, write his/her name and line number AND the line number of his/her mother or caretaker in the information panel of a separate Under-5 Questionnaire.
You should now have a separate questionnaire for each eligible woman and each child under five in the household.

* *Codes for **HL3**: Relationship to head of household:*	01 Head 02 Spouse / Partner 03 Son / Daughter	04 Son-In-Law / Daughter-In-Law 05 Grandchild 06 Parent	07 Parent-In-Law 08 Brother / Sister 09 Brother-In-Law / Sister-In-Law	10 Uncle / Aunt 11 Niece / Nephew 12 Other relative	13 Adopted / Foster/ Stepchild 14 Servant (Live-in)	96 Other (Not related) 98 DK

HOUSEHOLD CHARACTERISTICS..... HC		
HC1A. HOW MANY FAMILY MEMBERS ARE AGED ABOVE 15?	____ ____	
HC1B. HOW MANY FAMILY MEMBERS ARE BELOW 15 YEARS OF AGE?	____ ____	
HC1C. To what ethnic group does the head of this household belong?	*Ethnic Group* ( ) *Code* ____ ____ Other ethnic group (*specify*) _____ 96	
HC2. WHAT IS THE MAIN OCCUPATION OF THE HOUSEHOLD HEAD? IF THE HOUSEHOLD HEAD HAS A SECONDARY OCCUPATION, WHAT IS THE SECONDARY OCCUPATION? *PLEASE CIRCLE ONLY ONE ANSWER FOR MAIN* *IF NO SECONDARY WRITE 00*	[A]. MAIN Civil Servant (Govt)……..01 Private employee……..…02 Public and Private employee…..…….03 State Owned Enterprise……04 Labourer……..……05 Self-employed……..06 Family worker (non-wage)……..07 Unemployed……..……08 Student……..…..09 Housework/Housewife.....…10 Other (specify): ..... 96 DK/Can't remember/Refuse/ no answer…99	[B.] SECOND JOB (please write down the code) ___ ___
HC3. *Main material of the dwelling floor.* *Record observation.*	Natural floor Earth / Sand ..... 11 Dung (from cow/buffalo) and mixed with other materials ..... 12 Rudimentary floor Wood planks ..... 21 Palm / Bamboo ..... 22 Finished floor Parquet or polished wood ..... 31 Vinyl or asphalt strips..... 32 Ceramic tiles ..... 33 Cement ..... 34 Carpet ..... 35 Other (*specify*)..... 96	
HC4. *Main material of the roof.* *Record observation.*	Natural roofing No Roof..... 11 Thatch/Leaves ..... 12 Thatch ..... 13 Rudimentary roofing Palm / Bamboo ..... 22 Wood planks ..... 23 Finished roofing Metal / Tin ..... 31 Wood..... 32 Calamine / Cement fibre ..... 33 Ceramic tiles ..... 34 Cement ..... 35 Roofing shingles ..... 36 Other (*specify*)..... 96	

HC5. *Main material of the exterior walls.* *Record observation.*	Natural walls No walls ..... 11 Cane / Palm / Trunks ..... 12 Dirt ..... 13 Rudimentary walls Bamboo with mud ..... 21 Plywood ..... 24 Cardboard ..... 25 Reused wood ..... 26 Bamboo mat ..... 27 Bamboo/ bamboo with dry leaf ..... 28 Bamboo lattice ..... 29 Finished walls Cement ..... 31 Stone with lime / cement ..... 32 Bricks ..... 33 Cement blocks ..... 34 Wood planks / shingles ..... 36 Other (*specify*) 96	
HC6. WHAT TYPE OF FUEL DOES YOUR HOUSEHOLD MAINLY USE FOR COOKING?	Electricity ..... 01 Liquefied Petroleum Gas (LPG) ..... 02 Natural gas ..... 03 Biogas ..... 04 Kerosene ..... 05 Coal / Lignite ..... 06 Charcoal ..... 07 Wood ..... 08 Straw / Shrubs / Grass ..... 09 Animal dung ..... 10 Agricultural crop residue ..... 11 No food cooked in household ..... 95 Other (*specify*) 96	
HC7. DOES YOUR HOUSEHOLD HAVE:	Yes No	
[A] ELECTRICITY?	Electricity 1 2	
[B] A RADIO?	Radio 1 2	
[C] A TELEVISION?	Television 1 2	
[D] A NON-MOBILE TELEPHONE?	Non-mobile telephone 1 2	
[E] A REFRIGERATOR?	Refrigerator 1 2	
[F] A CLOCK?	Clock 1 2	
[G] FAN?	Fan 1 2	
[H] SOFA /WOODEN SETTEE?	Sofa 1 2	
[I] WATER PUMP?	Water pump ..... 1 2 Air conditioner ..... 1 2 Washing machine ..... 1 2 CD/DVD player 1 2	

[J] AIR-CONDITIONER? [K] WASHING MACHINE? [L] CD/DVD PLAYER		
HC8. DOES ANY MEMBER OF YOUR HOUSEHOLD OWN: [A] A WATCH? [B] A MOBILE TELEPHONE? [C] A BICYCLE? [D] A MOTORCYCLE OR SCOOTER? [E] AN ANIMAL-DRAWN CART? [F] A CAR OR TRUCK? [G] A BOAT WITH A MOTOR? [H] TUK TUK [I] TAK TAK? [J] CAMERA? [K] COMPUTER? [L] A HAND TRACTOR? [M] Other	Yes No Watch ..... 1 2 Mobile telephone ..... 1 2 Bicycle ..... 1 2 Motorcycle / Scooter ..... 1 2 Animal-drawn cart..... 1 2 Car / Truck..... 1 2 Boat with motor..... 1 2 Tuk Tuk..... 1 2 Tak tak..... 1 2 Camera..... 1 2 Computer..... 1 2 Hand Tractor.....1 2	
HC9. DO YOU OR SOMEONE LIVING IN THIS HOUSEHOLD OWN THIS DWELLING? *If "No", then ask:* DO YOU RENT THIS DWELLING FROM SOMEONE NOT LIVING IN THIS HOUSEHOLD? *If "Rented from someone else", circle "2". For other responses, circle "6".*	Own..... 1 Rent ..... 2 Other (*specify)*..... 6	
HC10. DOES ANYONE IN YOUR HOUSEHOLD BELONG TO ANY OF THE FOLLOWING HEALTH INSURANCE SCHEMES OR IS YOUR HOUSEHOLD EXEMPT FROM PAYING USER FEES AT THE HEALTH CENTER OR HOSPITAL	Yes No DK [A] SASS..... 1 2 8 [B] SSO..... 1 2 8 [C] HEF..... 1 2 8 [D] CBHI 1 2 8	

[A]. CIVIL SERVICE SCHEME (SASS) [B]. SOCIAL SECURITY SCHEME (SSO) [C]. HEALTH EQUITY FUND (HEF) [D]. COMMUNITY-BASED HEALTH INSURANCE (CBHI) [E]. Free Obstetrics Care [F]. Free under 5 Health care [G]. PRIVATE HEALTH INSURANCE [H] OTHER INSURANCE	[E] Free Obstetrics Care..... 1 2 8 [F] Free under 5 healthcare..... 1 2 8 [G] Private Health Insurance…. 1 2 8 [H] Other …… 1 2 8	

INSECTICIDE TREATED NETS AND INDOOR SPRAYING .....TN

TN1. DOES YOUR HOUSEHOLD HAVE ANY MOSQUITO NETS THAT CAN BE USED WHILE SLEEPING?	Yes .....1 No.....2	2⇨TN3
TN2. IS THE NET TREATED WITH AN INSECTICIDE TO KILL OR REPEL MOSQUITOES?	Yes .....1 No.....2	
TN3. AT ANY TIME IN THE PAST 12 MONTHS, HAS ANYONE COME INTO YOUR DWELLING TO SPRAY THE INTERIOR WALLS AGAINST MOSQUITOES?	Yes .....1 No.....2 DK 8	2⇨Next Module (WS) 8⇨Next MODULE (WS)
TN4. WHO SPRAYED THE DWELLING? *Circle all that apply.*		

	Yes	No	
[A] Government worker / program	1	2	
[B] Private company	1	2	
[C] Non-governmental organization	1	2	
Other (*specify*)……6			
DK……8			

WATER AND SANITATION..... WS

WS1. WHAT IS THE MAIN SOURCE OF WATER USED BY YOUR HOUSEHOLD FOR OTHER PURPOSES SUCH AS COOKING AND HANDWASHING?	Piped water Piped into dwelling .....11 Piped into compound, yard or plot .....12 Piped to neighbour .....13 Public tap / standpipe .....14 Tube Well, Borehole.....21 Dug well Protected well.....31 Unprotected well.....32 Water from spring Protected spring .....41 Unprotected spring .....42 Rainwater collection .....51 Tanker-truck .....61 Cart with small tank / drum.....71 Surface water (river, stream, dam, lake, pond, canal, irrigation channel) .....81 Bottled water .....91 Other (*specify*) 96	 11⇨WS1A 12⇨ WS1A 13⇨ WS1A 14⇨WS1A 21⇨WS1B 31⇨WS1B 32⇨WS1B 41⇨WS1B 42⇨WS1B 51⇨WS1B 61⇨WS1B 71⇨WS1B 81⇨WS1B 91⇨WS2 96⇨WS1B
WS1A . DOES THE WATER COME FROM A TREATED WATER SUPPLY SYSTEM	Yes .....1 No.....2	GO TO WS2 GO TO WS2
WS1B. DO YOU DO ANYTHING TO THE WATER TO MAKE IT SAFER FOR COOKING AND HANDWASHING?	Yes .....1 No .....2 DK.....8	

WS2. WHAT IS THE **MAIN** SOURCE OF DRINKING WATER FOR MEMBERS OF YOUR HOUSEHOLD?	Piped water Piped into dwelling .....11 Piped into compound, yard or plot .....12 Piped to neighbour .....13 Public tap / standpipe .....14 Tube Well, Borehole.....21 Dug well Protected well.....31 Unprotected well.....32 Water from spring Protected spring .....41 Unprotected spring.....42 Rainwater collection .....51 Tanker-truck .....61 Cart with small tank / drum.....71 Surface water (river, stream, dam, lake, pond, canal, irrigation channel) .....81 Bottled water .....91 Other (*specify*) 96	 11⇨WS2A 12⇨WS2A 13⇨WS2A 14⇨WS2A 21⇨WS2A 31⇨WS2A 32⇨WS2A 41⇨WS2A 42⇨WS2A 51⇨WS2A 61⇨WS2A 71⇨WS2A 81⇨WS2A 91⇨WS5 96⇨WS2A
WS2A. DO YOU DO ANYTHING TO THE WATER TO MAKE IT SAFER TO DRINK?	Yes .....1 No.....2 DK 8	
WS3. WHERE IS THE MAIN SOURCE OF WATER LISTED ABOVE CONNECTED TO	Directly to the house…… 1 Around the house ……..2 Other ……3	1⇨WS5 2⇨WS5
WS4. HOW LONG DO YOU SPEND COLLECTING WATER? RECORD TOTAL MINUTES FOR RETURN TRIP	Time (mins) ____ ____ ____ DK……998	
WS4A. NORMALLY, WHO DOES MOST OF THE WATER COLLECTION?	Adult Woman (>15 years) ……1 Adult Man (>15 years) ……2 Girl Child (<15 years) ……3 Boy Child (<15 years) ……4 DK ……8	

WS5. WHAT DO YOU USUALLY DO TO MAKE THE WATER SAFER TO DRINK? *Probe:* ANYTHING ELSE? *Record all items mentioned.*	<table><tr><th></th><th>Yes</th><th>No</th></tr><tr><td>**[A] Boil**</td><td>1</td><td>2</td></tr><tr><td>**[B] Add bleach / chlorine**</td><td>1</td><td>2</td></tr><tr><td>**[C] Strain it through a cloth**</td><td>1</td><td>2</td></tr><tr><td>**[D] Use water filter (ceramic, sand, composite, etc.)**</td><td>1</td><td>2</td></tr><tr><td>**[E] Solar disinfection**</td><td>1</td><td>2</td></tr><tr><td>**[F] Let it stand and settle**</td><td>1</td><td>2</td></tr><tr><td>**[G]Coagulation (Aluminiun Sulfate)**</td><td>1</td><td>2</td></tr><tr><td colspan="3">**Other (*specify*)……6**</td></tr><tr><td colspan="3">**DK……98**</td></tr></table>	
WS6. WHAT KIND OF TOILET FACILITY DO MEMBERS OF YOUR HOUSEHOLD USUALLY USE? *If "flush" or "pour flush", probe:* WHERE DOES IT FLUSH TO? *If not possible to determine, ask permission to observe the facility.*	Flush/ Pour flush Flush to piped sewer system.....11 Flush to septic tank .....12 Flush to pit (latrine) .....13 Flush to somewhere else .....14 Flush to unknown place / Not sure / DK where ..... 15 Pit latrine Ventilated Improved Pit latrine (VIP) ..21 Pit latrine with slab .....22 Pit latrine without slab / Open pit.....23 Composting toilet .....31 Bucket .....41 No facility, Bush, Field.....95 Other (*specify*)..... 96	95⇨HW
WS7. DO YOU SHARE THIS FACILITY WITH OTHERS WHO ARE NOT MEMBERS OF YOUR HOUSEHOLD?	Yes .....1 No.....2	2⇨HW
WS8. DO YOU SHARE THIS FACILITY ONLY WITH MEMBERS OF OTHER HOUSEHOLDS THAT YOU KNOW, OR IS THE FACILITY OPEN TO THE USE OF THE GENERAL PUBLIC?	Other households only (not public) .....1 Public facility.....2	2⇨HW
WS9. HOW MANY HOUSEHOLDS IN TOTAL USE THIS TOILET FACILITY, INCLUDING YOUR OWN HOUSEHOLD?	Number of households (if less than 10) . 0 __ Ten or more households .....10 DK 98	

HANDWASHING .....HW

HW1. IS THERE ANY PLACE IN THE HOUSE TO WASH YOUR HANDS? IF YES- SHOW ME.	Yes (observed) .....1 Yes (not observed)……2 No (don't have)……3 Other reason (*specify*) 6	2 ⇨HW4 3 ⇨HW4 6 ⇨HW4
HW2. *Observe presence of water at the place for handwashing.* *Verify by checking the tap/pump, or basin, bucket, water container or similar objects for presence of water.*	Water is available .....1 Water is not available 2	
HW3A. *Is wash, detergent or ash/ /sand present at the place for handwashing?*	Yes, present .....1 No, not present.....2	2⇨HW4
HW3B. *Record your observation.* *Circle all that apply.*		

	Yes	No
[A] Bar soap	1	2
[B] Detergent (Powder / Liquid / Paste)	1	2
[C] Liquid soap	1	2
[D] Ash / Sand	1	2

HW4. DO YOU HAVE ANY SOAP OR DETERGENT OR ASH/ /SAND IN YOUR HOUSE FOR WASHING HANDS?	Yes .....1 No 2	2⇨HW6A
HW5A. CAN YOU PLEASE SHOW IT TO ME?	Yes, shown .....1 No, not shown 2	2⇨HW6A
HW5B. *Record your observation.* *Circle all that apply.*		

	Yes	No
[A] Bar soap	1	2
[B] Detergent (Powder / Liquid / Paste)	1	2
[C] Liquid soap	1	2
[D] Ash / Sand	1	2

HW6A. WHAT DO YOU THINK ABOUT HAND WASHING WITH SOAP?	Good.....1 Not good.....2 Indifferent……3	1 – HW7 2 – GO TO HW6B 3 – HW7

HW6B WHAT IS THE MAIN REASON WHY YOU DON'T THINK IT IS NOT GOOD TO WASH HANDS REGULARLY WITH SOAP?	Lazy, takes time/effort……..1 Not important……2 I've never used/seen soap……3 Soap is expensive/can't afford……..4 I don't know where to get soap…….5 I don't think soap is useful……6 Don't Know……..7	
HW7. AT WHAT TIMES DO YOU NORMALLY WASH YOUR HANDS WITH SOAP? (CIRCLE THE RESPONSES SPOKEN)		

	Mentioned	Not mentioned
[A] Before eating	1	2
[B] After using the toilet	1	2
[C] Every time / regularly	1	2
[D] Before cooking food	1	2
[E] When I have diarrhea	1	2
[F] After working	1	2
[G] When my hands look dirty	1	2
[H] After handling animals	1	2
Don't know	8	
Other (*specify*) …… 6		

AGRICULTURE INFORMATION ..... (AG)

AG1. HAS THIS HOUSEHOLD EVER RECEIVED ADVICE or INFORMATION ON LIVESTOCK OR CROP PRODUCTION TECHNIQUES?	**Yes ..... 1** **No ..... 2** **Don't Know 8**	 **2 ⇨AG6** **8 ⇨ AG6**
AG2. HAS THIS HOUSEHOLD RECEIVED ADVICE, INFORMATION OR ON LIVESTOCK OR CROP PRODUCTION METHODS IN THE LAST 3 YEARS?	Yes ..... 1 No ..... 2 Don't Know 8	 2 ⇨ AG6 8 ⇨ AG6
AG3. PLEASE NAME ALL OF THE SOURCES OF THE ADVICE, INFORMATION OR TECHNOLOGY RECEIVED IN THE LAST THREE YEARS?		

