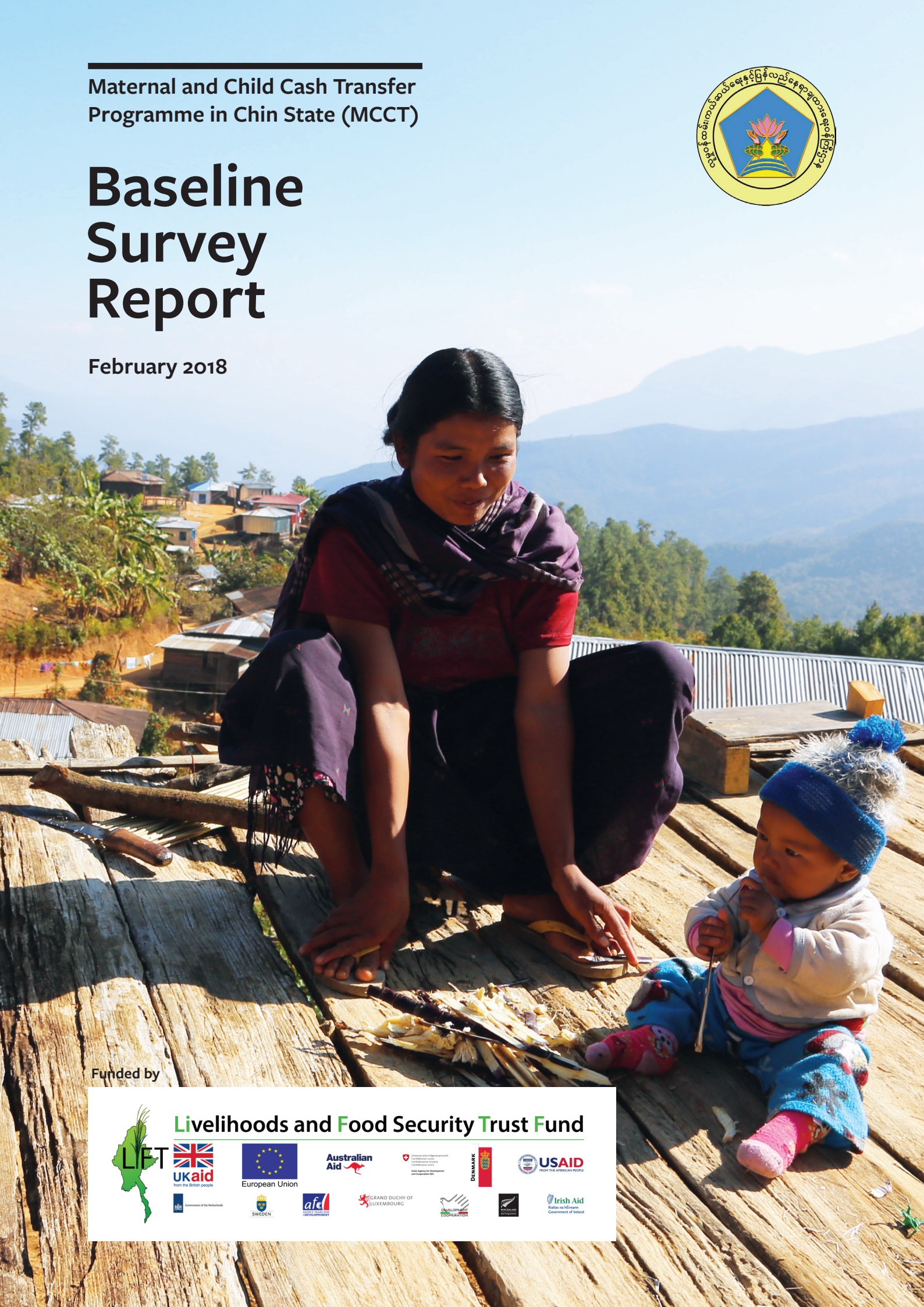
Maternal and Child Cash Transfer Programme in Chin State (MCCT)

Baseline Survey Report

February 2018



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MATERNAL AND CHILD CASH TRANSFER PROGRAMME IN CHIN STATE (MCCT)

BASELINE SURVEY REPORT 2017

Ministry of Social Welfare,
Relief and Resettlement
(MSWRR)

Livelihoods and Food Security
Trust Fund
(LIFT)

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DISCLAIMER

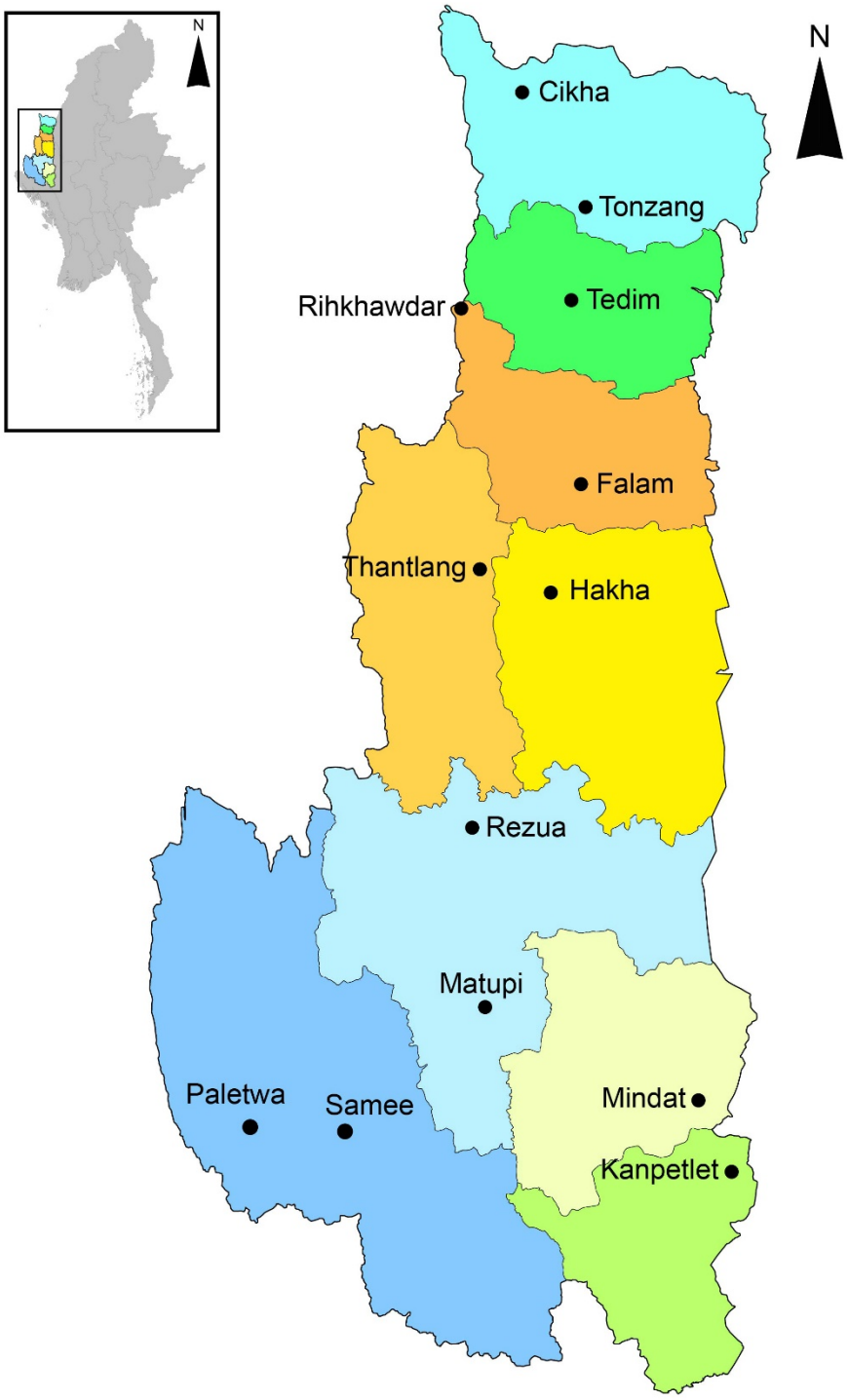
The report is prepared by MSR Myanmar Survey Research

TABLE OF CONTENTS

ANNEXES

FIGURES AND TABLES

MAP OF CHIN STATE



ACRONYMS AND ABREVIATIONS

BCG	Bacillus Calmette–Guérin Vaccine
BMI	Body Mass Index
DSW	Department of Social Welfare
EA	Enumeration Area
HDDS	Household Dietary Diversity Score
IDDS	Individual Dietary Diversity Score
IUD	Intrauterine Device
IYCF	Infant and Young Child Feeding
LIFT	Livelihoods and Food Security Trust Fund
MCCT	Maternal and Child Cash Transfer
MDHS	Myanmar Demographic and Health Survey
MMF	Minimum Meal Frequency
MMK	Myanmar Kyat
MSWRR	Ministry of Social Welfare, Relief and Resettlement
MUAC	Mid-Upper Arm Circumference
NSPSP	National Social Protection Strategic Plan
RDD	Regression Discontinuity Design
PPS	Probability Proportional to Size
PSU	Primary Sampling Unit
SAM	Severe Acute Malnutrition
TBA	Traditional Birth Attendant
UNICEF	United Nations Children Fund
UNOPS	United Nations Office for Project Services
WDDS	Woman Dietary Diversity Score

EXECUTIVE SUMMARY

In 2017, the Ministry of Social Welfare, Relief and Resettlement (MSWRR), through the Department of Social Welfare (DSW), has started to implement a Nutrition and Maternal and Child Social Cash Transfer (MCCT) programme in Chin State. One of the main objectives of the programme is to improve nutritional outcomes for all mothers and children in Chin State during the first 1,000 days of life.

This report presents the findings of a baseline study that was conducted across Chin State prior to MCCT programme implementation. As an integral part of a longitudinal, quasi-experimental evaluation design, the baseline survey provides the basis for measuring and evaluating the outcomes of the programme over time. To this end, current levels of internationally accepted indicators on nutrition, Infant and Young Child Feeding (IYCF), and health seeking behaviors were assessed for the baseline.

As with regards to nutritional outcomes for children, the baseline survey finds that the level of **stunting** is thirty-seven percent for children under the age of five; almost ten percent higher than the national average. Eighteen percent of children in the sample are **underweight** and three percent suffer from **wasting**. Looking at nutritional outcomes for women, findings indicate that one in five sampled women in urban areas is either **overweight** or **obese**.

As for indicators on adequate nutritional intake, a majority of children in the sample receive the minimum recommended number of meals per day overall, with a sharp drop for children older than one year. Moreover, findings show that **dietary diversity** is inadequate for children across age groups. This finding underscores the need to emphasize food diversity in nutritional awareness messaging. An analysis of feeding practices for infants and young children shows that while over half of children in the sample are exclusively breastfed, rates dropping significantly over the first five months of age. Only **one third** of children in the sample is still breastfeeding after the age of one year. Considering the importance of adequate breastfeeding practices for nutritional and health outcomes of children, more research is needed to understand the reasons behind early breastfeeding discontinuation. Moreover, adequate breastfeeding practices should be among the key messages of the programme intervention.

Less than half of mothers receive the recommended amount of antenatal care, and less still a post-natal health check. Levels for **ante- and postnatal care** for sampled women in remote areas are particularly low compared to national averages, and significantly lower compared to rural and urban locations in Chin. The absence of inaccessibility of adequate health facilities or services are a major barrier to adequate health seeking behaviors in remote locations. Ensuring inclusiveness for remote areas will present one of the key challenges for the MCCT programme in Chin State.

BACKGROUND

Chin State remains one of least developed areas of Myanmar and is home to some of the most remote and isolated communities in the country. As studies conducted by UNICEF confirm[1], children in Chin State are more likely to be malnourished than the average child in Myanmar, with the prevalence of stunting being particularly high. Moreover, certain maternal and child health indicators are the lowest in Myanmar, specifically concerning ante-natal care visits as well as immunization rates amongst children 12 and 23 months of age.

In 2017, the Ministry of Social Welfare, Relief and Resettlement (MSWRR), through the Department of Social Welfare (DSW), has started to implement a Nutrition and Maternal and Child Social Cash Transfer (MCCT) programme in line with the National Social Protection Strategic Plan (NSPSP) in Chin State. The overarching objective of the Chin nutrition programme is to **improve nutritional outcomes for all mothers and children in Chin State during the first 1,000 days of life**. At the programme level, the specific objective is to ensure that pregnant women and mothers have improved practices on nutrition, infant and young child feeding (IYCF), and health seeking behaviours during the first 1,000 days. The Chin nutrition programme aims to provide universal coverage for all pregnant women and children under two years of age. The benefits of the programme include both a social behavior change communication (SBCC) component and a maternal and child cash transfer (MCCT) of MMK 15,000 per month.

Within the higher-level outcome of improved nutritional outcomes for all mothers and children in Chin State during the first 1,000 days of life, the Chin nutrition programme aims to achieve and track the following two program level outcomes:

1. Pregnant women and mothers have improved practices on nutrition, infant and young child feeding (IYCF), and health seeking behaviors during the first 1,000 days.
2. Pregnant women and mothers have improved knowledge on nutrition and health behavior during the first 1,000 days.

The Chin nutrition programme is one of the top 100-day priority programmes of the Ministry of Social Welfare, Relief and Resettlement (MSWRR). It serves as an opportunity to validate the design of a nationally-led nutrition cash transfer programme and the establishment of a national social protection system in Myanmar. LIFT is supporting the cost of operations and cash transfers for the first two years of programme implementation. This baseline survey was commissioned by LIFT as part of the overall support the fund provides to the programme as well as part of a larger effort to generate evidence-based knowledge in Myanmar.

[1] UNICEF. Chin State - A Snapshot of Child Wellbeing. Available at: https://www.unicef.org/myanmar/Chin_State_Profile_Final.pdf.

STUDY DESIGN AND METHODOLOGY

The MCCT Chin Baseline Survey was conducted across the entire **Chin State,** covering all nine townships and four sub-townships. The baseline survey is part of a **longitudinal, quasi-experimental**[2] **evaluation design** and provides the basis for measuring and evaluating the outcomes and, where feasible, impact of the programme over time. The baseline findings serve the following purposes:

- Help guide and strengthen monitoring and evaluation capacities within MSWRR and DSW;
- Inform the ongoing programme monitoring work conducted by DSW;
- Inform programme adjustments in design and implementation, both in the short term (in Chin State) and the in the longer term (regarding an eventual scale up); and
- Provide a basis for comparative analysis of the baseline findings and eventual endline that will enable programmers and policy makers to measure changes in the MCCT programme outcomes and impacts.

1. Design

The MCCT Chin programme is designed to achieve universal coverage - with every woman pregnant at the time of beneficiary registration being eligible.[3] The specific design makes the measuring of programme impact particularly challenging, since a suitable comparison group - in this case mothers that do not receive any benefits for the first 1,000 days of life of their children - is difficult to construct due the universal nature of the coverage.[4]

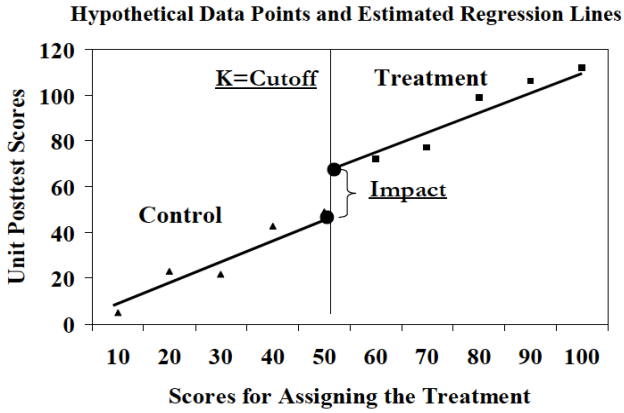
Under these specific circumstances, a **regression discontinuity design** was chosen for the study, which was rendered possible by the fact that there is a specific cut-off point for programme eligibility (the date of registration for benefits). Ultimately, the programme (treatment) effect can be detected as a discontinuity in the regression line around the cut off - in this case a specific date that determines eligibility - as illustrated in **Figure 1** below.

The design is quasi-experimental, since treatment and comparison groups were not selected at random but based on pre-defined characteristics. As such, the treatment group is comprised of women pregnant at the point of programme registration on 1 June 2017. Women that have given birth just before this date, and who are thus not eligible for programme benefits, will form

[2] Quasi-experiments are studies that aim to evaluate interventions that do not use randomization, and aim to demonstrate causality between an intervention and an outcome. See: Harris, D. Anthony, et al. (2006). The Use and Interpretation of Quasi-Experimental Studies in Medical Informatics. *Journal of the American Medical Informatics Association* 13 (1). pp. 16-23.
[3] Eligible women were registered for the programme on 1 June 2017. The roll-out of benefits has started in November 2017. Data collection for the baseline survey was completed on 14 October 2017.
[4] The selection of a comparison group from outside of Chin State was dismissed, since it lacks comparability due to potential confounders that could influence results of the treatment and comparison group.

the comparison group. Women who gave birth up to six months prior to 1 June 2017 were included in the baseline survey to ensure a sample size large enough for comparison purposes.[5]

Figure 1: Visual



Source: Schochet, P. Z. (2008) "Technical Methods Report: Statistical Power for Regression Discontinuity Designs in Education Evaluations", NCEE 2008-4026, U.S. Department of Education

Representation of a Regression Discontinuity Design

[5] Women who gave birth in the six months prior to 1 June 2017 might become pregnant again during the two years of programme implementation and will receive benefits accordingly. As such, they will need to be excluded from the comparison group at the time of endline.

1.1 Sample Size

Measuring programme impact has two major implications with regards to determining the design and sample size for the study:

- Since the research aims to detect and measure the effect of the MCCT Chin programme after two years of implementation, the design of the baseline survey requires the inclusion of a **comparison group**. In consequence, the sample size calculations must account for the ability to measure differences between the two groups over time with a specified degree of statistical certainty.

- The sample size required to detect programme effects using a regression discontinuity design is significantly larger than the sample size needed for a randomized control trial (RCT) design. Depending on the exact nature of the programme and the shape of the distribution of individuals around the cut-off point, the sample size required for RD is between 2.75 and 4 times larger than for an RCT.[6]

Sample size calculations determined that a minimum of 1,000 respondents for each the treatment and the comparison groups are required in order to be able to detect and measure the outcome of the MCCT Chin programme over time.

Due to the purposive nature of sampling, it was not possible to ascertain the sample each enumeration area would yield at the beginning of the baseline study. Fertility rates prevailing in Chin State[7] were thus used to approximate the number of eligible respondents expected in each sampled cluster. Based on fertility rates, it was expected that - in each enumeration area - an average of four to five pregnant women, and the same number of women who had recently given birth, would be found. Consequently, **200 enumeration areas** were deemed necessary to ensure a sufficient number of eligible respondents.

Due to an extensive review process of data collection instruments that was conducted in close consultation with all stakeholders involved in the study, data collection for the baseline survey started four months after the registration of programme beneficiaries. Consequently, many eligible women had already given birth at the time data was collected. To account for the gap created after the cut-off point in the RDD design, these births were included in the sample. Consequently, the expected number of recent births increased from an average of four to five to an average of seven to eight per enumeration area, and the overall sample size increased by an estimated 500 eligible respondents. While this does not influence the analysis of the baseline data, the late commencement of benefits for certain beneficiaries will need to be considered when analyzing the outcomes for the treatment and comparison groups at the time of endline.

[6] See Schochet, P. Z. (2008) "Technical Methods Report: Statistical Power for Regression Discontinuity Designs in Education Evaluations", *NCEE* 2008-4026, U.S. Department of Education.
[7] Fertility rate estimates were based on data from the 2014 Myanmar Population and Housing Census.

1.2 Sample Selection

A **multi-stage random sampling approach** was applied for the MCCT Chin Baseline Survey to identify enumeration areas. More specifically, and since both urban wards as well as village tracts were sampled, **Probability Proportional to Size (PPS)** sampling of wards and village-tracts was applied to ensure appropriate representation of towns and villages across all nine townships and four sub-townships in Chin State.

Within enumeration areas - in line with the objectives of the survey and according to the requirements of the RDD design - respondents were selected through a **purposive sampling method**. In rural enumeration areas, eligible respondents were identified with the support of local village authorities and leaders; based amongst others on village lists where available or local knowledge of the local population. In urban areas, households were screened for eligible respondents and once identified, further participants were found by applying a snowballing approach.[8]

2. Data Collection Instruments

To achieve the objectives of the baseline survey as outlined above, quantitative data was collected from eligible respondents using a close-ended questionnaire. Furthermore, quantitative data was collected on the village/ward level with the aim to capture information potentially useful for the interpretation of data. In addition, and to allow for the calculation of nutritional outcomes, anthropometric measurements were taken of respondents and children under five in respective households. This section provides an overview of the following instruments used to collect the necessary baseline data:

- Village Profiles;
- Household Questionnaire; and
- Anthropometric Measurements

2.1 Village Profiles

A total of 189 village profiles[9] were completed for each village and urban area (ward) included in the baseline survey. A **quantitative research method** was applied to collect the data required, with a close-ended questionnaire designed to capture essential characteristics and assets for each village/ward. The aim of collecting additional data on a village/ward level was to obtain information that could potentially be used to add explanatory power to data analysis. The questionnaire was conducted with representatives of village authorities, as well as village leaders or members of civil society organizations (CSOs) where available. The following information was captured in the village profiles:

[8] Please note that a detailed overview of the selection of enumeration areas can be found in Annex A.
[9] The number of village profiles is lower than the total number of enumeration areas, since more than one cluster was selected in some locations for interviewing.

- Village socioeconomic background including demographic characteristics, geographical location and general livelihoods information;
- Migration experiences and patterns;
- Availability of and proximity to services and essential facilities;
- Access to road, types of infrastructure, and overall connectivity;
- Village governance structure and presence and activities of civil society groups and other organizations;
- Availability of financial services and assistance;
- Number of nearby markets, education and health facilities;
- Distances to nearby markets, education and health facilities;
- Access to nearby markets, education and health facilities (during dry and rainy season);
- Presence of community committees, including Village/Ward Health and Development Committees;
- Presence of health staff and community volunteers, including midwives, auxiliary midwives and community health workers;
- Number or frequency of visits of (auxiliary) midwives and professional health staff;
- Number of visits of NGO workers in the village/ward; and
- General agricultural practices, particularly shifting cultivation and vegetable production.

2.2 Household Questionnaire

Close-ended household questionnaires were administered to purposively selected respondents within Chin State as the primary mean to explore the underlying knowledge and practices on nutrition, infant and young child feeding (IYCF), and health seeking behaviors of pregnant women and mothers. A **monitoring and evaluation (M&E) framework** developed by LIFT for the MCCT Chin programme provided the basis for questionnaire development. As such, questions were designed based on **internationally accepted indicators** for nutrition programmes used by organizations such as the World Health Organization (WHO) or the United Nations Children's Fund (UNICEF). Specific questions were designed to be in line with international standards and to allow for the calculation and analysis of the developed indicators. For analytical purposes, the questionnaire was expanded by additional questions that enabled to capture other explanatory and intervening variables.

Proper back-translation and piloting of the survey are an integral part of ensuring the validity and overall quality of data collected. The original English version of the questionnaire was translated to Myanmar and subsequently back-translated with the purpose to ensure that the meaning of the questions asked was correctly conveyed to respondents. The questionnaire was tested by selected data collection teams in non-sampled villages in Chin State to test the overall soundness (accuracy and feasibility), and to identify any potential issues related to wording, sequence, or translation.

The following are the areas of enquiry that were included in the questionnaire:

- Demographic factors (including family size and composition, age of household members, occupation, education levels, school attendance etc.);
- Birth registration;
- Nutrition and dietary diversity, including correct knowledge and practices on food intake, IYCF, and health seeking behavior;
- General household food provisioning, food consumption, and food security;
- Experiences of shocks and coping mechanism (specifically related to food shortages);
- Childhood illnesses;
- Access to and use of health services;
- Access to and use of water and sanitation facilities;
- Household employment and income sources, including migration and remittances;
- Household expenditure;
- Housing conditions;
- Household assets (including livestock, equipment, consumer items, and transport); and
- Women's role in decision-making.

2.3 Anthropometric Measurements

Anthropometric values are closely related to the nutritional status of an individual and their evaluation is essential in determining malnutrition, but also overweight or obesity.[10] To be able to determine the nutritional status of pregnant women, mothers and children in the baseline survey sample, anthropometric measurements were taken in every participating household as follows:

- **Mid-Upper Arm Circumference (MUAC)** was measured for all participating pregnant women, mothers who had recently given birth and every child up to five years of age present in participating households[11];

- **Anthropometric measurements (height and weight)** were taken of pregnant women, mothers who had recently given birth, and of every child in participating households of up to five years of age.[12]

3. Training and Pilot

A total of **120 field staff** was recruited for the data collection of the MCCT Chin baseline survey, including twenty field supervisors, sixty interviewers, and forty anthropometric measurers. Small teams were deployed for data collection, composed of one supervisor, three interviewers and two anthropometric measurers. Three training sessions were conducted over a period of two weeks from **13 June - 30 June 2017** at the YMCA and the MSR head office in Yangon.

[10] Sanchez-Garcia et al. (2007). *Anthropometric Measures and Nutritional Status in a Healthy Elderly Population.* BMC Public Health Vol. 7(2).
[11] Mid-upper arm circumference was analyzed for pregnant women only.
[12] Height and weight was calculated to analyze the Body Mass Index (BMI) of non-pregnant women only.

3.1 Anthropometric Training

Teams responsible for taking anthropometric measurements received an extensive **ten-day training**. The responsible anthropometric trainer had been trained by an international expert on anthropometric measurements in the past and possessed extensive training experience. Trainings were further attended by a medical professional and a senior nutrition advisor from Save the Children for both technical advice and guidance.

The anthropometry training included an introduction to anthropometrics, an explanation of the importance of taking accurate measurements, types of measurement errors, reading and recording measurements, as well as reading and recording systems. Also, definitions of measurements, and derived anthropometry indices (i.e., stunting, wasting, underweight) were presented with an explanation of the international growth reference, cutoff points and classification systems, covering some of the basic science of anthropometry with the goal to provide teams with a greater understanding of anthropometry and its uses in population surveys. Training was further given on the weighting and measuring instruments, including explanations of the technology of the scales and measuring boards and their proper handling.

An important aspect of the training was the repeated **practice** of taking measurements. Starting from the second day of training, both mothers as well as children were invited to training facilities so training participants could start practicing in a real-life setting. Each anthropometric measurer underwent **standardization tests** based on internationally recognized standards[13], with the goal to enable accurate measuring and minimize bias in measurements. The degree of accuracy of measurements was assessed by calculating the average deviation of mean measurement values compared to those of the anthropometric trainer. The precision of measurements was assessed based on differences between replicate measurements taken on several children during the training. The analysis of the accuracy and precision were performed after training sessions using an excel spreadsheet with standard formulas for calculating the relevant statistics. Performances of measurers were compared to that of the trainer as well as the overall mean to demonstrate that training participants used consistent techniques in measuring length/height of children. The so-called “measurement effect”, where repeated measurements might be systematically lower or higher compared to the first measurement, was assessed to evaluate precision. The standardization tests were conducted daily, with findings integrated into the training the next day. Only participants that met the required standard were selected for the data collection of the MCCT Chin baseline survey.