	Yes	No
[A] NGO Project	1	2
[B] Gov Agriculture Service Center	1	2
[C] Radio	1	2
[D] Television	1	2
[E] Newspaper	1	2
[F] Farmer	1	2

	[G] Merchant	1	2	
	Other (specify)……..6			

	AG4. DID YOU RECEIVE ADVICE, INFORMATION OR TECHNOLOGY ON (AREA)?		**AG5. DO YOU USE TECHNOLOGY OR PRACTICE NOW?**	
	Yes	**No**	**Yes**	**No**
A Crop improved varieties	1	2	1	2
B Crop management	1	2	1	2
C Soil fertility management	1	2	1	2
D. Soil and water conservation	1	2	1	2
E. Pest control	1	2	1	2
F. Agro-forestry	1	2	1	2
G. Livestock breeds	1	2	1	2
H. Livestock management	1	2	1	2
I. Post harvest handling	1	2	1	2
J. Marketing	1	2	1	2
K. Other	Other……..6		Other……..6	

LIVESTOCK PRODUCTION		
AG6. HAS ANY MEMBER OF YOUR HOUSEHOLD RAISED LIVESTOCK, POULTRY, OR OTHER ANIMALS DURING THE PAST 12 MONTHS (SINCE...)?	Yes .....1 No .....2 Don't Know 8	 2 ⇨ Next Module LC 8 ⇨ Next module LC
AG7. ARE ANY LIVESTOCK, POULTRY OR OTHER ANIMALS MANAGED BY A WOMAN?	Yes .....1 No .....2 Don't Know 8	

ANIMAL CODE		**AG8.** DURING THE PAST 12 MONTHS, HAS ANY MEMBER OF YOUR HOUSEHOLD RAISED [ANIMAL]?	**AG9.** HOW MANY [ANIMAL] ARE OWNED BY YOUR HOUSEHOLD AT PRESENT?	**AG10.** HOW MANY (TYPE OF ANIMAL) WERE VACCINATED IN THE LAST 12 MONTHS?	**AG11.** DURING THE PAST 12 MONTHS, HAVE MEMBERS OF YOUR HOUSEHOLD SOLD ANY [ANIMAL]?	**AG12.** HOW MANY [ANIMAL] HAVE THEY SOLD? *Enter 000 if none*	**AG13.** HOW MUCH ALTOGETHER HAVE THEY RECEIVED FROM SALES OF [ANIMAL] DURING THE PAST 12 MONTHS? *Enter 000 if none*	**AG14.** HOW MANY [ANIMALS] WERE BORN OR RECEIVED AS GIFTS DURING THE PAST 12 MONTHS?	**AG 15** **IN THE PAST 12 MONTHS HOW MANY YOUNG ANIMAL BREEDS FROM PROJECT ASSISTANCE DID YOU RECEIVE?**
	ANIMAL	YES.....1 NO 2	NUMBER HEAD		YES .... 1 NO 2	NUMBER HEAD	AMOUNT	NUMBER HEAD	NUMBER HEAD
A	Cattle	1 2	__ __ __	__ __ __	1 2	__ __ __	__ __ __ __ 000	__ __ __	__ __ __
B	Buffalo	1 2	__ __ __	__ __ __	1 2	__ __ __	__ __ __ __ 000	__ __ __	
C	Goats	1 2	__ __ __	__ __ __	1 2	__ __ __	__ __ __ __ 000	__ __ __	
D	Local chicken	1 2	__ __ __	__ __ __	1 2	__ __ __	__ __ __ __ 000	__ __ __	
E	Commercial chicken	1 2	__ __ __	__ __ __	1 2	__ __ __	__ __ __ __ 000	__ __ __	
F	Ducks	1 2	__ __ __	__ __ __	1 2	__ __ __	__ __ __ __ 000	__ __ __	
G	Pigs	1 2	__ __ __	__ __ __	1 2	__ __ __	__ __ __ __ 000	__ __ __	
H	Fish (not including wild caught)	1 2	__ __ __		1 2	__ __ __kg	__ __ __ __ 000	__ __ __	

K	Frog	1 2	__ __ __		1 2	__ __ __kg	__ __ __ __ 000	__ __ __	
I	Other _____	1 2	__ __ __		1 2	__ __ __	__ __ __ __ 000	__ __ __	

AG16. During the past 12 months (since...) have any members of your household produced any products obtained from animals they have raised? For example, meat, fish raised in a pond belonging to you, eggs or tanned skins?	**Yes ..... 1** **No ..... 2** **Don't Know 8**	**2 ⇨LC** **8 ⇨ LC**

PRODUCT	ANIMAL PRODUCT		**AG17.** DURING THE PAST 12 MONTHS, HAS ANY MEMBER OF YOUR HOUSEHOLD MADE [ANIMAL PRODUCT] FROM CROPS GROWN BY THE HOUSEHOLD? YES..... 1 NO ..... 2 ➢ NEXT ANIMAL PRODUCT (ask for entire list)	**AG18.** WHAT QUANTITY OF THE [ANIMAL PRODUCT] DID THE HOUSEHOLD PRODUCE IN THE LAST 12 MONTHS? AMOUNT	**AG19.** WHAT QUANTITY OF THE [ANIMAL PRODUCT] DID THE HOUSEHOLD SELL? IF NONE, WRITE 000 AMOUNT	**AG20.** HOW MUCH MONEY WAS RECEIVED FROM THE SALE OF [ANIMAL PRODUCT] IN THE LAST 12 MONTHS? AMOUNT
A	Meat/dry meat	KG	1 2	__ __ __	__ __ __	__ __ __ __ 000
B	Sausage	KG	1 2	__ __ __	__ __ __	__ __ __ __ 000
C	Lard	KG	1 2	__ __ __	__ __ __	__ __ __ __ 000
D	Eggs	# of eggs	1 2	__ __ __	__ __ __	__ __ __ __ 000
E	Tanned skins	KG	1 2	__ __ __	__ __ __	__ __ __ __ 000

F	Pigskins	KG	1	2	__ __ __	__ __ __	__ __ __ __ 000
G	Down	KG	1	2	__ __ __	__ __ __	__ __ __ __ 000
H	Honey	LITERS	1	2	__ __ __	__ __ __	__ __ __ __ 000
I	Fish product	KG	1	2	__ __ __	__ __ __	__ __ __ __ 000
J	OTHER_____		1	2	__ __ __	__ __ __	__ __ __ __ 000

LAND OWNERSHIP AND CROP PRODUCTION (LC)

I would like to ask you some questions about the land the members of your household own, rent and use.

LC0. During the past 12 months (since...) do any members of your household have any land you own, rent or use for crop production.	**Yes ..... 1** **No ..... 2** **Don't Know 8**	**2 ⇨FS** **8 ⇨ FS**

CODE		**LC 1.** HOW MANY HECTARES OF [TYPE OF LAND] ARE AVAILABLE TO YOU AND MEMBERS OF YOUR HOUSEHOLD? *IF NO LAND OF THIS TYPE IS AVAILABLE WRITE 000*	**LC 2.** HOW MANY HECTARES OF [TYPE OF LAND] DO YOU AND THE MEMBERS OF YOUR HOUSEHOLD OWN? *IF NONE WRITE 000*	**LC 3.** IN THE LAST 12 MONTHS WAS THE [TYPE OF LAND] FERTILIZED? None 2; Yes, Organic 3; Yes, Chemical 4; Yes, Both organic and chemical 5	**LC 4.** IN THE LAST 12 MONTHS WAS THE [TYPE OF LAND] IRRIGATED? Yes 1; No 2	**LC 5.** IN THE LAST 12 MONTHS WAS THE [TYPE OF LAND] TREATED WITH PESTICIDES? Yes 1; No 2
	TYPE OF LAND	NUMBER OF HECTARES	NUMBER OF HECTARES			
A	Household vegetable or garden plot	__ __ __. __ __ __	__ __ __. __ __ __	2 3 4 5	1 2	1 2
B	Crop Production	__ __ __. __ __ __	__ __ __. __ __ __	2 3 4 5	1 2	1 2
C	Natural Pasture	__ __ __. __ __ __	__ __ __. __ __ __			
D	Nursery/Tree plantation	__ __ __. __ __ __	__ __ __. __ __ __	2 3 4 5	1 2	1 2

E	Orchard	__ __ __. __ __ __	__ __ __. __ __ __	2 3 4 5	1 2	1 2
F	Fish pond	__ __ __. __ __ __	__ __ __. __ __ __			
G	Fish cage/farm	__ __ __. __ __ __	__ __ __. __ __ __			
H	Plantation grazing area	__ __ __. __ __ __	__ __ __. __ __ __	2 3 4 5	1 2	1 2

LC6.
Check LC1A Any garden plot available to household?
..... 1 Yes ⇨LC7
.....2 No ⇨ LC8

LC7. IS ANY HOUSEHOLD VEGETABLE OR GARDEN PLOT MANAGED BY A WOMAN?	Yes .....1 No .....2 Don't Know 8	
LC8. HAS THIS HOUSEHOLD RECEIVED SEEDS, FERTILIZER OR PESTICIDES AS A GIFT DURING THE PAST 12 MONTHS?	Yes .....1 No .....2 Don't Know 8	
LC9. HAS ANY MEMBER OF THIS HOUSEHOLD RAISED ANY CROPS IN THE PAST 12 MONTHS ?	Yes .....1 No .....2 Don't Know 8	2 ⇨ LC16 8 ⇨ LC16

CODE	ASK QUESTIONS LC10-LC15 FOR EACH TYPE OF CROP LISTED BELOW	**LC10** HAVE THE MEMBERS OF YOUR HOUSEHOLD GROWN [CROP] DURING THE PAST 12 MONTHS?	**LC11** HOW MANY HECTARES OF EACH [CROP] WERE PLANTED DURING THE PAST 12 MONTHS?	**LC12** HOW MUCH [CROP] DID YOU HARVEST?	**LC13** HOW MUCH [CROP] WAS SOLD DURING THE LAST 12 MONTHS?	**LC14** HOW MUCH MONEY WAS RECEIVED FROM THE SALE OF [CROP] IN THE LAST 12 MONTHS?	**LC15** WHERE WAS MOST OF [CROP] SOLD?

	CROP	YES ... 1 NO 2	HECTARES If don't know how many hectares, write 'Z'	KGS, if none harvested, write '000'	KGS, if none sold, write '000'	AMOUNT, if none sold, write '000'	STATE PROCUREMENT organisation..... 1 FARMERS GROUP/ COOPerative..... 2 WHOLESALE MARKET ..... 3 RETAIL MARKET ..... 4 OTHER 5
A	Rice	1 2	__ __ __	__ __ __	__ __ __	__ __ __ __ 000	1 2 3 4 5
B	Maize (CORN)	1 2	__ __ __	__ __ __	__ __ __	__ __ __ __ 000	1 2 3 4 5
C	Chili	1 2	__ __ __	__ __ __	__ __ __	__ __ __ __ 000	1 2 3 4 5
D	Tuber (such as cassava, potato, yam, etc)	1 2	__ __ __	__ __ __	__ __ __	__ __ __ __ 000	1 2 3 4 5
E	Bean seed or nut (such as mung bean, ground nut, sesame, etc)	1 2	__ __ __	__ __ __	__ __ __	__ __ __ __ 000	1 2 3 4 5
F	Other Vegetable	1 2	__ __ __	__ __ __	__ __ __	__ __ __ __ 000	1 2 3 4 5
G	Mango	1 2	__ __ __	__ __ __	__ __ __	__ __ __ __ 000	1 2 3 4 5
H	Banana	1 2	__ __ __	__ __ __	__ __ __	__ __ __ __ 000	1 2 3 4 5
I	Coconut	1 2	__ __ __	__ __ __	__ __ __	__ __ __ __ 000	1 2 3 4 5
J	Other Fruit	1 2	__ __ __	__ __ __	__ __ __	__ __ __ __ 000	1 2 3 4 5
K	Other Food Crop	1 2	__ __ __	__ __ __	__ __ __	__ __ __ __ 000	1 2 3 4 5
L	Other non-food crop	1 2	__ __ __	__ __ __	__ __ __	__ __ __ __ 000	1 2 3 4 5
M	Others (specify)	1 2	__ __ __	__ __ __	__ __ __	__ __ __ __ 000	1 2 3 4 5

LC15B. WERE ANY OF THE CROPS GROWN OVER THE LAST 12 MONTHS GROWN UNDER CONTRACT?	**Yes .....1** **No .....2** **Don't Know 8**	
LC16. DURING THE PAST 12 MONTHS HAS ANY MEMBER OF THIS HOUSEHOLD DONE ANY FISHING, HUNTING, OR GATHERING OF FRUIT, BERRIES, NUTS OR OTHER PRODUCTS (NOT ON FARM)?	Yes .....1 No .....2 Don't Know 8	
LC17. DO YOU HAVE ACCESS TO FORESTED LAND?	Yes ..... 1 No ..... 2 Don't Know 8	 Go to FS Go to FS
LC18. COMPARED TO THE LAST 5 YEARS HAS YOUR ACCESS TO NON-TIMBER FOREST PRODUCTS INCREASED, DECREASED, OR STAYED THE SAME? ***Circle one***	Increased..... 1 Decreased ..... 2 Stayed same..... 3 Don't Know 8	

FOOD SECURITY (FS)		
FS1. IN THE LAST 6 MONTHS HAVE YOU OR ANYONE IN YOUR FAMILY RECEIVED CASH OR FOOD (EG. RICE) TO ATTEND A HEALTH FACILITY?	Yes .....1 No .....2 Don't Know 8	
FS2. IN THE LAST 6 MONTHS HAVE YOU OR ANYONE IN YOUR FAMILY RECEIVED CASH FOOD (EG. RICE) FOR ANY OTHER REASON? **THAT IS, RECEIVING CASH OR FOOD, BUT NOT FOR ATTENDING A HEALTH FACILITY?**	Yes .....1 No .....2 Don't Know 8	
FS2A. If yes, who provides?	Specify: _____6	

Now I would like to ask you some questions about food that the household ate in the last 7 days			
	FS3. HOW MANY **DAYS** IN THE PAST WEEK (LAST 7 DAYS) DID YOUR HOUSEHOLD EAT THE FOLLOWING FOODS? Number of days eaten (out of last 7 days)	**FS4.** NO. OF DAYS EATEN IN SMALL AMOUNTS DURING THE LAST 7 DAYS **(less than 1 tablespoon/person/ day)**	**FS5.** WHAT IS THE SOURCE OF THIS FOOD FOR EACH ITEM MENTIONED? Food Source Code: Source Codes: 11 Home grown crop or livestock production 12 Purchased food 13 Forest products 14 Hunting/fishing 15 Borrowed 16 Food aid 17 Exchanged/barter 18 Gift from family/relatives
A. Rice (sticky rice, white rice)	__		__ __

B. Maize / Corn	__		__ __
C. Cassava	__		__ __
D. Other roots of tubers (potatoes, yam)	__		__ __
E. Pulses/Lentils/Tofu/Bean Curd	__	__	__ __
F. Vegetables (green leafy, carrot, pumpkin…)	__	__	__ __
G. Bamboo shoots / mushrooms	__	__	__ __
H. Fruits	__	__	__ __
I. Fish, fish paste	__	__	__ __
J. Other aquatic animals (crab, snail, shrimp…)	__	__	__ __
K. Meat (beef, pork, chicken)	__	__	__ __
L. Wild animals/Insects	__	__	__ __
M. Eggs	__	__	__ __
N. Milk	__	__	__ __
O. Sugar	__		__ __
P. Oil/Butter/Animal Fat	__		__ __

FS7A. IN THE PAST MONTH, HOW OFTEN HAVE YOU USED ANY OF THE METHODS WHEN YOU DID NOT HAVE ENOUGH FOOD OR MONEY TO BUY FOOD?					**FS7B. DURING THE LAST 7 DAYS WERE THERE DAYS (AND, IF SO, HOW MANY) WHEN YOUR HOUSEHOLD HAD TO EMPLOY ONE OF THE FOLLOWING METHODS (TO COPE WITH A LACK OF FOOD OR MONEY TO BUY IT)?**
Circle the number corresponding to the answer	1 = DAILY	2 = 3-6 DAYS/ WK	3 = 1-2 TIMES/WK	4 = <1/WK or NEVER	Frequency (number of days from 0-7)
[A] Rely on less preferred, less expensive foods?	1	2	3	4	| __ |
[B] Borrow food, or rely on help from a friend or relative?	1	2	3	4	| __ |

[C] Limit portion size at mealtimes?	1	2	3	4	| __ |
[D] Restrict consumption by adults in order for small children to eat?	1	2	3	4	| __ |
[E] Reduce the number of meals eaten in a day?	1	2	3	4	| __ |

FS7C. DURING THE PAST 30 DAYS, DID ANYONE IN YOUR HOUSEHOLD HAVE TO ENGAGE IN ANY FOLLOWING BEHAVIOURS DUE TO A LACK OF FOOD OR A LACK OF MONEY TO BUY FOOD? **If no, probe to determine if because already sold those assets or have engaged in this activity within the last 12 months and cannot continue to do it**	**1= Yes** **2 = No, because I did not face a shortage of food** **3 = No, because I already sold those assets or have engaged in this activity within the last 12 months and cannot continue to do it** **4 = No**
[A.] Sold household assets/goods (radio, furniture, refrigerator, television, jewellery, etc..)	| __ |
[B] Reduced health and education expenses	| __ |
[C] Sold productive assets or means of transport (sewing machine, wheelbarrow, bicycle, car, etc..)	| __ |
[D] Spent savings	| __ |
[E] Borrowed money / food from a formal lender / bank	| __ |
[F] Sold house or land	| __ |
[G] Withdrew children from school	| __ |
[H] Sold last female animals	| __ |
[I] Begging	| __ |
[J] Sold more animals (non-productive) than usual	| __ |

FS8. Now I would like to ask you about your household's rice or food supply during different months of the year. **THINK BACK OVER THE LAST 12 MONTHS, DID YOU EVER NOT HAVE ENOUGH FOOD TO MEET YOUR FAMILY'S NEEDS?**	Yes, not adequate ..... 1 No, adequate 2	1>FS9 2> FS10

FS9. IF YES, WHICH WERE THE MONTHS IN THE PAST 12 MONTHS DURING WHICH YOU DID	Month	Not Enough (1)	Enough (2)
	[A]August	1	2

NOT HAVE ENOUGH FOOD TO MEET YOUR FAMILY'S NEEDS? ***DO NOT READ THE LIST OF MONTHS ALOUD.*** ***CIRCLE (1) IF THE RESPONDENT IDENTIFIES THE MONTH(S) AS THE ONES IN WHICH THE HOUSHOLD DID NOT HAVE ENOUGH FOOD TO MEET THEIR NEEDS.*** ***YOU MAY CIRCLE MORE THAN 1 ANSWER.***	[B]July	1	2
	[C]June	1	2
	[D]May	1	2
	[E]April	1	2
	[F]March	1	2
	[G]Feb	1	2
	[H] Jan	1	2
	[I] Dec	1	2
	[J] Nov	1	2
	[K] October	1	2
	[L] September	1	2

Sometimes very bad things happen to households that have a large negative impact on living conditions. I would like to ask you some questions about any such incidents that may have happened to your household in the last two years.

FS10. Has your household experienced **severe** [SHOCK] in the past two years?	YES	NO	REFUSE
[A] Drought?	1	2	99
[B] Floods, mudslides, strong winds?	1	2	99
[C] Fire?	1	2	99
[D] Crop disease or pest infestation?	1	2	99
[E] Livestock disease?	1	2	99
[F] Severe decline in prices for commodities you sell?	1	2	99
[G] Serious illness, injury or death of head of household?	1	2	99
[H] Serious illness, injury or death of other member?	1	2	99
[I] Any other? (SPECIFY)_____	1	2	99

FS11. HAS YOUR FAMILY EVER HAD TO BORROW TO COVER THE COST OF HEALTH CARE IN THE LAST TWO YEARS (24 MONTHS)?	**Yes……1** **No…….2** **DK…….8**	**2 ->SI1A** **8->SI1A**
FS12. HOW MUCH HAVE YOU BORROWED IN TOTAL OVER THE LAST 24 MONTHS TO COVER THE COST OF HEALTH CARE FOR YOU OR YOUR CHILDREN?	| | | | | | **0** | **0** | **0** | Don't know 99998	
FS13. ARE YOU STILL IN DEBT FROM THESE BORROWINGS?	Yes……1 No……2	

	DK……8	

SALT IODIZATION ..... SI		
SI1A. DOES THE SALT YOU USE TO COOK MEALS CONTAIN IODINE?	Yes ..... 1 No ..... 2 DK 8	
SI1B. WE WOULD LIKE TO CHECK WHETHER THE SALT USED IN YOUR HOUSEHOLD IS IODIZED. MAY I HAVE A SAMPLE OF THE SALT USED TO COOK MEALS IN YOUR HOUSEHOLD? *Once you have tested the salt, circle number that corresponds to test outcome.*	No color change ..... 1 Color change ..... 2 No salt in the house ..... 3 Salt not tested (*specify reason*) 4	
HH19. *Record the time.*	Hour and minutes ..... __ __ : __ __	

HH20. *Thank the respondent for his/her cooperation and check the List of Household Members:*

☐ *A separate QUESTIONNAIRE FOR INDIVIDUAL WOMEN has been issued for each woman age 15-49 years in the List of Household Members (HL).*

☐ *A separate QUESTIONNAIRE FOR CHILDREN UNDER FIVE has been issued for each child under age 5 years in the List of Household Members (HL).*

Return to the cover page and make sure that the result of the household interview (HH10), the name and line number of the respondent to the household questionnaire (HH11), total number of household members (HH12) and the number of eligible women (HH13), and under-5s (HH15) are entered.

Make arrangements for the administration of the remaining questionnaire(s) in this household.

WOMAN'S INFORMATION PANEL .....WM	
This questionnaire is to be administered to all women age 15 through 49 (see list of household members, HH survey HL1-HL6). One questionnaire should be used for each eligible woman.	
Province ..... **District** ..... **Village** ..... **Code:** __ __ **Code:** __ __ **Code:** __ __ ___ **Cluster Code:** __ __ __ __	
WM1. Household Listing Number: _____ ___ ___ ___	**WM2.** Household number (within cluster): ___ ___
WM3. Woman's name (HL2): Name	**WM4.** Woman's line number (HL1): ___ ___
WM5. Interviewer's name and number: Name	**WM6**. Day / Month / Year of interview: ___ ___ /___ ___ / 2 0 1 ___

Repeat greeting if not already read to this woman: WE ARE FROM THE NATIONALSTATISTICS CENTREAND MINISTRY OF HEALTH. WE ARE CONDUCTING A SURVEY ABOUT THE SITUATION OF CHILDREN, FAMILIES AND HOUSEHOLDS. I WOULD LIKE TO TALK TO YOU ABOUT THESE SUBJECTS. THE INTERVIEW WILL TAKE ABOUT 50 MINUTES. ALL THE INFORMATION WE OBTAIN WILL REMAIN STRICTLY CONFIDENTIAL AND ANONYMOUS.	*If greeting at the beginning of the household questionnaire has already been read to this woman, then read the following:* NOW I WOULD LIKE TO TALK TO YOU MORE ABOUT YOUR HEALTH AND OTHER TOPICS. THIS INTERVIEW WILL TAKE ABOUT 50 MINUTES. AGAIN, ALL THE INFORMATION WE OBTAIN WILL REMAIN STRICTLY CONFIDENTIAL AND ANONYMOUS.
MAY I START NOW? *Yes, permission is given ⇨ Go to WM10 to record the time and then begin the interview.* *No, permission is not given ⇨ Circle "03" in WM7. Discuss this result with your supervisor.*	

WM7. Result of woman's interview	Completed ..... 01 Not at home ..... 02 Refused ..... 03 Partly completed ..... 04 Incapacitated ..... 05 Other (specify) 96	
WM8. Field Editor name and number: Name_____ __ __	**WM9.** Main data entry clerk's name and number: Name_____ __ __	
WM10. Record the time.	Hour and minutes __ __ : __ __	

WOMAN'S BACKGROUND ..... WB		
WB1. IN WHAT MONTH AND YEAR WERE YOU BORN?	Date of birth Month ..... __ __ DK month ..... 98 Year ..... __ __ __ __ DK year 9998	
WB2. HOW OLD ARE YOU? *Probe: HOW OLD WERE YOU AT YOUR LAST BIRTHDAY?* *Compare and correct WB1 and/or WB2 if inconsistent.*	Age (in completed years) __ __	

WB3. ARE YOU CURRENTLY MARRIED?	Yes, currently married……...1 No, living with a man…….2 Yes, but not living with a man ….3 No, not in union (single) ……..4	
WB4. HAVE YOU EVER ATTENDED SCHOOL?	Yes 1 No 2	 2⇨WB8
WB5. WHAT IS THE HIGHEST LEVEL OF SCHOOL YOU ATTENDED?	Preschool……..0 Primary ……..…...1 Lower Secondary…….2 Upper secondary……..3 Post-secondary vocational, tertiary/ diploma …….4 Higher…….....5	0⇨WB8
WB6. WHAT IS THE HIGHEST GRADE YOU COMPLETED AT THAT LEVEL? Primary…….. 11-15 lower sec……... 21-24 upper sec…….. 31-33 post sec, vocational/ diploma …. 41-43 tertiary edu or higher……..51-57 DK……...……...98	Grade: *If less than 1 grade at this level, enter "00"* Grade __ __	
WB7. *Check WB5:* .....☐ Secondary or higher (WB5=2, 3, 4, 5) ⇨ Go to Next Module. .....☐ Primary (WB5=1) ⇨ Continue with WB8.		

WB8. NOW I WOULD LIKE YOU TO READ THIS SENTENCE TO ME. *Show sentence on the card to the respondent.* *If respondent cannot read whole sentence, probe:* CAN YOU READ PART OF THE SENTENCE TO ME? SIMPLE SENTENCES FOR LITERACY TEST: THE CHILD IS READING A BOOK. THE RAIN CAME LATE THIS YEAR. PARENTS MUST CARE FOR THEIR CHILDREN. FARMING IS HARD WORK.	Cannot read at all……..…..1 Able to read only parts of sentence…….2 Able to read whole sentence……3 No sentence in required language……...4 (specify language) _____ Blind / mute, visually/speech impaired….5	

ACCESS AND USE OF INFORMATION TECHNOLOGY AND KNOWLEDGE ..... (IK)		
IK1. *Check WB8:* .....☐ If no answer (If respondent has secondary or higher education) ⇨ Continue with IK2. .....☐ Able to read or no sentence in required language (WB8 = 2, 3 or 4) ⇨ Continue with IK2. .....☐ Cannot read at all or blind/visually impaired (WB8 = 1 or 5) ⇨ Go to IK3.		
IK2. HOW OFTEN DO YOU READ A NEWSPAPER OR MAGAZINE: ALMOST EVERY DAY, AT LEAST ONCE A WEEK, LESS THAN ONCE A WEEK OR NOT AT ALL?	Almost every day (4-7 days/wk)..... 1 At least once a week (1-3 days/wk) ..... 2 Less than once a week ..... 3 Not at all 4	

<table>
<tr><td>IK3. DO YOU LISTEN TO THE RADIO ALMOST EVERY DAY, AT LEAST ONCE A WEEK, LESS THAN ONCE A WEEK OR NOT AT ALL?</td><td>Almost every day (4-7 days/wk) 1
At least once a week (1-3 days/wk) 2
Less than once a week 3
Not at all ..... 4</td><td></td></tr>
<tr><td>IK4. HOW OFTEN DO YOU WATCH TELEVISION: WOULD YOU SAY THAT YOU WATCH ALMOST EVERY DAY, AT LEAST ONCE A WEEK, LESS THAN ONCE A WEEK OR NOT AT ALL?</td><td>Almost every day (4-7 days/wk) 1
At least once a week (1-3 days/wk) 2
Less than once a week 3
Not at all ..... 4</td><td></td></tr>
<tr><td>IK5. HAVE YOU EVER SEEN, HEARD, OR READ ANYTHING ABOUT BREASTFEEDING IN THE MEDIA OR ANYWHERE ELSE, NOT INCLUDING ‘WORD OF MOUTH’?</td><td>Yes 1
No ..... 2</td><td>2⇨IK9</td></tr>
<tr><td>IK6. WHEN DID YOU SEE, HEAR, OR READ ANYTHING ABOUT BREASTFEEDING IN THE MEDIA OR ANYWHERE ELSE, NOT INCLUDING WORD OF MOUTH?</td><td>In the past month 1
One to six months ago 2
Six months to one year ago 3
More than one year ago ..... 4</td><td></td></tr>
<tr><td>IK7. PLEASE NAME ALL OF THE SOURCES OF INFORMATION WHERE YOU SAW OR HEARD A MESSAGE ON BREASTFEEDING, NOT INCLUDING ‘WORD OF MOUTH’

First, ask without probing and circle spontaneous responses. For all sources not mentioned, probe and circle aided or no.</td><td>
<table>
<tr><th></th><th>Spontaneous</th><th>Aided</th><th>No</th></tr>
<tr><td>[A] On the radio</td><td>1</td><td>4</td><td>2</td></tr>
<tr><td>[B] On the television</td><td>1</td><td>4</td><td>2</td></tr>
<tr><td>[C] On the internet</td><td>1</td><td>4</td><td>2</td></tr>
<tr><td>[D] Newspaper</td><td>1</td><td>4</td><td>2</td></tr>
<tr><td>[E] In a magazine</td><td>1</td><td>4</td><td>2</td></tr>
<tr><td>[F] On a poster</td><td>1</td><td>4</td><td>2</td></tr>
<tr><td>[G] On a billboard / sign</td><td>1</td><td>4</td><td>2</td></tr>
<tr><td>[H] In a pamphlet / brochure</td><td>1</td><td>4</td><td>2</td></tr>
<tr><td>[I] Village voice announce</td><td>1</td><td>4</td><td>2</td></tr>
</table>
</td><td>If TV is mentioned, go to IK8, if no TV is mentioned, go to IK9.</td></tr>
</table>

<table>
<tr><td>IK8. PLEASE NAME ALL OF THE TELEVISION STATIONS WHERE YOU SAW A MESSAGE ON BREASTFEEDING</td><td>Lao Star 1
Lao National TV 2
Both Lao Star and Lao National TV 3
Other 7
Specify _____</td><td></td></tr>
<tr><td>IK9. IN THE PAST HAVE YOU HEARD ANYTHING ABOUT BREASTFEEDING FROM ANOTHER PERSON?</td><td>Yes 1
No ..... 2</td><td>2⇨IK12</td></tr>
<tr><td>IK10. PLEASE NAME ALL OF THE SOURCES OF PEOPLE YOU HEARD ABOUT BREASTFEEDING FROM

Probe for the type of person seen and circle all answers given.</td><td>
<table>
<tr><th></th><th>Yes</th><th>No</th></tr>
<tr><td>[A] Mother / Relative</td><td>1</td><td>2</td></tr>
<tr><td>[B] Friend</td><td>1</td><td>2</td></tr>
<tr><td colspan="3"><u>Health professional</u>:</td></tr>
<tr><td>[C] Doctor</td><td>1</td><td>2</td></tr>
<tr><td>[D] Nurse / Midwife</td><td>1</td><td>2</td></tr>
<tr><td>[E] Medical Assistant</td><td>1</td><td>2</td></tr>
<tr><td colspan="3"><u>Other worker/volunteer</u>:</td></tr>
<tr><td>[F] Traditional birth attendant</td><td>1</td><td>2</td></tr>
<tr><td>[G] Community health worker</td><td>1</td><td>2</td></tr>
<tr><td>[H] Lao Women’s Union Volunteer</td><td>1</td><td>2</td></tr>
<tr><td>[I] Other worker/volunteer</td><td>1</td><td>2</td></tr>
<tr><td colspan="3">[J] Other (specify)……6</td></tr>
</table>
</td><td>If mother/ relative or friend or ‘other’ ⇨IK12</td></tr>
<tr><td>IK11. WHEN DID YOU HEAR ANYTHING ABOUT BREASTFEEDING FROM (title of health professional(s) or other worker/volunteer(s) circled in IK10)?</td><td>In the past month 1
One to six months ago 2
Six months to one year ago 3
More than one year ago ..... 4</td><td></td></tr>
<tr><td>IK12. IN THE PAST HAVE YOU HEARD ANYTHING ABOUT COMPLEMENTARY FEEDING FROM ANOTHER PERSON?

Define complementary feeding as food given to young children in addition to breastmilk</td><td>Yes 1
No ..... 2</td><td>2⇨IK15</td></tr>
</table>

IK13. PLEASE NAME ALL OF THE SOURCES OF PEOPLE YOU HEARD ABOUT COMPLEMENTARY FEEDING FROM *Probe for the type of person seen and circle all answers given*.	<table><tr><th></th><th>Yes</th><th>No</th></tr><tr><td>**[A] Mother / Relative**</td><td>1</td><td>2</td></tr><tr><td>**[B] Friend**</td><td>1</td><td>2</td></tr><tr><td colspan="3">**Health professional:**</td></tr><tr><td>**[C] Doctor**</td><td>1</td><td>2</td></tr><tr><td>**[D] Nurse / Midwife**</td><td>1</td><td>2</td></tr><tr><td>**[E] Medical Assistant**</td><td>1</td><td>2</td></tr><tr><td colspan="3">**Other worker/volunteer:**</td></tr><tr><td>**[F] Traditional birth attendant**</td><td>1</td><td>2</td></tr><tr><td>**[G] Community health worker**</td><td>1</td><td>2</td></tr><tr><td>**[H] Lao Women's Union Volunteer**</td><td>1</td><td>2</td></tr><tr><td>**[I] Other worker/volunteer**</td><td>1</td><td>2</td></tr><tr><td colspan="3">**[J] Other (specify)……6**</td></tr></table>	If 'mother/ relative or friend or 'other' ⇨IK15
IK14. WHEN DID YOU HEAR ANYTHING ABOUT COMPLEMENTARY FEEDING FROM (title of health professional(s) or other worker/volunteer(s) circled in IK10)? Circle all that apply	In the past month .....1 One to six months ago .....2 Six months to one year ago .....3 More than one year ago 4	
IK15. HOW SOON AFTER BIRTH SHOULD YOU GIVE A CHILD ANYTHING TO DRINK OTHER THAN BREASTMILK? *BY DRINK WE MEAN ANY LIQUID INCLUDING WATER, CLEAR BROTH*, JUICE, ETC. *Fill in one line only. Circle the appropriate time frame (days, weeks or months) and write in the answer*	Days after birth .....1 __ __ Weeks after birth .....2 __ __ Months after birth .....3 __ __ DK 8	
IK16. HOW SOON AFTER BIRTH SHOULD YOU GIVE A CHILD THEIR FIRST FOODS TO EAT? *BY FOODS WE MEAN ANY SOLID, SEMI-SOLID OR SOFT FOOD LIKE PORRIDGE, STICKY RICE, RICE,* ETC *Fill in one line only. Circle the appropriate time frame (days, weeks or months) and write in the answer*	Days after birth .....1 __ __ Weeks after birth .....2 __ __ Months after birth .....3 __ __ DK 8	

<table>
<tr><td>IK17. FOR HOW LONG SHOULD YOU BREASTFEED?</td><td>Months..... __ __

Don’t know.....98</td><td></td></tr>
<tr><td>IK18. IN THE FIRST FEW DAYS AFTER BIRTH WHAT SHOULD YOU DO WITH COLOSTRUM?

Define colostrum as the breastmilk that comes in the first few days after delivery that is a different color from normal breastmilk</td><td>Discard 1
Feed to child.....2

Other 3
(specify)_____</td><td></td></tr>
<tr><td>IK19. HAVE YOU EVER RECEIVED OR DID YOU BUY WEEKLY IRON FOLIC ACID (THIS)?

Clarify this is not the IFA received during or just after pregnancy</td><td>Yes 1
No.....2

Don’t Know.....8</td><td></td></tr>
<tr><td>IK20A. WHAT FOODS or DRINKS SHOULD YOU NOT EAT DURING PREGNANCY?

No probe. Circle all mentioned

If meat or fish mentioned probe whether raw, cooked or both</td><td>
<table>
<tr><th></th><th>Mentioned</th><th>Not Mentioned</th></tr>
<tr><td>[A] Meat</td><td>1</td><td>2</td></tr>
<tr><td>[B] Raw Meat</td><td>1</td><td>2</td></tr>
<tr><td>[C] Fish/ Shellfish</td><td>1</td><td>2</td></tr>
<tr><td>[D] Raw Fish/ Shellfish</td><td>1</td><td>2</td></tr>
<tr><td>[E] Vegetables</td><td>1</td><td>2</td></tr>
<tr><td>[F] Fruit</td><td>1</td><td>2</td></tr>
<tr><td>[G] Insects</td><td>1</td><td>2</td></tr>
<tr><td>[H] Spicy Food</td><td>1</td><td>2</td></tr>
<tr><td>[I] Caffeine</td><td>1</td><td>2</td></tr>
<tr><td>[J] Alcohol</td><td>1</td><td>2</td></tr>
<tr><td colspan="3">[K] Other (specify)……6</td></tr>
</table>
</td><td></td></tr>
</table>

IK20B. WHAT FOODS or DRINKS SHOULD YOU NOT EAT IMMEDIATELY AFTER BIRTH OR WHILE BREASTFEEDING?

No probe. Circle all mentioned

If meat or fish mentioned probe whether raw, cooked or both

	Mentioned	Not Mentioned
[A] Meat	1	2
[B] Raw Meat	1	2
[C] Fish/ Shellfish	1	2
[D] Raw Fish/ Shellfish	1	2
[E] Vegetables	1	2
[F] Fruit	1	2
[G] Insects	1	2
[H] Spicy Food	1	2
[I] Caffeine	1	2
[J] Alcohol	1	2
[K] Other (specify)……6		

IK21. IN THE PAST HAVE YOU HEARD ANYTHING ABOUT HANDWASHING FROM ANY OTHER PERSON?

Yes……1

No ……..2

2⇨IK24A

IK22. PLEASE NAME ALL OF THE SOURCES OF PEOPLE YOU HEARD ABOUT HANDWASHING FROM

Probe for the type of person seen and circle all answers given.