3.2 Interviewer and Supervisor Training

Both team supervisors and interviewers attended a **five-day training** for the main household questionnaire used in the baseline survey. More interviewers attended the training than needed for data collection (+10%). Interviewers performance was analyzed during the training and pretesting (see below), and only well-performing interviewers were retained for data collection.

[13] See for example De Onis, M. et al. 2004. *Measurement and standardization protocols for anthropometry used in the construction of a new international growth reference*. Food Nutrition Bulletin 25 (1), pp.27-36.

Training was facilitated by experienced senior staff familiar with the survey questionnaire and included detailed information about the objectives of the survey, field procedures, interviewer conduct and responsibilities, and cultural sensitivity and awareness. Extensive training was provided on how to introduce the survey, explain confidentiality and administer informed consent. Each section and individual question of the data collection instrument was discussed in detail, including comprehensive discussions on best practices for conducting interviews, and interviewing techniques including directive and non-directive probing.

Training also included practice sessions with interviews demonstrated by the trainer and a supervisor as well as practicing of interviews between interviewers. Participants were also extensively trained on how to administer interviews using CAPI and familiarized with the technical aspects of the tablets used for data collection.

Team supervisors received an additional training of three days that discussed, amongst others, sampling procedures, including the screening and snowballing process to identify respondents, quality control in the form of live and back checks, team management and logistics.

3.3 Pretest

A one-day pretest test of the survey instrument was conducted to practice interview procedures with all data collection team members. The purpose of the pilot test was to test the overall soundness of the survey instruments (accuracy and feasibility), and to identify potential problem areas, such as issues related to translation, wording, and sequence. Piloting the survey instruments was imperative to data quality, since interviewers could practice survey instruments in a real-life setting while their performance was individually and closely monitored by supervisors.

All field team members, which included field coordinators, supervisors, quality control personnel and enumerators, were observed during the pretest to ensure preparedness, appropriate contact strategy, familiarity with the questionnaires, team dynamics and an understanding of the protocol for following up respondents. A one-day debriefing session was held with all field team members to discuss pre-testing experiences and to identify and address problem areas.

4. Fieldwork

Fieldwork for the MCCT Chin baseline survey was carried out from 1**1 September 2017 to 14 October 2017**. Deployment of teams was initiated after an extensive review process of the main data collection instrument (household questionnaire). All data collection teams received a one-day refresher training before the start of data collection.

A total of twenty teams carried out data collection. Each team was composed of six members that included one supervisor, three interviewers and two anthropometric measurers. To facilitate

data collection, team supervisors contacted representatives from the Department of Social Welfare (DSW) at the township level before moving on to sampled wards and villages.

5. Data Processing and Quality

Interviews were administered **face-to-face using CAPI[14] devices**. Prior to the deployment of enumeration teams, CAPI devices were programmed using *Survey to Go*, which facilitated the transfer of data to SPSS. All data collected was verified and cleaned before analysis was conducted, and open-ended questions coded where applicable. The use of CAPI devices critically contributed to improved data quality, since it ensured the proper use of skipping patterns and verified basic inconsistencies in data entered already during fieldwork.

The Field Operations Manager, field coordinators, quality control staff[15] and supervisors implemented quality assurance and quality control activities before, during, and following data collection, for which an overview can be found in **Table 1** below. Quality assurance procedures included the development of training materials, interview guides, and a data collection schedule. Interviewers carried a field log in which they recorded relevant information such as contact and call-back details. The interviewer logs supply enough information for an independent observer to locate the selected household and to identify the respondent interviewed. Moreover, they provide sufficient data to ensure respondents can be re-contacted when carrying out the endline survey for the MCCT programme.

During fieldwork, supervisors and quality control staff systematically spot-checked information collected by randomly selecting households already interviewed for a short **re-interview** that was comprised of selected sections of the household questionnaire. Any significant discrepancies between the two were followed-up with the responsible interviewer.

Table 1: Quality Control Procedures

Goal	Procedure or Safeguard
Validity of the questionnaire	The field supervisor ensures that every respondent can be matched to a questionnaire and an interviewer.
Proper selection of respondent	Adherence to household selection criteria and respondent eligibility following field protocol in the training guides.
Assurance of questionnaire accuracy	Full review of questionnaires immediately after the interview is conducted. In the event of errors or omissions, required corrections are made before the interviewer can proceed to the next household.
Prevention of fraud in interviewing	Back-checks with households on the day of the interview to ensure honesty on the part of the interviewer.
	20% of the completed interviews are randomly back checked.
	In the event of possible fraud, the interviewer is released from the project immediately.

[14] Computer-assisted personal interviewing.
[15] A total of three experienced quality control staff were deployed for the MCCT Chin baseline survey to conduct back and live checks across teams for the entire duration of data collection.

Assurance of proper survey administration	20% of the work of each interviewer is witnessed by his or her supervisor to ensure the proper administration of the various sections of the questionnaire and the interviewer's general adherence to professional standards.
Field log and detection of fraud	Use of measures to assist supervisor in checking for fraud, including back-checks and the verification of the approximate duration of the interview.
	Control sheets include refusal and dropout rates and the corresponding reasons.

SIGNIFICANT DIFFERENCES BETWEEN COMPARISON AND TREATMENT GROUPS

The MCCT Chin baseline survey is designed to detect programme effect after two years of implementation by analyzing differences in outcomes between the comparison and the treatment group. While programme impact cannot yet be inferred, the value of the baseline data is amongst others to provide information on the comparability of the treatment and comparison group, which will be used to statistically adjust for differences in the two groups at the time of endline.

The narrative of the present baseline report focuses on current levels of major programme indicators disaggregated by location, income, and age groups where appropriate, with the goal to inform programme monitoring efforts, programme adjustments and future programming in general. Where statistical differences are found, they occur between different income levels and locations. This is not surprising, as there is a strong correlation between the two variables. The comparison and treatment group are however not significantly different in terms of location nor income.

Significant statistical differences are also found between age groups of children. Unlike location and income, treatment and comparison groups are significantly different in this regard. This is mainly a consequence of how the groups were designed. As such, the comparison group is defined as mother’s who recently gave birth, which translates into a much higher proportion of children in the age group of 6 - 11 months. Mothers who gave birth in the three months prior to data collection are assigned to the treatment group, since they receive benefits from the MCCT programme, which results in a much higher proportion of children in the treatment group that are under six months.

LIMITATIONS

As in any research, there are certain limitations to the MCCT Chin Baseline Survey in terms of design and methodology. For the purpose of transparency and replicability, and to guide the reader in the interpretation of the findings, relevant limitations are briefly outlined below. Two main points are addressed, namely limitations of the specific design of the baseline survey as well as limitations in terms of sampling.

During the implementation of the nutrition programme, mothers from the comparison group may be influenced by social and behavioral change messaging that will take place in their community. However, they will not have been exposed to messages during pregnancy and they will also not receive cash transfers during the first 1000 days.

As described above, the design of the baseline study is based on a clear cut-off point for programme eligibility. First and foremost, this has implications for the endline survey that is to take place after two years of programme implementation. As such, the **Regression Discontinuity Design** chosen is imperfect in the sense that children included in the comparison group are older than the treatment group. To strengthen comparison between the comparison and treatment group, the different ages of children and the differences in the duration of benefits received by mothers (exposer to the programme) will need to be considered. This is even more important considering that there is a gap of a few months between the registration and the actual reception of benefits.

Another limitation of the baseline survey is related to the sampling approach. Considering practical limitations, the study decided to exclude villages from the sample that have a population of less than **thirty** households. Two implications need to be taken into account. Firstly, the sample of villages is skewed towards larger villages. Secondly, an exclusion of villages under thirty households is most likely to exclude the most remote and difficult to access villages in Chin State.

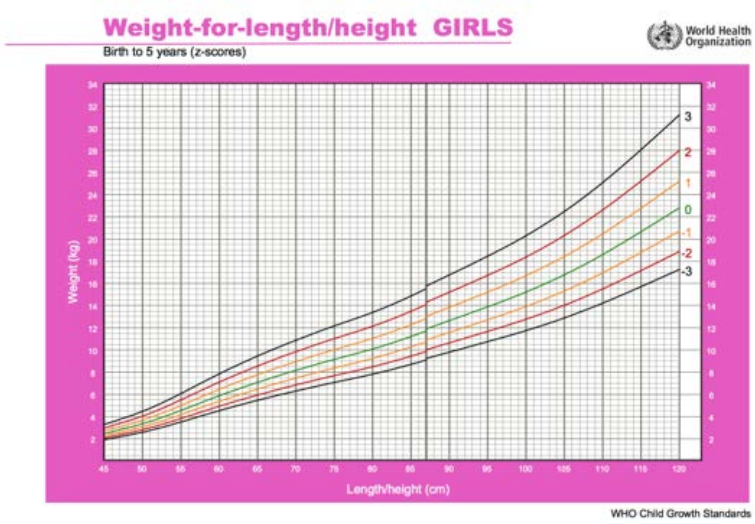
ETHICAL CONSIDERATIONS

Obtaining informed consent from survey participants is one of the most important elements of ethically sound data collection. All findings presented in the study are based on information obtained with the informed consent from participants only. For respondents under the age of sixteen, informed consent was obtained from both the participant as well as from a parent or caregiver. Informed consent was asked again separately for taking anthropometric measurements.

The survey included an extensive introduction, where each participant was informed about the purpose of the study and about the right to decline participation. It was emphasized to each participant that taking part in the study is completely voluntary and that the respondent has the right to terminate the interview at any given point. A clear explanation was given on how the confidentiality of the respondent will be assured and how the information provided will be used. To ensure accountability, every participant was provided with a point of contact in case of questions or complaints related to the survey.

A **referral mechanism** was put in place to ensure that severely and acutely malnourished (SAM) children were referred to appropriate health services immediately, by informing relevant village authorities and implementing partners of 3MDG in-field. To that end, all anthropometric teams were equipped with a Growth Standard Chart available from the World Health Organization (WHO) as depicted in **Figure 2** below. Measurements of each child were mapped on the chart and a referral mechanism was triggered if measurements were *below minus three standard deviations (SD)*. Equally, children were referred if their MUAC was below 11.5 cm and pregnant women if their MUAC was below 21 cm.

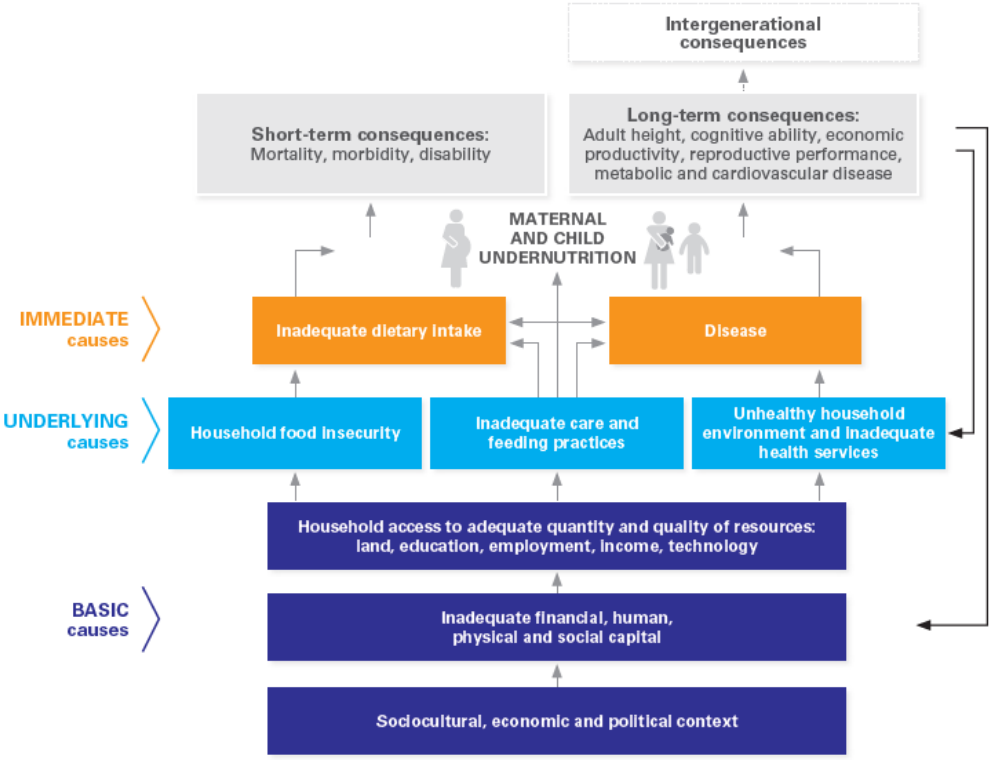
Figure 2: Child Growth Standard Chart



THEORY OF CHANGE

Data analysis for the MCCT Chin Baseline Survey is embedded in conceptual frameworks used for programmatic interventions that aim to improve maternal and child nutrition globally.[16] As such, an analytical framework can provide valuable guidance for structuring data analysis for the MCCT Chin Baseline survey results that will be used as a point of comparison at time of endline, and for exploring relationships of major variables for which information is collected.

Figure 3: UNICEF Conceptual Framework for Maternal and Child Undernutrition



Analysis of baseline survey results focuses on immediate and underlying causes of maternal and child undernutrition as identified in the analytical framework in **Figure 3** above. Current prevalence of immediate causes amongst women and children in Chin State, such as inadequate dietary intake and disease, as well as underlying causes, such as inadequate care and feeding practices but also health seeking behaviors will be analyzed descriptively. To the extent feasible, the baseline research also captures basic causes of maternal and child

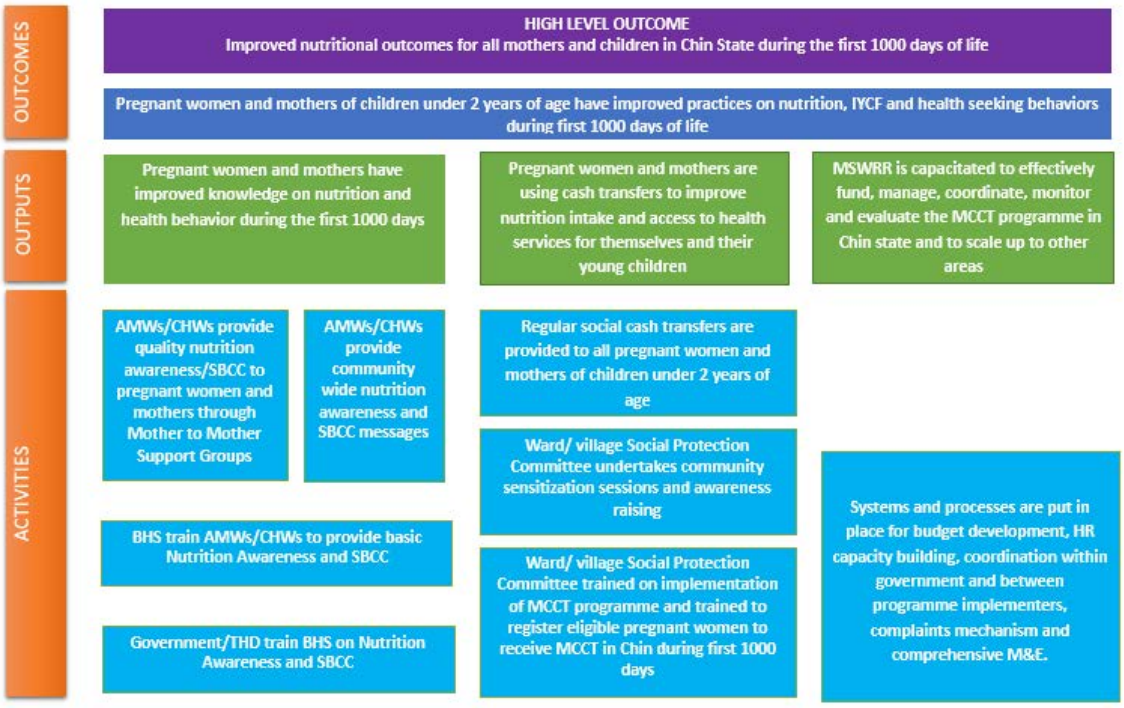
[16] The analysis is specifically based on the conceptual framework developed by UNICEF. See: United Nations Children Fund (UNICEF). Improving Child Nutrition. The achievable imperative for global progress. New York, United States of America, 2013.

undernutrition, such as household and respondent education, or household income, amongst others.

In a first step, the present report looks at the current levels of malnutrition. Secondly, factors that are influencing these levels will be explored in more detail, such as for example dietary intake, child illness, feeding practices and health seeking behavior. The indicators used to explore these factors are based on **internationally recognized standards**. The analysis as described also corresponds to the broader theory of change that underlies the logic of intervention for the nutrition programme in Chin State and that is depicted in **Figure 4** below. On an impact level, the intervention aims to improve nutritional outcomes for all mothers and children in Chin State during the first 1,000 days of life. Programmatically, this is achieved through improved practices of mothers and pregnant women on nutrition, Infant and Young Child Feeding (IYCF), and health seeking behaviors.

The intervention focuses on two components, namely **Social Behavior Change Communication (SBCC)** and a **regular social cash transfer (MCCT)** to all pregnant women and mothers of children under the age of two. As depicted in **Figure 4** below, these interventions seek to improve knowledge on nutrition, ICYF, and health seeking behavior. The social cash transfer in turn will enable caregivers to improve nutritional intake and financial access to health services.[17] The following sections describe current levels of nutritional

Figure 4: MCCT Chin Theory of Change



[17] Research findings presented in this report are focused on the first and second pillar of the MCCT Chin programmes theory of change but does not address the capacity development of MSWRR (third pillar).

outcomes as well as practices and knowledge in terms of nutrition, ICYF and health seeking behaviors, which will provide the basis for comparison at the time of endline.

SAMPLE CHARACTERISTICS

A total of 2,585 eligible respondents were interviewed from a sample of 204[18] clusters in 189 wards and villages from 13 townships and sub-townships in Chin State. A total of 1,100 households with pregnant women and 1,485 households with recent births were interviewed.

The following section aims to introduce survey sample characteristics for standard indicators on both the **household** and **individual level**. Information about sampled household population and composition, age, highest level of education, occupation and levels of income, where appropriate, are presented. This will allow for a better understanding of the survey population, and moreover an exploration of factors that may influence nutritional outcomes, and levels of knowledge and practice. The data collected in the main household questionnaire is the principal source of information for household and individual sample characteristics presented in this chapter.

Looking at sample characteristics on a household as well as an individual level is essential, since it is not only individual characteristics and behaviors that shape nutritional outcomes. As such, overall household realities can have an intervening effect on these outcomes and may ultimately contribute - both positively or negatively - to the overall programme impact. Applying different units of analysis thus increases the understanding of what factors may shape and/or determine nutritional outcomes of the sampled population over the course of programme implementation.

HOUSEHOLD

1. Overview

Tables 2, 3 and **4** summarize the sample disaggregated by location and treatment/comparison group on a household level. They further provide an overview of the total number of household members and their disaggregation by location, treatment/comparison and sex, as well as an overview of the number of sampled households on a township level.

[18] Originally, 200 enumeration areas were determined for data collection. One additional cluster was selected in four enumeration areas in Falam, Matupi (Rezua Sub-township), and Thantlang Townships to achieve the target sample size.

Table 2: Household Sample Overview

Urban	Rural	Remote[19]	Treatment	Comparison	Total
651	1,243	691	1,713	872	**2,585**
25.2%	48.1%	26.7%	33.7%	66.3%	**100%**

Table 3: Sampled Household Members Overview

Urban	Rural	Remote	Treatment	Comparison	Male	Female	Total
3,762	7,736	4,262	10,179	5,581	7,525	8,235	**15,760**
23.9%	49.1%	27%	64.6%	35.4%	48%	52%	**100%**

Table 4: Sampled Households per Township

Township	Count	Percentage
Tedim	544	21%
Tonzang	165	6.4%
Tonzang (Cikha)	68	2.6%
Falam	185	7.2%
Falam (Rihkhawdar)	32	1.2%
Hakha	239	9.2%
Thantlang	280	10.8%
Mindat	215	8.3%
Kanpetlet	104	4.0%
Matupi	212	8.2%
Matupi (Rezua)	41	1.6%
Paletwa	307	11.9%
Paletwa (Samee)	193	7.5%
Total	**2,585**	**100%**

2. Household Population and Composition

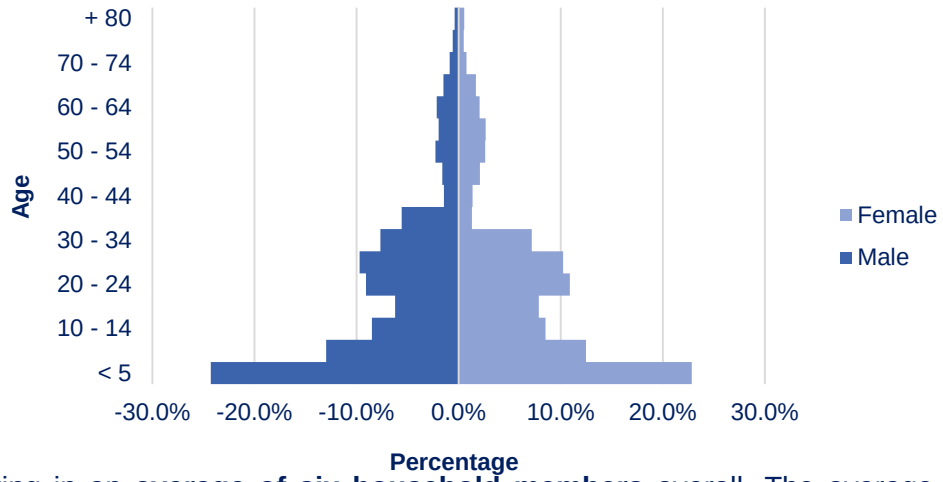
- Households were selected to participate in the survey based on the presence of female respondents either pregnant or having recently given birth. This implies that the overall household sample is skewed towards households with young children, since per definition, households without young children or a pregnant household member are excluded. As seen in **Figure 5** below, this has an impact on the found household age

[19] A village is considered remote if the distance to the nearest township is more than five hours by motorbike on average (one-way). Information about travel time was sourced from LIFT implementing partners operative in respective townships.

distribution. More specifically, it leads to an overrepresentation of the age group of children below five years of age, which is twenty-seven percent (26.7%) compared to nine percent (9%) nationally.[20]

- The baseline survey found a total of 15,760 people in 2,585 households interviewed,

Figure 5: Household Age Distribution



resulting in an **average of six household members** overall. The average household size is marginally smaller in urban (5.7) areas compared to rural (6.2) and remote (6.2) areas. The average household size of the sample is higher than the national average, which is 4.2 members.[21]

- Forty-eight percent (48%) of household members are male and fifty-two percent (52%) are female. This differs from results of the 2015-16 Myanmar Demographic and Health Survey (MDHS)[22], which finds national figures of fifty-four percent (54%) female and forty-six percent (46%) male.

3. Education

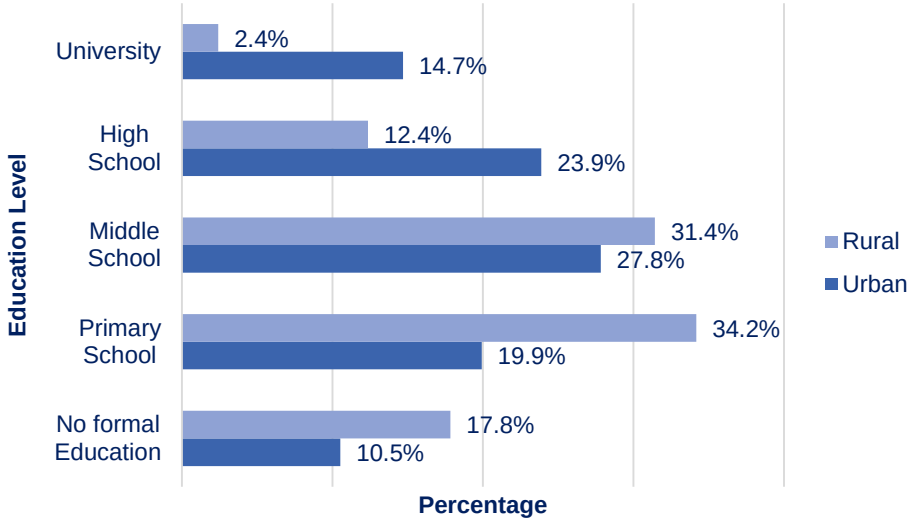
- Levels of education were asked for all household members in sampled households above five years of age (school age in Myanmar), amounting to a total sample size of 12,052. However, since some household members have not yet completed their education, the data was analyzed for members of the household that are older than twenty-one years old only. This threshold was chosen based on the expected age

[20] Ministry of Health and Sports (MoHS) and ICF. 2017. *Myanmar Demographic and Health Survey 2015-16.* Nay Pyi Taw, Myanmar, and Rockville, Maryland USA: Ministry of Health and Sports and ICF.
[21] Ministry of Health and Sports (MoHS) and ICF. 2017. *Myanmar Demographic and Health Survey 2015-16.* Nay Pyi Taw, Myanmar, and Rockville, Maryland USA: Ministry of Health and Sports and ICF.
[22] Ministry of Health and Sports (MoHS) and ICF. 2017. *Myanmar Demographic and Health Survey 2015-16.* Nay Pyi Taw, Myanmar, and Rockville, Maryland USA: Ministry of Health and Sports and ICF.

someone in Myanmar would have completed a university degree. This resulted in a total sample size of 10,009.

- Levels of education for household members above 21 years old differ significantly in urban and rural areas. As seen in **Figure 6**, twice as many household members have a high school education in urban (23.9%) compared to rural (12.4%) locations. Only two percent (2.4%) of rural household members have a tertiary education compared to fifteen percent (14.7%) of household members in urban locations.

Figure 6: Household Member Levels of Education by Location



- Statistically, levels of education differ significantly between female and male household members of the sample. Twice as many women (16%) do not have a formal education compared to men (6.8%).

4. Primary Occupation

- Primary occupation was inquired about all household members above five years of age, whereas respondents still attending school as well as dependent household members were excluded from analysis, resulting in a total sample size of 6,736. **Figure 7** below depicts the main primary occupations of household members by location (urban, rural and remote). As seen below, diversity of occupation is small and dominated by agricultural work.