	Yes	No
[A] Mother / Senior Relative	1	2
[B] Friend	1	2
[C] Children	1	2
Health professional:		
[D] Doctor	1	2
[E] Nurse / Midwife	1	2
[F] Medical Assistant	1	2
Other worker/volunteer:		
[G] Traditional birth attendant	1	2
[H] Community health worker	1	2
[I] Lao Women's Union Volunteer	1	2
[J] Other worker/volunteer	1	2
[K] Other (specify)……6		

If 'mother/ relative or friend' or 'other' ⇨IK24A

IK23. HOW LONG AGO DID YOU HEAR ANYTHING ABOUT HANDWASHING (title of health professional(s) or other worker/volunteer(s) circled in IK22)?	In the past month……..1 One to six months ago……2 Six months to one year ago…….3 More than one year ago……..…4	
IK24A. DO YOU THINK REGULARLY WASHING HANDS WITH SOAP (OR DETERGENT) IS A GOOD IDEA?	Yes .....1 No.....2 Indifferent 3	1⇨IK25 1⇨IK25
IK24B What is the main reason why you don't think it is not good to wash hands regularly with soap?	Lazy, takes time/effort……1 Not important……2 I've never used/seen soap……3 Soap is expensive/can't afford……..4 I don't know where to get soap…….5 I don't think soap is useful……6 Don't Know……..8	
IK25. AT WHAT TIMES DO YOU NORMALLY WASH YOUR HANDS WITH SOAP? (CIRCLE THE RESPONSES SPOKEN) (DO NOT PROMPT)		

	Mentioned	Not mentioned
[A] Before eating	1	2
[B] After using the toilet	1	2
[C] Every time / regularly	1	2
[D] Before cooking food	1	2
[E] When I have diarrhea	1	2
[F] After working	1	2
[G] When my hands look dirty	1	2
[H] After handling animals	1	2
[I] Don't know	98	
[J] None mentioned	99	
[K] Other (*specify*) ……6		

FERTILITY ..... CM		
All questions refer only to live births		
CM1. HAVE YOU EVER GIVEN BIRTH?	Yes……..1	

	No……2	2⇨Go to MD
CM2. WHAT WAS THE DATE OF YOUR FIRST BIRTH? I MEAN THE VERY FIRST TIME YOU GAVE BIRTH, EVEN IF THE CHILD IS NO LONGER LIVING, OR THE FATHER IS NOT YOUR CURRENT PARTNER. *If don't know year of birth, go to CM3* *If know year of birth, go to CM4*	Date of first birth Month …….. ___ ___ DK month……98 Year ……___ ___ ___ __ DK Year……...9998	Know⇨CM4
CM3. HOW MANY YEARS AGO DID YOU HAVE YOUR FIRST BIRTH?	Completed years since first birth __ __	
CM4. DO YOU HAVE ANY SONS OR DAUGHTERS TO WHOM YOU HAVE GIVEN BIRTH WHO ARE NOW LIVING WITH YOU?	Yes……..1 No……2	2⇨CM6
CM5. HOW MANY CHILDREN LIVE WITH YOU? *If none, record "00".*	Sons at home __ __ Daughters at home __ __	
CM6. DO YOU HAVE ANY SONS OR DAUGHTERS TO WHOM YOU HAVE GIVEN BIRTH WHO ARE ALIVE BUT DO NOT LIVE WITH YOU?	Yes……..1 No……2	2⇨CM8
CM7. HOW MANY SONS ARE ALIVE BUT DO NOT LIVE WITH YOU? HOW MANY DAUGHTERS ARE ALIVE BUT DO NOT LIVE WITH YOU? *If none, record "00".*	Sons elsewhere __ __ Daughters elsewhere __ __	
CM8. HAVE YOU EVER GIVEN BIRTH TO A BOY OR GIRL WHO WAS BORN ALIVE BUT LATER DIED?	Yes……..1 No……2	2⇨CM10

If "No" probe by asking: I MEAN; TO A CHILD WHO EVER BREATHED OR CRIED OR SHOWED OTHER SIGNS OF LIFE – EVEN IF HE OR SHE LIVED ONLY A FEW MINUTES OR HOURS?		
CM9. HOW MANY BOYS HAVE DIED? HOW MANY GIRLS HAVE DIED? *If none, record "00".*	Boys dead __ __ Girls dead ___ __	
CM10. *Sum answers to CM5, CM7, and CM9.*	Sum __ __	

CM11. JUST TO MAKE SURE THAT I HAVE THIS RIGHT, YOU HAVE HAD IN TOTAL (TOTAL NUMBER IN CM10) LIVE BIRTHS DURING YOUR LIFE. IS THIS CORRECT?

☐ Yes. *Check below*:

☐ No Live Births ⇨ Go to IS.

☐ One or more live births ⇨ Continue with CM12.

☐ No. ⇨ *Check responses to CM1-CM10 and make corrections as necessary before proceeding to CM12.*

CM12. WHEN DID YOU DELIVER THE LAST ONE (EVEN IF HE OR SHE HAS DIED)? *Month and year must be recorded.*	Date of last birth Month __ __ Year __ __ __ __	

CM13. *Check CM12*: Last birth occurred within the last 2 years, that is, since (month of interview) 2013

(if the month of interview and the month of birth are the same, and the year of birth is 2013, consider this as a birth within the last 2 years).

.....☐ No live birth in last 2 years. ⇨ *Go to MD1*.

.....☐ One or more live births in last 2 years. ⇨ *Ask for the name of the last-born child*.

..... Name of last-born child_____

..If child has died, take special care when referring to this child by name in the following modules.

.....*Continue with Next Module*.

MATERNAL AND NEWBORN HEALTH.....[MN]

This module is to be administered to all women with a live birth in the 2 years preceding the date of interview.

Record name of last-born child from CM13 here _____.

Use this child's name in the following questions, where indicated.

MN1. DID YOU SEE ANYONE FOR ANTENATAL CARE DURING YOUR PREGNANCY WITH (NAME)?

Yes..... 1

No 2

2⇨MN5

MN2. WHOM DID YOU SEE?

Probe:

ANYONE ELSE?

Probe for the type of person seen and circle all answers given.

	Yes	No
Health professional:		
[A] Doctor	1	2
[B] Nurse / Midwife	1	2
[C] Medical Assistant	1	2
Other person:		
[D] Traditional birth attendant	1	2
[E] Community health worker	1	2
[F] Other person……..…..6		

MN2A. HOW MANY MONTHS PREGNANT WERE YOU WHEN YOU FIRST RECEIVED ANTENATAL CARE FOR THIS PREGNANCY?

Record the answer as stated by respondent.

Months..... …….0 __

DK.....98

MN3. HOW MANY TIMES DID YOU RECEIVE ANTENATAL CARE DURING THIS PREGNANCY?

Probe to identify the number of times antenatal care was received. If a range is given, record the minimum number of times antenatal care received.

Number of times __ __

DK 98

MN4. AS PART OF YOUR ANTENATAL CARE DURING THIS PREGNANCY, WERE ANY OF THE FOLLOWING DONE AT LEAST ONCE:

[A] WAS YOUR BLOOD PRESSURE MEASURED?

[B] DID YOU GIVE A URINE SAMPLE?

[C] DID YOU GIVE A BLOOD SAMPLE?

	Yes	No
[A] Blood pressure	1	2
[B] Urine sample	1	2
[C] Blood sample	1	2
[D] Weight	1	2
[E] IFA	1	2
[F] Weight gain	1	2
[G] Breastfeeding	1	2
[H] Formula feed	1	2
[I] Complementary feeding	1	2

[D] WEIGHT MEASURED? [E] COUNSELING ON HOW TO TAKE IFA? [F] COUNSELING ON WEIGHT GAIN / EATING EXTRA? [G] COUNSELING TO BREASTFEED? [H] COUNSELING TO FORMULA FEED? [I] COUNSELING ON COMPLEMENTARY FEEDING?		
MN4A. CHECK MN3. If <4 continue with MN5 **If 4 or more go to MN6A**		
MN5. WHAT WERE THE MAIN REASONS YOU DID NOT SEE ANYONE FOR ANTENATAL CARE or YOU DID NOT HAVE AT LEAST 4 ANTENATAL CARE VISITS DURING YOUR PREGNANCY WITH (NAME)? If more than one reason, list the 3 top reasons (A, B, C), with A. being the top choice.	Did not want/not important……1 No money for transport/services……2 Travel not possible because of roads/lack of transport……3 Needed to take care of other children and/or work……4 Not allowed by family member……5 Does not like/trust closest ANC provider……6 Found out about pregnancy too late..7 Other……9 Specify_____ DK/refuse……8	RANK A. __ B. __ C. __
MN6A AS BEST AS YOU CAN REMEMBER, WHAT WAS YOUR WEIGHT JUST BEFORE YOU BECAME PREGNANT?	[A]Known __ __ __ kg	

If respondent does not know ask for an estimate.	[B]Estimated __ __ __ kg DK……8	
MN6B AS BEST AS YOU CAN REMEMBER, WHAT WAS YOUR WEIGHT JUST BEFORE YOU GAVE BIRTH? *If respondent does not know ask for an estimate.*	[A]Known __ __ __ kg [B]Estimated __ __ __ kg DK ……8	
MN7 DURING THIS PREGNANCY, WERE YOU GIVEN OR DID YOU BUY ANY IRON/IRON FOLIC ACID TABLETS OR IRON SYRUP?	Yes ……1 No……2 DK……8	2⇨MN8 8⇨MN8
MN7B. DURING THE WHOLE PREGNANCY, FOR HOW MANY DAYS DID YOU TAKE THE TABLETS OR SYRUP? *If answer is not numeric, probe for approximate number of days*	Days __ __ __ DK……..998	
MN8 DURING THIS PREGNANCY, WERE YOU GIVEN OR DID YOU BUY ANY DRUG FOR INTESTINAL WORMS/PARASITES? *Show tablet*	Yes ……1 No……2 DK……8	2⇨MN9 8⇨MN9
MN8B HOW MANY MONTHS PREGNANT WERE YOU WHEN YOU FIRST TOOK ANY DRUG FOR INTESTINAL WORMS/PARASITES *Record the answer as stated by respondent.*	Months …….__ _ DK……98	
MN9. DURING THIS PREGNANCY WERE YOU GIVEN OR DID YOU BUY ANY MULTIVITAMINS?	Yes ……1 No……2 DK……8	
MN10. WHO ASSISTED WITH THE DELIVERY OF (NAME)? *Probe:*	<table><tr><th></th><th>Yes</th><th>No</th></tr><tr><td colspan="3"><u>Health professional</u>:</td></tr><tr><td>[A] Doctor</td><td>1</td><td>2</td></tr></table>	

ANYONE ELSE? *Probe for the type of person assisting and circle all answers given.* *If respondent says no one assisted, probe to determine whether any adults were present at the delivery.*	**[B] Nurse / Midwife**	1	2	
	[C] Medical Assistant	1	2	
	Other person			
	[D] Traditional birth attendant	1	2	
	[E] Community health worker	1	2	
	[F] Relative / Friend	1	2	
	[G] Other (specify)……..6			
	[H] No one	1	2	

MN11. WHERE DID YOU GIVE BIRTH TO (NAME)? *Probe to identify the type of source.* *If unable to determine whether public or private, write the name of the place.* (Name of place) __ _____	**Home:** **Respondent's home** 11 **Other's home** 12 **Public sector:** **Government hospital** 21 **Government Clinic/ Health centre** 22 **Government Health Service Place** 23 **Other public (*specify*)……..26** **Private medical sector** **Private hospital** 31 **Private clinic** 32 **Private maternity home** 33 **Other (*specify*)……..96**	11⇨MN13A 12⇨MN13A Other specified ⇨MN13A
MN12. WAS (NAME) DELIVERED BY CAESAREAN SECTION? THAT IS, DID THEY CUT YOUR BELLY OPEN TO TAKE THE BABY OUT?	Yes……1 No……2	1⇨MN13B 2⇨MN13B
MN13A. WHAT WAS THE MAIN REASON YOU GAVE BIRTH TO (NAME) OUTSIDE A HEALTH CENTER OR HOSPITAL? If more than one reason, list the 3 top reasons (A, B, C), with A. being the top choice.	**Prefer to deliver at home / did not want to deliver in facility** 1 **No money for transport/services** 2 **Travel not possible because of roads/lack of transport** 3 **Needed to take care of other children and/or work** 4 **Not allowed by family member** 5 **Does not like/trust health facility** 6 **Other Specify……..9**	RANK A. __ B. __ C. __

	Refuse/ Don't know…8	
MN13B. WHEN (NAME) WAS BORN, WAS HE/SHE VERY LARGE, LARGER THAN AVERAGE, AVERAGE, SMALLER THAN AVERAGE, OR VERY SMALL?	Very large……..1 Larger than average…….2 Average……..3 Smaller than average……4 Very small……5 DK……8	
MN14. WAS (NAME) WEIGHED AT BIRTH?	Yes ……1 No……2 DK……8	 2⇨MN16 8⇨MN16
MN15. HOW MUCH DID (NAME) WEIGH? *If a card is available, record weight from card.*	From card 1 (kg) __ . __ __ __ From recall 2 (kg) __ . __ __ __ DK ……..9998	
MN16. NOW I WOULD LIKE TO ASK YOU SOME QUESTIONS ABOUT WHAT HAPPENED IN THE HOURS AND DAYS AFTER THE BIRTH OF (*name).* YOU HAVE SAID THAT YOU GAVE BIRTH IN (*name or type of facility in MN18*). HOW LONG DID YOU STAY THERE AFTER THE DELIVERY? *If less than one day, record hours.* *If less than one week, record days.* Otherwise, record weeks.	Hours ..... 1 __ __ Days ..... 2 __ __ Weeks..... 3 __ __ DK/remember..... 98	
MN17. WHO CHECKED ON ***YOUR*** HEALTH AT THAT TIME?	<table><tr><th></th><th>Yes</th><th>No</th></tr><tr><td colspan="3">Health professional:</td></tr><tr><td>[A] Doctor</td><td>1</td><td>2</td></tr><tr><td>[B] Nurse / Midwife</td><td>1</td><td>2</td></tr><tr><td>[C] Medical Assistant</td><td>1</td><td>2</td></tr><tr><td colspan="3">Other person:</td></tr><tr><td>[D] Traditional birth attendant</td><td>1</td><td>2</td></tr><tr><td>[E] Community</td><td>1</td><td>2</td></tr></table>	

	health worker | | | **[F] Other person (Specify) ……6**	
MN18. WHERE DID THIS CHECK **FOR YOU** TAKE PLACE? *Probe to identify the type of source.* *If unable to determine whether public or private, write the name of the place.* *(Name of place)*	**Home:** **Respondent's home** 11 **Other's home** 12 **Public sector:** **Government hospital** 21 **Government Clinic/ Health centre** 22 **Other public (*specify*)……..26** **Private medical sector** **Private hospital** 31 **Private clinic** 32 **Private maternity home** 33 **Other (*specify*)……..96**	
MN19A. AFTER THIS PREGNANCY, WERE YOU GIVEN OR DID YOU BUY ANY IRON/IRON FOLIC ACID TABLETS OR IRON SYRUP?	Yes ……1 No……2 DK……8	2⇨MN20 8⇨MN20
MN19B. AFTER THIS PREGNANCY, FOR HOW MANY DAYS DID YOU TAKE THE TABLETS OR SYRUP? *If answer is not numeric, probe for approximate number of days*	Days __ __ __ DK 998	
MN20. AFTER THIS PREGNANCY, WERE YOU GIVEN OR DID YOU BUY ANY DRUG FOR INTESTINAL WORMS/PARASITES?	Yes ……1 No……2 DK……8	
MN21. HAS YOUR MENSTRUAL PERIOD RETURNED SINCE THE BIRTH OF (NAME)?	Yes ……1 No……2	

<table>
<tr><td>MN22. DID YOU EVER BREASTFEED (NAME)?</td><td>Yes……1
No……..2</td><td>
2⇨[MN27]</td></tr>
<tr><td>MN23. HOW LONG AFTER BIRTH DID YOU FIRST PUT (NAME) TO THE BREAST?

If less than 1 hour, record “00” hours.
If less than 24 hours, record hours.
Otherwise, record days.</td><td>Immediately……000

Hours 1…… __ __

Days 2 ……..__ __

DK / Don’t remember 998</td><td></td></tr>
<tr><td>MN24. IN THE FIRST THREE DAYS AFTER DELIVERY, WAS (NAME) GIVEN ANYTHING TO DRINK OTHER THAN BREAST MILK?</td><td>Yes……1
No……2</td><td>2⇨[MN27]</td></tr>
<tr><td>MN25. WHAT WAS (NAME) GIVEN TO DRINK?

Probe:
ANYTHING ELSE?</td><td><table>
<tr><th></th><th>Yes</th><th>No</th></tr>
<tr><td>[A] Milk (not breastmilk)</td><td>1</td><td>2</td></tr>
<tr><td>[B] Infant formula</td><td>1</td><td>2</td></tr>
<tr><td>[C] Plain water</td><td>1</td><td>2</td></tr>
<tr><td>[D] Sugar or glucose water</td><td>1</td><td>2</td></tr>
<tr><td>[E] Gripe water</td><td>1</td><td>2</td></tr>
<tr><td>[F] Sugar-salt-water solution</td><td>1</td><td>2</td></tr>
<tr><td>[G] Fruit juice</td><td>1</td><td>2</td></tr>
<tr><td>[H] Tea / Infusions</td><td>1</td><td>2</td></tr>
<tr><td>[I] Honey</td><td>1</td><td>2</td></tr>
<tr><td colspan="3">[J] Other (specify)……..6</td></tr>
</table></td><td></td></tr>
<tr><td>MN26. WAS (NAME) GIVEN (NAME OF TRADITIONAL PRELACTEAL FEED) IN THE FIRST THREE DAYS AFTER DELIVERY?</td><td>Yes ……1
No……2
DK……8</td><td></td></tr>
</table>

.		RANK A. __ B. __ C. __

MN27. WHO ARE YOU MOST LIKELY TO LISTEN TO WHEN MAKING DECISIONS ABOUT FEEDING YOUR CHILD? EXCLUDING MEDIA SUCH AS NEWSPAPERS, TELEVISION, AND RADIO; AND WORD OF MOUTH FROM PEOPLE YOU KNOW OR WORKERS, If more than one person, list the 3 top choices (A, B, C), with #1 being the top choice.	**Family** **Mother / Relative** 1 **Friend** 2 **Health Professional** **Doctor** 3 **Nurse / Midwife** 4 **Medical Assistant** 5 **Other person** **Traditional birth attendant** 6 **Community health worker** 7 **Lao Women's Union Volunteer** 8 **Other (specify)……..9**	RANK A. __ B. __ C. __

MATERNAL DIET AND IYCF ATTITUDES ..... [MD]		
MD1. ARE YOU PREGNANT NOW?	Yes, currently pregnant……1	1=MD3
	No……2	2=MD2
	Unsure or DK……8	8=MD2

MD2. *Check CM13*: Last birth occurred within the last 2 years, that is, since (month of interview) in 2013

(if the month of interview and the month of birth are the same, and the year of birth is 2013, consider this as a birth within the last 2 years).

..... ☐ No live birth in last 2 years. ⇨ *Next Module*.

..... ☐ One or more live births in last 2 years. ⇨ *MD3*.

Explain that the statement can be right or wrong. Then, read each statement and ask respondent to agree or disagree

MD3. DO YOU AGREE OR DISAGREE WITH THE FOLLOWING STATEMENTS?

[A] A child needs to drink a liquid other than breastmilk, such as water, tea, or juice, immediately after birth or in the first 3 days after birth.

[B] For the first six months breastmilk alone is enough food for a child.

[C] Infant formula is better or the same as breastmilk for a child.

[D] For the first six months a child who is not sick needs to drink a liquid other than breastmilk, such as water, tea, or juice.