- **Primary occupation** differs significantly depending on location, with most respondents in remote (65.0%) and rural areas (54.1%) indicating farming/animal husbandry as their primary occupation. In urban areas, occupation is more diverse, with government jobs being the largest segment (21.0%). Other frequent primary occupations in urban areas

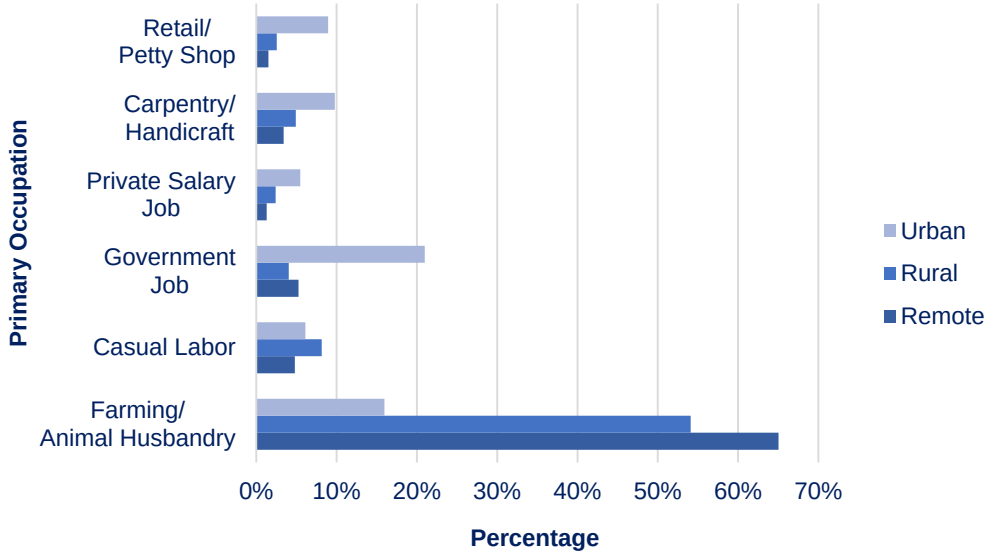
are farming (16%), carpentry/handicraft (9.8%), retail (8.9%) and to a lesser extent jobs in the private sector (5.5%).

- Three percent (3.2%) of household members in the sample are employed as either **farm laborers** or **unskilled workers** and seven percent (6.8%) as **casual laborers**. Three percent (2.8%) of sampled household members are employed in the private sector.

- The unemployment rate in urban areas is eleven percent (10.7%) compared to twelve percent in rural (11.6%) and nine percent (8.5%) in remote locations.

Figure 7: Primary Occupation

5.



Income is calculated per annum from all household members cumulatively and includes income from all income-generating activities as well as regular income received from the government, non-governmental organizations (NGOs) or any other programme. Annual amounts of remittances the household receives are also included in the calculation of income. There is a **strong correlation** between income and location that is statistically significant.[23]

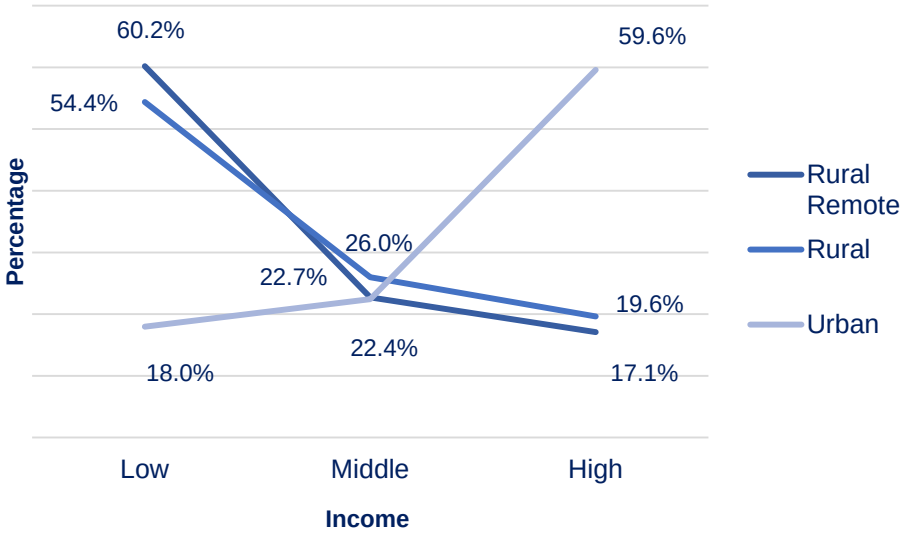
- Sixty percent (60.2%) of households in remote locations fall into a low-income category - defined as lower than 1,000,000 MMK per annum - compared to fifty-four percent (54.4%) in rural and eighteen percent (18.0%) in urban areas.

- The proportion of households in the middle-income category - between 1,000,000 MMK and 2,000,000 MMK per annum - is higher in rural (26.0%) locations but similar in urban (22.4%) and remote (22.7%) areas.

[23] The strength of the correlation is 0.404 and the correlation is significant at the 0.01 level (2-tailed).

- Seventeen percent (17.1%) of remote households in the sample fall into a high-income category - above 2,000,000 per annum - compared to twenty percent (19.6%) of rural and sixty percent (59.6%) of urban households.
- Eighteen percent (17.9%) of households in the sample received remittances from relatives or any other person outside of the family. For these households, the amount of

Figure 8: Income Levels by Location



ed make up thirty-eight (38%) percent of their overall income. There is no statistically significant difference between locations.

6. Electricity

- Sixty-two percent (62.2%) of sampled households have electricity in their house. Statistically significant differences exist between urban, rural and remote households in the sample. Eighteen percent (18.4%) of households in remote areas have electricity in the house compared to twenty-eight (27.9%) in rural and seventy-seven percent (77.4%) in sampled urban areas.

- For households that have electricity, a little over half of sampled households (51.1%) use a mini grid for electricity, with the main source coming from hydroelectric power. A total of forty-one percent (40.6%) use the main grid for electricity, and eight percent (8.3%) a personal source, which is for the most part hydroelectric.

7. Assets and Land Ownership

- Seventy percent (69.8%) of all sampled households own land for dwelling, with a statistically significant difference between urban (51.0%) and rural (76.1%) households. Land ownership for farming is significantly different between rural (50.3%) and remote (38.6%) households.

- In terms of household **assets**, there are significant differences between urban, rural and remote households in the sample for assets including motorcycles, beds, mattresses and TVs. Significant differences for assets such as gold/jewelry, satellite dishes, electric or gas stoves, generators and fridges exist between urban and rural households.

Figure 9: Asset Ownership by Location

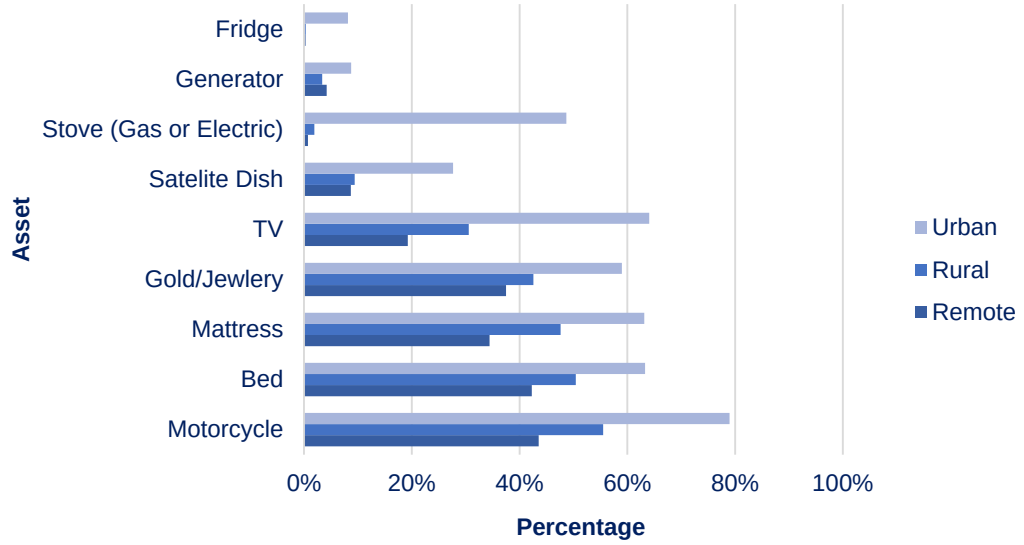


Table 5: Household Income

	INCOME						
	Low Income		Middle Income		High Income		Total
	Count	%	Count	%	Count	%	Count
TOTAL	**1209**	**46.8%**	**626**	**24.2%**	**750**	**29.0%**	**2585**
COMPARISON/ TREATMENT							
COMPARISON	430	49.3%	199	22.8%	243	27.9%	872
TREATMENT	779	45.5%	427	24.9%	507	29.6%	1713
LOCATION							
URBAN	117	18.0%	146	22.4%	388	59.6%	651
RURAL	676	54.4%	323	26.0%	244	19.6%	1243
REMOTE	416	60.2%	157	22.7%	118	17.1%	691
TOWNSHIP							
TEDIM	293	53.9%	125	23.0%	126	23.2%	544
TONZANG	90	54.5%	43	26.1%	32	19.4%	165
TONZANG (CIKHA)	47	69.1%	10	14.7%	11	16.2%	68
FALAM	75	40.5%	47	25.4%	63	34.1%	185
FALAM (RIHKHAWDAR SUB-TOWNSHIP)	6	18.8%	8	25.0%	18	56.3%	32
HAKHA	59	24.7%	62	25.9%	118	49.4%	239
THANTLANG	139	49.6%	63	22.5%	78	27.9%	280
MINDAT	87	40.5%	43	20.0%	85	39.5%	215
KANPETLET	40	38.5%	27	26.0%	37	35.6%	104
MATUPI	97	45.8%	45	21.2%	70	33.0%	212
MATUPI (REZUA SUB-TOWNSHIP)	10	24.4%	15	36.6%	16	39.0%	41
PALETWA	189	61.6%	66	21.5%	52	16.9%	307
PALETWA (SAMEE SUB-	77	39.9%	72	37.3%	44	22.8%	193

TOWNSHIP)

Table 6: Primary Occupation (1/2)

	PRIMARY OCCUPATION									
	Farming/Animal Husbandry		Retail/Petty Shop		Farm Laborer		Non- Farm (Unskilled)		Carpentry/Handicraft Industry	
	Count	%	Count	%	Count	%	Count	%	Count	%
TOTAL	**3089**	**47.8%**	**247**	**3.8%**	**101**	**1.6%**	**104**	**1.6%**	**368**	**5.7%**
COMPARISON/ TREATMENT										
COMPARISON	993	47.0%	70	3.3%	38	1.8%	31	1.5%	118	5.6%
TREATMENT	2096	48.2%	177	4.1%	63	1.4%	73	1.7%	250	5.7%
LOCATION										
URBAN	248	16.0%	139	8.9%	14	.9%	42	2.7%	152	9.8%
RURAL	1738	54.1%	82	2.6%	42	1.3%	44	1.4%	158	4.9%
REMOTE	1103	65.0%	26	1.5%	45	2.7%	18	1.1%	58	3.4%
INCOME										
LOW INCOME	1722	62.0%	51	1.8%	57	2.1%	40	1.4%	119	4.3%
MIDDLE INCOME	789	50.2%	49	3.1%	27	1.7%	29	1.8%	106	6.7%
HIGH INCOME	578	27.4%	147	7.0%	17	.8%	35	1.7%	143	6.8%
TOWNSHIP										
TEDIM	729	46.1%	72	4.5%	17	1.1%	20	1.3%	106	6.7%
TONZANG	152	35.4%	8	1.9%	2	.5%	3	.7%	5	1.2%
TONZANG (CIKHA)	90	37.7%	3	1.3%	9	3.8%	1	.4%	7	2.9%
FALAM	268	56.7%	17	3.6%	2	.4%	8	1.7%	23	4.9%
FALAM (RIHKHAWDAR SUB-TOWNSHIP)	41	48.2%	5	5.9%	0	0.0%	2	2.4%	0	0.0%
HAKHA	175	30.2%	40	6.9%	7	1.2%	16	2.8%	84	14.5%
THANTLANG	355	56.4%	16	2.5%	39	6.2%	12	1.9%	33	5.2%
MINDAT	240	45.8%	28	5.3%	1	.2%	13	2.5%	22	4.2%

KANPETLET	109	49.3%	8	3.6%	1	.5%	4	1.8%	6	2.7%
MATUPI	190	34.4%	12	2.2%	16	2.9%	14	2.5%	52	9.4%
MATUPI (REZUA SUB-TOWNSHIP)	87	76.3%	2	1.8%	0	0.0%	1	.9%	6	5.3%
PALETWA	407	65.1%	24	3.8%	7	1.1%	8	1.3%	19	3.0%
PALETWA (SAMEE SUB-TOWNSHIP)	246	60.1%	12	2.9%	0	0.0%	2	.5%	5	1.2%

Table 7: Primary Occupation (2/2)

	PRIMARY OCCUPATION									
	Private Formal Salary Job		**Government Job**		**Religious Leader**		**Unemployed**		**Casual Laborer**	
	Count	%	Count	%	Count	%	Count	%	Count	%
TOTAL	**184**	**2.8%**	**545**	**8.4%**	**138**	**2.1%**	**693**	**10.7%**	**439**	**6.8%**
COMPARISON/ TREATMENT										
COMPARISON	56	2.6%	164	7.8%	46	2.2%	257	12.2%	155	7.3%
TREATMENT	128	2.9%	381	8.8%	92	2.1%	436	10.0%	284	6.5%
LOCATION										
URBAN	85	5.5%	326	21.0%	60	3.9%	176	11.3%	95	6.1%
RURAL	77	2.4%	130	4.0%	51	1.6%	372	11.6%	262	8.2%
REMOTE	22	1.3%	89	5.2%	27	1.6%	145	8.5%	82	4.8%
INCOME										
LOW INCOME	31	1.1%	27	1.0%	28	1.0%	302	10.9%	212	7.6%
MIDDLE INCOME	43	2.7%	50	3.2%	45	2.9%	175	11.1%	129	8.2%
HIGH INCOME	110	5.2%	468	22.2%	65	3.1%	216	10.2%	98	4.6%
TOWNSHIP										
TEDIM	67	4.2%	92	5.8%	30	1.9%	164	10.4%	114	7.2%

TONZANG	11	2.6%	32	7.5%	10	2.3%	110	25.6%	57	13.3%
TONZANG (CIKHA)	4	1.7%	14	5.9%	1	.4%	77	32.2%	17	7.1%
FALAM	15	3.2%	46	9.7%	10	2.1%	27	5.7%	23	4.9%
FALAM (RIHKHAWDAR SUB-TOWNSHIP)	2	2.4%	16	18.8%	2	2.4%	3	3.5%	2	2.4%
HAKHA	32	5.5%	76	13.1%	15	2.6%	25	4.3%	32	5.5%
THANTLANG	11	1.7%	53	8.4%	12	1.9%	53	8.4%	10	1.6%
MINDAT	15	2.9%	65	12.4%	15	2.9%	50	9.5%	27	5.2%
KANPETLET	3	1.4%	37	16.7%	9	4.1%	19	8.6%	11	5.0%
MATUPI	13	2.4%	61	11.1%	11	2.0%	125	22.6%	20	3.6%
MATUPI (REZUA SUB-TOWNSHIP)	1	.9%	4	3.5%	3	2.6%	2	1.8%	6	5.3%
PALETWA	5	.8%	39	6.2%	9	1.4%	24	3.8%	42	6.7%
PALETWA (SAMEE SUB-TOWNSHIP)	5	1.2%	10	2.4%	11	2.7%	14	3.4%	78	19.1%

Table 8: Level of Education of Household Members

	EDUCATION										
	No Formal Education		**Primary School**		**Middle School**		**High School**		**University**		**Total**
	Count	%	Count	%	Count	%	Count	%	Count	%	Count
TOTAL	**1112**	**15.9%**	**2126**	**30.4%**	**2133**	**30.5%**	**1081**	**15.4%**	**399**	**5.7%**	**6851**
SEX											
Male	254	7.6%	1027	30.6%	1197	35.6%	606	18.0%	192	5.7%	3276
Female	858	23.6%	1099	30.2%	936	25.7%	475	13.0%	207	5.7%	3575
COMPARISON/ TREATMENT											
Comparison	366	15.8%	720	31.2%	683	29.6%	374	16.2%	121	5.2%	2264
Treatment	746	15.9%	1406	30.0%	1450	30.9%	707	15.1%	278	5.9%	4587

LOCATION											
Urban	197	10.5%	373	19.9%	521	27.8%	447	23.9%	275	14.7%	1813
Rural	555	16.6%	1140	34.0%	1092	32.6%	420	12.5%	77	2.3%	3284
Remote	360	20.2%	613	34.4%	520	29.2%	214	12.0%	47	2.6%	1754
INCOME											
Low Income	575	19.4%	1088	36.7%	921	31.0%	313	10.5%	20	.7%	2917
Middle Income	308	18.2%	532	31.4%	548	32.4%	228	13.5%	43	2.5%	1659
High Income	229	9.8%	506	21.6%	664	28.4%	540	23.1%	336	14.4%	2275
TOWNSHIP											
Tedim	176	10.6%	575	34.7%	528	31.8%	256	15.4%	92	5.5%	1627
Tonzang	46	11.2%	142	34.5%	119	29.0%	76	18.5%	26	6.3%	409
Tonzang (Cikha)	20	10.6%	58	30.7%	48	25.4%	46	24.3%	<5	2.1%	172
Falam	31	6.2%	151	30.1%	185	36.9%	77	15.3%	46	9.2%	490
Falam (Rihkhawdar Sub-township)	5	5.2%	25	25.8%	16	16.5%	39	40.2%	12	12.4%	97
Hakha	60	8.7%	189	27.5%	251	36.5%	114	16.6%	50	7.3%	664
Thantlang	90	12.8%	158	22.4%	338	47.9%	70	9.9%	39	5.5%	695
Mindat	135	23.7%	158	27.8%	83	14.6%	143	25.1%	47	8.3%	566
Kanpetlet	60	21.8%	63	22.9%	77	28.0%	39	14.2%	17	6.2%	256
Matupi	91	15.6%	139	23.8%	168	28.8%	125	21.4%	40	6.8%	563
Matupi (Rezua Sub-township)	21	18.8%	38	33.9%	40	35.7%	9	8.0%	<5	2.7%	108
Paletwa	247	32.6%	258	34.1%	161	21.3%	57	7.5%	19	2.5%	742
Paletwa (Samee Sub-township)	130	28.5%	172	37.7%	119	26.1%	30	6.6%	<5	.9%	451

RESPONDENT

1. Overview

Since the number of respondents is equal to the number of households, the total number of respondents by location and treatment/comparison group and township is identical to the information captured in Table 2 and 4 above for the household level. **Table 9** below provides an overview of anthropometric measurements taken of women as outlined earlier in the report, namely weight, height and mid-upper arm circumference. Measurements were only taken of women that gave their informed consent, which is why not all measurements have an equal number of total respondents. **Table 10** shows the number of pregnant women and non-pregnant mothers in the sample of respondents. Overall, thirteen percent (13%) of respondents were in their first pregnancy. The remaining eighty-seven percent (87%) of respondents have three children on average (2.8), with the number being lower in urban (2.4) compared to rural (3.1) locations. The marital status of respondent's is captured in **Table 11** below.

Table 9: Respondent Anthropometric Sample Overview

Measurement	Urban	Rural	Remote[24]	Treatment	Comparison	Total
Weight	647	1,240	690	1,705	872	**2,577**
	25.1%	48.1%	26.8%	66.2%	33.8%	**100%**
Height	648	1,240	690	1,706	872	**2,578**
	25.1%	48.1%	26.8%	66.2%	33.8%	**100%**
MUAC	647	1,240	689	1,705	871	**2,576**
	25.1%	48.1%	26.8%	66.2%	33.8%	**100%**

Table 10: Pregnancies and Non-Pregnant Mother's

Pregnant	Non-Pregnant	Total
1,100	1,485	2,585
42.6%	57.4%	100%

[24] A village is considered remote if the distance to the nearest township is more than five hours by motorbike on average (one way).

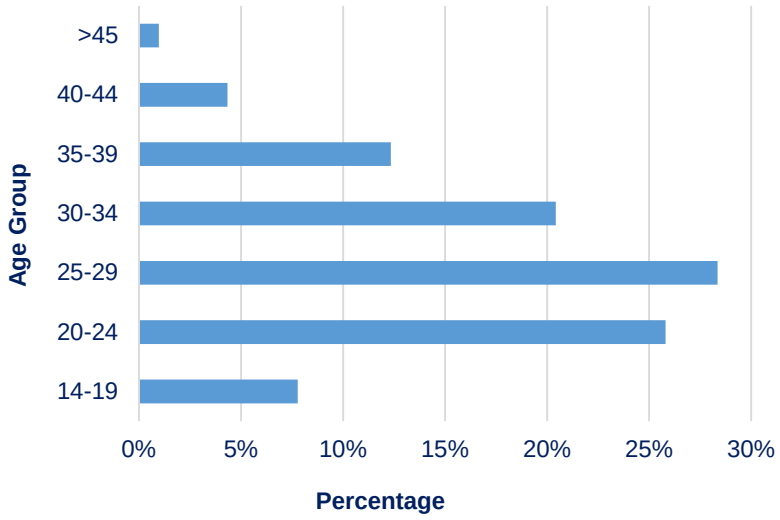
Table 11: Marital Status of Respondent's

	Count	Percentage
Single Mother	7	0.3%
Married	2,538	98.2%
Widowed	8	0.3%
Separated	29	1.1%
Divorced	3	0.1%
Total	**2,585**	**100%**

1. Age

The average age of respondents is twenty-eight (28) years old, with the youngest respondent being fourteen (14) and the oldest respondent fifty (50) years of age. The overall age distribution of respondents can be seen in **Figure 10** below.

Figure 10: Age Distribution of Respondents



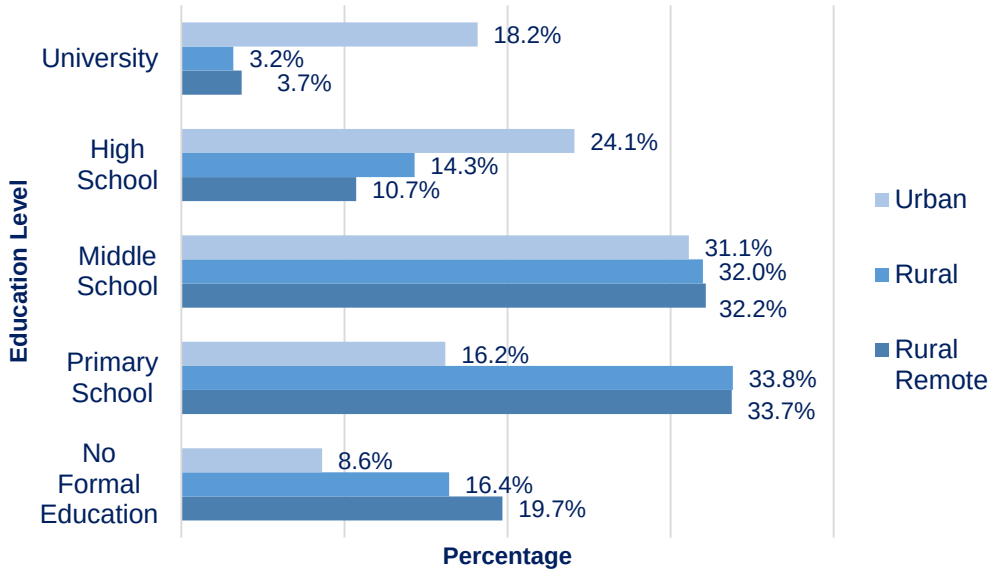
2. Education

- There exists a significant difference in respondent education by location for all levels of education as shown in **Figure 11**; with the exception of middle school, for which differences between remote, rural and urban are not significant. While **eighteen percent (18.2%)** of respondents in urban areas have completed a **tertiary education**, three percent (3.2%) have done so in rural areas and four percent (3.7%) in remote areas.

- Most respondents in rural and remote areas have completed either **primary school** or **middle school**. In urban areas, middle school is the highest completed education level for most respondents, namely thirty-one percent (31.1%).

- The number of respondents that have not completed any formal education is **twice as high** in remote areas (19.7%) compared to urban (8.6%) locations.

Figure 11: Respondent Education by Location



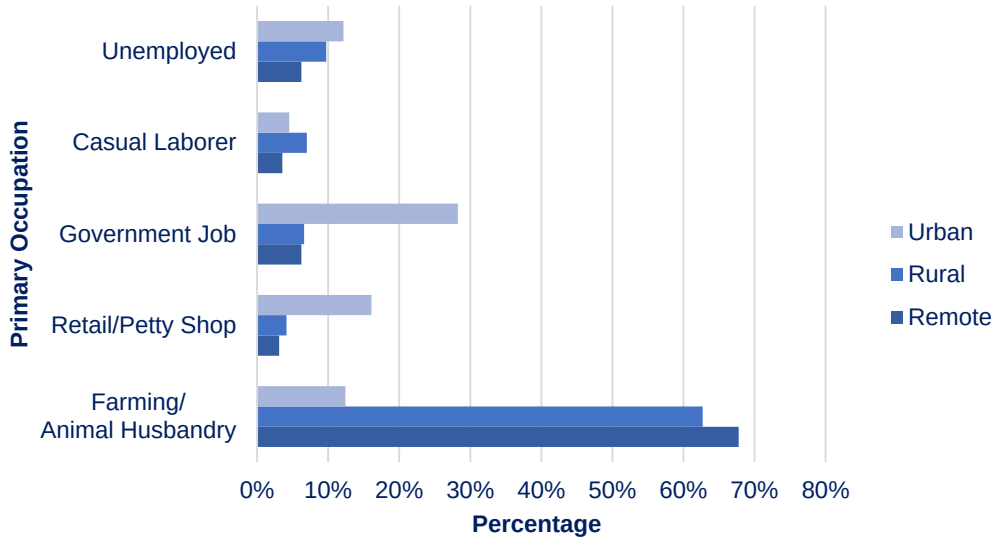
3. Primary Occupation

- **Forty-eight percent (47.9%)** of sampled respondents have been working in the three months prior to data collection, with a significant difference between rural (45.3%) and remote (53.3%) locations.

- **Figure 12** below depicts the main occupations of respondents by location (urban, rural and remote), which overall closely resembles the household level, with a small diversity of occupation and predominant occupation in agricultural work.

- **Primary occupation** differs significantly depending on location, with most respondents in remote (67.8%) and rural areas (62.7%) indicating farming/animal husbandry as their primary occupation. In urban areas, occupation is more diverse, with government jobs being the largest segment (28.2%). Other frequent primary occupations in urban areas

Figure 12: Primary Occupation of Respondents



are retail

(16.1%), farming (12.4%) and to a lesser extent tailoring (4.2%), unskilled (3.4%) or casual labor (4.5%) and jobs in the private sector (3.1%).

Table 12: Respondent Education Level

RESPONDENT EDUCATION LEVEL [25]

	No formal education		Primary School		Middle School		High School		University		Total
	Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count
TOTAL	**330**	**15.3%**	**632**	**29.3%**	**687**	**31.8%**	**343**	**15.9%**	**155**	**7.2%**	**2147**
COMPARISON/ TREATMENT											
Comparison	115	15.3%	229	30.5%	228	30.4%	128	17.0%	47	6.3%	747
Treatment	215	15.3%	403	28.6%	459	32.6%	215	15.3%	108	7.7%	1400
LOCATION											
Urban	48	8.6%	90	16.2%	173	31.1%	134	24.1%	101	18.2%	546
Rural	170	16.4%	350	33.8%	331	32.0%	148	14.3%	33	3.2%	1032
Rural Remote	112	19.7%	192	33.7%	183	32.2%	61	10.7%	21	3.7%	569
INCOME											
Low Income	200	19.7%	368	36.3%	327	32.2%	105	10.4%	12	1.2%	1012
Middle Income	78	14.9%	164	31.3%	190	36.3%	71	13.5%	19	3.6%	522
High Income	52	8.4%	100	16.1%	170	27.3%	167	26.8%	124	19.9%	613
TOWNSHIP											
Tedim	32	7.1%	168	37.1%	139	30.7%	73	16.1%	38	8.4%	450
Tonzang	7	5.2%	47	35.1%	47	35.1%	22	16.4%	11	8.2%	134
Tonzang (Cikha)	<5	3.6%	23	41.1%	12	21.4%	17	30.4%	<5	3.6%	52
Falam	<5	1.9%	35	22.7%	72	46.8%	27	17.5%	16	10.4%	150
Falam (Rihkhawdar Sub-township)	0	0.0%	<5	14.8%	<5	14.8%	14	51.9%	5	18.5%	19
Hakha	6	3.0%	40	20.3%	85	43.1%	40	20.3%	23	11.7%	194
Thantlang	16	7.2%	33	14.9%	127	57.5%	27	12.2%	16	7.2%	219
Mindat	50	26.6%	60	31.9%	25	13.3%	39	20.7%	14	7.4%	188

[25] All respondents over 21 years of age.

Kanpetlet	22	24.2%	27	29.7%	22	24.2%	11	12.1%	5	5.5%	87
Matupi	19	11.2%	28	16.6%	56	33.1%	52	30.8%	14	8.3%	169
Matupi (Rezua Sub-township)	6	20.0%	9	30.0%	14	46.7%	<5	3.3%	0	0.0%	29
Paletwa	101	36.9%	97	35.4%	51	18.6%	16	5.8%	9	3.3%	274
Paletwa (Samee Sub-township)	66	39.8%	61	36.7%	33	19.9%	<5	2.4%	<5	1.2%	160

Table 13: Primary Occupation of Respondents (1/2)

PRIMARY OCCPUATION OF RESPONDENTS

	Farming/Animal Husbandry		**Retail/Petty Shop**		**Farm Laborer**		**Unskilled**		**Carpentry/Handicraft Industry**	
	Count	%	Count	%	Count	%	Count	%	Count	%
TOTAL	**833**	**52.9%**	**103**	**6.5%**	**29**	**1.8%**	**26**	**1.6%**	**56**	**3.6%**
COMPARISON/ TREATMENT										
COMPARISON	285	55.8%	29	5.7%	11	2.2%	5	1.0%	14	2.7%
TREATMENT	548	51.5%	74	6.9%	18	1.7%	21	2.0%	42	3.9%
INCOME										
LOW INCOME	513	69.1%	19	2.6%	18	2.4%	6	.8%	11	1.5%
MIDDLE INCOME	205	55.6%	23	6.2%	6	1.6%	11	3.0%	22	6.0%
HIGH INCOME	115	24.7%	61	13.1%	5	1.1%	9	1.9%	23	4.9%
LOCATION										
RURAL	484	62.7%	32	4.1%	7	.9%	10	1.3%	16	2.1%
RURAL REMOTE	305	67.8%	14	3.1%	17	3.8%	4	.9%	22	4.9%
URBAN	44	12.4%	57	16.1%	5	1.4%	12	3.4%	18	5.1%
TOWNSHIP										

TEDIM	203	60.1%	14	4.1%	4	1.2%	6	1.8%	3	.9%
TONZANG	40	38.5%	3	2.9%	0	0.0%	0	0.0%	2	1.9%
TONZANG (CIKHA)	24	42.1%	1	1.8%	4	7.0%	0	0.0%	0	0.0%
FALAM	68	56.2%	9	7.4%	0	0.0%	2	1.7%	5	4.1%
FALAM (RIHKHAWDAR SUB-TOWNSHIP)	9	47.4%	1	5.3%	0	0.0%	0	0.0%	0	0.0%
HAKHA	35	26.9%	17	13.1%	2	1.5%	5	3.8%	25	19.2%
THANTLANG	85	60.3%	7	5.0%	13	9.2%	1	.7%	3	2.1%
MINDAT	74	50.0%	21	14.2%	1	.7%	2	1.4%	3	2.0%
KANPETLET	35	54.7%	3	4.7%	1	1.6%	2	3.1%	1	1.6%
MATUPI	37	28.9%	4	3.1%	2	1.6%	5	3.9%	11	8.6%
MATUPI (REZUA SUB-TOWNSHIP)	19	73.1%	1	3.8%	0	0.0%	1	3.8%	3	11.5%
PALETWA	120	67.8%	11	6.2%	2	1.1%	1	.6%	0	0.0%
PALETWA (SAMEE SUB-TOWNSHIP)	84	68.3%	11	8.9%	0	0.0%	1	.8%	0	0.0%

Table 14: Primary Occupation of Respondents (2/2)

PRIMARY OCCUPATION OF RESPONDENTS

	Private Formal Salary Job		**Government Job**		**Unemployed**		**Casual Laborer**	
	Count	%	Count	%	Count	%	Count	%
TOTAL	**23**	**1.5%**	**179**	**11.4%**	**146**	**9.3%**	**86**	**5.5%**
COMPARISON/ TREATMENT								
COMPARISON	3	.6%	62	12.1%	47	9.2%	24	4.7%
TREATMENT	20	1.9%	117	11.0%	99	9.3%	62	5.8%

INCOME								
LOW INCOME	7	.9%	12	1.6%	72	9.7%	46	6.2%
MIDDLE INCOME	6	1.6%	13	3.5%	38	10.3%	25	6.8%
HIGH INCOME	10	2.2%	154	33.1%	36	7.7%	15	3.2%
LOCATION								
URBAN	11	3.1%	100	28.2%	43	12.1%	16	4.5%
RURAL	6	.8%	51	6.6%	75	9.7%	54	7.0%
RURAL REMOTE	6	1.3%	28	6.2%	28	6.2%	16	3.6%
TOWNSHIP								
TEDIM	7	2.1%	30	8.9%	20	5.9%	24	7.1%
TONZANG	4	3.8%	11	10.6%	23	22.1%	11	10.6%
TONZANG (CIKHA)	1	1.8%	4	7.0%	16	28.1%	3	5.3%
FALAM	1	.8%	18	14.9%	8	6.6%	5	4.1%
FALAM (RIHKHAWDAR SUB-TOWNSHIP)	0	0.0%	7	36.8%	1	5.3%	0	0.0%
HAKHA	5	3.8%	26	20.0%	1	.8%	6	4.6%
THANTLANG	2	1.4%	20	14.2%	4	2.8%	1	.7%
MINDAT	2	1.4%	17	11.5%	13	8.8%	5	3.4%
KANPETLET	0	0.0%	12	18.8%	7	10.9%	1	1.6%
MATUPI	1	.8%	20	15.6%	39	30.5%	1	.8%
MATUPI (REZUA SUB-TOWNSHIP)	0	0.0%	0	0.0%	1	3.8%	1	3.8%
PALETWA	0	0.0%	12	6.8%	8	4.5%	12	6.8%
PALETWA (SAMEE SUB-TOWNSHIP)	0	0.0%	2	1.6%	5	4.1%	16	13.0%

CHILDREN

1. Overview

Anthropometric measurements were taken of all children under five years old from households included in the baseline survey. As with anthropometric measurements of pregnant women and mothers, children were only measured with the explicit consent of their parent or caregiver. Information collected through the survey questionnaire that relate to indicators for nutrition, infant and young child feeding (IYCF) as well as child health was asked for all children under two years of age in respective households.

The following is an overview of children included in the sample. **Table 15** summarizes the number of children under 5 years old included in the anthropometric sample. **Table 16** shows the total number of children in relevant age groups of sampled children under two years of age that were used for the disaggregation of main indicators such as nutrition, feeding practices, or child illness.

Table 15: Children Anthropometric Sample Overview

Measurement	Urban	Rural	Remote	Treatment	Comparison	Total
Weight	757	1,707	987	1,959	1,492	**3,451**
	21.9%	49.5%	28.6%	56.8%	43.2%	**100%**
Height	757	1,701	982	1,952	1,488	**3,440**
	22.0%	49.5%	28.5%	56.7%	43.3%	**100%**
MUAC	756	1,705	984	1,953	1,492	**3,445**
	21.9%	49.5%	28.6%	56.7%	43.3%	**100%**

Table 16: Total Number of Children per Age Group

Months	Count	Percentage
0 - 5	964	51.1%
6 - 11	559	29.6%
12 - 23	363	19.3%
Total	**1,886**	**100%**

2. Age

As shown in **Figure 13** below, there is an important difference between the comparison and treatment group with regards to the age of children in the sample. This difference is caused by the specific design of the baseline survey, which defines the comparison group as mothers who recently gave birth, notably in the six months prior to registration for benefits. This translates into a much higher proportion of children in the age group of 6 - 11 months. Mothers who gave birth in the three months prior to data collection however, are assigned to the treatment group, since

they are receiving benefits from the MCCT programme, which results in a much higher proportion of children in the age group under six months in the treatment group.

Figure 13: Child Age Groups by Comparison/Treatment Group

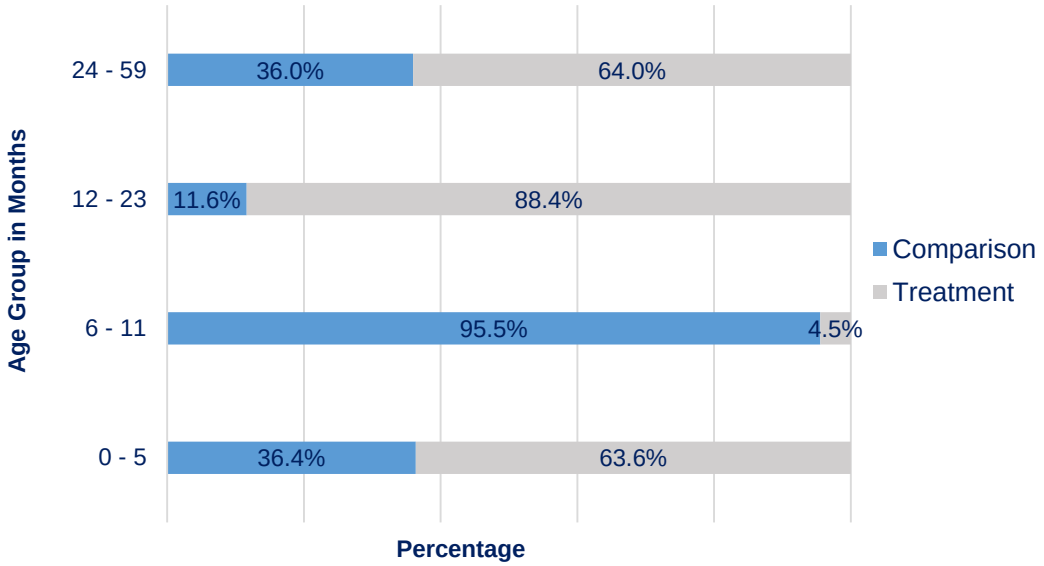
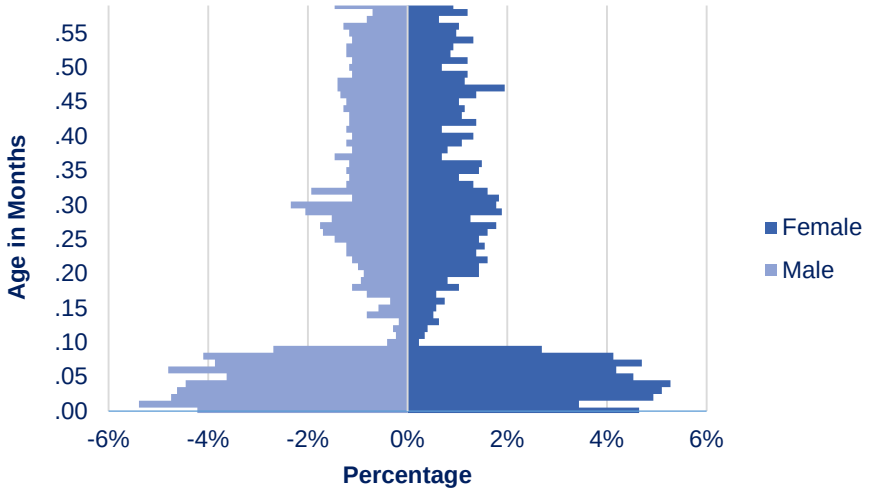
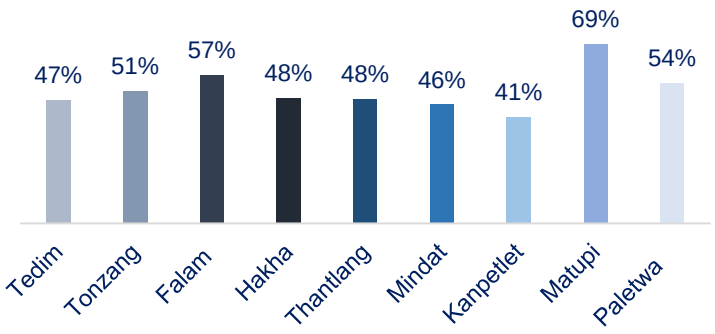


Figure 14: Age Distribution Children 0 - 59 Months



3. Birth Certification

Figure 15: Level of Birth Certification per Township



- **Forty-nine percent (48.7%)** of children under eighteen in Chin State from the baseline sample do not have a birth certificate.[26] Sixty-five percent (65.4%) of children in urban areas have a birth certificate compared to forty-seven percent (46.8%) of children in rural households and forty-nine percent (49.2%) in rural remote households. For locations, the difference is statistically significant between urban and rural households but not between rural and remote households. No significant difference exists between sexes, with fifty-two percent (51.5%) of female children having a birth certificate compared to fifty-one percent (51.2%) of male children.

- When asked about the **reasons** why the child was not in possession of a birth certificate, respondents indicated that they applied for one but were still waiting to receive it for twenty percent (20.0%) of cases. Another twenty-six percent (26.0%) indicated that a birth certificate was not available or that it was refused by the authorities (13%). Availability is predominantly an issue for children of the sample that live in rural areas, with a significant difference between remote (36.1%), rural (23.7%) and urban (17%) locations.

- Birth registration is fundamental to realizing a child's rights as well as practical needs such as ensuring access to basic services. As such, it is essential to child protection efforts.[27] While not representative for all children in Chin State, the above findings point to a need for enhanced efforts to achieve higher level of birth registration and subsequently certification, particularly for children that live in the remotest areas of Chin State. As shown in **Figure 15**, the level of birth certification was lowest in Kanpetlet Township with forty-one percent (40.8%) and highest in Matupi Township with sixty-nine percent (69%).

[26] The baseline survey enquired only about birth certificate but not about birth registration.
[27] See for example The United Nations Children's Fund (UNICEF): *Child Protection Information Sheet. Birth Registration.* May 2006. Available at: https://www.unicef.org/chinese/protection/files/Birth_Registration.pdf.

Table 17: Birth Registration

BIRTH REGISTRATION

	Yes		No		Total
	Count	%	Count	%	Count
TOTAL	**3946**	**51.3%**	**3740**	**48.7%**	**7686**
SEX					
Female	2038	51.5%	1923	48.5%	3961
Male	1908	51.2%	1817	48.8%	3725
COMPARISON/TREATMENT					
Comparison	1598	54.4%	1342	45.6%	2940
Treatment	2348	49.5%	2398	50.5%	4746
LOCATION					
Urban	1047	65.4%	554	34.6%	1601
Rural	2899	47.6%	3186	52.4%	6085
Rural Remote	1084	49.2%	1120	50.8%	2204
INCOME					
Low Income	1812	48.4%	1934	51.6%	3746
Middle Income	921	48.8%	965	51.2%	1886
High Income	1213	59.1%	841	40.9%	2054
TOWNSHIP					
Tedim	853	47.3%	950	52.7%	1803
Tonzang	297	48.9%	310	51.1%	607
Tonzang (Cikha)	138	57.7%	101	42.3%	239
Falam	255	55.7%	203	44.3%	458
Falam (Rihkhawdar Sub-township)	41	64.1%	23	35.9%	64
Hakha	299	48.3%	320	51.7%	619
Thantlang	353	47.9%	384	52.1%	737

Mindat	329	45.7%	391	54.3%	720
Kanpetlet	128	40.8%	186	59.2%	314
Matupi	460	74.3%	159	25.7%	619
Matupi (Rezua Sub-township)	43	39.4%	66	60.6%	109
Paletwa	433	54.8%	357	45.2%	790
Paletwa (Samee Sub-township)	317	52.2%	290	47.8%	607

NUTRITIONAL OUTCOMES FOR CHILDREN AND MOTHERS

KEY FINDINGS
CHILDREN

1. **Stunting:** A total of **thirty-seven percent (37.1%)** of sampled children under five are stunted - of which ten percent (10.4%) severely.

2. **Underweight:** A total of **eighteen percent (18.3 %)** of children under five in the sample are underweight - of which three percent (3.2%) severely.

3. **Wasting:** A total of **three percent (3.3 %)** of sampled children under five are wasted - of which one percent (1%) severely.

4. **Low birth weight:** Fourteen percent (13.7%) of sampled children under five are born with low birth weight.

5. **Mid-upper arm circumference (MUAC): Four percent (3.5%)** of children under five in the sample have a MUAC below 11.5 cm.

KEY FINDINGS
MOTHERS AND PREGNANT WOMEN

1. **Body Mass Index (BMI):** A total of **nine percent (9%)** of sampled non-pregnant mothers have a low Body Mass Index (BMI). Overweight and obesity are significantly higher in urban areas (20.9%) compared to rural (10.0%) and remote (6.2%) areas.

2. **Mid-upper arm circumference (MUAC):** A total of **four percent (4.4%)** of pregnant women sampled have a MUAC between 17 and 21cm - indicative of moderate malnutrition.

1. Nutritional Outcomes for Children

Anthropometric information - height/length, weight as well as mid-upper arm circumference (MUAC) for all children under five years of age - allow for the measurement and analysis of the nutritional status of sampled children in Chin State, including the development of indicators for **stunting**, **wasting**, and **underweight**.

1.1 Measurements

Weight measurements of children were taken using SECA electronic scales. For height, children were measured with Shorr Productions measuring boards. For children under two years of age, height was taken lying down (recumbent length), whereby the height of children two years or older was measured standing up. Mid-upper arm circumference (MUAC) was measured using standardized measuring tapes provided by LIFT.

Levels of stunting, wasting, and underweight, which are impact or higher-level outcome indicators for the MCCT Chin programme, were calculated based on these measurements.[28] In addition, low birth weight, another important indicator to evaluate not only nutritional levels in children but also an indirect indicator of maternal nutrition[29], was collected through the survey questionnaire by noting down the birth weight indicated in the health card for the child, if available, or through the mother's recall.

1.2 Data Collection

Mothers and caregivers gave consent for taking anthropometric measurements - height/length and mid and upper arm circumference (MUAC) for **3,451** children. Measurements could not be completed for all children, and were not continued if the child experienced discomfort during measuring. This resulted in a total of 3,451 weight measurements, 3,440 height measurements, and 3,445 MUAC measurements.

1.3 Nutrition Levels for Children

Findings from the baseline survey show the following nutritional status for children under five years of age included in the sample: **Stunting** at thirty-seven percent **(37.1%), wasting** at three percent **(3.3%)** and **underweight** at a level of eighteen percent **(18.3%)**.[30] Levels of stunting remain higher than the national average (29.2%), with levels of underweight being similar to the national average (18.9%) and wasting lower compared to the national average (7%).[31] The

[28] The ENA (Emergency Nutrition Assessment) software was used to analyzing anthropometric data.
[29] Ministry of Health and Sports (MoHS) and ICF. 2017. *Myanmar Demographic and Health Survey 2015-16.* Nay Pyi Taw, Myanmar, and Rockville, Maryland USA: Ministry of Health and Sports and ICF.
[30] The most recent data collected for child undernutrition for the 2015 - 2016 Myanmar Demographic and Health Survey (MDHS) indicates an important decrease in stunting from 41% to **37.1%**, an unchanged rate of wasting (**3.3%**) and a slight increase in underweight from 16.7% to **18.3%**.
[31] Ministry of Health and Sports (MoHS) and ICF. 2017. *Myanmar Demographic and Health Survey 2015-16.* Nay Pyi Taw, Myanmar, and Rockville, Maryland USA: Ministry of Health and Sports and ICF.

found prevalence rate of stunting in the sample is considered **high** by the World Health Organization (WHO).[32] A total of fourteen percent (13.7%) of children under five years in the sample have a **low weight at birth** of below 2500 grams.[33]

STUNTING

According to the World Health Organization (WHO), stunting is one of the most significant impediments to human development. It refers to the impaired growth and development that children experience that is irreversible and amongst others caused by inadequate nutrition and a high incidence of infectious diseases in the first 1,000 days of a child's life. Children are defined as stunted if their ***height-for-age*** *is below minus two standard deviations (SD) from the WHO Child Growth Standards median and are considered as severely stunted if their height is below minus three standard deviations from the median of the WHO Child Growth Standards.*[34]

WASTING

Wasting is a symptom of acute malnutrition in children that is caused by an inadequate food intake and/or a high incidence of infectious diseases, such as diarrhea.[35] *It is defined as the percentage of children under five that are below minus two standard deviations (SD) below the median weight-for-height of the reference population according to the WHO Child Growth Standards, while children who are severely wasted are below minus three standard deviations (SD) from the median.*

UNDERWEIGHT

Being a composite from both wasting and stunting, underweight takes into account both acute and chronic malnutrition.[36] *Children under five years of age are defined as underweight if they fall below minus two standard deviations (SD) from the median WHO Child Growth Standards. Severe underweight refers to children under five years of age that fall below minus three standard deviations (SD) from the median WHO Child Growth Standards.*

LOW BIRTH WEIGHT

Low birth weight is defined as below 2500 grams at birth.

[32] WHO. Physical status: the use and interpretation of anthropometry. Report of a WHO Expert Committee. Technical Report Series No. 854. Geneva, World Health Organization, 1995.

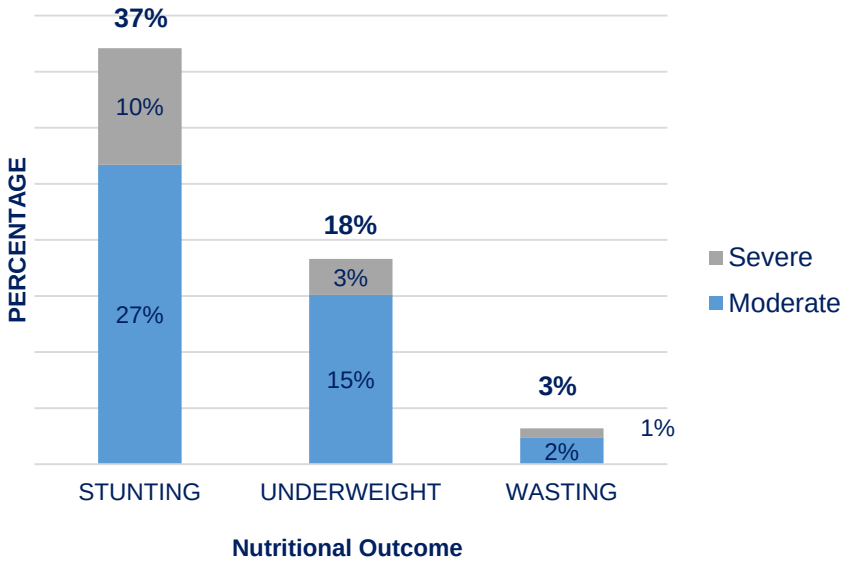
[33] Birth Weight was only asked to mothers with children under two years of age. Only 120 respondents in total were in possession of a health-card for children that included information about weight at birth. Remaining information on weight at birth was solely based on the *memory* of respondents.

[34] World Health Organization (WHO). WHA Global Nutrition Targets 2025: Stunting Policy Brief. 2014. Available at http://www.who.int/nutrition/topics/globaltargets_stunting_policybrief.pdf.

[35] World Health Organization (WHO). Nutrition Landscape Information System (NLIS) country profile indicators: Interpretation Guide. Geneva, World Health Organization, 2010.

[36] Ministry of Health and Sports (MoHS) and ICF. 2017. *Myanmar Demographic and Health Survey 2015-16.* Nay Pyi Taw, Myanmar, and Rockville, Maryland USA: Ministry of Health and Sports and ICF.

Figure 16: Nutritional Outcomes for Children under 5



1.4 Characteristics of Children

- Findings show that levels of stunting increase with age - with the prevalence rate reaching as high as **fifty-five percent (54.5%)** for children 24 - 59 months of age included in the sample as shown in **Figure 17**. This is in line with research conducted in other countries on the specific pattern of stunting, which has a cumulative effect and therefore the rate increases over the first few years of life. The high rate of stunting in the sample in Chin shortly after birth, which is at thirteen percent (13%), indicates that the process of stunting has already started prenatally.[37]

- While the prevalence rate of underweight is lower than that of stunting, prevalence rates also increase over time for children in the sample, from **eight (8%) to twenty-seven percent (27%)** over the course of the first five years of a child's life. This is contrary to findings from the MDHS, that shows that nationally, underweight tends to decrease with age[38], as shown in **Figure 18**.

[37] De Onis, M. and Branca, F. (2016) Childhood Stunting - A Global Perspective. *Maternal Child Nutrition* (12), p. 12-26.
[38] Ministry of Health and Sports (MoHS) and ICF. 2017. *Myanmar Demographic and Health Survey 2015-16.* Nay Pyi Taw, Myanmar, and Rockville, Maryland USA: Ministry of Health and Sports and ICF.