	Agree	Disagree
[A] A child needs to drink a liquid other than breastmilk, such as water, tea, or juice, immediately after birth or in the first 3 days after birth.	1	2
[B] For the first six months breastmilk alone is enough food for a child.	1	2
[C] Infant formula is better or the same as breastmilk for a child.	1	2
[D] For the first six months a child who is not sick needs to drink a liquid other than breastmilk, such as water, tea, or juice.	1	2

MD4. DOES ANYONE IN YOUR SOCIAL NETWORK (SPOUSE, RELATIVES, FRIENDS, BOSS, OTHER PEOPLE YOU ARE CLOSE TO) DISAPPROVE OF YOU BREASTFEEDING?	Yes……..1 No……2	

MD5. I WOULD LIKE TO ASK YOU ABOUT FOODS THAT YOU MAY HAVE HAD YESTERDAY DURING THE DAY OR THE NIGHT. AGAIN, I AM INTERESTED TO KNOW WHETHER YOU HAD THE ITEM EVEN IF COMBINED WITH OTHER FOODS. Please include foods consumed outside of your home. YESTERDAY DURING THE DAY OR NIGHT, DID YOU DRINK/EAT (FOOD GROUP ITEMS)? *Questions and filters (Circle the corresponding code and you can underline more than one answer)* Always start with: 'YESTERDAY DID YOU EAT….'		
[A] ANY OFFAL ITEMS (excluding intestines)? Probe: SUCH AS LIVER, BRAIN, LUNG, HEART, GIZZARD, KIDNEY, OF ANY ANIMAL	Yes ……1 No……2 DK……8	
[B] THE INTESTINE OF ANY ANIMAL?	Yes ……1 No……2 DK……8	
[C] ANY KIND OF MEAT? *Probe:* SUCH AS ANY MEAT, SUCH AS BEEF (FRESH OR DRY), BUFFALO, PORK, GOAT, CHICKEN, GOOSE, DUCK, SAUSAGE, BLOOD SAUSAGE, SOUR SAUSAGE	Yes ……1 No……2 DK……8	
[D] ANY KIND OF EGGS? *Probe:* 'SUCH AS?' EGGS FROM CHICKEN, DUCK, TURTLE OR OTHER ANIMALS	Yes ……1 No……2 DK……8	

[E] ANY KIND OF FISH OR AQUATIC ANIMALS? Probe: 'SUCH AS?' FRESH, FERMENTED OR DRIED FISH, SWAMP EEL, SQUID, SHRIMP (FRESH OR DRY), CRAB, GRANULATED ARK, CLAM, SNAIL, FROG, WATER INSECTS	Yes ……..1 No…….2 DK……8	
[F] ANY KIND OF WILD ANIMALS? Probe: 'Such As?' Lizard, Rat, Rabbit, Wild Bird, Small Birds	Yes ……..1 No…….2 DK……8	
[G] ANY KIND OF INSECTS OR GRUBS? Probe: 'SUCH AS?' SILK WORM PUPA, CRICKET, WEAVER ANT, ANT EGG,	Yes ……..1 No…….2 DK……8	
[H] ANY KIND OF DAIRY PRODUCTS (not including Coffee Creamer)? Probe: 'SUCH AS?' CHEESE (BUTTER), YOGURT, OR OTHER MILK PRODUCTS	Yes ……..1 No…….2 DK……8	
[I] OTHER FOODS THAT CAME FROM AN ANIMAL. (Write down other foods the respondent names that come from an animal.) _____	Yes ……..1 No…….2 DK……8	
J. Rice (sticky rice, white rice), Maize / Corn, Cassava, Other roots of tubers (potatoes, yam)	Yes ……..1 No…….2 DK……8	

K. Pulses/Lentils/Tofu/Bean Curd	Yes ……..1 No…….2 DK…….8	
L. Nuts or seeds (e.g. sesame seeds, mung bean, ground bean, sun flower seed, cashew nuts etc.)	Yes ……..1 No…….2 DK…….8	
M. ANY DARK GREEN LEAFY VEGETABLES SUCH AS PAK CHOI, SWAMP CABBAGE, MORNING GLORY, SWEET POTATO LEAVES, CHINESE KALE	Yes ……..1 No…….2 DK…….8	
N. RIPE ORANGE FLESHED MANGOES, RIPE ORANGE FLESHED PAPAYAS, Pumpkin, carrots,sweet potatoes that are yellow or orange inside?	Yes ……..1 No…….2 DK…….8	
O. Other vegetables	Yes ……..1 No…….2 DK…….8	
P. Other fruit	Yes ……..1 No…….2 DK…….8	
Q. Other Specify: _____	Yes ……..1 No…….2 DK…….8	
MD6, HOW MANY TIMES DID YOU EAT YESTERDAY DURING THE DAY AND NIGHT? *Circle the corresponding answer.*	1 meal……1 2 meals……..2 3 meals……..3 4 meals……..4 5 meals……..5 6 or more meals…6 DK……8	

MD7. YESTERDAY, DID YOU EAT MORE FOR YOUR CHILD. THAT IS, DID YOU EAT MORE THAN YOU DID BEFORE BECOMING PREGNANT / HAVING A BABY?	Yes ……1 No……2 DK……8	
MD8. YESTERDAY, DID YOU EAT AN EXTRA MEAL(S) FOR YOUR CHILD. THAT IS, DID YOU EAT MORE MEALS THAN YOU DID BEFORE BECOMING PREGNANT / HAVING A BABY?	Yes ……1 No……2 DK……8	
MD9. YESTERDAY, DID YOU EAT EXTRA SNACKS FOR YOUR CHILD. THAT IS, DID YOU EAT MORE SNACKS THAN YOU DID BEFORE BECOMING PREGNANT / HAVING A BABY?	Yes ……1 No……2 DK……8	
MD10. DID YOU RECEIVE ANY RICE SOYA BLEND, CORN SOYA BLEND, NUTRIBUTTER SINCE YOU BECAME PREGNANT OR DURING YOUR MOST RECENT PREGNANCY IN LAST 2 YEARS? *Show pictures of products. Nutributter is given in supplementary feeding programmes for pregnant women.*	Yes ……1 No……2 DK……8	
MD11. DID YOU RECEIVE ANY RICE SINCE YOU BECAME PREGNANT OR DURING MOST RECENT PREGNANCY IN LAST 2 YEARS?	Yes ……1 No……2 DK……8	

ILLNESS SYMPTOMS ..... IS

IS1. Check List of Household Members, columns HL8 and HL11:

Is the respondent the mother or caretaker of any child under age 5?

.....☐ Yes ⇨ Continue with IS2.

..... ☐ No ⇨ Go to Next Module.

IS2. SOMETIMES CHILDREN HAVE SEVERE ILLNESSES AND SHOULD BE TAKEN IMMEDIATELY TO A HEALTH FACILITY.

WHAT TYPES OF SYMPTOMS WOULD CAUSE YOU TO TAKE A CHILD UNDER THE AGE OF 5 TO A HEALTH FACILITY RIGHT AWAY?

.....

.....

ANY OTHER SYMPTOMS?

Keep asking for more signs or symptoms until the mother/caretaker cannot recall any additional symptoms.

Circle all symptoms mentioned, but do not prompt with any suggestions

	Yes	No
[A] Child not able to drink or breastfeed	1	2
[B] Child becomes sicker	1	2
[C] Child develops a fever	1	2
[D] Child has fast breathing	1	2
[E] Child has difficulty breathing	1	2
[F] Child has blood in stool	1	2
[G] Child is drinking poorly	1	2
[H] Child is eating poorly	1	2
[I] Child is easily fatigued / loss of energy	1	2
[J] Child is pale or yellow / jaundiced	1	2
[K] Child is too thin	1	2
[L] Child is swollen / pitting oedema	1	2
[M] Other (specify)…….6		

TOBACCO USE ..... TA

TA1. HAVE YOU EVER TRIED CIGARETTE OR PIPE SMOKING, EVEN ONE OR TWO PUFFS?	Yes…….1	

Including rolled leaves or other forms of traditional cigarettes	No……..2	2⇨TA6
TA2. HOW OLD WERE YOU WHEN YOU SMOKED A WHOLE CIGARETTE/PIPE FOR THE FIRST TIME?	Age ___ ___	
TA3. DO YOU CURRENTLY SMOKE CIGARETTES / PIPE?	Yes……..1 No……2	 2⇨TA6
TA4. IN THE LAST 24 HOURS, HOW MANY CIGARETTES/PIPES DID YOU SMOKE?	Number of cigarettes ___ ___	
TA5. WHAT TYPE OF SMOKELESS TOBACCO PRODUCT DID YOU USE DURING THE LAST ONE MONTH? Circle all mentioned.	**Chewing tobacco** **1** **Betel nut** 2 **Snuff** 3 **Dip** 4 **Don't use** 5 **Other (specify)……..6**	
TA6. IS THERE A TIME WHEN A WOMAN SHOULD NOT SMOKE? If pregnancy mentioned without prompting circle 1. If no time mentioned, prompt SHOULD A WOMAN STOP SMOKING WHILE PREGNANT? If response yes, circle 2	Yes, pregnancy (not prompted)……1 Yes, pregnancy (prompted)……2 No (anytime)……..3 Other……..7 Specify_____ Don't Know……8	

WM11. Record the time.	Hour and minutes.....__ __ : __ __	

WM12. Check List of Household Members, columns HL8 and HL11:

Is the respondent the mother or caretaker of any child aged under 59 months living in this household?

..... ☐ Yes ⇨
.....Proceed to complete the result of woman's interview (WM7) on the cover page and then go to

.....
..... Questionnaire for Children Under Five for that child and start the interview with this

.....
.....respondent.

.....☐ No ⇨
..... End the interview with this respondent by thanking her for her cooperation and proceed to

.....
.....complete the result of woman's interview (WM7) on the cover page.

QUESTIONNAIRE FOR CHILDREN UNDER FIVE

Lao Subnational Food and Nutrition Security Survey

UNDER-FIVE CHILD INFORMATION PANEL	**UF**
This questionnaire is to be administered to all mothers or caretakers (see List of Household Members, column HL11) who care for a child that lives with them and is under the age of 5 years (see List of Household Members, column HL6). A separate questionnaire should be used for each eligible child.	
Province ..... District ..... Village ..... Code: __ __ Code: __ __ Code: __ __ ___ Cluster Code: __ __ __ __	
UF1. Household Listing Number: _____ ___ ___ ___ ___	**UF2**. Number of Selected Household: ___ ___
UF3. Child's name (HL2): Name.....	**UF4**. Child's line number (HL1): ___ ___
UF5. Mother's / Caretaker's name: Name.....	**UF6**. Mother's / Caretaker's line number (HL1): ___ ___
UF7. Interviewer's name and number: Name_____ ___ ___ ___	**UF8**. Day / Month / Year of interview: ___ ___ /___ ___ / 2 0 1 ___

Repeat greeting if not already read to this respondent: WE ARE FROM THE NATIONAL STATISTICS CENTRE AND MINISTRY OF HEALTH. WE ARE CONDUCTING A SURVEY ABOUT THE SITUATION OF CHILDREN, FAMILIES AND HOUSEHOLDS. I WOULD LIKE TO TALK TO YOU ABOUT (*child's name from UF3*)'S HEALTH AND WELL-BEING. THE INTERVIEW WILL TAKE ABOUT ***30***	*If greeting at the beginning of the household questionnaire has already been read to this person, then read the following:* NOW I WOULD LIKE TO TALK TO YOU MORE ABOUT (*child's name from UF3*)'S HEALTH AND OTHER TOPICS. THIS INTERVIEW WILL TAKE ABOUT 30 MINUTES. AGAIN, ALL THE INFORMATION WE OBTAIN WILL REMAIN STRICTLY CONFIDENTIAL AND

MINUTES. ALL THE INFORMATION WE OBTAIN WILL REMAIN STRICTLY CONFIDENTIAL AND ANONYMOUS.	ANONYMOUS.

MAY I START NOW?

- ☐ *Yes, permission is given ⇨ Go to UF12 to record the time and then begin the interview.*
- ☐ *No, permission is not given ⇨ Circle '03' in UF9. Discuss this result with your supervisor.*

UF9. Result of interview for children under 5	Completed .....01 Not at home .....02 Refused .....03 Partly completed .....04 Incapacitated .....05 Other (*specify*) _____96
UF10. Data Editor name and number: Name_____ __ __	**UF11**. Main data entry clerk's name and number: Name_____ __ __
UF12. Record the time.	Hour and minutes..... __ __ : __ __

AGE		AG
AG1. NOW I WOULD LIKE TO ASK YOU SOME QUESTIONS ABOUT THE DEVELOPMENT AND HEALTH OF (*name*). ON WHAT DAY, MONTH AND YEAR WAS (*name*) BORN? *Probe:* WHAT IS HIS / HER BIRTHDAY? If the mother/caretaker knows the exact birth date, also enter the day; otherwise, circle 98 for day. Month and year must be recorded.	Date of birth Day .....__ __ DK day.....98 Month.....__ __ Year .....2 0 __ __	
AG2. HOW OLD IS (*name*)? *Probe*: HOW OLD WAS (*name*) AT HIS / HER LAST BIRTHDAY? Record age in completed years. Record '0' if less than 1 year. Compare and correct AG1 and/or AG2 if inconsistent.	Age (in completed years) .....__	

EARLY CHILDHOOD DEVELOPMENT **EC**

EC1. SOMETIMES ADULTS TAKING CARE OF CHILDREN HAVE TO LEAVE THE HOUSE TO GO SHOPPING, WASH CLOTHES, WORK IN THE FIELDS OR FOR OTHER REASONS AND HAVE TO LEAVE YOUNG CHILDREN.

ON HOW MANY DAYS IN THE PAST WEEK WAS (*name*):

[A] LEFT ALONE FOR MORE THAN AN HOUR? [A] Number of days.....__

[B] LEFT IN THE CARE OF ANOTHER YOUNG CHILD, THAT IS, SOMEONE LESS THAN 10 YEARS OLD, FOR MORE THAN AN HOUR? [B] Number of days .....__

[C] LEFT IN THE CARE OF ANOTHER ADULT (GRANDPARENT, OTHER RELATIVE, NEIGHBOR, OTHER) FOR MORE THAN THREE HOURS? [C]Number of days .....__

If 'none' enter' 0'. If 'don't know' enter'8'.

EC2. IN THE PAST 3 DAYS, DID YOU OR ANY HOUSEHOLD MEMBER AGE 15 OR OVER ENGAGE IN ANY OF THE FOLLOWING ACTIVITIES WITH (*name*):

If yes, ask:
WHO ENGAGED IN THIS ACTIVITY WITH (*name*)?

Circle all that apply.

	Mum	**Dad**	**Other**	**No one**
i) Read books	A	B	X	Y
ii) Told stories	A	B	X	Y
iii) Sang songs	A	B	X	Y
iv) Took outside	A	B	X	Y
v) Played with	A	B	X	Y
vi) Named/c	A	B	X	Y

	ounted				
	vii) Encouraged to eat	A	B	X	Y

BREASTFEEDING AND DIETARY INTAKE (BD)		
BD1. *Check AG2: Age of child* ☐ *Child age under 24 months ⇨ Continue with BD2* ☐ *Child age over 24 months ⇨ Go to SUPPLEMENTATION and IMMUNIZATION Module (IM).*		
BD2. HAS (*name*) EVER BEEN BREASTFED?	Yes……1 No……...2 DK……8	 2⇨BD4 8⇨BD4
BD2B. HAS (NAME) EVER BEEN BREASTFED BY SOMEONE OTHER THAN (NAME'S) MOTHER?	Yes……1 No……...2 DK……8	
BD3A. IS (*name*) STILL BEING BREASTFED?	Yes……1 No……...2 DK……8	 2⇨BD4 8⇨BD4
BD3B. HOW MANY TIMES DID YOU BREASTFEED LAST NIGHT BETWEEN SUNSET AND SUNRISE? IF ANSWER IS NOT NUMERIC, PROBE FOR APPROXIMATE NUMBER	 __ __	
BD3C. HOW MANY TIMES DID YOU BREASTFEED YESTERDAY DURING THE DAYLIGHT HOURS? IF ANSWER IS NOT NUMERIC, PROBE FOR APPROXIMATE NUMBER	 __ __	
BD4. YESTERDAY, DURING THE DAY OR NIGHT, DID (*name*) DRINK ANYTHING FROM A BOTTLE WITH A NIPPLE?	Yes……1 No……...2 DK……8	
BD5. DID (*NAME*) DRINK ORS ((*ORALITE / NAM THA LAY PHOUN*) YESTERDAY, DURING THE DAY OR NIGHT?	Yes……1 No……...2 DK……8	

BD6A. DID (*name*) DRINK OR EAT VITAMIN OR MINERAL SUPPLEMENTS YESTERDAY, DURING THE DAY OR NIGHT?	Yes……1 No……...2 DK……8	
BD7. NOW I WOULD LIKE TO ASK YOU ABOUT (OTHER) LIQUIDS THAT (*name*) MAY HAVE HAD YESTERDAY DURING THE DAY OR THE NIGHT. I AM INTERESTED TO KNOW WHETHER (*name*) HAD THE ITEM EVEN IF COMBINED WITH OTHER FOODS. PLEASE INCLUDE LIQUIDS CONSUMED OUTSIDE OF YOUR HOME. DID (*name*) DRINK (*Name of item*) YESTERDAY DURING THE DAY OR THE NIGHT:	Yes No DK	
[A] PLAIN WATER?	Plain water 1 2 8	
[B] JUICE OR JUICE DRINKS?	Juice/juice drinks 1 2 8	
[C] DID (*NAME*) DRINK CLEAR BROTH/SOUP (NAM KAENG) YESTERDAY, DURING THE DAY OR NIGHT?	Soup 1 2 8	
[D] MILK SUCH AS TINNED, POWDERED, OR FRESH ANIMAL MILK? *If yes:* HOW MANY TIMES DID (*name)* DRINK MILK? *If 7 or more times, record '7'.* *If unknown, record '8'.*	Milk 1 2 8 Number of times drank milk ____	
[E] INFANT FORMULA? *If yes:* HOW MANY TIMES DID (*name)* DRINK INFANT FORMULA? *If 7 or more times, record '7'.* *If unknown, record '8'.*	Infant formula 1 2 8 Number of times drank infant formula ____	
[F] ANY OTHER LIQUIDS?	Other liquids 1 2 8 (*Specify*)_____	

BD7G. Check BD7D
If 1 Yes ⇨BD7H
If 2 No ⇨BD7I

BD7H. ***Ask to see all of the milk products that the child consumed.*** **Did name receive coffee creamer or condensed milk yesterday during the day or night?**	Yes, observed……1 Yes, not observed……..2 No…….0 DK…….8	
BD7I. Check BD7F **Is water with honey specified** **1 Yes⇨ circle yes** **2 No⇨ Ask:** **DID NAME DRINK WATER WITH HONEY YESTERDAY DURING THE DAY OR NIGHT?**	Yes……1 No……...2 DK.....8	

BD8. NOW I WOULD LIKE TO ASK YOU ABOUT (OTHER) FOODS THAT (*name*) MAY HAVE HAD YESTERDAY DURING THE DAY OR THE NIGHT. AGAIN, I AM INTERESTED TO KNOW WHETHER (*name*) HAD THE ITEM EVEN IF COMBINED WITH OTHER FOODS. Please include foods consumed outside of your home.					
Did (*NAME*) eat (*NAME OF FOOD*) yesterday during the day or the night:		Yes	No	DK	
[A] Yogurt?	Yogurt	1	2	8	
If yes: HOW MANY TIMES DID (*name)* DRINK OR EAT YOGURT? *IF 7 OR MORE TIMES, RECORD '7'. IF UNKNOWN, RECORD '8'.*	Number of times drank/ate yogurt __				
[B] *COMMERCIALLY FORTIFIED BABY FOOD, E.G., CERELAC*?	Commercial Baby Food	1	2	8	
[C] THIN PORRIDGE Falls off spoon easily *SOLID PORRIDGE WILL STICK TO SPOON*	Thin porridge	1	2	8	
[D] STICKY RICE (WHITE OR BROWN), ROASTED RICE, RICE, PRE-CHEWED RICE, RICE NOODLES, MAIZE, NOODLES, THICK PORRIDGE, OR OTHER FOODS MADE FROM GRAINS?	Foods made from grains	1	2	8	
if yes to sticky rice: HOW MANY TIMES DID (*name)* EAT STICKY RICE? _____*If 7 or more times, record '7'. If unknown, record '8'.*	Number of times at sticky rice __				
[E] PUMPKIN, CARROTS OR SWEET POTATOES THAT ARE YELLOW OR ORANGE INSIDE?	Pumpkin, carrots, etc.	1	2	8	
[F] WHITE OR PURPLE COLORED FOODS FROM ROOTS SUCH AS WHITE YAMS, PURPLE YAMS, YAM BEAN, CASSAVA, WHITE RADISH, WHITE POTATO, OR ANY OTHER WHITE OR PURPLE	White potatoes, white yams, manioc, cassava, etc.	1	2	8	

COLOURED FOOD FROM ROOTS		
[G] ANY DARK GREEN LEAFY VEGETABLES SUCH AS PAK CHOI, SWAMP CABBAGE, MORNING GLORY, SWEET POTATO LEAVES, CHINESE KALE	Dark green, leafy vegetables 1 2 8	
[H] RIPE ORANGE FLESHED MANGOES, RIPE ORANGE FLESHED PAPAYAS	Ripe mangoes, papayas 1 2 8	
[J] ANY OTHER FRUITS OR VEGETABLES?	Other fruits or vegetables 1 2 8	
[K] LIVER, BRAIN, LUNG, HEART, GIZZARD, KIDNEY, INTESTINE, OR OTHER ORGAN OF ANY ANIMAL	Liver, kidney, heart or other organ meats	
[L] ANY MEAT, SUCH AS BEEF (FRESH OR DRY), BUFFALO, PORK, LAMB, GOAT, CHICKEN, GOOSE, DUCK, SAUSAGE, BLOOD SAUSAGE, SOUR SAUSAGE	Meat, such as beef, pork, lamb, goat, etc. 1 2 8	
[M] EGGS FROM CHICKEN, DUCK, TURTLE OR OTHER ANIMALS	Eggs 1 2 8	
[N] FRESH, FERMENTED OR DRIED FISH, SWAMP EEL, SQUID, SHRIMP (FRESH OR DRY), SHELLFISH, CRAB, GRANULATED ARK, CLAM, SNAIL	Fresh or dried fish 1 2 8	
[O] ANY WILD ANIMALS SUCH AS LIZARD, FROG, RAT, RABBIT, WILD BIRD, SMALL BIRD	Wild animals 1 2 8	
[P] INSECTS OR GRUBS SUCH AS SILK WORM PUPA, CRICKET, WEAVER ANT, ANY INSECT EGGS, WATER INSECTS	Insects 1 2 8	
[Q] ANY FOODS MADE FROM BEANS, LEUCANEA (BEAN), COMMON PEA, LENTILS, OR NUTS, INCLUDING TOFU?	Foods made from beans, tofu, etc. 1 2 8	
[R] CHEESE OR OTHER FOOD MADE FROM MILK?	Cheese or other food made from milk 1 2 8	
[S] ANY OIL, PORK FAT, OR BUTTER OR FOODS MADE WITH ANY OF THESE	Oil or fat 1 2 8	
[T] ANY SUGARY FOODS SUCH AS CHOCOLATES, SWEETS, CANDIES, PASTRIES, CAKES, OR BISCUITS	Sugary foods 1 2 8	
[U] ANY OTHER SOLID, SEMI-SOLID, OR SOFT FOOD THAT I HAVE NOT MENTIONED?	Other solid, semi-solid, or soft food	

(*Specify*)_____		
BD9. *Check BD8 (Categories "A" through "U").* ☐ *At least one "Yes" or all "DK" ⇨ Go to BD11.* ☐ *Else ⇨ Continue with BD10.*		
BD10. *Probe to determine whether the child ate any solid, semi-solid or soft foods yesterday during the day or night .* ☐ *The child did not eat or the respondent does not know ⇨ Go to BD21.* ☐ *The child ate at least one solid, semi-solid or soft food item mentioned by the respondent ⇨ Go back to BD8 and record food eaten yesterday [A to U]. When finished, continue with BD11.*		
BD11. HOW MANY TIMES DID (*name*) EAT ANY SOLID, SEMI-SOLID OR SOFT FOODS YESTERDAY DURING THE DAY OR NIGHT? *If 7 or more times, record '7'.*	Number of times .....__ DK.....8	
BD12. WAS (NAME) EVER FED WITH FOOD THAT WAS CHEWED BY SOMEONE ELSE BEFORE GIVING TO (NAME), THAT IS DID (NAME) EVER RECEIVE PRE-CHEWED FOOD)?	Yes..... 1 No ..... 2 DK..... 8	 2⇨BD14 8⇨BD14
BD13A. IN THE PAST WEEK HOW MANY TIMES HAS (NAME) RECEIVED PRE-CHEWED FOOD?	__ __	
BD13B. THE LAST TIME (NAME) ATE A MEAL DID (NAME) RECEIVE PRECHEWED FOOD?	Yes..... 1 No ..... 2 DK..... 8	
BD14. THE LAST TIME (NAME) ATE A MEAL WHO PREPARED THE FOOD?	Mother..... 1 Father ..... 2 Grandparent..... 3 Other adult/ relative ..... 4 Other child under age 15 ..... 5 Restaurant/shop ..... 6 Friend..... 7	

	Other_____ ..... 9 Don't know 8	 8⇨BD16
BD15. DID (FOOD PREPARER) WASH HIS/HER HANDS BEFORE PREPARING FOOD?	Yes ..... 1 No ..... 2 DK 8	
BD16. THE LAST TIME (NAME) ATE A MEAL WHAT DID (NAME) EAT FROM?	Food in the same bowl/plate of entire family ..... 1 Food in the same bowl/plate Of another family member ..... 2 Food in a bowl/plate only for the child ..... 3 DK 8	
BD17. BEFORE (NAME'S) LAST MEAL DID SHE WASH HER OWN HANDS OR HAVE HER HANDS WASHED BY ANYONE ELSE?	Yes ..... 1 No ..... 2 DK 8	
BD18. THE LAST TIME (NAME) ATE A MEAL DID [NAME] FEED HERSELF?	Yes ..... 1 Yes, with help ..... 2 No ..... 3 DK 8	1⇨BD20
BD19. THE LAST TIME (NAME) ATE A MEAL WHO FED HER OR HELPED HER TO FEED HERSELF?	Mother ..... 1 Father ..... 2 Grandparent ..... 3 Other adult relative ..... 4 Other child under age 15 ..... 5 Friend ..... 6 Other_____ ..... 7 Don't know 8	

BD19A. THE LAST TIME (NAME) ATE, DID THE CAREGIVER WASH THEIR HANDS BEFORE FEEDING?	Yes……1 No……2 Don't know……8	
BD20. THE LAST TIME (NAME) ATE A MEAL HOW DID (NAME) EAT?	With hands only ..... 1 With spoon or utensil only ..... 2 With hands and spoon or utensil ..... 3 DK 8	
BD21. *Check AG2 and BD3A: Age of child and breastfeeding* ☐ *Child age 0, 1 and NOT breastfeeding ⇨ Continue with BD22.* ☐ CHILD AGE 2, 3 OR 4 OR BREASTFEEDING ⇨ GO TO NEXT MODULE [IM].		
BD22. WHY IS (NAME) NOT CURRENTLY BREASTFED? CIRCLE ALL THAT APPLY		

	YES	NO
[A] Child not living with mother	1	2
[B] Mother never wanted to breastfeed	1	2
[C] Mother wanted to stop breastfeeding	1	2
[D] Mother's breast milk never came, stopped coming, or was not enough	1	2
[E] Child refuses or is unable to eat breastmilk	1	2
[F] Other……6		

SUPPLEMENTATION AND **IMMUNIZATION**		**IM**
If an immunization **(child health)** card is available, copy the dates in IM3 for each type of immunization and Vitamin A recorded on the card. IM6-IM17 will only be asked if a card is not available.		
IM1. DO YOU HAVE A CARD WHERE (*name*)'S	Yes, seen.....1	1⇨IM3

VACCINATIONS ARE WRITTEN DOWN? *If yes:* MAY I SEE IT PLEASE?	Yes, not seen.....2 No card 3	2⇨IM5 3⇨IM2
IM2. DID YOU EVER HAVE A VACCINATION ***(child health)*** CARD FOR (*name*)?	Yes .....1 No 2	1⇨IM5 2⇨IM5
IM3 & IM4 Copy dates for measles and most recent vitamin A, deworming, and micronutrient powder from the card. Write '44' in day column if card shows that vaccination was given but no date recorded. (Leave blank if have card but no date recorded because child has not had the vaccination yet)	Date of Immunization Day | Month | Year	
IM3. MEASLES (OR MMR OR MR) **MEASLES**		
IM4A. VITAMIN A (MOST RECENT)		
IM4B. DEWORMING (MOST RECENT)		
IM4C. MICRONUTRIENT POWDER (SUPERKID OR SPRINKLE)		
IM5. HAS (*name*) EVER RECEIVED ANY VACCINATIONS TO PREVENT HIM/HER FROM GETTING DISEASES, INCLUDING VACCINATIONS RECEIVED IN A CAMPAIGN OR IMMUNIZATION DAY OR CHILD HEALTH DAY?	Yes .....1 No .....2 DK.....8	 2⇨IM7 8⇨IM7
IM6. HAS (*name*) EVER RECEIVED A MEASLES INJECTION (OR AN MMR OR MR) – THAT IS, A SHOT IN THE ARM AT THE AGE OF 9 MONTHS OR OLDER - TO PREVENT HIM/HER FROM GETTING MEASLES?	Yes .....1 No .....2 DK.....8	
IM7. HAS (name) EVER RECEIVED A VITAMIN A DOSE (THIS/ANY OF THESE)? *Show common types of capsules*	Yes .....1 No .....2 DK.....8	 2⇨IM9 8⇨IM9
IM8. HAS (*name*) RECEIVED A VITAMIN A DOSE LIKE (THIS/ANY OF THESE) WITHIN	Yes 1	

THE LAST 6 MONTHS? *Show common types of capsules*	No .....2 DK.....8	
IM9. HAS (name) EVER RECEIVED OR DID YOU BUY DEWORMING (THIS)? *SHOW COMMON TYPES OF PILL*	Yes .....1 No .....2 DK.....8	 2⇨IM12A 8⇨IM12A
IM10. HAS (name) RECEIVED DEWORMING (THIS) WITHIN THE LAST 6 MONTHS? *SHOW COMMON TYPES OF PILL*	Yes .....1 No .....2 DK.....8	
IM11. IN THE LAST YEAR HAS (name) TAKEN Deworming AT LEAST TWO TIMES? *SHOW COMMON TYPES OF PILL*	Yes .....1 No .....2 DK.....8	
IM11A. IN THE LAST YEAR HAS (name) TAKEN Vitamin A AT LEAST TWO TIMES? *SHOW COMMON TYPES OF AMPULE*	Yes .....1 No .....2 DK.....8	
IM12A. HAVE YOU EVER HEARD, SEEN OR READ ANYTHING ABOUT 'SUPERKID'? Do not prompt.	Yes .....1 No .....2 DK.....8	 2⇨IM21 8⇨IM21
IM12B. WHAT IS SUPERKID? Do not prompt. Answer of vitamin, multivitamin, micronutrient powder or food additive for good nutrition/health are correct	Identified correctly .....1 Not identified correctly.....2 Specify_____ DK.....8	
IM12C HAVE YOU EVER HEARD, SEEN OR READ ANYTHING ABOUT SUPERKID/MNP IN THE MEDIA OR ANYWHERE ELSE, NOT INCLUDING WORD OF MOUTH?	Yes ..... No 2	 2⇨IM12F
IM12D PLEASE NAME ALL OF THE SOURCES WHERE YOU HEARD, SAW, OR	**Spont** | **Aided** | **No**	

READ A MESSAGE ON SUPERKID/MNP

FIRST, ASK WITHOUT PROBING AND CIRCLE SPONTANEOUS RESPONSES. FOR ALL SOURCES NOT MENTIONED, PROBE AND CIRCLE AIDED OR NO.

	aneous		
[A] On the radio	1	4	2
[B] On the television	1	4	2
[C] On the internet	1	4	2
[D] On the mobile phone	1	4	2
[E] Newspaper	1	4	2
[F] In a magazine	1	4	2
[G] On a poster	1	4	2
[H] On a billboard / sign	1	4	2
[I] In a pamphlet / brochure	1	4	2
[J] Village voice announcement	1	4	2

IM12E WHEN DID YOU HEAR, SEE, OR READ ANYTHING ABOUT SUPERKID/MNP IN THE MEDIA OR ANYWHERE ELSE, NOT INCLUDING WORD OF MOUTH?

CIRCLE ONE ANSWER ONLY

In the past month..... 1

One to six months ago 2

Six months to one year ago..... 3

More than one year ago 4

IM12F IN THE PAST HAVE YOU HEARD ANYTHING ABOUT SUPERKID/MNP FROM ANOTHER PERSON?

Yes 1

No 2

2⇨IM13A

IM12G PLEASE NAME ALL OF THE SOURCES OF PEOPLE YOU HEARD ABOUT SUPERKID/MNP FROM

PROBE FOR THE TYPE OF PERSON HEARD FROM AND CIRCLE ALL ANSWERS GIVEN.

	Yes	No
[A] Mother / Relative	1	2
[B] Friend	1	2
Health professional:		
[C] Doctor	1	2
[D] Nurse / Midwife	1	2
[E] Medical Assistant	1	2
[F] Other Health Professional (specify)_____3		
Other worker/volunteer:		
[G] Traditional birth	1	2

If only Mother / Relative / Friend ⇨IM13A

	attendant	
	[H] Community health worker 1 2	
	[I] Lao Women's Union Volunteer 1 2	
	[J] Other worker/volunteer 1 2	
	[K] Other (specify)……6	
IM12H WHEN DID YOU HEAR ANYTHING ABOUT SUPERKID/MNP FROM (TITLE OF HEALTH PROFESSIONAL(S) OR OTHER WORKER/VOLUNTEER(S) CIRCLED IN IM12G?	In the past month..... 1 One to six months ago ..... 2 Six months to one year ago..... 3 More than one year ago 4	
IM13A. HAVE YOU EVER RECEIVED MICRONUTRIENT POWDER (THIS/ANY OF THESE) WITHOUT PURCHASING IT FOR (NAME)? ***Micronutrient powder can be Superkid or any other micronutrient powder brand***	Yes .....1 No .....2 DK.....8	 2⇨IM13C 8⇨IM13C
IM13B. HOW MANY TIMES HAVE YOU RECEIVED MICRONUTRIENT POWDER FOR (NAME)?	__ __ DK.....98	
IM13C. HAVE YOU OR SOMEONE YOU KNOW EVER PURCHASED MICRONUTRIENT POWDER FOR (NAME)?	Yes .....1 No .....2 DK.....8	 2⇨IM13E 8⇨IM13E
IM13D. HOW MANY TIMES HAVE YOU PURCHASED MICRONUTRIENT POWDER FOR (NAME)?	__ __ DK.....8	
IM13E. Check IM13A and IM13C If yes to IM13A or IM13C⇨IM13F If no to both IM13A and IM13C⇨Next Module		
IM13F. WHERE DID YOU GET THE MICRONUTRIENT POWDER? *Probe:* ANYWHERE ELSE?	**Yes** **No** **Public sector:** **[A] Government hospital** 1 2 **[B] Health centre** 1 2 **[C] Village health** 1 2	

Circle all providers mentioned, but do NOT prompt with any suggestions. Probe to identify each type of source. If unable to determine if public or private sector, write the name of the place. _____ (Name of place)	**worker** | | | **[D] Outreach team** | 1 | 2 **[E] Lao Women's Union volunteer** | 1 | 2 **[F] Other public (*specify*)……..3** **Private medical sector:** **[G] Private hospital / clinic** | 1 | 2 **[H] Private physician** | 1 | 2 **[I] Private pharmacy** | 1 | 2 **[J] Mobile clinic** | 1 | 2 **[K] Other private medical (*specify*)……6** **Other source:** **[L] Relative / Friend** | 1 | 2 **[M] Shop** | 1 | 2 **[N] Traditional practitioner** | 1 | 2 **[O] Other (*specify*)……9**	
IM14A. HOW MANY MICRONUTRIENT POWDER SACHETS DID YOU GET THE LAST TIME YOU RECEIVED OR BOUGHT? ½ Box (15 sachets) 1 Box (30 sachets) 1 ½ Box (45 sachets) 2 Boxes (60 sachets)	Record number of sachets ..... __ __	
IM14B. Ask to see the last micronutrient powder box or sachet received or bought Record color of box	Orange .....1 White .....2 Other.....4 (specify)_____ No box observed.....0	
IM15. IN THE LAST 6 MONTHS HOW MANY MICRONUTRIENT POWDER SACHETS HAS (NAME) CONSUMED? If exact number of sachets is not known ask for an estimate based on boxes ½ Box (15 sachets)	Record number of sachets……__ __ None 00	0⇨IM18A