Figure 18: Levels of Stunting per Age Group Compared to National Levels

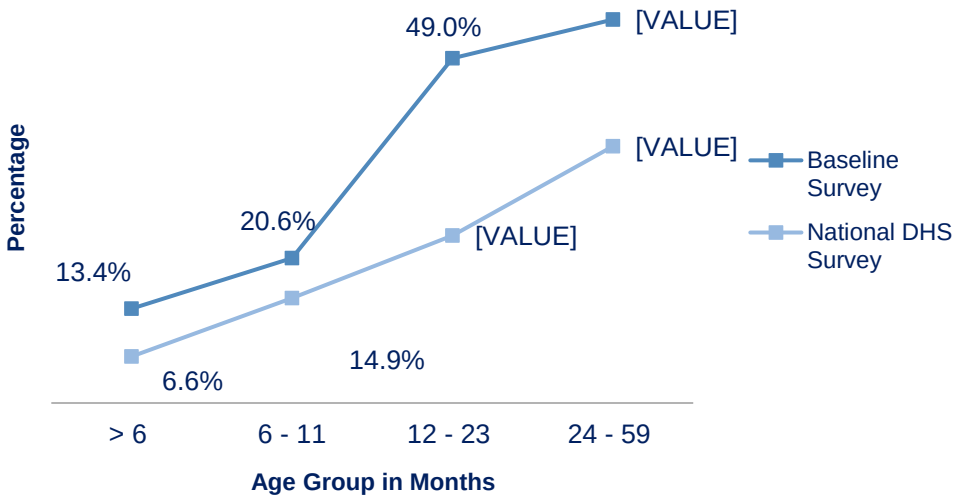
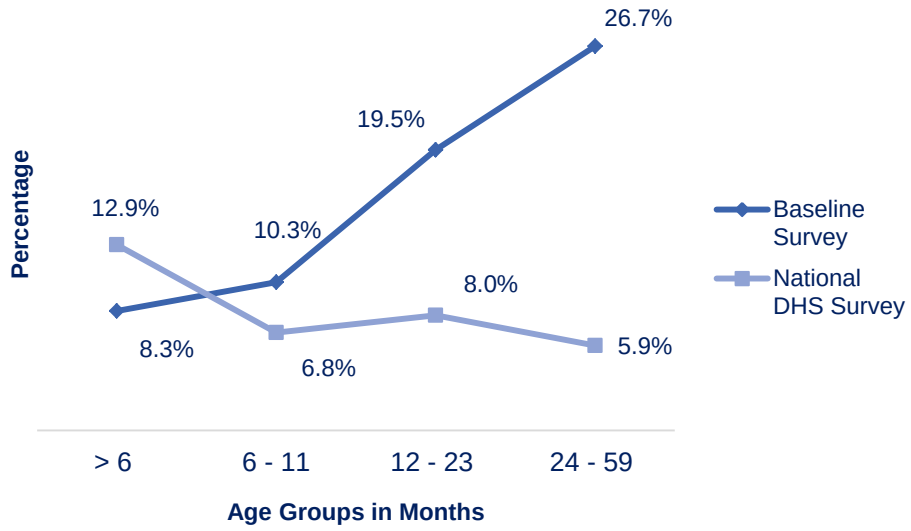
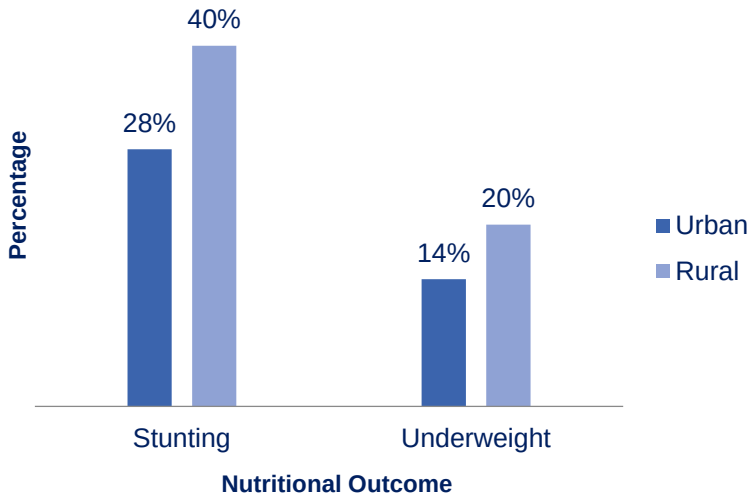


Figure 17: Levels of Underweight per Age Group Compared to National Levels



Children in **rural areas** are more likely to be stunted (40%) and underweight (20%) compared to children in urban areas, where rates of stunting are at twenty-eight percent (28%) and underweight at fourteen percent (14%) respectively, with the differences being significant for both nutritional outcomes. No statistically significant difference is found for wasting between rural and urban areas.

Figure 19: Levels of Stunting and Underweight by Location



- There is a significant difference between the level of stunting and underweight for children under five years in the sample from different income groups, with the most important difference occurring at the threshold of a household income of two million per year (in Myanmar Kyat).[39] Income does however not affect the prevalence of wasting, which is similar across different income groups as shown in **Figure 20**.

- Children below the age of two years from the sample who are still breastfeeding are significantly less stunted (19%) compared to children who are no longer breastfeeding, who show a stunting rate of forty-four percent (43.7%).

- While not statistically significant, fewer children (13.1%) were born with low birth weight to mothers who took **iron tablets** during their last pregnancy. For women who did not take any iron tablets, children were born with low birth weight in twenty percent (20%) of cases.[40]

[39] The total number of household members is not considered.
[40] Please note that the overall sample size is only 70 for women that did not consume any iron tablets during their last pregnancy.

- The prevalence of stunting and underweight is slightly higher for boys, though this was not the case for wasting. The differences between female and male children is however not statistically significant. The prevalence of a MUAC below the cut-off point of 11.5 cm is slightly higher for girls, however, the difference is not significant.

Figure 20: Nutritional Outcomes by Income Level

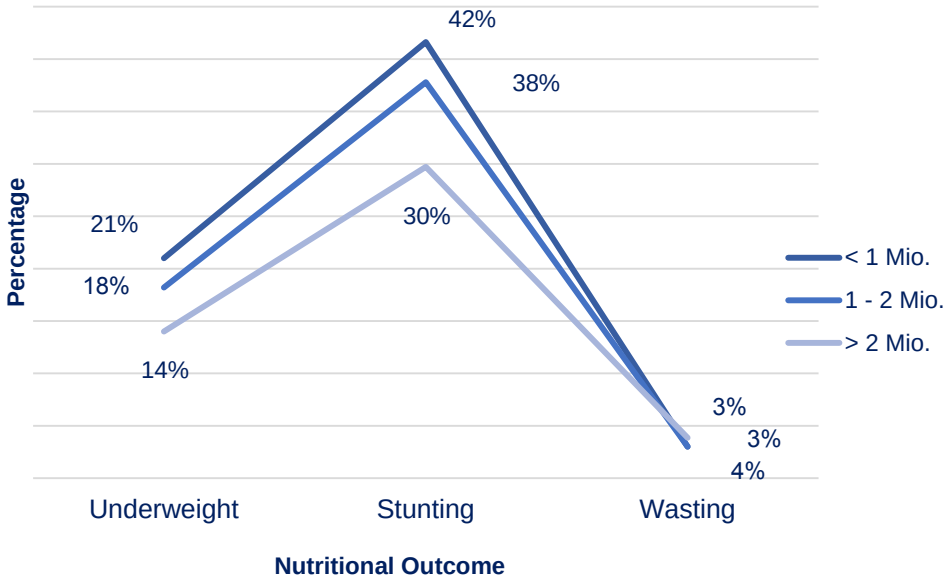


Table 18: Nutritional Outcomes for Children (1/2)

	STUNTING						UNDERWEIGHT					
	Severe		Moderate		Total		Severe		Moderate		Total	
	Count	%	Count	%	%	Count	Count	%	Count	%	%	Count
TOTAL	**359**	**10.4%**	**920**	**26.7%**	**37.1%**	**1279**	**110**	**3.2%**	**520**	**15.1%**	**18.3%**	**630**
COMPARISON/ TREATMENT												
COMPARISON	127	8.5%	374	25.1%	33.6%	501	41	2.7%	206	13.8%	16.5%	247
TREATMENT	232	11.9%	546	28.0%	39.9%	778	69	3.5%	314	16.0%	19.5%	383
SEX												
FEMALE	160	9.2%	448	25.7%	34.9%	608	50	2.9%	258	14.8%	17.7%	308
MALE	199	11.7%	472	27.8%	39.5%	671	60	3.5%	262	15.3%	18.8%	322
AGE IN MONTHS												
0 - 5	27	2.9%	99	10.5%	13.4%	126	29	3.1%	49	5.2%	8.3%	78
6 - 11	19	3.4%	96	17.2%	20.6%	115	12	2.1%	46	8.2%	10.3%	58
12 - 23	61	17.5%	110	31.5%	49.0%	171	10	2.8%	59	16.7%	19.5%	69
24 - 59	252	15.8%	615	38.7%	54.5%	867	59	3.7%	366	23.0%	26.7%	425
LOCATION												
URBAN	56	7.4%	158	20.9%	28.3%	214	22	2.9%	83	11.0%	13.9%	105
RURAL	214	12.6%	466	27.4%	40.0%	680	62	3.6%	284	16.6%	20.2%	346
RURAL REMOTE	89	9.1%	296	30.1%	39.2%	385	26	2.6%	153	15.5%	18.1%	179
INCOME												
LOW INCOME	204	11.9%	496	29.0%	40.9%	700	58	3.4%	293	17.1%	20.5%	351
MIDDLE INCOME	81	9.6%	235	27.9%	37.5%	316	31	3.7%	125	14.8%	18.5%	156
HIGH INCOME	74	8.3%	189	21.3%	29.6%	263	21	2.4%	102	11.5%	13.9%	123
TOWNSHIP												
TEDIM	97	12.1%	233	29.2%	41.3%	330	27	3.4%	134	16.8%	20.2%	161
TONZANG	19	7.0%	76	27.8%	34.8%	95	<5	1.1%	49	17.9%	19.0%	

TONZANG (CIKHA)	8	7.0%	42	36.8%	43.8%	50	<5	3.5%	12	10.5%	14.0%	
FALAM	21	9.7%	52	24.1%	33.8%	73	9	4.1%	28	12.9%	17.0%	37
FALAM (RIHKHAWDAR)	0	0.0%	<5	10.0%	10.0%	<5	0	0.0%	0	0.0%	0.0%	0
HAKHA	24	8.1%	65	22.0%	30.1%	89	6	2.0%	33	11.1%	13.1%	39
THANTLANG	36	9.9%	100	27.5%	37.4%	136	10	2.8%	50	13.8%	16.6%	60
MINDAT	58	19.8%	83	28.3%	48.1%	141	15	5.1%	52	17.6%	22.7%	67
KANPETLET	16	11.5%	40	28.8%	40.3%	56	6	4.3%	23	16.5%	20.8%	29
MATUPI	19	6.6%	61	21.3%	27.9%	80	9	3.1%	28	9.8%	12.9%	37
MATUPI (REZUA)	6	12.0%	11	22.0%	34.0%	17	<5	2.0%	8	16.0%	18.0%	
PALETWA	28	8.3%	90	26.8%	35.1%	118	10	2.9%	65	19.0%	21.9%	75
PALETWA (SAMEE)	27	11.0%	64	26.1%	37.1%	91	10	4.1%	38	15.5%	19.6%	48

Table 19: Nutritional Outcomes for Children (2/2)

	WASTING						MUAC	
	Severe		Moderate		Total		< 11.5	
	Count	%	Count	%	Count	%	Count	%
TOTAL	**28**	**.8%**	**84**	**2.4%**	**112**	**3.2%**	**120**	**3.5%**
COMPARISON/ TREATMENT								
COMPARISON	7	.5%	29	1.9%	36	2.4%	9	.6%
TREATMENT	21	1.1%	55	2.8%	76	3.9%	111	5.7%
SEX								
FEMALE	17	0.1%	44	2.5%	61	2.6%	68	3.9%
MALE	11	0.6%	40	2.4%	51	3.0%	52	3.1%
AGE IN MONTHS								
0 - 5	18	1.9%	23	2.4%	41	4.3%	114	12.1%
6 - 11	6	1.1%	13	2.3%	19	3.4%	<5	.7%
12 - 23	<5	.3%	8	2.3%	8	2.6%	<5	.3%
24 - 59	<5	.2%	40	2.5%	40	2.7%	<5	.1%
LOCATION								
URBAN	7	.9%	20	2.6%	27	3.5%	33	4.4%
RURAL	11	.6%	47	2.8%	58	3.4%	60	3.5%
RURAL REMOTE	10	1.0%	17	1.7%	27	2.7%	27	2.7%
INCOME								
LOW INCOME	14	.8%	34	2.0%	48	2.8%	51	3.0%
MIDDLE INCOME	7	.8%	25	3.0%	32	3.8%	39	4.6%
HIGH INCOME	7	.8%	25	2.8%	32	3.6%	30	3.4%
TOWNSHIP								
TEDIM	9	1.1%	22	2.8%	31	3.9%	27	3.4%
TONZANG	<5	.4%	8	2.9%		3.3%	11	4.0%
TONZANG (CIKHA)	<5	.9%	<5	1.8%	<5	2.7%	<5	2.6%

FALAM	0	0.0%	6	2.8%	6	2.8%	<5	1.4%
FALAM (RIHKHAWDAR)	0	0.0%	0	0.0%	0	0.0%	0	0.0%
HAKHA	0	0.0%	<5	1.4%	<5	1.4%	5	1.7%
THANTLANG	<5	.3%	<5	1.1%		1.4%	8	2.2%
MINDAT	0	0.0%	5	1.7%	5	1.7%	17	5.8%
KANPETLET	<5	1.4%	<5	2.9%		4.3%	<5	2.2%
MATUPI	5	1.8%	7	2.5%	12	4.3%	13	4.5%
MATUPI (REZUA)	0	0.0%	<5	4.0%	<5	4.0%	<5	6.0%
PALETWA	6	1.8%	14	4.2%	20	6.0%	17	5.0%
PALETWA (SAMEE)	<5	1.2%	6	2.4%		3.6%	10	4.1%

1. Nutritional Outcomes for Mothers and Pregnant Women

Information regarding the nutritional status of mothers and pregnant women is based on the analysis of measurements for the **mid-upper arm circumference (MUAC)** for pregnant women and the **Body Mass Index (BMI)** for non-pregnant mothers.

1.1 Measurements

Weight measurements of women were taken using SECA electronic scales. For height, women were measured with simple measurement tapes since specialized boards were not available for measuring the height of adults. Mid-upper arm circumference (MUAC) was measured using standardized tapes provided by LIFT.

2.2 Data Collection

Anthropometric measurements were collected for every respondent in the baseline survey who gave informed consent for each measurement, resulting in a total sample of 2,577 women for weight, 2,578 for height, and 2,576 for MUAC[41], which is overall ninety-nine-point seven percent of the overall sample (99.7%). Fifty-eight percent (57.5%) of women were mothers who recently gave birth and forty-two percent (42.5%) were pregnant women.

1.2 Nutrition Levels for Mothers and Pregnant Women

The percentage of non-pregnant mothers who have a Body Mass Index (BMI) below 18.5 is **nine percent (8.6%)** in urban, eight percent (7.9%) in rural and eleven percent (11.3%) in remote areas, with no statistically significant difference. There is however a significant difference in the prevalence of **overweight** in the urban and rural as well as remote sample of the survey, with overweight being twice as likely in urban areas (20.9%) compared to rural (10.0%) and three times higher compared to remote (6.2%) locations. Furthermore, there is a significant difference between different income groups, with mothers from the **high-income group** being more than **twice as likely** to be overweight (16.9%) compared to the low-income group (7.5%).

It needs to be noted at this point that the **purposive nature** of the sampling may influence the overall BMI results for mothers in the sample, since they have been selected because they have recently given birth. While not significant, indicative of this is the fact that sixty-eight percent (68.4%) of mothers with a low BMI are from the comparison group - and only thirty-two percent (31.6%) from the treatment group that is comprised of mothers that have given birth more recently and therefore may still carry some additional weight from their recent pregnancy.

[41] Out of 2585 respondents overall.

Overall, four percent (4.4%) of pregnant women had a MUAC below 21cm. Twenty-seven percent (27.0%) had a MUAC between 21cm and 23cm. Both cut off values of <21cm and <23cm in pregnant women have been shown to correlate with worse birth outcomes. The difference between pregnant women in urban, rural and remote areas is significant, with twenty-three percent (23.2%) of women in urban areas falling below the cut-off of 23cm compared to thirty percent (29.7%) in rural and forty-two percent (41.8%) in rural remote areas.

Figure 21: Body Mass Index (BMI) Mothers

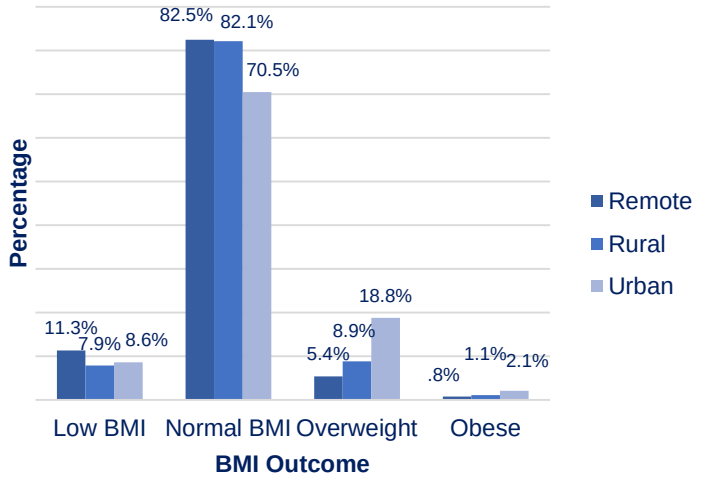


Figure 22: Mid-upper Arm Circumference (MUAC) Pregnant Women

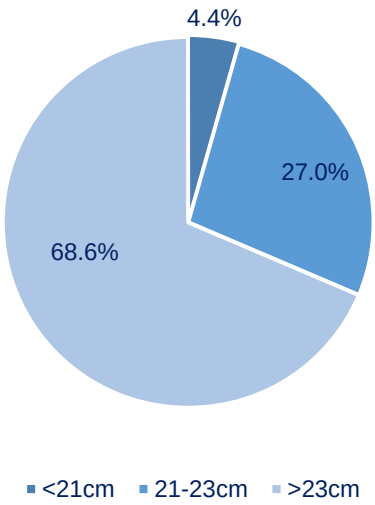


Table 20: Nutritional Outcomes for Mothers and Pregnant Women

	MUAC					BMI NON-PREGNANT MOTHERS								
	<21cm		21-23cm		Total	Low BMI		Normal BMI		Overweight		Obese		Total
	Count	%	Count	%	Count	Count	%	Count	%	Count	%	Count	%	Count
TOTAL	**48**	**4.4%**	**296**	**27.0%**	**344**	**133**	**9.0%**	**1174**	**79.2%**	**156**	**10.5%**	**19**	**1.3%**	**1482**
COMPARISON/ TREATMENT														
Comparison	48	4.4%	296	27.0%	344	91	10.4%	692	79.4%	79	9.1%	10	1.1%	872
Treatment	-	-	-	-		42	6.9%	482	79.0%	77	12.6%	9	1.5%	610
LOCATION														
Urban	7	2.7%	54	20.5%	61	33	8.6%	270	70.5%	72	18.8%	8	2.1%	383
Rural	26	4.9%	131	24.8%	157	56	7.9%	584	82.1%	63	8.9%	8	1.1%	711
Rural Remote	15	5.0%	111	36.8%	126	44	11.3%	270	70.5%	72	18.8%	8	2.1%	394
INCOME														
Low Income	25	5.0%	157	31.3%	182	71	10.1%	577	81.7%	53	7.5%	5	.7%	706
Middle Income	10	3.7%	81	30.3%	91	32	9.0%	286	80.6%	32	9.0%	5	1.4%	355
High Income	13	4.0%	58	17.8%	71	30	7.1%	311	73.9%	71	16.9%	9	2.1%	421
TOWNSHIP														
Tedim	5	2.2%	43	19.0%	48	20	6.3%	255	80.4%	37	11.7%	5	1.6%	317
Tonzang	<5	1.9%	13	24.5%		11	9.9%	83	74.8%	13	11.7%	<5	3.6%	107
Tonzang (Cikha)	0	0.0%	6	21.4%	6	<5	5.1%	30	76.9%	5	12.8%	<5	5.1%	35
Falam	5	5.6%	27	30.3%	32	10	10.5%	68	71.6%	15	15.8%	<5	2.1%	93
Falam (Rihkhawdar Sub-township)	0	0.0%	<5	11.1%	<5	<5	14.3%	5	35.7%	6	42.9%	<5	7.1%	11
Hakha	0	0.0%	21	23.1%	21	11	7.4%	106	71.6%	30	20.3%	<5	.7%	147
Thantlang	<5	2.4%	40	31.5%		23	15.0%	119	77.8%	10	6.5%	<5	.7%	152
Mindat	7	7.7%	39	42.9%	46	9	7.3%	105	85.4%	9	7.3%	0	0.0%	123

Kanpetlet	<5	4.4%	11	24.4%		<5	6.8%	46	78.0%	8	13.6%	<5	1.7%	54
Matupi	<5	1.3%	15	18.8%		12	9.1%	108	81.8%	11	8.3%	<5	.8%	131
Matupi (Rezua Sub-township)	0	0.0%	7	35.0%	7	<5	19.0%	15	71.4%	<5	9.5%	0	0.0%	15
Paletwa	11	8.1%	43	31.6%	54	12	7.1%	148	88.1%	7	4.2%	<5	.6%	167
Paletwa (Samee Sub-township)	13	14.3%	29	31.9%	42	13	12.7%	86	84.3%	<5	2.9%	0	0.0%	99

NUTRITION OF CHILDREN AND WOMEN

KEY FINDINGS
Practices

1. **Woman Dietary Diversity:** Women from the sample in rural areas have a significantly lower dietary diversity score (WDDS) on average (3.8) compared to respondents in urban areas (5.0).

2. **Minimum Dietary Diversity:** Twenty-three percent (22.6%) of children 6 - 23 months in the sample have an adequate dietary diversity. Statistically significant differences exist between age groups.

3. **Meal Frequency:** Thirty-seven percent (37.4%) of children 12 - 23 months in the sample receive the minimum recommended meal frequency compared to seventy-nine percent (79.0%) of sampled children 6 - 11 months.

4. **Micronutrient Supplementation:** Eighty-three percent (83.0%) of sampled women took iron tablets during their last pregnancy. Forty-four percent (43.6%) of children 12 - 23 months in the sample took Vitamin A tablets compared to twenty-eight percent (28.4%) of children 6 - 11 months.

KEY FINDINGS
Knowledge

1. **Minimum Meal Frequency:** Twenty-nine percent (29.1%) of women in the sample correctly identified the adequate meal frequency for non-breastfed children. Eighty-six percent (86.0%) correctly identified adequate meal frequency for breastfed children 9 - 23 months and ninety-two percent (91.7%) for breastfed children 6 - 8 months.

1. Practices and Knowledge on Nutrition

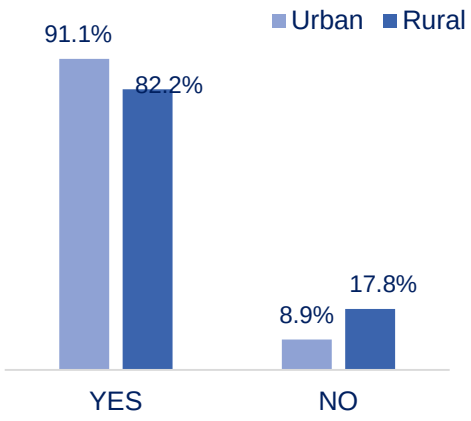
The MCCT Chin programme aims to have a positive impact on nutritional outcomes through improving mother's nutritional knowledge and practices. The following section outlines **key indicators** that are known to have an important impact on the nutritional status of mothers and children - including **dietary diversity**, **meal frequency** and **micronutrient** supplementation.

Data for practices and knowledge on nutrition was collected through the household questionnaire administered to eligible respondents. Questions relating to the nutrition of children have been asked for each child under the age of two years old and are presented for age groups appropriate to each indicator.

1.1 Adequate Food Provisioning

Overall, **eighty-four percent (84.4%)** of households of the sample in Chin State report to have had a sufficient amount of food for consumption in every month of the past twelve months. A significant difference exists between households from urban and rural areas as well as between different income groups. As shown in **Figure 23**, twice as many rural households have experienced inadequate food provisioning in the past 12 months. Almost every fifth household in rural areas (17.8%) reports to have had one or more months without a sufficient amount of food. As seen in **Figure 24**, the period between **March and June** was identified to be particularly sensitive for sampled households with regards to food availability, a finding that goes against the expectation that inadequate food provisioning would peak at a later point of the year.

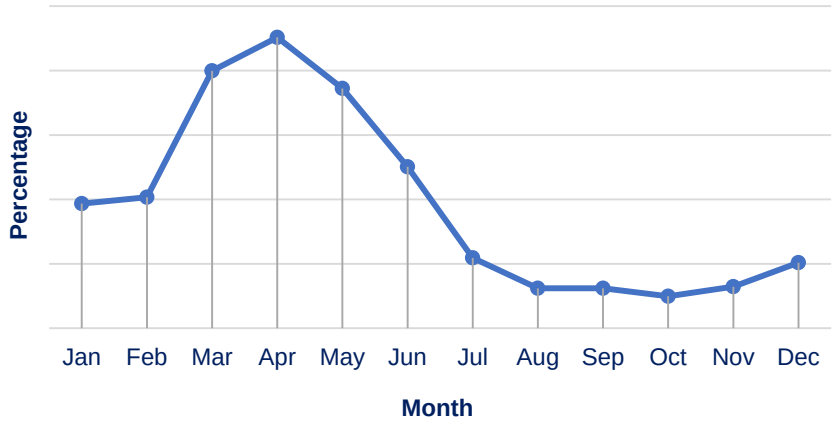
Figure 23: Adequate Household Food Provisioning



In terms of **income**, adequate food provisioning decreases as income increases, going from twenty-one percent (20.6%) for low-income households to sixteen percent (16.1%) for middle-income households and seven percent (7.1%) for high-income households.

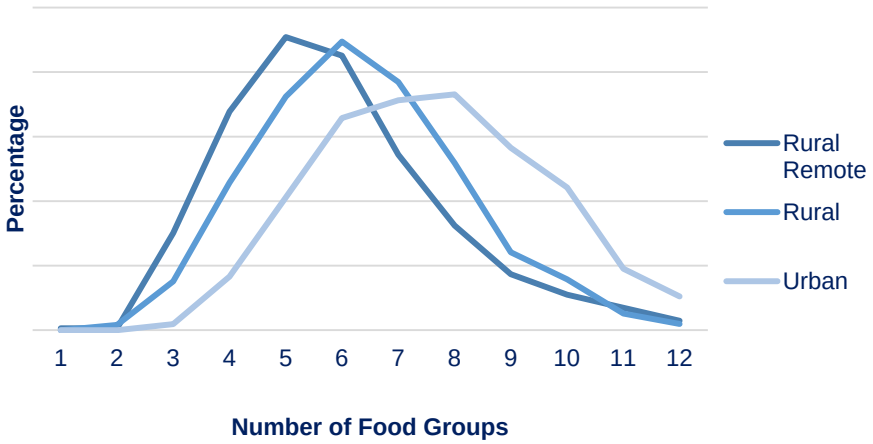
Reasons for insufficient amounts of food were different in rural and urban areas. In both areas, the lack of monetary resources/difficulty in generating income is a predominant factor (thirty-three percent (32.8%) in urban and twenty-five percent (24.9%) in rural areas) as well as illness/death in the family (thirty-three percent (32.8%) in urban and twenty percent (20.0%) in rural areas). Unemployment was a predominant reason in urban (31%) but less in rural (16.5%) locations. Contrarily, a poor harvest was a difficulty mostly for rural areas (29.6%) and not for urban areas (5.2%).

Figure 24: Months of Inadequate Food Provisioning



Another proxy measure for household access to food is the **Household Dietary Diversity Score (HDDS)**. The indicator is correlated to nutritional outcomes[42], it does however not take into account intra-household food allocation. It is measured by the number of food groups consumed in households over the past **24 hours** as recalled by respondents.[43] The average household dietary diversity score for all sampled households is **6.5 food groups**, out of a total of twelve food groups overall. The average HDDS increases from 5.9 food groups in remote areas to 6.3 in rural and 7.6 in urban areas.

Figure 25: Household Dietary Diversity Score (HDDS) by Location



[42] Swindale, Anne, and Paula Bilinsky. Household Dietary Diversity Score (HDDS) for Measurement of Household Food Access: Indicator Guide (v.2). Washington, D.C.: Food and Nutrition Technical Assistance Project, Academy for Educational Development, 2006.

[43] The HDDS indicator was calculated based on standard methodologies as documented for example by the Food and Nutrition Technical Assistance (FANTA) III Project funded by the Office of Health, Infectious Disease, and Nutrition, Bureau for Global Health, USAID.

1.2 Dietary Diversity

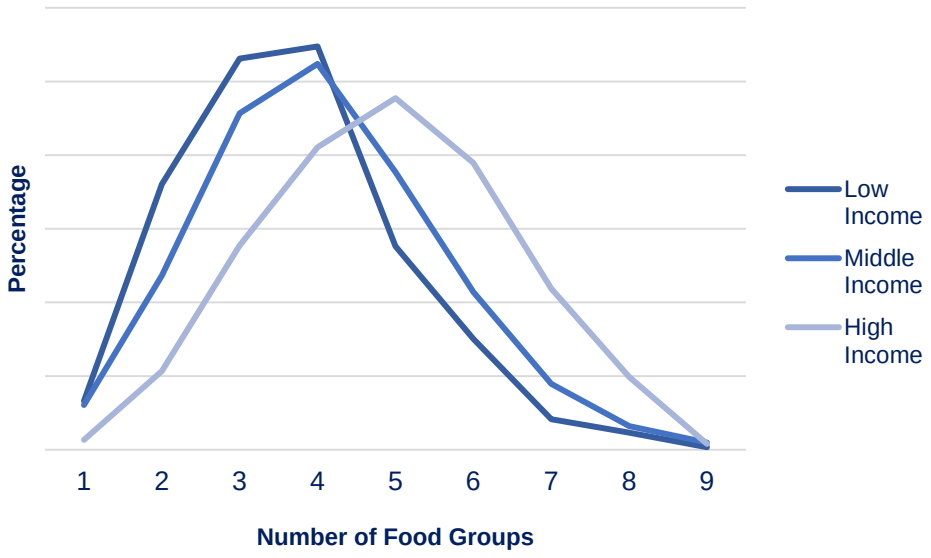
Dietary diversity scores measured on an individual level aim to reflect nutrient adequacy and have been validated as proxy measures for macro and/or micronutrient dietary adequacy.[44] The individual dietary diversity score can further be used for comparing changes in diet before and after an intervention.[45]

a. Women's Dietary Diversity Score (WDDS)

The Women's Dietary Diversity Score (WDDS) is measured by calculating the total number of food groups consumed in the past 24-hours based on the recall of respondents.[46] A significant difference exists between the WDDS of sampled women in urban (5.0) and rural (3.8) areas.

As for household diversity, there is a correlation between different income groups, with the WDDS ranging from 3.7 for respondents from low-income households to 4.0 in middle and 4.9 in high-income households. Pregnant women of the sample have an average WDDS of 4.2 that is not statistically different from non-pregnant mothers, who have an average WDDS of 4.1.

Figure 26: Woman Dietary Diversity Score (WDDS) by Income



[44] Kennedy et al (2010). *Guidelines for Measuring Household and Individual Dietary Diversity.* Food and Agriculture Organization of the United Nations (FAO).
[45] Ibid.
[46] Nine food groups are included in the WDDS overall, including: starchy staple foods (1), legumes, nuts and seeds (2), milk and milk products (3), meat and fish (4), eggs (5), dark green leafy vegetables (6), other vitamin A rich fruits and vegetables (7), other fruits and vegetables (8), and organ meat (9).

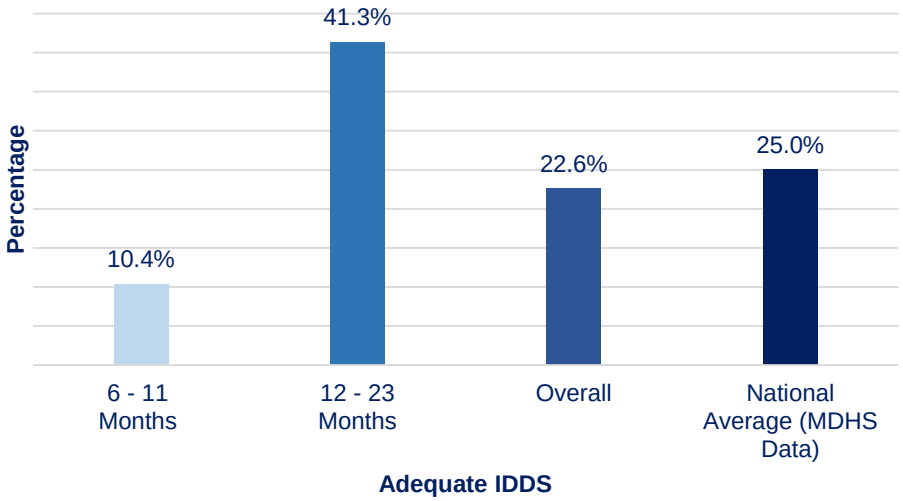
b. Children's Individual Dietary Diversity Score (IDDS)

Dietary diversity for children 6 - 23 months old is calculated based on a 24-hour recall and calculates the number of food groups consumed. The IDDS is considered adequate if the child has consumed a **minimum of four food groups** out of seven food groups total, in which case the child has a high likelihood of consuming at least one food that is animal sourced and at least one fruit or vegetable per day.[47]

Twenty-one percent (21.2%) of children 6 - 23 months from the sample are found to have an adequate dietary diversity score in rural areas compared to **twenty-eight percent** (27.6%) in urban areas. The difference however is not statistically significant. The **minimum dietary diversity** overall is close to **twenty-three percent** (22.6%) for children 6 - 23 months old in the sample.

A significant difference exists between different **age groups**. As shown in **Figure 27**, ten percent (10.4%) of children 6 - 11 months have an adequate IDDS compared to forty percent (41.3%) of children 12 - 23 months of age.

Figure 27: Children's Individual Dietary Diversity Score (IDDS) by Age Group



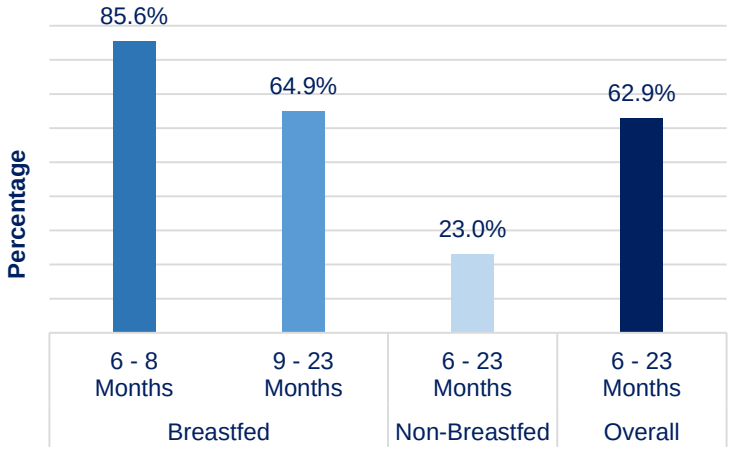
[47] Consumption of at least four out of seven food groups in the last 24 hours is measured, with the food groups including grains, roots, and tubers (1), legumes and nuts (2), dairy (3), flesh foods (4), eggs (5), vitamin A-rich fruits and vegetables (6), and other fruits and vegetables (7). See for example: World Health Organization (WHO). Indicators for Assessing Infant and Young Child Feeding Practices. Part 1: Definitions. Geneva, Switzerland, 2008.

1.3 Meal Frequency

The minimum meal frequency refers to the proportion of children 6 – 23 months who receive solid, semi-solid, or soft foods for at least the minimum number of times recommended per day. According to international standards, breastfed children 6 - 8 months should receive at least two meals per day and three meals if 9 - 23 months of age. For non-breastfed children, the minimum meal frequency is four times a day for children 6 - 23 months.[48]

Eighty-six percent (85.6%) of children 6 - 8 months in the sample that are breastfed receive the minimum meal frequency, compared to sixty-five percent (64.9%) of breastfed children 9 - 24 months. For non-breastfed children 6 - 24 months, twenty-three percent (23.0%) receive the recommended minimum meal frequency. The minimum meal frequency overall is sixty-three percent (62.9%).[49] A significant difference exists between age groups, with seventy-nine percent (79.0%) of children 6 - 11 months in the sample receiving the minimum meal frequency compared to thirty-seven percent (37.4%) of children 12 - 23 months.

Figure 28: Minimum Meal Frequency



Asked about the times per day infants should receive food, twenty-nine percent (29.1%) of sampled respondents correctly identified four times or more for children 6 - 59 months that are not breastfed. For breastfed children 9 - 59 months, most respondents, **eighty-six percent (86.0%)**, correctly identified that infants should receive food three times or more a day. For breastfed children 6 - 8, **ninety-two percent (91.7%)** identified three times or more a day as the number of times they should give food to an infant.

1.4 Micronutrient Supplementation

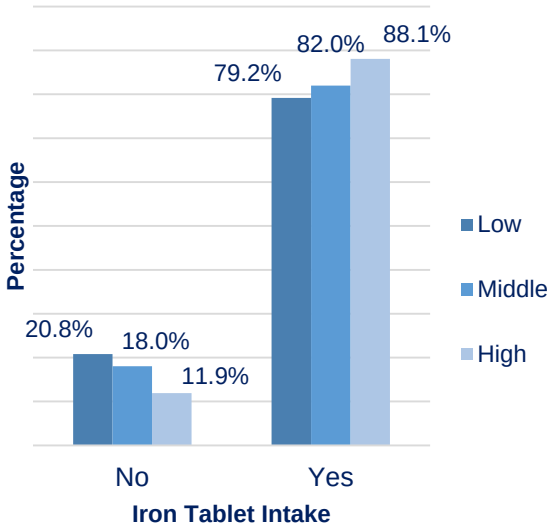
[48] World Health Organization (WHO). Indicators for Assessing Infant and Young Child Feeding Practices. Part 1: Definitions. Geneva, Switzerland, 2008.
[49] The MDHS Survey finds 59.9% of minimum meal frequency in Chin State.

Micronutrients are essential for physiological functions, growth and development. An imbalance in their intake, especially during pregnancy due to an increased requirement of nutrients, can have a negative influence on both the mother and the fetus.[50]

In terms of general food consumption, sixty-five percent (65%) of respondents correctly identified that women should consume more food when pregnant, with a significant difference between correct responses in urban (73.6%), rural (65.4%) and remote (56.2%) areas.

Seventy-three percent (72.8%) of women pregnant at the time of data collection were taking iron tablets, and eighty-three percent (83%) of mothers took iron tablets during their pervious pregnancy. The likelihood for a woman to consume iron tablets **increases with income** as shown in **Figure 29**, with a statistically significant difference between low (79.2%) and high-income (88.1%) groups. Differences in iron tablet intake are also statistically significant between respondents from urban (89.6%) and remote (76.6%) areas.

Figure 29: Iron Tablet Intake by Income



For infants and children 6 – 59 months, Vitamin A is a vital micronutrient that not only supports growth but can help to combat infections.[51] While there is no significant difference in Vitamin A consumption of children in urban and rural areas from the sample, there is a significant difference between age groups. of 6 - 11 months and 12 - 23 months.[52] Forty-four percent (43.6%) of children 12 - 23 months took Vitamin A tablets compared to twenty-eight percent (28.4%) for the age group of 6 - 11 months in the sample.

[50] Cetin, I. and Laoreti, A. (2015). The Importance of Maternal Nutrition for Health. *Journal of Pediatric and Neonatal Individualized Medicine,* 4(2), pp.1-11.
[51] World Health Organization (WHO). Vitamin A supplementation in infants and children 6-59 months of age. Available at: http://www.who.int/elena/titles/vitamina_children/en/.
[52] Vitamin A supplementation was only asked for children under two years of age.

Figure 30: Vitamin A Intake in the last Six Months

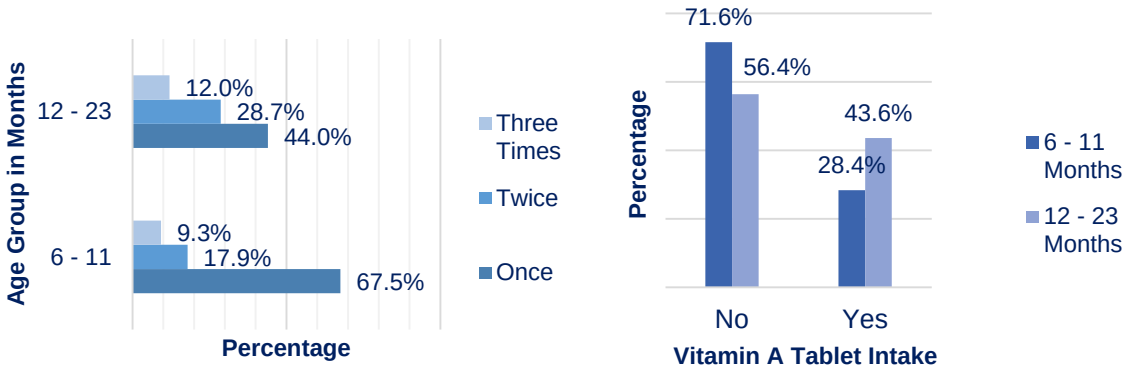


Table 21: Dietary Diversity and Food Access

	HOUSEHOLD DIETARY DIVERSITY SCORE		WOMEN DIETARY DIVERSITY SCORE		HOUSEHOLD FOOD PROVISIONING[53]			
					NO		YES	
	Average Score	Count	Average Score	Count	Count	%	Count	%
TOTAL	**6.5**	**2585**	**4.1**	**2585**	**403**	**15.6%**	**2182**	**84.4%**
COMPARISON/ TREATMENT								
COMPARISON	6.5	872	4.1	872	151	17.3%	721	82.7%
TREATMENT	6.6	1713	4.1	1713	252	14.7%	1461	85.3%
LOCATION								
URBAN	7.6	651	4.9	651	58	8.9%	593	91.1%
RURAL	6.3	1243	3.9	1243	214	17.2%	1029	82.8%
RURAL REMOTE	5.9	691	3.7	691	131	19.0%	560	81.0%
INCOME								
LOW INCOME	6.0	1209	3.7	1209	249	20.6%	960	79.4%
MIDDLE INCOME	6.4	626	4.0	626	101	16.1%	525	83.9%
HIGH INCOME	7.5	750	4.9	750	53	7.1%	697	92.9%
TOWNSHIP								
TEDIM	6.9	544	4.1	544	85	15.6%	459	84.4%
TONZANG	6.4	165	3.8	165	60	36.4%	105	63.6%
TONZANG (CIKHA)	6	68	4	68	<5	4.4%	65	95.6%
FALAM	7	185	4.3	185	20	10.8%	165	89.2%
FALAM (RIHKHAWDAR SUB-TOWNSHIP)	8	32	5	32	<5	3.1%	31	96.9%
HAKHA	7	239	4.5	239	18	7.5%	221	92.5%
THANTLANG	6	280	4	280	25	8.9%	255	91.1%
MINDAT	6	215	4.3	215	66	30.7%	149	69.3%

KANPETLET	6	104	4.4	104	19	18.3%	85	81.7%
MATUPI	6	212	4	212	29	13.7%	183	86.3%
MATUPI (REZUA SUB-TOWNSHIP)	6	41	3.5	41	<5	7.3%	38	92.7%
PALETWA	7	307	4.1	307	45	14.7%	262	85.3%
PALETWA (SAMEE SUB-TOWNSHIP)	6	193	3.9	193	29	15.0%	164	85.0%

Table 22: Children's Dietary Diversity and Minimum Meal Frequency

	INDIVIDUAL DIETARY DIVERSITY SCORE (IDDS) ***(CHILDREN 6 - 23 MONTHS)***				***MINIMUM MEAL FREQUENCY*** ***(NON-BREASTFED CHILDREN 6 – 24 MONTHS)***			
	Inadequate		**Adequate**		**Adequate MMF**		**Inadequate MMF**	
	Count	%	Count	%	Count	%	Count	%
TOTAL	**714**	**77.4%**	**208**	**22.6%**	**59**	**23.0%**	**197**	**77.0%**
COMPARISON/ TREATMENT								
Comparison	507	88.0%	69	12.0%	12	26.1%	34	73.9%
Treatment	207	59.8%	139	40.2%	47	22.4%	163	77.6%
AGE								
6 - 11 months	501	89.6%	58	10.4%	60	59.4%	41	40.6%
12 - 23 months	213	58.7%	150	41.3%	73	70.2%	31	29.8%
LOCATION								
Urban	139	72.4%	53	27.6%	5	11.1%	40	88.9%
Rural	356	77.9%	101	22.1%	37	26.6%	102	73.4%

Rural Remote	219	80.2%	54	19.8%	17	23.6%	55	76.4%
INCOME								
Low Income	383	80.6%	92	19.4%	33	24.8%	100	75.2%
Middle Income	161	75.9%	51	24.1%	17	27.4%	45	72.6%
High Income	170	72.3%	65	27.7%	9	14.8%	52	85.2%
TOWNSHIP								
Tedim	149	72.0%	58	28.0%	20	29.0%	49	71.0%
Tonzang	61	89.7%	7	10.3%	3	14.3%	18	85.7%
Tonzang (Cikha)	29	78.4%	8	21.6%	2	22.2%	7	77.8%
Falam	47	72.3%	18	27.7%	6	33.3%	12	66.7%
Falam (Rihkhawdar Sub-township)	7	77.8%	<5	22.2%	0	0.0%	2	100.0%
Hakha	59	83.1%	12	16.9%	4	20.0%	16	80.0%
Thantlang	82	83.7%	16	16.3%	2	8.0%	23	92.0%
Mindat	67	75.3%	22	24.7%	5	23.8%	16	76.2%
Kanpetlet	21	75.0%	7	25.0%	5	62.5%	3	37.5%
Matupi	47	70.1%	20	29.9%	4	17.4%	19	82.6%
Matupi (Rezua Sub-township)	16	84.2%	<5	15.8%	2	25.0%	6	75.0%
Paletwa	71	80.7%	17	19.3%	6	31.6%	13	68.4%
Paletwa (Samee Sub-township)	58	76.3%	18	23.7%	0	0.0%	13	100.0%

Table 23: Minimum Meal Frequency (ctd.)

MINIMUM MEAL FREQUENCY

	Breastfed Children 6 - 8 Months				**Breastfed Children 9 - 24 Months**			
	Adequate MMF		Non-Adequate MMF		Adequate MMF		Non-Adequate MMF	
	Count	%	Count	%	Count	%	Count	%
TOTAL	**369**	**85.6%**	**62**	**14.4%**	**133**	**64.9%**	**72**	**35.1%**
COMPARISON/								

TREATMENT								
COMPARISON	367	85.5%	62	14.5%	49	55.7%	39	44.3%
TREATMENT	2	100.0%	0	0.0%	84	71.8%	33	28.2%
LOCATION								
URBAN	84	84.0%	16	16.0%	27	61.4%	17	38.6%
RURAL	184	86.8%	28	13.2%	63	72.4%	24	27.6%
REMOTE	101	84.9%	18	15.1%	43	58.1%	31	41.9%
INCOME								
LOW INCOME	188	84.7%	34	15.3%	70	66.7%	35	33.3%
MIDDLE INCOME	84	86.6%	13	13.4%	33	70.2%	14	29.8%
HIGH INCOME	97	86.6%	15	13.4%	30	56.6%	23	43.4%
TOWNSHIP								
TEDIM	82	89.1%	10	10.9%	20	57.1%	15	42.9%
TONZANG	20	74.1%	7	25.9%	14	77.8%	4	22.2%
TONZANG (CIKHA)	9	75.0%	3	25.0%	6	54.5%	5	45.5%
FALAM	31	91.2%	3	8.8%	6	75.0%	2	25.0%
FALAM (RIHKHAWDAR SUB-TOWNSHIP)	2	66.7%	1	33.3%	2	50.0%	2	50.0%
HAKHA	30	78.9%	8	21.1%	5	45.5%	6	54.5%
THANTLANG	45	84.9%	8	15.1%	9	52.9%	8	47.1%
MINDAT	33	84.6%	6	15.4%	25	86.2%	4	13.8%
KANPETLET	10	90.9%	1	9.1%	5	55.6%	4	44.4%
MATUPI	28	90.3%	3	9.7%	11	84.6%	2	15.4%
MATUPI (REZUA SUB-TOWNSHIP)	9	100.0%	0	0.0%	1	50.0%	1	50.0%
PALETWA	42	91.3%	4	8.7%	15	71.4%	6	28.6%
PALETWA (SAMEE SUB-TOWNSHIP)	28	77.8%	8	22.2%	14	51.9%	13	48.1%

Table 24: Micronutrient Intake

	IRON TABLET INTAKE DURING PREGNANCY					VITAMIN A TABLET INTAKE CHILDREN[54]				
	No		Yes		Total	No		Yes		Total
	Count	%	Count	%	Count	Count	%	Count	%	Count
TOTAL	**333**	**17.7%**	**1550**	**82.3%**	**1883**	**1422**	**78.5%**	**389**	**21.5%**	**1811**
COMPARISON/ TREATMENT										
COMPARISON	158	17.2%	763	82.8%	921	666	75.6%	215	24.4%	881
TREATMENT	175	18.2%	787	81.8%	962	756	81.3%	174	18.7%	930
AGE GROUP IN MONTHS										
6 - 11	-	-	-	-	-	381	71.6%	151	28.4%	532
12 - 23	-	-	-	-	-	194	56.4%	150	43.6%	344
LOCATION										
RURAL	164	18.1%	743	81.9%	907	688	79.4%	179	20.6%	867
REMOTE	122	23.4%	400	76.6%	522	404	79.4%	105	20.6%	509
URBAN	47	10.4%	407	89.6%	454	330	75.9%	105	24.1%	435
INCOME										
LOW INCOME	189	20.8%	719	79.2%	908	713	81.2%	165	18.8%	878
MIDDLE INCOME	82	18.0%	373	82.0%	455	335	76.7%	102	23.3%	437
HIGH INCOME	62	11.9%	458	88.1%	520	374	75.4%	122	24.6%	496
TOWNSHIP										
TEDIM	44	10.7%	366	89.3%	410	332	84.9%	59	15.1%	391
TONZANG	26	18.1%	118	81.9%	144	113	81.9%	25	18.1%	138

[54] Asked for all children under two years old for the period of the past six months.

TONZANG (CIKHA)	6	9.7%	56	90.3%	62	47	83.9%	9	16.1%	56
FALAM	7	5.8%	113	94.2%	120	75	65.2%	40	34.8%	115
FALAM (RIHKHAWDAR SUB-TOWNSHIP)	5	27.8%	13	72.2%	18	12	66.7%	6	33.3%	18
HAKHA	22	12.9%	149	87.1%	171	117	71.8%	46	28.2%	163
THANTLANG	68	35.6%	123	64.4%	191	150	83.8%	29	16.2%	179
MINDAT	38	22.9%	128	77.1%	166	105	67.3%	51	32.7%	156
KANPETLET	0	0.0%	71	100.0%	71	47	67.1%	23	32.9%	70
MATUPI	37	23.1%	123	76.9%	160	134	84.8%	24	15.2%	158
MATUPI (REZUA SUB-TOWNSHIP)	8	26.7%	22	73.3%	30	23	76.7%	7	23.3%	30
PALETWA	41	20.1%	163	79.9%	204	155	76.4%	48	23.6%	203
PALETWA (SAMEE SUB-TOWNSHIP)	31	22.8%	105	77.2%	136	112	83.6%	22	16.4%	134

Table 25: Knowledge on Nutrition (1/3)

FOOD CONSUMPTION DURING PREGNANCY[55]

	More		**Less**		**Same**		**Don't know**		**Total**
	Count	%	Count	%	Count	%	Count	%	Count
TOTAL	**1680**	**65.0%**	**181**	**7.0%**	**670**	**25.9%**	**54**	**2.1%**	**2585**
CONTROL/ COMPARISON									
COMPARISON	567	65.0%	67	7.7%	218	25.0%	20	2.3%	872
TREATMENT	1113	65.0%	114	6.7%	452	26.4%	34	2.0%	1713
LOCATION									
RURAL	813	65.4%	94	7.6%	314	25.3%	22	1.8%	1243

[55] Respondents were asked if women should eat more, less, or the same amount of food during pregnancies.