1 Box (30 sachets) 1 ½ Box (45 sachets) 2 Boxes (60 sachets) 2 ½ Boxes (75 sachets) 3 Boxes (90 sachets)		
IM16. IN THE LAST 2 WEEKS HOW OFTEN HAS (NAME) CONSUMED MICRONUTRIENT POWDER SACHETS? If exact number is not known ask for an estimate	Three or more sachets per day .....1 Two sachets per day .....2 One sachet per day .....3 One sachet per 2 days .....4 One sachet per 3 days .....5 One sachet per 4+ days .....6 None 9	 9⇨IM18A
IM17. IN THE LAST TWO WEEKS DID (NAME) CONSUME FEWER SACHETS THAN NORMAL BECAUSE OF ILLNESS?	Yes .....1 No .....2 DK.....8	1⇨IM18B 2⇨IM18B 8⇨IM18B
IM18A. WHY IS (NAME) NOT CURRENTLY CONSUMING MICRONUTRIENT POWDER? If multiple reasons, ask for the most important cause of stopping (circle only one answer)	Did not receive .....1 Did not buy.....2 Dark stool caused by MNP .....3 Diarrhea or other illness caused by MNP ....4 Refuses to eat.....5 Other .....6 (Specify)_____	
IM18B. THE LAST TIME (NAME) CONSUMED MICRONUTRIENT POWDER WHAT FOOD OR LIQUID WAS IT MIXED WITH? ***For rice porridge, simple is when no vegetables or meat are added to the porridge. Enriched rice porridge includes vegetables, meat, fish, egg or peanut*** **DO NOT PROBE**	Water or other liquid.....1 Sticky rice.....2 Simple Rice porridge .....3 Enriched rice porridge.....4 Boiled, fried, or scrambled eggs mashed.....5 Mashed pumpkin, carrot or potato .....6 Mashed ripe papaya, mango, or banana.....7 Other solid or semisolid food _____ 9 DK 8	1⇨IM19
IM18C. THE LAST TIME (NAME) ATE MICRONUTRIENT POWDER WHEN WAS IT ADDED TO THE FOOD?	During cooking.....1 Soon after cooking when	

IF AFTER COOKING AND TEMPERATURE NOT INCLUDED IN RESPONSE, ASK IF FOOD WAS STILL HOT WHEN ADDED	the food was hot .....2 After cooking when the food cooled down .....3 DK 8	
IM19. THE LAST DAY THAT (NAME) CONSUMED MICRONUTRIENT POWDER HOW MUCH OF THE SACHET DID (NAME) CONSUME? ***If part of sachet and reason not mentioned, determine if because of sharing or if the child could not finish for any reason***	Entire sachet.....1 Part of sachet, shared with another child2 Part of sachet, could not finish 3	
IM20. HOW DID YOU LEARN HOW TO GIVE MICRONUTRIENT POWDER/Superkid TO YOUR CHILD? *PROBE FOR THE SOURCE OF INFORMATION AND CIRCLE ALL ANSWERS GIVEN*.		
IM21. PLEASE SPECIFY IF (NAME OF CHILD) PARTICIPATED IN ONE OF THESE ACTIVITIES: [A] NATIONAL MEASLES CAMPAIGN [B] NATIONAL IMMUNIZATION CAMPAIGN [C] PROVINCIAL HEALTH DAY		

	YES	NO
[A] Health staff told	1	2
[B] Lao Women's Union Volunteer told	1	2
[C] Relative, friend, neighbour	1	2
[D] Television	1	2
[E] Packaging	1	2
[F] Taught myself / nobody told	1	2
[G] Other (specify)……6		

	YES	NO	DK
NATIONAL MEASLES CAMPAIGN	1	2	8
NATIONAL IMMUNIZATION CAMPAIGN	1	2	8
PROVINCIAL HEALTH DAY	1	2	8

CARE OF ILLNESS		CA
CA1. IN THE LAST TWO WEEKS, HAS (*name*) HAD DIARRHOEA?	Yes.....1 No .....2 DK.....8	 2⇨CA7 8⇨CA7
CA2. I WOULD LIKE TO KNOW HOW MUCH (*name*) WAS GIVEN TO DRINK DURING THE DIARRHOEA (INCLUDING BREASTMILK). DURING THE TIME (*name*) HAD DIARRHOEA, WAS HE/SHE GIVEN LESS THAN USUAL TO DRINK, ABOUT THE SAME AMOUNT, OR MORE THAN USUAL? *If 'less', probe*: WAS HE/SHE GIVEN MUCH LESS THAN USUAL TO DRINK, OR SOMEWHAT LESS?	Much less.....1 Somewhat less .....2 About the same.....3 More.....4 Nothing to drink.....5 DK.....8	
CA3. DURING THE TIME (*name*) HAD DIARRHOEA, WAS HE/SHE GIVEN LESS THAN USUAL TO EAT, ABOUT THE SAME AMOUNT, MORE THAN USUAL, OR NOTHING TO EAT? If 'less', probe: WAS HE/SHE GIVEN MUCH LESS THAN USUAL TO EAT OR SOMEWHAT LESS?	Much less.....1 Somewhat less .....2 About the same.....3 More.....4 Stopped eating.....5 Never gave food .....6 DK.....8	
CA3A. DID YOU SEEK ANY ADVICE OR TREATMENT FOR THE DIARRHOEA FROM ANY SOURCE?	Yes.....1 No .....2 DK.....8	 2⇨CA4 8⇨CA4
CA3B. FROM WHERE DID YOU SEEK ADVICE OR TREATMENT?		

	YES	NO
Public sector:		
[A] Government	1	2

Probe:

ANYWHERE ELSE?

Circle all providers mentioned,

but do NOT prompt with any suggestions.

Probe to identify each type of source.

If unable to determine if public or private sector, write the name of the place.

_____

(*Name of place*)

hospital		
[B] Health centre	1	2
[C] Village health worker	1	2
[D] Outreach team	1	2
[E] Lao Women Union worker	1	2
[F] Other Public (specify)……3		
Private medical sector:		
[G] Private hospital / clinic	1	2
[H] Private physician	1	2
[I] Private pharmacy	1	2
[J] Mobile clinic	1	2
[K] Other private medical (*specify*)….6		
Other source:		
[L] Relative / Friend	1	2
[M] Shop	1	2
[N] Traditional practitioner	1	2
[O] Other (*specify*).,……..9		

CA4. DURING THE TIME (*name*) HAD DIARRHOEA, WAS (*name*) GIVEN TO DRINK:

[A] A FLUID MADE FROM A SPECIAL PACKET CALLED (*ORALYTE / NAM THA LAY PHOUN*) ?

[B] RECOMMENDED HOMEMADE FLUID SUCH AS COCONUT WATER OR RICE WATER WITH SALT

	Y	N	DK
Fluid from ORS packet	1	2	8
RECOMMENDED HOMEMADE FLUID	1	2	8

CA4A. IF YES GO TO CA4B, IF NO OR DK GOT TO CA5

CA4B. WHERE DID YOU GET THE ORS?

	YES	**NO**
Public sector:		
[A] Government hospital	1	2

Probe to identify the type of source. *If unable to determine whether public or private, write the name of the place.* _____ *(Name of place)*	**[B] Health centre** 1 2 **[C] Village health worker** 1 2 **[D] Outreach team** 1 2 **[E] Lao Women Union worker** 1 2 **[F] Other Public (specify)……3** **Private medical sector:** **[G] Private hospital / clinic** 1 2 **[H] Private physician** 1 2 **[I] Private pharmacy** 1 2 **[J] Mobile clinic** 1 2 **[K] Other private medical (*specify*)…6** **Other source:** **[L] Relative / Friend** 1 2 **[M] Shop** 1 2 **[N] Traditional practitioner** 1 2 **[O] Other (*specify*).,……..9**	
CA5. WAS ANYTHING (ELSE) GIVEN TO TREAT THE DIARRHOEA?	Yes.....1 No .....2 DK.....8	 2⇨CA7 8⇨CA7

CA6A. WHAT (ELSE) WAS GIVEN TO TREAT THE DIARRHOEA?

Probe:
ANYTHING ELSE?

Record all treatments given. Write brand name(s) of all medicines mentioned.

_____
(Name)

	YES	NO
Pill or Syrup		
[A] Antibiotic	1	2
[B] Antimotility	1	2
[C] Zinc	1	2
[D] Other pill or syrup (not antiobiotic, antimotility or zinc)	1	2
[E] Unknown pill or syrup	1	2
Injection:		
[F] Antibiotic	1	2
[G] Non-antibiotic	1	2
[H] Unknown injection	1	2
[I] Intravenous	1	2
[J] Home remedy / Herbal medicine	1	2
[K] Other (*specify*)……6		

CA6B. DURING THE TIME (*name*) HAD DIARRHOEA, WAS (*name*) GIVEN:

[A] ZINC TABLETS? (LIKE THIS)

[B] ZINC SYRUP?

	Y	N	DK
Zinc tablets	1	2	8
Zinc syrup	1	2	8

CA7. IN THE LAST TWO WEEKS, HAS (*name*) BEEN ILL WITH A FEVER AT ANY TIME?

Yes.....1
No.....2
DK.....8

CA8. AT ANY TIME IN THE LAST TWO WEEKS, HAS (*name*) HAD AN ILLNESS WITH A COUGH?

Yes.....1
No.....2 ⇨ CA10A
DK.....8 ⇨ CA10A

CA9. WHEN (*name*) HAD AN ILLNESS WITH A COUGH, DID HE/SHE BREATHE FASTER THAN USUAL WITH SHORT, RAPID BREATHS OR HAVE DIFFICULTY BREATHING?

Yes.....1
No.....2 ⇨ CA10A
DK.....8 ⇨ CA10A

CA10. WAS THE FAST OR DIFFICULT BREATHING DUE TO A PROBLEM IN THE CHEST OR A BLOCKED OR RUNNY NOSE?

Problem in chest only 1
Blocked or runny nose only 2
Both 3
Other (*specify*) 6
DK 8

CA10A. DID YOU SEEK ANY ADVICE OR TREATMENT FOR ANY ILLNESS FROM ANY SOURCE?

Yes.....1
No .....2 → 2⇨CA12
DK .....8 → 8⇨CA12

CA11. FROM WHERE DID YOU SEEK ADVICE OR TREATMENT?

Probe:
ANYWHERE ELSE?

Circle all providers mentioned,

but do NOT prompt with any suggestions.

Probe to identify each type of source.

If unable to determine if public or private sector, write the name of the place.

_____
(Name of place)

	YES	NO	
Public sector:			
[A] Government hospital	1	2	
[B] Health centre	1	2	
[C] Village health worker	1	2	
[D] Outreach team	1	2	
[E] Lao Women Union	1	2	
[F] Other Public (specify)……3			
Private medical sector:			
[G] Private hospital / clinic	1	2	
[H] Private physician	1	2	
[I] Private pharmacy	1	2	
[J] Mobile clinic	1	2	
[K] Other private medical (*specify*)…..6			
Other source:			
[L] Relative / Friend	1	2	
[M] Shop	1	2	
[N] Traditional practitioner	1	2	
[O] Other (*specify*).,……9..			

CA12. WAS (NAME) GIVEN A MENTHOL OINTMENT (THESE)?

Yes.....1
No 2

<table>
<tr><td></td><td>DK.....8</td><td></td></tr>
<tr><td>CA13.AT ANY TIME DURING THE FEVER/ILLNESS IN THE PAST TWO WEEKS, WAS (name) GIVEN ANY MEDICINE FOR THE ILLNESS?</td><td>Yes.....1
No 2

DK.....8</td><td>
2⇨CA15A

8⇨CA15A</td></tr>
<tr><td>CA14. WHAT MEDICINE WAS (name) GIVEN?

Probe:
ANY OTHER MEDICINE?

Circle all medicines given. Write brand name(s) of all medicines mentioned.

_____
(Names of medicines)</td><td>
<table>
<tr><th></th><th>Yes</th><th>No</th></tr>
<tr><td colspan="3">Anti-malarials:</td></tr>
<tr><td>[A] Fansidar (Pill or Syrup)</td><td>1</td><td>2</td></tr>
<tr><td>[B] Chloroquine</td><td>1</td><td>2</td></tr>
<tr><td>[C] Amodiaquine</td><td>1</td><td>2</td></tr>
<tr><td>[D] Quinine</td><td>1</td><td>2</td></tr>
<tr><td>[E] Coartem Combination with Artemisinin</td><td>1</td><td>2</td></tr>
<tr><td>[F] Artesunate</td><td>1</td><td>2</td></tr>
<tr><td colspan="3">[G] Other anti-malarial (specify).....3</td></tr>
<tr><td colspan="3">Antiobiotics</td></tr>
<tr><td>[H] Pill or Syrup</td><td>1</td><td>2</td></tr>
<tr><td>[I] Injection</td><td>1</td><td>2</td></tr>
<tr><td colspan="3">Other medicines</td></tr>
<tr><td>[J] Paracetamol/ Panadol/ Acetomenophin</td><td>1</td><td>2</td></tr>
<tr><td>[K] Asprin</td><td>1</td><td>2</td></tr>
<tr><td>[L] Ibruprophen</td><td>1</td><td>2</td></tr>
<tr><td colspan="3">[M] Other (Specify).....6</td></tr>
</table>
DK.....8</td><td></td></tr>
<tr><td>CA15A. NOW I WOULD LIKE TO ASK YOU SOME QUESTIONS ABOUT NUTRITION

AFTER (NAME) WAS BORN, HAVE YOU EVER BEEN VISITED AT HOME OR IN THE VILLAGE BY A HEALTH WORKER OR OTHER TRAINED WORKER TO RECEIVE ADVICE ABOUT GIVING (NAME) GOOD NUTRITION?</td><td>Yes.....1
No 2

DK.....8</td><td></td></tr>
<tr><td>CA15B. AFTER (NAME) WAS BORN, HAVE</td><td>Yes.....1</td><td></td></tr>
</table>

YOU RECEIVED NUTRITION ADVICE FOR (NAME) FROM A HEALTH WORKER OR OTHER TRAINED WORKER OUTSIDE OF THE VILLAGE OR IN A HEALTH FACILITY OR OFFICIAL BUILDING?	No .....2 DK.....8	
CA15C. AFTER (NAME) WAS BORN, HOW MANY TIMES DID YOU RECEIVE ADVICE, IN ANY LOCATION, ABOUT (NAME) NUTRITION INFORMATION/ ADVICE? *Probe to identify the number of times nutrition advice was received. If a range is given, record the minimum number of times advice received.*	__ __ DK.....98	
CA15D. WAS *(NAME) EVER* SEEN BY A HEALTH WORKER OR VOLUNTEER TO CHECK FOR NUTRITION STATUS, THAT IS TO CHECK IF (NAME) HAS GOOD NUTRITION?	Yes.....1 No .....2 DK.....8	 2⇨CA18A 8⇨CA18A
CA15E. IN THE PAST 4 MONTHS, WAS *(NAME)* SEEN BY A HEALTH WORKER OR VOLUNTEER TO CHECK FOR NUTRITION STATUS?	Yes.....1 No .....2 DK.....8	 2⇨CA18A 8⇨CA18A
CA16A. IN THE PAST, DID THE HEALTH WORKER OR VOLUNTEER USE THE MUAC TAPE? *Show MUAC tape commonly used*	Yes.....1 No .....2 DK.....8	 2⇨CA17A 8⇨CA17A
CA16B. THE LAST TIME NAME WAS MEASURED DO YOU REMEMBER THE COLOR OF THE RESULT of *(NAME's) NUTRITIONAL STATUS*?	**Red** Severe wasting (thin) ..... 1 **Yellow** or moderate wasting (thin) ..... 2 **Green** (good nutrition) ..... 3 Worker did not say..... 4 Malnutrition (unknown severity)…….5 DK.....8	
CA17A. DID THE HEALTH WORKER OR VOLUNTEER MEASURE WEIGHT OR HEIGHT?	Yes.....1 No .....2 DK.....8	 2⇨CA18A 8⇨CA18A
CA17B. THE LAST TIME NAME WAS MEASURED DO YOU REMEMBER WHAT THE HEALTH WORKER SAID ABOUT *(NAME's) NUTRITIONAL STATUS*?	Chronic malnutrition/ Severe stunting (short) ..... 1 Severe underweight …….. 2 Moderate chronic stunting (short)..... 3 Moderate underweight ……4 Malnourished, no specific type..... 5	

<table>
<tr><td></td><td>Worker did not say..... 6
Good nutrition
(healthy)……..7
DK..... 8</td><td></td></tr>
<tr><td>CA18A. WAS (NAME) EVER ENROLLED IN FEEDING PROGRAM?

THAT IS, DID (NAME) EVER RECEIVE:

[A] PLUMPY’DOZ RUSF

[B] RICE SOYA BLEND/CORN SOYA BLEND SUPPLEMENTARY FOOD

[C] PLUMPYNUT/EEZEEPASTE RUTF

[D] F75/F100 THERAPEUTIC MILK

Show pictures card and probe to determine if they ever received. Circle all that apply.</td><td><table>
<tr><th></th><th>Yes</th><th>No</th></tr>
<tr><td>[A] RUSF</td><td>1</td><td>2</td></tr>
<tr><td>[B] SUPP. FOOD</td><td>1</td><td>2</td></tr>
<tr><td>[C] RUTF</td><td>1</td><td>2</td></tr>
<tr><td>[D] THER MILK F75/F100</td><td>1</td><td>2</td></tr>
<tr><td>[E] NOTHING RECEIVED</td><td colspan="2">……
……9</td></tr>
</table></td><td>9⇨CA19</td></tr>
<tr><td>CA18B. WAS (NAME) ENROLLED IN FEEDING PROGRAM IN THE LAST 4 MONTHS?

THAT IS, IN THE LAST 4 MONTHS DID (NAME) RECEIVE:

[A] PLUMPY’DOZ RUSF

[B] RICE SOYA BLEND/CORN SOYA BLEND SUPPLEMENTARY FOOD

[C] PLUMPYNUT/EEZEEPASTE RUTF

[D] F75/F100 THERAPEUTIC MILK

Show pictures card and probe to determine if they ever received. Circle all that apply.</td><td><table>
<tr><th></th><th>Yes</th><th>No</th></tr>
<tr><td>[A] RUSF</td><td>1</td><td>2</td></tr>
<tr><td>[B] SUPP. FOOD</td><td>1</td><td>2</td></tr>
<tr><td>[C] RUTF</td><td>1</td><td>2</td></tr>
<tr><td>[D]THER MILK</td><td>1</td><td>2</td></tr>
<tr><td>[E] NOTHING RECEIVED</td><td colspan="2">……
……99</td></tr>
</table></td><td>9⇨CA19</td></tr>
<tr><td>CA18C. Have you received any food supplementation e.g rice porridge, food supplementation project</td><td>Yes…….1
No……..2</td><td></td></tr>
<tr><td colspan="3">CA19. Check AG2: Age of child.</td></tr>
</table>

☐ Child age 0, 1 or 2 ⇨ Continue with CA20. ☐ *Child age 3 or 4 ⇨ Go to UF13.*		
CA20. THE LAST TIME *(name)* PASSED STOOLS, WHAT WAS DONE TO DISPOSE OF THE STOOLS?	Child used toilet / latrine .....01 Put / Rinsed into toilet or latrine.....02 Put / Rinsed into drain or ditch .....03 Thrown into garbage (solid waste) .....04 Buried .....05 Left in the open.....06 Other (*specify*) _____ 96 DK.....98	

UF13. (NAME..) HAS EVER ATTENDED SCHOOL OR (NAME) EVER BEEN PART OF THE LEARNING GROUPS? (COMMUNITY BASED SCHOOL READINESS PROGRAMME) OR PRESCHOOL LEARNING PROGRAMME EITHER PRIVATE OR GOVERNMENT SCHOOLS	Yes……1 No……..2 DK……..8	
UF14. *Record the time.*	Hour and minutes.....__ __ : __ __	

VILLAGE QUESTIONNAIRE

Lao Subnational Food and Nutrition Security Survey

Village Information Panel:	
PROVINCE NAME	**PROVINCE CODE:** ___ ____
DISTRICT NAME	**DISTRICT CODE** ____ ____
VILLAGE NAME	**VILLAGE CODE** ___ ___ ___
TYPE OF VILLAGE (1 = URBAN, 2= RURAL WITH ROAD, 3= RURAL WITHOUT ROAD)	**TYPE OF VILLAGE** ___
DATE OF INTERVIEW: ___/ ____/ 2015	
TOTAL NUMBER OF HOUSEHOLDS IN THE VILLAGE	___ ___ ___ __ **HOUSEHOLDS**
NAME OF RESPONDANT: _____ PHONE NUMBER: _____	
INTERVIEWER NAME AND CODE: _____ ___ ___ __	
SUPERVISOR NAME AND CODE: _____ ___ ___ ___	
SIGNATURE AND STAMP OF VILLAGE DATE: ____/____/2015	

This data on villages was obtained by asking village authorities or village officials who have a solid understanding into the circumstances of the villages			
1	What organizations are present in the village?	Name of organization: Yes / No 1= Village authorities 1 2 2= Lao Women's Union (LWU) 1 2 3= Lao Youth Committee 1 2 4= Lao Front for National Construction 1 2 5= Village Development Committee (VDC) 1 2 6= Village Agriculture Committee 1 2 7= Village veterinarian 1 2 8= Water and toilet use group 1 2 96 = Others (specify clearly): _____	
2	Does the village have a village office or a place where the villagers and members of the various groups can meet, consult, and conduct activities together? (Has a roof)	Yes: ……1 No: ……..2	
3	What kind of village has the village been approved and declared as? (Ask to see certificate)	Yes / No 1= A *crime-free village* 1 2 2= A *cultural village* 1 2 3= A *three-build village* 1 2 4= A *model health village* 1 2 5= A *free-of-slash-and-burn agriculture village* 1 2 96= Others (specify clearly): _____	

4	What types of State services are there in this village?	Yes No 1= Trade / commercial 1 2 2= Rice bank 1 2 3= Livestock bank 1 2 4= Financial / credit institution 1 2 5= Collective agricultural store 1 2 96= Others (specify clearly): _____	
5	Does this village currently have any development project?	1 = Yes 2 = No	**2➔8**
6	What type of development project? *(You may mark multiple answers)*	1 = Crops 2 = Irrigation 3 = Forestry 4 = Trade 5 = Transportation 6 = Handicrafts 7 = Education 8 = Health 9 = Water, sanitation and hygiene 96 = Other (please specify) _____	
7	How is this project funded? *(You may mark multiple answers)*	1 = Village funding 2 = Bank loans 3 = Government funding 4 = Funding from international organizations 96 = Others (specify clearly): _____	
8	Over the past year, has the village received training, instructions/orientation, or recommendations in any topics?	Yes …….. 1 No ……..2	**2➔10**
9	If it has, over the past year, in which topics has this village received training/orientation,	Yes No	

	instructions, or recommendations?	1= AIDS 1 2 2= STDs 1 2 3= Land ownership 1 2 4= Water 1 2 5= Toilets 1 2 6= Agriculture 1 2 7= Bird flu 1 2 96= Others (specify clearly): _____		
10	How many people are there in the village in total?	Total number of people: __ __ __ __ Number of females: __ __ __ __ Number of males: __ __ __ __		
11	Does this village have electricity (connected to state network)?	Yes …… 1 No …….. 2		**2➔13**
12	How many households that use electricity are there in this village?	Number of households: __ __ __ __		
13	Does this village have tap water (public system)?	Yes …… 1 No …….. 2		**2➔15**
14	How many households that use tap water are there in this village?	Number of households: __ __ __ __		
15	Does this village have a market which is open all day?	Yes …… 1 No …….. 2		
16	Does this village have a primary school?	Yes …… 1 No …….. 2		**2➔21**
17	If it does, what primary school does it have?	Complete primary school ……..1 Incomplete primary school ……2		
17 A	Does this school have latrines	Yes …… 1 No …….. 2 DK……..8		**2➔21**
18	Where do students go to defecate during the school day?	Latrines at school	1	**1➔19**

	(Circle all that apply)	Latrine near school Wait to arrive home Defecate in the open on school compound Defecate in the open outside of school Other (specify) _____	2 3 4 5 96	**2➔21** **3➔21** **4➔21** **5➔21** **96➔21**
19	What types of latrines are used in this school?	Pour flush latrine……..1 Ventilated Pit Latrine…….…..2 Simple dry pit latrine ……3 Dry pit latrine with no slab…….. 4 Dig hole, earth filling pit……..5 Other (state clearly): _____96 They don't know or don't answer…99		
20	Do the school latrines use water?	Yes …… 1 No …….. 2		
21	What are the main sources of household drinking water in this village? (State the source of drinking water used by the majority of households)	**Tap water:** With taps in the houses …… 11 With outside house on dwelling ……12 With public communal taps …… 13 **Well water (bore well):** …… 21 **Well water:** Well with a lid: …… 31 Well without a lid: …… 32 **Spring or mountain water:** Protected spring: …….. 41 Unprotected spring: …….. 42 **Rivers, streams, canals, lakes, dams, irrigation:** …… 51		

		Rainwater collection tanks: …….. 52 **Water bought from vendors:** Water truck: …… 61 Water trolley: …… 62 Water tubs, purified water: ……. 63 **Other (state clearly):** _____ 96	
22	What is the main source of water used in households in this village? (State the source of water used by the majority of households)	**Tap water:** With taps in the houses …… 11 With outside house on dwelling ……12 With public communal taps …… 13 **Well water (bore well):**…….. 21 **Well water:** Well with a lid: …… 31 Well without a lid: …… 32 **Spring or mountain water:** Protected spring: …….. 41 Unprotected spring: …….. 42 **Rivers, streams, canals, lakes, dams, irrigation:** …… 51 **Rainwater collection tanks:** …….. 52 **Water bought from vendors:** Water truck: …… 61 Water trolley: …… 62 Water tubs, purified water: ……. 63 **Other (state clearly):** _____ 96	
23	How many households in this village use toilets or do not have toilets?	Number of households that use toilets: __ __ __ __ Number of households that do not have	

		toilets: __ __ __ __	

ANTHROPOMETRY AND HEMOCUE RECORD

Lao Subnational Food and Nutrition Security Survey

HOUSEHOLD INFORMATION PANEL	HH
HH1. Household Listing Code:___ ___ ___ ___	**HH2**. Household number within cluster:___ ___
HH3. Interviewer's name and number: Name _____ ___	**HH4**. Supervisor's name and number: Name_____ ___
HH5. Day / Month / Year of interview: ___ ___ /___ ___ / 2 0 1 __	**HH6**. *PROVINCE NAME & CODE:* _____ ___ ___
HH7. AREA: Urban ..... 1 Rural with road ..... 2 Rural without road……3	**HH8**. District Name & Code _____ ___ ___ **HH9. Village code** _____ ____ ____ ____ **HH9A. Cluster Code** ___ ___ ___ ___
HH17. Data Editor name and number: Name_____ __ __	**HH18**. Main data entry clerk's name and number: Name_____ __ __

ANTHROPOMETRY ..... (AA)

FOR ALL CHILDREN UNDER 5 YEARS OF AGE AND WOMEN AGE 15-49 (excluding children with disabilities)

AA1. LINE NUMBER	**AA2**. NAME AND AGE *Copy from hl2 and hl6.* *Include all women who are between 15-49 years*		**AA3**. MEASURER'S NAME AND NUMBER	**AA4A**. RESULT OF HEIGHT, LENGTH, WEIGHT, AND MUAC MEASURMENTS 1 Any or all measured 2 Child not present 3 Child, woman or mother/caretaker refused 6 Other (specify) _____	**AA4B**. WEIGHT Weight not measured 99.9	**AA5**. WAS THE PERSON UNDRESSED TO THE MINIMUM DURING THE WEIGHT MEASUREMENT?	**AA6**. LENGTH/ HEIGHT *Check age in AA2*		**AA7**. HOW WAS THE PERSON ACTUALLY MEASURED? LYING DOWN OR STANDING UP? 1 Lying down 2 Standing up	**AA8**. MUAC *for children, only measure 6 months and above.*		**AA9.** OEDEMA *CHECK FOR BILATERAL PITTING OEDEMA* 1 Present 2 Not Present 3 Unsure 7 Not Checked
							child under 2 measure length (lying down) Length not measured 99.9	*age 2 or more years measure height (standing up)* Height not measured 999.9			1 Green 2 Yellow 3 Red	
Line	Name	Age		MEASURED	KILOGRAMS	Yes No	LENGTH	HEIGHT	Lying Standing	CM	Color	Oedema

__ __1		___ ___	___ ___ ___	1 2 3 6	___ ___ . ___	1 2	___ . __	__ __ __ . __	1 2	__ __ . __	1 2 3	1 2 3 7
__ __		___ ___	___ ___ ___	1 2 3 6	___ ___ . ___	1 2	___ . __	__ __ __ . __	1 2	__ __ . __	1 2 3	1 2 3 7
__ __		___ ___	___ ___ ___	1 2 3 6	___ ___ . ___	1 2	___ . __	__ __ __ . __	1 2	__ __ . __	1 2 3	1 2 3 7
__ __		___ ___	___ ___ ___	1 2 3 6	___ ___ . ___	1 2	___ . __	__ __ __ . __	1 2	__ __ . __	1 2 3	1 2 3 7
__ __		___ ___	___ ___ ___	1 2 3 6	___ ___ . ___	1 2	___ . __	__ __ __ . __	1 2	__ __ . __	1 2 3	1 2 3 7
__ __		___ ___	___ ___ ___	1 2 3 6	___ ___ . ___	1 2	___ . __	__ __ __ . __	1 2	__ __ . __	1 2 3	1 2 3 7
__ __		___ ___	___ ___ ___	1 2 3 6	___ ___ . ___	1 2	___ . __	__ __ __ . __	1 2	__ __ . __	1 2 3	1 2 3 7

__ __		___ ___	___ ___ ___	1 2 3 6	___ ___ . ___	1 2	___ . __	___ ___ ___ . __	1 2	___ ___ . __	1 2 3	1 2 3 7
__ __		___ ___	___ ___ ___	1 2 3 6	___ ___ . ___	1 2	___ . __	___ ___ ___ . __	1 2	___ ___ . __	1 2 3	1 2 3 7

ANAEMIA

FOR ALL CHILDREN UNDER 5 YEARS OF AGE AND PREGNANT AND LACTATING WOMEN (including children with disability)

Read to each one of the caretaker and/or woman the following:

AS PART OF THIS SURVEY, WE ARE ASKING PEOPLE TO TAKE AN ANEMIA TEST. ANEMIA IS A SERIOUS HEALTH PROBLEM THAT USUALLY RESULTS FROM POOR NUTRITION, INFECTION, OR CHRONIC DISEASE. THIS SURVEY WILL ASSIST THE GOVERNMENT TO DEVELOP PROGRAMS TO PREVENT AND TREAT ANEMIA. WE ASK THAT EVERY CHILD BETWEEN 6-59 MONTHS AND PREGNANT AND LACTATING WOMEN IN YOUR HOUSEHOLD GIVE 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 RIGHT AWAY. IF THE RESULT INDICATES THAT YOU ARE SEVERE ANEMIC, THEN YOU WILL BE ADVISED TO GO TO A HEALTH CLINIC. 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.

AA10. LINE NUMBER ***List woman age 15-49 and children between 6-59 months***	***AA11A.*** *NAME*	***AA11B.*** *AGE* *(For women – write down age in years* *For children – write down age in months)*	***AA12****. PERMISSION* *If child:* *Ask the caregiver of the child:* WILL YOU ALLOW **[name]** TO PARTICIPATE IN THE ANAEMIA TEST? *If woman: Ask* DO YOU AGREE TO PARTICIPATE IN THE ANAEMIA TEST?	**AA13.** STATUS *When you have permission from the caregiver of the child and/ or the woman, please ask them to* ***sign in the consent form.*** Granted……1 Refused……2	**AA14.** HB (Haemoglobin) *Record Level Here* not present…….994 refused……...995 other.....996	**AA15**. REFERRED TO HEALTH CENTRE FOR SEVERE ANAEMIA? 1. Yes 2. No	**AA16.** REFERRED TO HEALTH CENTRE FOR Severe Malnutrition? 1. Yes 2. No
__ __	_____	___ ___	Yes 1 No 2	1 2	___ ___ . ___	Yes 1 No 2	Yes 1 No 2
__ __	_____	___ ___	Yes 1 No 2	1 2	___ ___ . ___	Yes 1 No 2	Yes 1 No 2
__ __	_____	___ ___	Yes 1 No 2	1 2		Yes 1 No 2	Yes 1 No 2

					___ ___ . ___		
__ __	_____	___ ___	Yes 1 No 2	1 2	___ ___ . ___	Yes 1 No 2	Yes 1 No 2
__ __	_____	___ ___	Yes 1 No 2	1 2	___ ___ . ___	Yes 1 No 2	Yes 1 No 2
__ __	_____	___ ___	Yes 1 No 2	1 2	___ ___ . ___	Yes 1 No 2	Yes 1 No 2
__ __	_____	___ ___	Yes 1 No 2	1 2	___ ___ . ___	Yes 1 No 2	Yes 1 No 2
__ __	_____	___ ___	Yes 1 No 2	1 2	___ ___ . ___	Yes 1 No 2	Yes 1 No 2
__ __	_____	___ ___	Yes 1 No 2	1 2	___ ___ . ___	Yes 1 No 2	Yes 1 No 2

Haemoglobin levels to diagnose anaemia				
Population	No Anaemia	Mild Anaemia	Moderate Anaemia	Severe Anaemia
Children 6-59 months and Pregnant women age 15-49 years	11.0 or higher	10.0 – 10.9	7.0 – 9.9	Lower than 7.0

Appendix E. Village Level Tables

FNSS included a village-level questionnaire. Results presented below are not weighted.

Table VILL.1: Organizations and Declarations

Percent of villages with specific organizations present and the percent of villages approved and declared as a specific type of village.

	Organizations present							Village type					
	Lao Women's Union	Lao Youth Committee	Lao Front for National Construction	Village Development Committee	Village Agriculture Committee	Village Veterinarian	Water and Toilet Use Group	Crime-free	Cultural	Three-build	Model health	Free of slash and burn agriculture	Number of villages
Province													
Luangnamtha	100.0	100.0	100.0	28.0	24.0	64.0	64.0	76.0	72.0	2.0	76.0	24.0	50.0
Oudomxay	100.0	100.0	100.0	44.0	42.0	68.0	68.0	72.0	56.0	4.0	76.0	34.0	50.0
Saravane	97.6	98.8	98.8	47.1	36.5	82.4	82.4	51.8	41.2	4.7	23.5	11.8	85.0
Sekong	100.0	100.0	96.6	65.5	39.7	75.9	75.9	77.6	65.5	3.4	62.1	39.7	58.0
Attapeu	100.0	100.0	100.0	71.9	52.6	91.2	91.2	64.9	63.2	7.0	52.6	29.8	57.0
Area													
Urban	98.1	98.1	96.2	62.3	43.4	58.5	58.5	86.8	92.5	1.9	84.9	39.6	53.0
Rural with road	99.5	100.0	99.5	48.9	38.0	81.9	81.9	63.8	53.8	5.4	49.3	24.4	221.0
Rural without road	100.0	100.0	100.0	53.8	38.5	76.9	76.9	50.0	19.2	0.0	30.8	15.4	26.0

Table VILL.2: State Services and Development Projects

Percent of villages with specific state services, development projects, and the sources of funding for the development projects.

	State services					Development projects					Project funding source				
	Trade / commercial	Rice bank	Livestock bank	Financial / credit institute	Collective agricultural store	Any development project	Crops, irrigation, or forestry	Trade, transportation or handicrafts	Health or education	Water or sanitation	Village funding	Bank loans	Gov't	Int'l Org.	Number of villages
Province															
Luangnamtha	2.0	6.0	4.0	26.0	0.0	42.0	16.0	0.0	32.0	24.0	4.0	0.0	8.0	34.0	50.0
Oudomxay	0.0	12.0	6.0	22.0	0.0	80.0	60.0	30.0	56.0	54.0	16.0	16.0	48.0	60.0	50.0
Saravane	0.0	12.9	10.6	18.8	2.4	63.5	28.2	12.9	54.1	25.9	10.6	2.4	29.4	43.5	85.0
Sekong	5.2	8.6	8.6	6.9	3.4	69.0	43.1	10.3	37.9	34.5	13.8	1.7	39.7	51.7	58.0
Attapeu	5.3	14.0	12.3	42.1	3.5	64.9	29.8	17.5	42.1	29.8	5.3	3.5	38.6	31.6	57.0
Area															
Urban	7.5	5.7	5.7	50.9	3.8	54.7	28.3	24.5	37.7	26.4	3.8	5.7	35.8	32.1	53.0
Rural with road	1.4	11.8	9.5	17.6	1.8	67.0	37.1	12.2	48.0	35.3	12.7	4.1	32.1	48.0	221.0
Rural without road	0.0	15.4	7.7	7.7	0.0	57.7	26.9	7.7	38.5	23.1	0.0	3.8	30.8	34.6	26.0

Table VILL.3: Trainings

Percent of villages that received training, orientation, instructions, or recommendations on specific topics in the past year.

	Any training / orientation	HIV / AIDS or STDs	Land ownership	Water or sanitation	Agriculture	Bird flu	Number of villages
Province							
Luangnamtha	76.0	44.0	14.0	38.0	52.0	28.0	50.0
Oudomxay	86.0	44.0	30.0	68.0	60.0	40.0	50.0
Saravane	56.5	37.6	18.8	29.4	35.3	15.3	85.0
Sekong	77.6	25.9	20.7	53.4	51.7	15.5	58.0
Attapeu	93.0	75.4	61.4	66.7	77.2	43.9	57.0
Area							
Urban	75.5	45.3	24.5	47.2	56.6	26.4	53.0
Rural with road	76.5	47.5	29.0	50.7	53.4	28.5	221.0
Rural without road	69.2	19.2	30.8	38.5	46.2	15.4	26.0

Table VILL.4: Infrastructure

Percent of villages with primary school sanitation, electricity and a meeting location.

	Primary school	Primary school with latrines	Primary school with a pour flush latrine	Connected to state network of electricity	Village office or meeting building	Number of villages
Province						
Luangnamtha	90.0	80.0	80.0	90.0	76.0	50.0
Oudomxay	94.0	94.0	88.0	80.0	72.0	50.0
Saravane	95.3	77.6	64.7	75.3	52.9	85.0
Sekong	100.0	93.1	79.3	72.4	65.5	58.0
Attapeu	94.7	78.9	77.2	87.7	84.2	57.0
Area						
Urban	86.8	83.0	81.1	98.1	84.9	53.0
Rural with road	96.4	83.7	75.6	81.4	67.4	221.0
Rural without road	100.0	88.5	73.1	34.6	42.3	26.0