RURAL REMOTE	388	56.2%	64	9.3%	210	30.4%	29	4.2%	691
URBAN	479	73.6%	23	3.5%	146	22.4%	3	.5%	651
INCOME									
LOW INCOME	721	59.6%	112	9.3%	339	28.0%	37	3.1%	1209
MIDDLE INCOME	403	64.4%	39	6.2%	173	27.6%	11	1.8%	626
HIGH INCOME	556	74.1%	30	4.0%	158	21.1%	6	.8%	750
TOWNSHIP									
TEDIM	375	68.9%	32	5.9%	127	23.3%	10	1.8%	544
TONZANG	121	73.3%	8	4.8%	29	17.6%	7	4.2%	165
TONZANG (CIKHA)	54	79.4%	2	2.9%	8	11.8%	4	5.9%	68
FALAM	122	65.9%	17	9.2%	44	23.8%	2	1.1%	185
FALAM (RIHKHAWDAR SUB-TOWNSHIP)	25	78.1%	0	0.0%	7	21.9%	0	0.0%	32
HAKHA	164	68.6%	8	3.3%	65	27.2%	2	.8%	239
THANTLANG	176	62.9%	9	3.2%	92	32.9%	3	1.1%	280
MINDAT	142	66.0%	19	8.8%	52	24.2%	2	.9%	215
KANPETLET	88	84.6%	3	2.9%	13	12.5%	0	0.0%	104
MATUPI	142	67.0%	14	6.6%	50	23.6%	6	2.8%	212
MATUPI (REZUA SUB-TOWNSHIP)	29	70.7%	1	2.4%	8	19.5%	3	7.3%	41
PALETWA	176	57.3%	34	11.1%	88	28.7%	9	2.9%	307
PALETWA (SAMEE SUB-TOWNSHIP)	66	34.2%	34	17.6%	87	45.1%	6	3.1%	193

Table 26: Knowledge on Nutrition (2/3)

MINIMUM MEAL FREQUENCY BREASTFED CHILDREN

CHILD AGE	6 - 8 Months	9 - 24 Months

	Less than Two		Two or More		Don't Know		Less than 3		Three or More		Don't Know	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
TOTAL	**61**	**2.4%**	**2370**	**91.7%**	**146**	**5.6%**	**208**	**8.0%**	**2223**	**86.0%**	**144**	**5.6%**
COMPARISON/ TREATMENT												
COMPARISON	16	1.8%	812	93.1%	43	4.9%	66	7.6%	755	86.6%	48	5.5%
TREATMENT	45	2.6%	1558	91.0%	103	6.0%	142	8.3%	1468	85.7%	96	5.6%
LOCATION												
URBAN	12	1.8%	618	94.9%	19	2.9%	59	9.1%	567	87.1%	24	3.7%
RURAL	34	2.7%	1126	90.6%	81	6.5%	82	6.6%	1069	86.0%	86	6.9%
RURAL REMOTE	15	2.2%	626	90.6%	46	6.7%	67	9.7%	587	84.9%	34	4.9%
INCOME												
LOW INCOME	24	2.0%	1086	89.8%	91	7.5%	82	6.8%	1028	85.0%	90	7.4%
MIDDLE INCOME	14	2.2%	586	93.6%	26	4.2%	65	10.4%	537	85.8%	23	3.7%
HIGH INCOME	23	3.1%	698	93.1%	29	3.9%	61	8.1%	658	87.7%	31	4.1%
TOWNSHIP												
TEDIM	11	2.0%	493	90.6%	38	7.0%	25	4.6%	476	87.5%	40	7.4%
TONZANG	3	1.8%	148	89.7%	14	8.5%	12	7.3%	139	84.2%	14	8.5%
TONZANG (CIKHA)	5	7.4%	47	69.1%	13	19.1%	13	19.1%	43	63.2%	11	16.2%
FALAM	3	1.6%	178	96.2%	4	2.2%	11	5.9%	169	91.4%	5	2.7%
FALAM (RIHKHAWDAR SUB-TOWNSHIP)	1	3.1%	30	93.8%	1	3.1%	7	21.9%	24	75.0%	1	3.1%
HAKHA	13	5.4%	221	92.5%	5	2.1%	21	8.8%	208	87.0%	10	4.2%
THANTLANG	7	2.5%	265	94.6%	8	2.9%	10	3.6%	264	94.3%	6	2.1%
MINDAT	4	1.9%	203	94.4%	8	3.7%	9	4.2%	195	90.7%	11	5.1%
KANPETLET	0	0.0%	102	98.1%	2	1.9%	6	5.8%	95	91.3%	3	2.9%

MATUPI	8	3.8%	193	91.0%	11	5.2%	22	10.4%	178	84.0%	12	5.7%
MATUPI (REZUA SUB-TOWNSHIP)	2	4.9%	36	87.8%	3	7.3%	2	4.9%	37	90.2%	2	4.9%
PALETWA	3	1.0%	273	88.9%	28	9.1%	31	10.1%	247	80.5%	23	7.5%
PALETWA (SAMEE SUB-TOWNSHIP)	1	.5%	181	93.8%	11	5.7%	39	20.2%	148	76.7%	6	3.1%

Table 27: Knowledge on Nutrition (3/3)

MINIMUM MEAL FREQUENCY NON-BREASTFED CHILDREN 9 - 24 MONTHS

	Less than 4		4 or more		Don't Know	
	Count	%	Count	%	Count	%
TOTAL	**1669**	**64.6%**	**751**	**29.1%**	**151**	**5.8%**
COMPARISON/ TREATMENT						
COMPARISON	583	66.9%	243	27.9%	43	4.9%
TREATMENT	1086	63.4%	508	29.7%	108	6.3%
LOCATION						
URBAN	401	61.6%	218	33.5%	29	4.5%
RURAL	786	63.2%	370	29.8%	80	6.4%
RURAL REMOTE	482	69.8%	163	23.6%	42	6.1%
INCOME						
LOW INCOME	792	65.5%	320	26.5%	86	7.1%
MIDDLE INCOME	423	67.6%	179	28.6%	23	3.7%
HIGH INCOME	454	60.5%	252	33.6%	42	5.6%
TOWNSHIP						
TEDIM	307	56.4%	192	35.3%	40	7.4%
TONZANG	110	66.7%	44	26.7%	11	6.7%

TONZANG (CIKHA)	51	75.0%	6	8.8%	10	14.7%
FALAM	112	60.5%	68	36.8%	5	2.7%
FALAM (RIHKHAWDAR SUB-TOWNSHIP)	25	78.1%	6	18.8%	1	3.1%
HAKHA	162	67.8%	61	25.5%	15	6.3%
THANTLANG	212	75.7%	56	20.0%	11	3.9%
MINDAT	136	63.3%	71	33.0%	8	3.7%
KANPETLET	56	53.8%	46	44.2%	2	1.9%
MATUPI	150	70.8%	50	23.6%	12	5.7%
MATUPI (REZUA SUB-TOWNSHIP)	31	75.6%	7	17.1%	3	7.3%
PALETWA	173	56.4%	102	33.2%	26	8.5%
PALETWA (SAMEE SUB-TOWNSHIP)	144	74.6%	42	21.8%	7	3.6%

INFANT AND YOUNG CHILD FEEDING (IYCF)

KEY FINDINGS
Practices

1. **Exclusive Breastfeeding:** Fifty-two percent (51.9%) of children under six months in the sample are exclusively breastfed. Exclusive breastfeeding rates drop to twenty-eight percent (27.7%) when children reach the age of five months.

2. **Early Initiation of Breastfeeding:** Seventy-four percent (73.6%) of children under the age of two in the sample were put to the breast within one hour of birth.

3. **Complementary Feeding:** Eighty-nine percent (89.0%) of sampled children 6 - 8 months are introduced to solid, semi-solid or soft foods.

4. **Continuation of Breastfeeding:** Thirty-two percent (31.6%) of children 12 - 23 months in the sample are still breastfeeding.

KEY FINDINGS
Knowledge

1. **Exclusive Breastfeeding:** Fifty-three percent (53%) of all respondents in the sample could correctly identify that exclusive breastfeeding means breastmilk only.

2. **Early Initiation of Breastfeeding:** Eighty percent (79.7%) of respondents know they should put a new-born to the breast within one hour of birth. Knowledge was significantly lower in remote areas, where seventy-four percent (74.0%) of respondents knew the adequate initiation of breastfeeding.

3. **Complementary Feeding:** Seventy-five percent (75.4%) of sampled respondents correctly identify that children should be introduced to complementary food at six months of age

4. **Continuation of Breastfeeding:** Forty-eight percent (48.1%) of respondents know infants should receive breast milk up to two years and beyond.

1. Practices and Knowledge on Infant and Young Child Feeding (IYCF)

Age-appropriate feeding practices play a vital role in the development of children. This section outlines the current level of practices and knowledge of mothers and pregnant women included in sample for major Infant and Young Child Feeding (IYCF) indicators, including early initiation of breastfeeding, exclusive breastfeeding and the continuation of breastfeeding, as well as timely introduction of complementary feeding.

Data for practices and knowledge on IYCF was collected through the household questionnaire administered to eligible respondents. Questions relating to feeding practices of children have been asked for each child under the age of two years old and are presented for age groups appropriate depending on the indicator.

1.1 Early Initiation of breastfeeding

Early initiation of breastfeeding is defined as the proportion of children under two years of age that were put to the breast within one hour of birth.[56] The indicator was calculated based on the recall of respondents. A total of **seventy-four percent (73.6%)** of children in the sample were put to the breast within one hour after birth. There is a significant difference between children from urban (68.3%) and rural areas (75.3%).

Eighty percent (79.7%) of respondents correctly asserted that they should initiate breastfeeding within one hour after birth, with the level of knowledge marginally higher for urban residents (82.2%) compared to respondents in rural areas (81.5%) and significantly different for respondents in remote areas (74.0%). Levels of knowledge are furthermore significantly different depending on whether respondent's already have children, namely sixty-four percent (63.9%) for women that do not have children and eighty-two percent (82.1%) who have children.

1.2 Exclusive breastfeeding

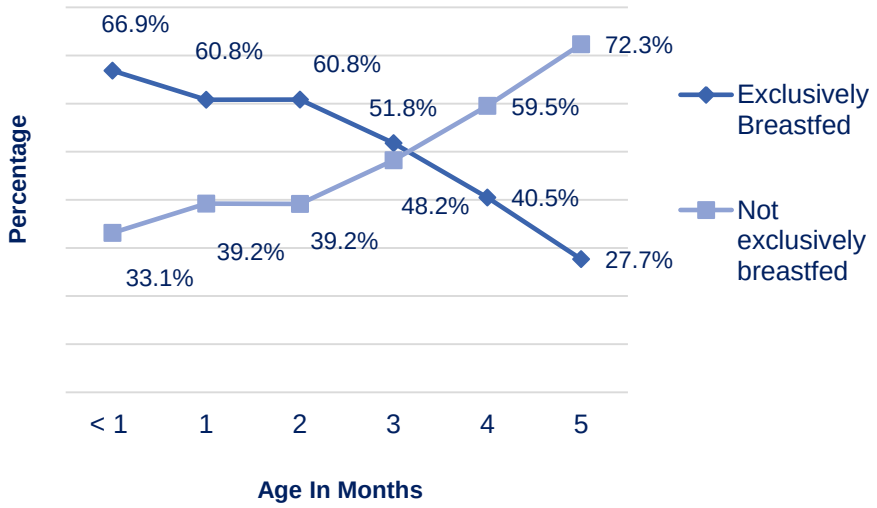
Children under six months of age that are exclusive breastfed have a reduced risk of death from all causes, including infectious diseases such as diarrhea and pneumonia, which are among the leading causes of deaths of children under five.[57]

Exclusive breastfeeding is defined as not receiving anything besides breastmilk, except for vitamins, mineral supplements, medicine or oral rehydration solutions.[58] Overall, **fifty-two percent (51.9%)** of children under six months from the sample are exclusively breastfed, with an insignificant difference between children in urban (53.2%) and rural (51.4%) areas.

[56] World Health Organization (WHO). Indicators for Assessing Infant and Young Child Feeding Practices. Part 1: Definitions. Geneva, Switzerland, 2008.
[57] United Nations Children Fund (UNICEF). Improving Child Nutrition. The achievable imperative for global progress. New York, United States of America, 2013.
[58] World Health Organization (WHO). Indicators for Assessing Infant and Young Child Feeding Practices. Part 1: Definitions. Geneva, Switzerland, 2008.

The prevalence of exclusive breastfeeding is however significantly reduced as the child grows older as shown in **Figure 31**, with steep decreases in rates at the age of three months and again at four and five months. The overall rate drops more than half in the first six months of age from sixty-seven percent (66.9%) within the first month of birth to a low of **twenty-eight percent (27.7%)** at five months of age. Considering the important role breastfeeding plays with regards to nutritional outcomes for children, reasons for the drastic drop of exclusive breastfeeding rates should be explored in formative research for the benefit of programmatic interventions.

Figure 31: Exclusive Breastfeeding 0 – 5 Months



Seventy percent (70.2%) of respondents have heard of the term exclusive breastfeeding, seventy-eight percent (78%) in urban and sixty-eight (67.6%) in rural areas. However, only **fifty-three percent (53%)** of overall respondents could correctly identify that exclusive breastfeeding means breastmilk only (or breastmilk with medicine and oral rehydration solution). Thirty-five percent (35.4%) of respondents did not know what the term means when asked to specify its meaning. The proportion of respondents who did not know was significantly higher for women who do not have any children (48.2%) compared to mothers (33.6%).

1.3 Complementary Feeding

The **timely introduction of complementary foods** from the age of six months onwards has a positive impact not only on the health of the child but also on growth outcomes.[59] The transition from exclusive breastfeeding to foods is critical, since it is during this period that children are

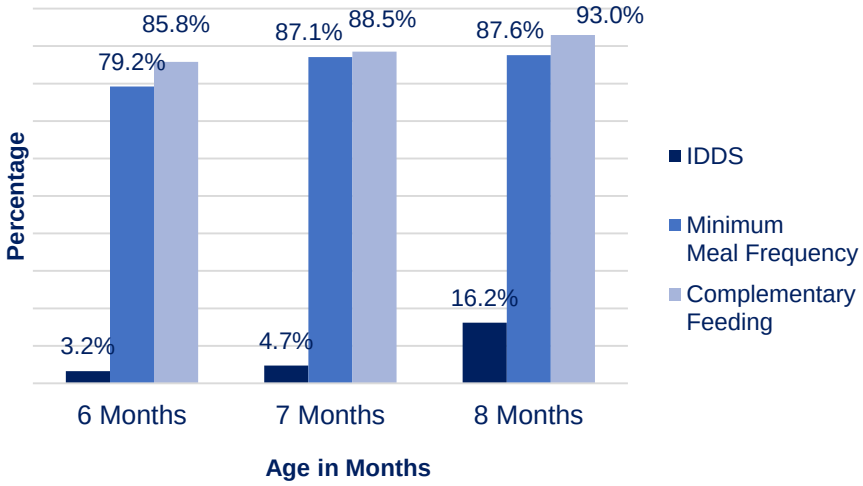
[59] Bhutta Zulfiqar A., et al., 'What Works? Interventions for maternal and child undernutrition and survival', *Lancet*, vol. 371, no. 9610, 2 February 2008, pp. 417–440.

vulnerable to becoming undernourished.[60] Timely introduction of complementary food is usually regarded as the proportion of children 6 - 8 months of age who receive solid, semi-solid or soft foods.

In the survey sample, **eighty-nine percent (89%)** of children 6 - 8 months are introduced to complementary foods, based on the 24-hour recall of respondents.[61] While the minimum meal frequency for the same age group is **eighty-three percent (83.1%)**, the individual dietary diversity score is low, with only **eight percent (7.9%)** of children in this age group receiving food from at least four food groups. From a programmatic perspective, it is therefore important to emphasize the quality and necessary diversity of complementary food.[62]

In terms of knowledge, **seventy-five percent (75.4%)** of respondents correctly identified that children should be introduced to complementary food (solid, semi-solid or soft foods) at six months of age, with a significant difference between respondents from urban (83.9%) and rural (73.9%) as well as remote (70.0%) areas. Knowledge is significantly higher for mothers (76.2%) compared to respondents that do not have any children (69.9%). This significant difference can also be seen by the number of 'do not know' responses, which were fifteen percent (14.9%) for women without children and six percent (6.3%) for mothers.

Figure 32: Complementary Feeding, Minimum Meal Frequency and IDDS



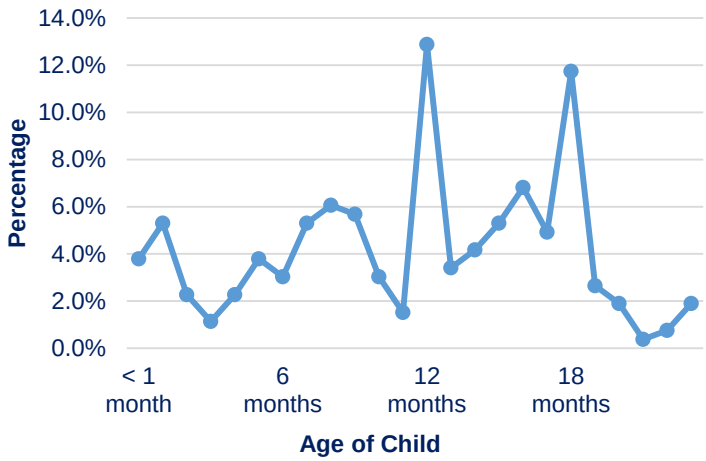
[60] Ministry of Health and Sports (MoHS) and ICF. 2017. *Myanmar Demographic and Health Survey 2015-16.* Nay Pyi Taw, Myanmar, and Rockville, Maryland USA: Ministry of Health and Sports and ICF.
[61] The sample size for this age group is relatively small, with only 437 children between the age of 6 - 8 months.
[62] United Nations Children Fund (UNICEF). Improving Child Nutrition. The achievable imperative for global progress. New York, United States of America, 2013.

1.4 Continuation of breastfeeding

A total of **forty-eight percent (48.1%)** of respondents overall expressed that they think babies should receive breast milk up to two years (and beyond), with the rate of knowledge in urban areas (50.7%) being slightly higher compared to rural areas (47.2%). Thirty-one percent (30.6%) of respondents believe breastfeeding should stop at six months of age.

In terms of practice, ninety-eight percent (97.5%) of children in the sample 6 - 11 months are still breastfeeding compared to only **thirty-two percent (31.6%)** of children 12 - 23 months. For children in the sample that were no longer breastfeeding[63], most mothers recalled that they discontinued breastfeeding at the age of 12 - 23 months. More specifically, nineteen percent (18.6%) were under six months of age, twenty-five percent (24.6%) were 6 - 11 months and fifty-seven percent (56.8%) were 12 - 23 months. Discontinuation of breastfeeding peaks specifically around two points, namely around twelve and eighteen months as seen in **Figure 33** below.

Figure 33: Timing of Breastfeeding Discontinuation



Reasons to stop breastfeeding were not significantly different in urban and rural areas or across income groups. Leading reasons for discontinuation of breastfeeding are the fact that the **child no longer wanted breastmilk** (39%) and that **women became pregnant** (37.9%). While only a small proportion of the overall sample discontinued breastfeeding overall, nutritional awareness trainings for women in Chin State should integrate these findings into their intervention - including the beneficial effects of birth spacing. Moreover, formative research is needed to understand the drop of breastfeeding around the age of one year and eighteen months.

[63] The sample of children under two no longer breastfeeding size is 264.

Figure 34: Reasons for Stopping to Breastfeed

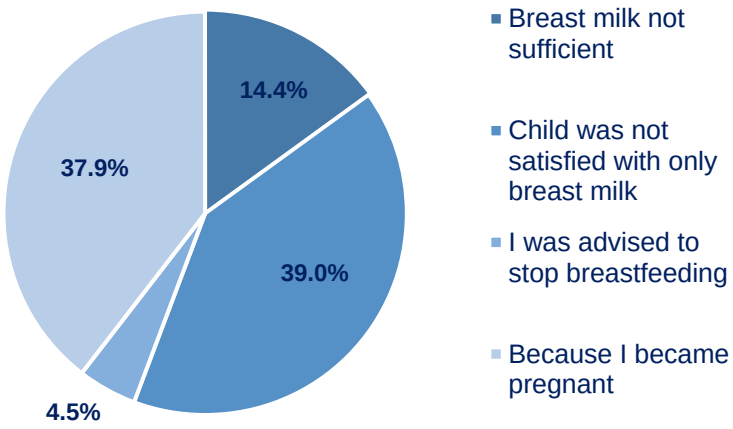


Table 28: Infant and Young Child Feeding Practices (1/2)

	EXCLUSIVE BREASTFEEDING				*EARLY INITIATION OF BREASTFEEDING*	
	YES		**NO**		**Within First Hour of Life**	
	Count	%	Count	%	Count	%
TOTAL	**499**	**51.9%**	**463**	**48.1%**	**1384**	**73.4%**
TREATMENT/ COMPARISON						
Comparison	125	36.2%	220	63.8%	701	76.1%
Treatment	374	60.6%	243	39.4%	683	70.8%
AGE IN MONTHS						
<1	111	66.9%	55	33.1%	-	-
1	93	60.8%	60	39.2%	-	-
2	101	60.8%	65	39.2%	-	-
3	87	51.8%	81	48.2%	-	-
4	68	40.5%	100	59.5%	-	-
5	39	27.7%	102	72.3%	-	-
LOCATION						
Urban	140	53.2%	123	46.8%	310	68.1%
Rural	220	49.0%	229	51.0%	702	77.7%
Rural Remote	139	55.6%	111	44.4%	372	71.1%
INCOME						
Low Income	227	52.5%	205	47.5%	667	73.4%
Middle Income	119	48.8%	125	51.2%	346	75.9%
High Income	153	53.5%	133	46.5%	371	71.2%
TOWNSHIP						
Tedim	62	30.5%	141	69.5%	316	76.9%
Tonzang	29	38.2%	47	61.8%	104	72.2%
Tonzang (Cikha)	15	60.0%	10	40.0%	46	74.2%
Falam	26	47.3%	29	52.7%	89	74.2%

Falam (Rihkhawdar Sub-township)	7	77.8%	<5	22.2%	14	77.8%
Hakha	73	73.0%	27	27.0%	114	66.7%
Thantlang	65	70.7%	27	29.3%	135	70.7%
Mindat	62	79.5%	16	20.5%	131	78.4%
Kanpetlet	39	90.7%	<5	9.3%	62	87.3%
Matupi	52	55.3%	42	44.7%	127	78.9%
Matupi (Rezua Sub-township)	<5	36.4%	7	63.6%	19	63.3%
Paletwa	43	37.1%	73	62.9%	129	63.2%
Paletwa (Samee Sub-township)	22	36.7%	38	63.3%	98	72.1%

Table 29: Infant and Young Child Feeding Practices (2/2)

		COMPLEMENTARY FEEDING				***CONTINUATION OF BREASTFEEDING***			
		NO		**YES**		**NO**		**YES**	
		Count	**%**	**Count**	**%**	**Count**	**%**	**Count**	**%**
TOTAL		**49**	**11.0%**	**396**	**89.0%**	**264**	**14.1%**	**1608**	**85.9%**
COMPARISON/ TREATMENT									
Comparison		49	11.1%	392	88.9%	47	5.1%	869	94.9%
Treatment		0	0.0%	<5	100.0%	217	22.7%	739	77.3%
AGE IN MONTHS									
6	*6 - 11*	22	14.2%	133	85.8%	*12*	*2.2%*	*536*	*97.8%*
7	*12 - 23*	17	11.5%	131	88.5%	*249*	*68.4%*	*115*	*31.6%*
8		10	7.0%	132	93.0%	-	-	-	-
LOCATION									
Urban		17	16.8%	84	83.2%	47	10.4%	404	89.6%
Rural		19	8.4%	206	91.6%	142	15.8%	758	84.2%

Rural Remote	13	10.9%	106	89.1%	75	14.4%	446	85.6%
INCOME								
Low Income	24	10.5%	205	89.5%	139	15.4%	765	84.6%
Middle Income	9	8.8%	93	91.2%	61	13.5%	390	86.5%
High Income	16	14.0%	98	86.0%	64	12.4%	453	87.6%
TOWNSHIP								
Tedim	5	5.1%	93	94.9%	70	17.2%	338	82.8%
Tonzang	5	17.9%	23	82.1%	21	14.7%	122	85.3%
Tonzang (Cikha)	<5	8.3%	11	91.7%	12	19.7%	49	80.3%
Falam	<5	10.8%	33	89.2%	18	15.4%	99	84.6%
Falam (Rihkhawdar Sub-township)	<5	66.7%	<5	33.3%	<5	11.1%	16	88.9%
Hakha	9	23.1%	30	76.9%	21	12.4%	149	87.6%
Thantlang	5	9.4%	48	90.6%	26	13.8%	163	86.2%
Mindat	<5	4.9%	39	95.1%	21	12.6%	146	87.4%
Kanpetlet	<5	9.1%	10	90.9%	7	10.0%	63	90.0%
Matupi	6	19.4%	25	80.6%	23	14.4%	137	85.6%
Matupi (Rezua Sub-township)	<5	11.1%	8	88.9%	8	26.7%	22	73.3%
Paletwa	<5	8.5%	43	91.5%	21	10.3%	182	89.7%
Paletwa (Samee Sub-township)	<5	11.1%	32	88.9%	14	10.3%	122	89.7%

Table 30: Exclusive Breastfeeding Knowledge

	EXCLUSIVE BREASTFEEDING KNOWLEDGE			
	Breast milk only	**Breast milk + medicine + ORS**	**Breast milk + traditional medicine**	**Don't Know**

	Count	%	Count	%	Count	%	Count	%
TOTAL	**959**	**52.8%**	**4**	**.2%**	**0**	**0.0%**	**643**	**35.4%**
COMPARISON/ TREATMENT								
COMPARISON	345	56.6%	1	.2%	0	0.0%	200	32.8%
TREATMENT	614	51.0%	3	.2%	0	0.0%	443	36.8%
LOCATION								
RURAL	484	54.6%	2	.2%	0	0.0%	302	34.0%
RURAL REMOTE	186	44.3%	2	.5%	0	0.0%	187	44.5%
URBAN	289	56.9%	0	0.0%	0	0.0%	154	30.3%
INCOME								
LOW INCOME	381	47.7%	2	.3%	0	0.0%	326	40.8%
MIDDLE INCOME	228	55.7%	2	.5%	0	0.0%	136	33.3%
HIGH INCOME	350	57.7%	0	0.0%	0	0.0%	181	29.8%
TOWNSHIP								
TEDIM	286	69.1%	0	0.0%	0	0.0%	85	20.5%
TONZANG	45	38.5%	0	0.0%	0	0.0%	50	42.7%
TONZANG (CIKHA)	10	21.3%	0	0.0%	0	0.0%	24	51.1%
FALAM	74	51.4%	0	0.0%	0	0.0%	52	36.1%
FALAM (RIHKHAWDAR SUB-TOWNSHIP)	11	45.8%	0	0.0%	0	0.0%	9	37.5%
HAKHA	55	34.6%	0	0.0%	0	0.0%	51	32.1%
THANTLANG	87	51.2%	0	0.0%	0	0.0%	77	45.3%
MINDAT	85	49.4%	0	0.0%	0	0.0%	72	41.9%
KANPETLET	68	73.1%	0	0.0%	0	0.0%	23	24.7%
MATUPI	76	51.4%	0	0.0%	0	0.0%	59	39.9%
MATUPI (REZUA SUB-TOWNSHIP)	5	27.8%	0	0.0%	0	0.0%	11	61.1%

PALETWA	94	43.7%	3	1.4%	0	0.0%	102	47.4%
PALETWA (SAMEE SUB-TOWNSHIP)	63	67.0%	1	1.1%	0	0.0%	28	29.8%

Table 31: Early Initiation of Breastfeeding Knowledge

	EARLY INITIATION OF BREASTFEEDING KNOWLEDGE					
	As soon as possible/ immediately after birth		**Within 30 minutes**		**Within 1 hour**	
	Count	%	Count	%	Count	%
TOTAL	**1403**	**54.3%**	**413**	**16.0%**	**243**	**9.4%**
COMPARISON/ TREATMENT						
COMPARISON	491	56.3%	137	15.7%	85	9.7%
Treatment	912	53.2%	276	16.1%	158	9.2%
LOCATION						
Urban	392	60.2%	86	13.2%	57	8.8%
Rural	701	56.4%	218	17.5%	94	7.6%
Rural Remote	310	44.9%	109	15.8%	92	13.3%
INCOME						
Low Income	634	52.4%	193	16.0%	93	7.7%
Middle Income	312	49.8%	111	17.7%	80	12.8%
High Income	457	60.9%	109	14.5%	70	9.3%
TOWNSHIP						
Tedim	303	55.7%	131	24.1%	36	6.6%
Tonzang	115	69.7%	17	10.3%	11	6.7%
Tonzang (Cikha)	41	60.3%	9	13.2%	7	10.3%
Falam	119	64.3%	26	14.1%	15	8.1%

Falam (Rihkhawdar Sub-township)	16	50.0%	7	21.9%	<5	9.4%
Hakha	127	53.1%	42	17.6%	19	7.9%
Thantlang	148	52.9%	37	13.2%	28	10.0%
Mindat	128	59.5%	31	14.4%	16	7.4%
Kanpetlet	61	58.7%	24	23.1%	9	8.7%
Matupi	123	58.0%	22	10.4%	16	7.5%
Matupi (Rezua Sub-township)	22	53.7%	<5	9.8%	<5	7.3%
Paletwa	122	39.7%	39	12.7%	42	13.7%
Paletwa (Samee Sub-township)	78	40.4%	24	12.4%	38	19.7%

Table 32: Complementary Feeding Knowledge

	COMPLEMENTARY FEEDING KNOWLEDGE									
	After 3 months		**After 4 months**		**After 6 months**		**After 9 months**		**Don't Know**	
	Count	%	Count	%	Count	%	Count	%	Count	%
TOTAL	**66**	**2.6%**	**138**	**5.3%**	**1949**	**75.4%**	**208**	**8.0%**	**191**	**7.4%**
COMPARISON/ TREATMENT										
COMPARISON	21	2.4%	38	4.4%	664	76.1%	79	9.1%	63	7.2%
TREATMENT	45	2.6%	100	5.8%	1285	75.0%	129	7.5%	128	7.5%
LOCATION										
URBAN	7	1.1%	31	4.8%	546	83.9%	39	6.0%	23	3.5%
RURAL	40	3.2%	60	4.8%	919	73.9%	105	8.4%	105	8.4%
RURAL REMOTE	19	2.7%	47	6.8%	484	70.0%	64	9.3%	63	9.1%
INCOME										
LOW INCOME	33	2.7%	71	5.9%	847	70.1%	110	9.1%	126	10.4%
MIDDLE INCOME	19	3.0%	34	5.4%	480	76.7%	50	8.0%	35	5.6%
HIGH INCOME	14	1.9%	33	4.4%	622	82.9%	48	6.4%	30	4.0%

TOWNSHIP										
TEDIM	22	4.0%	23	4.2%	411	75.6%	48	8.8%	30	5.5%
TONZANG	<5	1.8%	7	4.2%	117	70.9%	16	9.7%	18	10.9%
TONZANG (CIKHA)	<5	2.9%	0	0.0%	38	55.9%	11	16.2%	15	22.1%
FALAM	<5	1.6%	11	5.9%	156	84.3%	6	3.2%	7	3.8%
FALAM (RIHKHAWDAR SUB-TOWNSHIP)	0	0.0%	<5	3.1%	28	87.5%	<5	6.3%	<5	3.1%
HAKHA	0	0.0%	14	5.9%	207	86.6%	10	4.2%	7	2.9%
THANTLANG	<5	.7%	6	2.1%	254	90.7%	7	2.5%	11	3.9%
MINDAT	<5	.5%	13	6.0%	181	84.2%	11	5.1%	8	3.7%
KANPETLET	<5	3.8%	<5	1.9%	94	90.4%	<5	1.0%	<5	2.9%
MATUPI	10	4.7%	15	7.1%	153	72.2%	12	5.7%	19	9.0%
MATUPI (REZUA SUB-TOWNSHIP)	<5	9.8%	<5	9.8%	25	61.0%	<5	2.4%	7	17.1%
PALETWA	9	2.9%	20	6.5%	187	60.9%	44	14.3%	44	14.3%
PALETWA (SAMEE SUB-TOWNSHIP)	6	3.1%	22	11.4%	98	50.8%	39	20.2%	21	10.9%

Table 33: Continuation of Breastfeeding Knowledge

	CONTINUATION OF BREASTFEEDING KNOWLEDGE							
	6 months		**18 months**		**Up to 2 years**		**Up to 2 years and beyond**	
	Count	Row %	Count	Row %	Count	Row %	Count	Row %
TOTAL	**791**	**30.6%**	**165**	**6.4%**	**938**	**36.3%**	**304**	**11.8%**
COMPARISON/ TREATMENT								
Comparison	282	32.3%	52	6.0%	310	35.6%	114	13.1%
Treatment	509	29.7%	113	6.6%	628	36.7%	190	11.1%
LOCATION								
Urban	214	32.9%	51	7.8%	263	40.4%	67	10.3%

Rural	419	33.7%	78	6.3%	409	32.9%	133	10.7%
Rural Remote	158	22.9%	36	5.2%	266	38.5%	104	15.1%
INCOME								
Low Income	337	27.9%	78	6.5%	405	33.5%	159	13.2%
Middle Income	183	29.2%	37	5.9%	237	37.9%	84	13.4%
High Income	271	36.1%	50	6.7%	296	39.5%	61	8.1%
TOWNSHIP								
Tedim	286	52.6%	30	5.5%	131	24.1%	17	3.1%
Tonzang	26	15.8%	21	12.7%	81	49.1%	14	8.5%
Tonzang (Cikha)	18	26.5%	9	13.2%	23	33.8%	<5	4.4%
Falam	73	39.5%	11	5.9%	77	41.6%	<5	2.2%
Falam (Rihkhawdar Sub-township)	7	21.9%	<5	6.3%	17	53.1%	<5	3.1%
Hakha	54	22.6%	14	5.9%	124	51.9%	24	10.0%
Thantlang	25	8.9%	14	5.0%	190	67.9%	24	8.6%
Mindat	85	39.5%	15	7.0%	59	27.4%	23	10.7%
Kanpetlet	46	44.2%	<5	3.8%	35	33.7%	8	7.7%
Matupi	55	25.9%	23	10.8%	86	40.6%	13	6.1%
Matupi (Rezua Sub-township)	9	22.0%	<5	4.9%	14	34.1%	<5	2.4%
Paletwa	72	23.5%	11	3.6%	65	21.2%	91	29.6%
Paletwa (Samee Sub-township)	35	18.1%	9	4.7%	36	18.7%	81	42.0%

HEALTH SEEKING BEHAVIORS

KEY FINDINGS
Practices

1. **Antenatal Care:** Fifty-four percent (54%) of mothers in the sample had four or more antenatal care visits. Differences are significant between urban (75.6%), rural (47.1%) and remote (39.7%) areas.

2. **Birth attendance:** The birth of eighty-six percent (85.7%) of children in the sample was attended by appropriate health staff.

3. **Postnatal Care:** Sixty-one percent (60.9%) of mothers in the sample did not receive a health check after delivery.

4. **Immunization:** Coverage is highest for BCG (93.7%). Ninety percent (90.3%) of children in the sample have received at least one Pentavalent/DPT vaccination shot - and ninety-three percent (92.7%) at least one Polio shot. Seventy-seven percent (77%) received either a measles or rubella vaccination.

5. **Infectious Disease:** Thirty-four percent (33.9%) of children in the sample have suffered from an infectious disease recently.[64]

KEY FINDINGS
Knowledge

1. **Antenatal Care:** Seventy-nine percent (79%) of women in sampled urban areas know a woman should receive at least four antenatal visits compared to sixty-seven percent (67.1%) in rural and sixty-two percent (61.6%) in remote areas.

2. **Immunization:** Knowledge for different vaccination is low overall, with statistically significant differences between urban and remote areas.

3. **Child Illness:** Eighty percent (80%) of respondents would go to a health facility or see health staff in case their child showed symptoms of fever, diarrhea or ARI. The level of knowledge is significantly lower in remote areas (71.2%); compared to rural (81.3%) or urban areas (86.9%).

1. **Practices and Knowledge on Health Seeking Behaviors**

[64] Two weeks preceding the day of data collection.

While inadequate health services and health seeking behaviors are an underlying cause for malnutrition, infectious disease is an immediate cause and moreover closely related to child mortality.[65] In this section of the report, different health indicators for the sample in Chin State are presented; including behavior and knowledge related to ante- and postnatal care, immunization coverage and child illness.

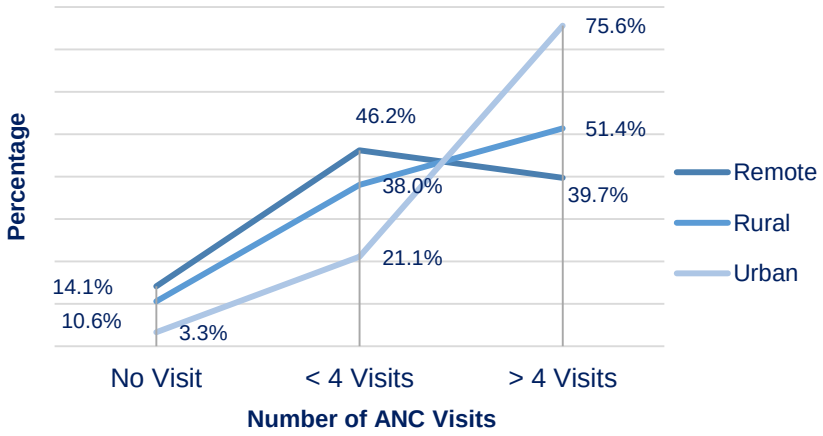
Data for practices and knowledge on health seeking behaviors was collected through the household questionnaire administered to eligible respondents. Health seeking behaviors related to children have been asked to respondents for each child under the age of two years old and are disaggregated by appropriate age groups where necessary.

1.1 Post and Antenatal Care

In sampled urban areas, **seventy-six percent (75.6%)** of mothers[66] had at least four antenatal care visits, with a significantly lower number in rural **(51.4%)** and remote **(39.7%)** areas, as shown in **Figure 35** below. A total of fourteen percent (14.1%) of mothers in remote and eleven percent (10.6%) in rural locations did not have *any* antenatal care visits compared to three percent (3.3%) in urban areas.

Similarly, statistically significant differences exist between urban, rural and remote areas in terms of **knowledge**. As such, **seventy-nine percent (79%)** of women in urban areas know a woman should receive at least four antenatal visits compared to **sixty-seven percent (67.1%)** in rural and **sixty-two percent (61.6%)** in remote areas. Knowledge is significantly different between mothers and women that do not have any children.

Figure 35: Antenatal Care Visits

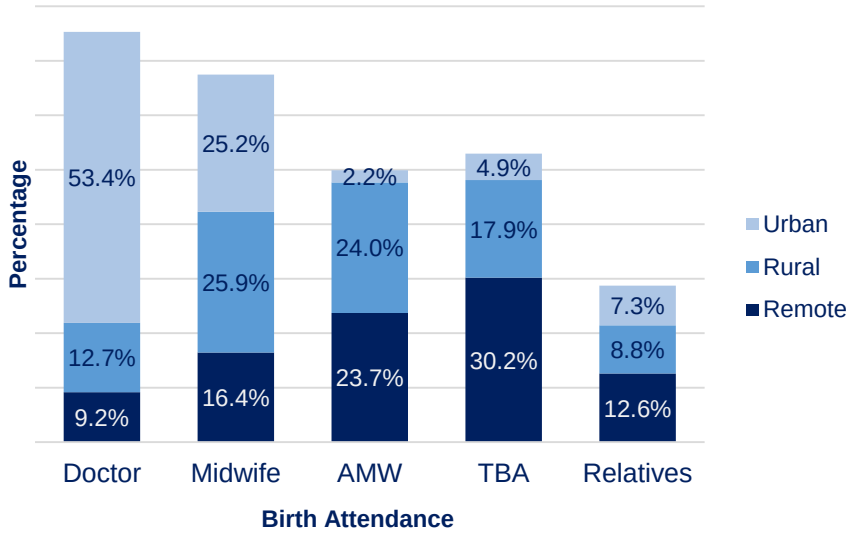


[65] Katona, P. and Katona-Apte, J., 2008. The interaction between Nutrition and Infection. *Clinical Infectious Diseases,* 46(10). pp. 1582-1588.
[66] This does not include women that were pregnant at the time of data collection.

The discrepancy between antenatal care practices and corresponding knowledge is particularly high in sampled remote areas. This is indicative of a lack of access to appropriate services and/or a lack of service provision. Mothers from rural locations do mention the long distance to or absence of health facilities and/or health staff as reasons for not having any antenatal care visits, but also mention that they did not think it was necessary or important, or that it was due to financial difficulties. Sample sizes are too small to report anything conclusive, and more formative research is recommended to better understand why antenatal care practices are as low and what the most contributing factors that restrain access are.

A total of **eighty-six percent (85.7%)** of births were attended by a skilled birth attendant[67], with a significant difference between urban (91.4%), rural (85.0%) and remote (82.0%) areas. Fifty-three percent (53.2%) of births in sampled urban areas were attended by a doctor; compared to nine percent (9.2%) in remote areas. In rural locations, births were predominantly attended by midwifes (25.8%), auxiliary midwifes (23.9%) and traditional birth attendants (22.4%).

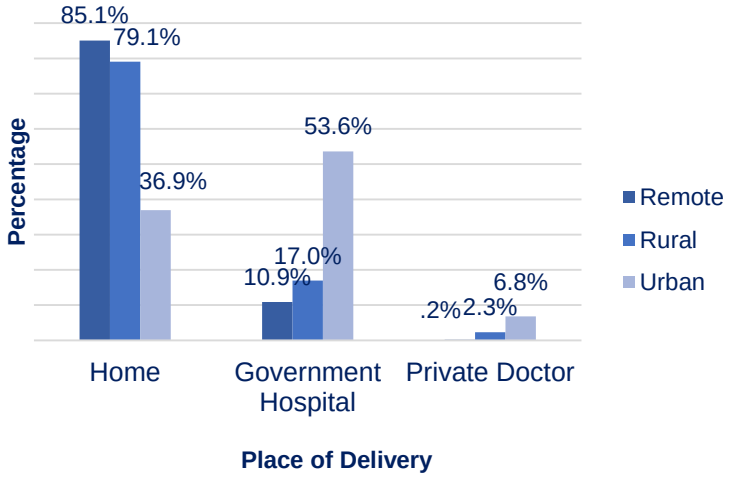
Figure 36: Birth Attendance by Location



Most babies from the sample in remote areas (85.1%) were delivered at home, whereby fifty-four percent (53.6%) of babies in sampled urban areas were delivered in hospitals. Almost half of respondents (41.6%) indicated that they chose the place of birth based on convenience. Significantly more respondents in rural locations chose the place of birth based on cost (23.6%). Safety for the mother and baby was a predominant reason in urban areas (30.8%) as opposed to sampled rural areas (11.4%).

[67] This includes doctors, nurses, lady health visitors, midwifes, auxiliary midwifes and traditional birth attendants but not any other health personal, such as health volunteers.

Figure 37: Place of Delivery



Overall, sixty-one percent (60.9%) of mothers in the sample did **not** receive any **health check after delivery**, with a significant difference between urban (51.4%), rural (60.7%) and remote (69.4%) areas. Out of the sampled mothers that had a postnatal health check, a total of sixty-three percent (62.8%) received the check within 48 hours after birth, with the number being significantly higher for mothers in urban (70.9%) compared to rural (59.3%) locations.

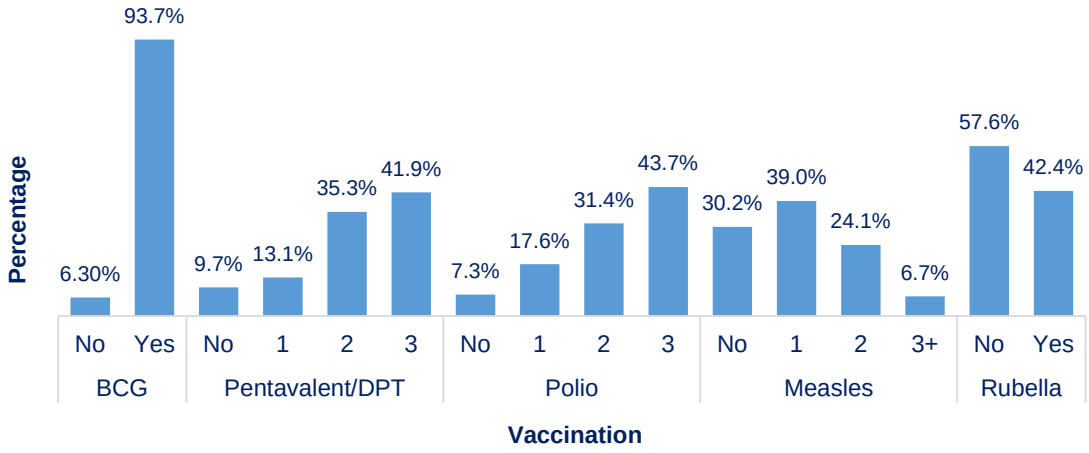
1.2 Immunization Coverage

For sixteen percent (15.8%) of children 12 - 23 months in the sample[68] who have received any vaccination since birth, a vaccination card available was available. Information regarding immunization for the remaining eighty-four percent (84.2%) of children was collected solely based on the mother's recall and needs therefore be interpreted with reservations.

Coverage for **BCG** is highest with ninety-four percent (93.7%). Ninety percent (90.3%) of children in the sample have received at least one **Pentavalent/DPT** vaccination shot - with forty-four percent (43.9%) having received all three. A similar drop is seen for **Polio**, for which ninety-three percent (92.7%) of children have received at least one Polio vaccination, and forty-four percent (43.7%) have received all three. Seventy-seven percent (77%) of children 12 - 23 months received either a **measles** or **rubella** vaccination, with twenty-three percent (23%) not having received either. Neither a significant difference between different income groups nor between urban and rural locations was found.

[68] Total sample size for this specific age group is 367.

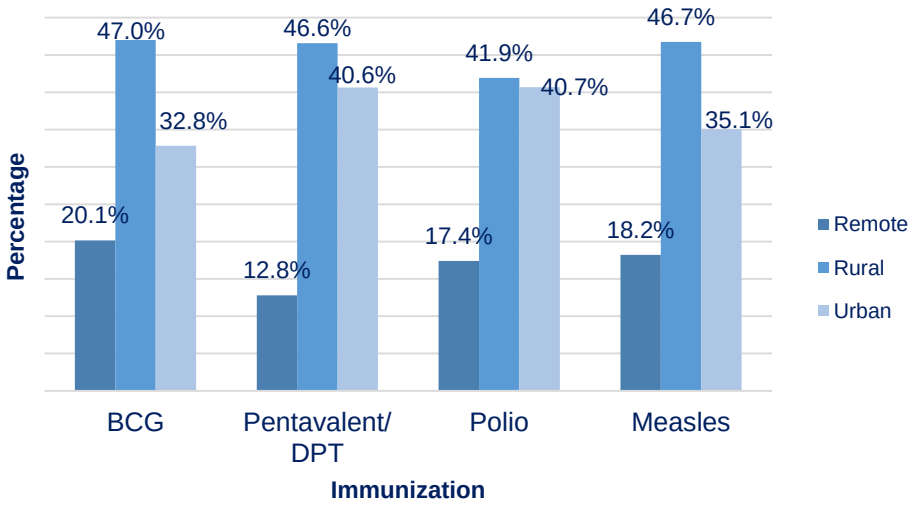
Figure 38: Immunization Coverage Children 12 - 23 Months*



*Numbers in the graph represent the number of times the child received a vaccination shot.

Knowledge on immunization is **low overall,** with a statistically significant difference between urban and remote areas as shown in **Figure 39**. A total number of thirty-nine respondents (1.5%) could identify all four major illnesses against which children should be immunized. Almost all respondents that correctly identified BCG, Pentavalent, Polio and Measles are from the high-income group.

Figure 39: Knowledge Immunization



1.3 Child Illness

A strong relationship exists between malnutrition, infection and infant mortality. The interplay between nutrition and infections leads to a vicious cycle, since poor nutritional outcomes make children more susceptible to infections, and infections at the same time exacerbate malnutrition.[69]

In the sample from Chin State, **thirty-four percent (33.9%)** of children suffered from diarrhea (7.0%), fever (72.0%), Acute Respiratory Infection (ARI) (19.2%), or a combination of either three (1.7%) in the two weeks preceding data collection, with no significant difference between children in urban (36.3%) rural (32.3%), or remote areas (34.6%). A significant difference exists between age groups, with infants younger than six months being the least affected (30.7%) compared to a forty-one percent (40.8%) prevalence for children 6 -11 months and thirty-two percent (31.9%) for children between 12 - 23 months. Differences between age groups is likely to be linked to overall breastfeeding practices.

Infants under six months of age **exclusively breastfed** are significantly less likely to have suffered from diarrhea, fever or ARI in the two weeks preceding data collection, namely twenty-five percent (24.8%) compared to thirty-seven percent (37.2%) of infants that are not exclusively breastfed. This confirms the findings of other studies that show that breastfeeding is the most effective way to protect children from infection.[70] Fifty-four percent (53.7%) of exclusively breastfed children under six months have never been ill compared to thirty-five percent (35.3%) of children that are not exclusively breastfed.

Out of all caregivers that indicated that their child had been ill in the past from either fever, diarrhea or ARI, **seventy-three percent (72.8%)** sought **medical treatment**, with a significant difference between urban (80.5%) and remote (65.9%) households. This corresponds to the overall level of knowledge amongst respondents, with **eighty percent (80%)** noting that they would see a health facility or health staff in case their child showed symptoms of fever, diarrhea or ARI. Knowledge is significantly lower in remote areas (71.2%) compared to rural (81.3%) or urban (86.9%) areas.

When asked about the reasons for not seeking medical treatment, sixty-eight percent (68.4%) of overall respondents believed that treatment was either not necessary (30.2%), used alternative treatment (24.9%) or self-medicated (13.3%). Forty-five percent (44.6%) of respondents in remote areas indicated either the **absence or inaccessibility of a health facility** for the reason no medical treatment was sought.

[69] Katona, P. and Katona-Apte, J., 2008. The interaction between Nutrition and Infection. *Clinical Infectious Diseases,* 46(10). pp. 1582-1588.
[70] Ibid.

Table 34: Antenatal and Postnatal Care

	ANTENATAL CARE VISITS						POST NATAL HEALTH CHECK					
	No Visit		Less Than Four		More Than Four		No Check		> 48 h		≤ 48 h	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
TOTAL	**185**	**9.8%**	**683**	**36.2%**	**1018**	**54.0%**	**1145**	**60.9%**	**274**	**37.2%**	**462**	**62.8%**
COMPARISON/ TREATMENT												
COMPARISON	73	7.9%	360	39.1%	488	53.0%	546	59.4%	135	36.2%	238	63.8%
Treatment	112	11.6%	323	33.5%	530	54.9%	599	62.3%	139	38.3%	224	61.7%
LOCATION												
Urban	15	3.3%	96	21.1%	344	75.6%	233	51.4%	64	29.1%	156	70.9%
Rural	96	10.6%	345	38.0%	466	51.4%	549	60.7%	335	39.9%	214	60.1%
Rural Remote	74	14.1%	242	46.2%	208	39.7%	363	69.4%	271	42.5%	92	57.5%
INCOME												
Low Income	109	12.0%	362	39.8%	438	48.2%	584	64.2%	130	40.0%	195	60.0%
Middle Income	53	11.6%	175	38.4%	228	50.0%	275	60.6%	61	34.1%	118	65.9%
High Income	23	4.4%	146	28.0%	352	67.6%	286	55.2%	83	35.8%	149	64.2%
TOWNSHIP												
Tedim	36	8.8%	133	32.4%	242	58.9%	220	53.5%	72	37.7%	119	62.3%
Tonzang	18	12.5%	71	49.3%	55	38.2%	104	72.2%	21	52.5%	19	47.5%
Tonzang (Cikha)	8	12.9%	14	22.6%	40	64.5%	40	64.5%	9	40.9%	13	59.1%
Falam	<5	3.3%	32	26.7%	84	70.0%	58	49.2%	14	23.3%	46	76.7%
Falam (Rihkhawdar Sub-township)	<5	5.6%	6	33.3%	11	61.1%	8	44.4%	<5	10.0%	9	90.0%
Hakha	8	4.7%	46	26.9%	117	68.4%	121	70.8%	27	54.0%	23	46.0%
Thantlang	28	14.7%	73	38.2%	90	47.1%	133	69.6%	20	34.5%	38	65.5%
Mindat	22	13.2%	60	35.9%	85	50.9%	76	45.8%	24	26.7%	66	73.3%
Kanpetlet	<5	1.4%	15	21.1%	55	77.5%	22	31.0%	18	36.7%	31	63.3%
Matupi	18	11.2%	46	28.6%	97	60.2%	92	57.9%	24	35.8%	43	64.2%

Matupi (Rezua Sub-township)	<5	6.7%	15	50.0%	13	43.3%	18	60.0%	<5	25.0%	9	75.0%
Paletwa	17	8.3%	100	49.0%	87	42.6%	145	71.1%	25	42.4%	34	57.6%
Paletwa (Samee Sub-township)	22	16.2%	72	52.9%	42	30.9%	108	79.4%	16	57.1%	12	42.9%

Table 35: Birth Attendance

SKILLED BIRTH ATTENDANCE

	Doctor		Nurse		LHV		Midwife		AMW		TBA		Total
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	%
TOTAL	**405**	**21.5%**	**64**	**3.4%**	**16**	**.9%**	**434**	**23.1%**	**351**	**18.7%**	**342**	**18.2%**	**85.7%**
COMPARISON/ TREATMENT													
COMPARISON	204	22.2%	35	3.8%	10	1.1%	201	21.9%	190	20.7%	158	17.2%	86.8%
TREATMENT	201	20.9%	29	3.0%	6	.6%	233	24.2%	161	16.7%	184	19.1%	84.6%
LOCATION													
URBAN	242	53.4%	23	5.1%	3	.7%	114	25.2%	10	2.2%	22	4.9%	91.4%
RURAL	115	12.7%	32	3.5%	9	1.0%	234	25.9%	217	24.0%	162	17.9%	85.0%
REMOTE	48	9.2%	9	1.7%	4	.8%	86	16.4%	124	23.7%	158	30.2%	82.0%
INCOME													
LOW INCOME	110	12.2%	24	2.7%	7	.8%	201	22.2%	224	24.8%	179	19.8%	82.3%
MIDDLE INCOME	79	17.3%	15	3.3%	4	.9%	112	24.6%	71	15.6%	103	22.6%	84.2%
HIGH INCOME	216	41.5%	25	4.8%	5	1.0%	121	23.3%	56	10.8%	60	11.5%	92.9%
TEDIM	96	23.4%	21	5.1%	3	.7%	117	28.5%	76	18.5%	38	9.3%	85.6%
TONZANG	24	16.7%	11	7.6%	1	.7%	24	16.7%	23	16.0%	47	32.6%	90.3%
TONZANG (CIKHA)	23	38.3%	2	3.3%	0	0.0%	8	13.3%	11	18.3%	12	20.0%	93.3%
FALAM	33	27.5%	0	0.0%	4	3.3%	23	19.2%	32	26.7%	12	10.0%	86.7%

FALAM (RIHKHAWDAR SUB-TOWNSHIP)	12	66.7%	1	5.6%	0	0.0%	5	27.8%	0	0.0%	0	0.0%	100.0%
HAKHA	50	29.2%	13	7.6%	3	1.8%	45	26.3%	24	14.0%	12	7.0%	86.0%
THANTLANG	38	19.9%	4	2.1%	0	0.0%	53	27.7%	55	28.8%	31	16.2%	94.8%
MINDAT	49	29.5%	2	1.2%	2	1.2%	22	13.3%	22	13.3%	23	13.9%	72.3%
KANPETLET	18	25.4%	6	8.5%	1	1.4%	11	15.5%	14	19.7%	15	21.1%	91.5%
MATUPI	32	20.0%	2	1.3%	0	0.0%	56	35.0%	14	8.8%	30	18.8%	83.8%
MATUPI (REZUA SUB-TOWNSHIP)	3	10.0%	0	0.0%	0	0.0%	8	26.7%	13	43.3%	1	3.3%	83.3%
PALETWA	25	12.3%	1	.5%	2	1.0%	42	20.6%	56	27.5%	46	22.5%	84.3%
PALETWA (SAMEE SUB-TOWNSHIP)	2	1.5%	1	.7%	0	0.0%	20	14.7%	11	8.1%	75	55.1%	80.1%

Table 36: Child Illness

	CHILD ILLNESS				***TREATMENT***			
	Diarrhea, Fever, ARI in the past two weeks		**Never ill**		**Did not seek treatment**		**Did seek treatment**	
	Count	%	Count	%	Count	%	Count	%
TOTAL	**639**	**33.9%**	**556**	**29.5%**	**334**	**27.2%**	**894**	**72.8%**
COMPARISON/ TREATMENT								
Comparison	366	39.7%	168	18.2%	189	26.6%	521	73.4%
Treatment	273	28.3%	388	40.2%	145	28.0%	373	72.0%
AGE								
0 - 5 months	296	30.7%	432	44.9%	153	31.8%	328	68.2%
6 - 11 months	224	40.8%	81	14.8%	117	25.8%	336	74.2%
12 - 23 months	119	31.9%	43	11.5%	64	21.8%	230	78.2%
LOCATION								
Urban	165	36.3%	144	31.6%	57	19.5%	235	80.5%
Rural	293	32.3%	259	28.6%	164	27.1%	441	72.9%

Remote	181	34.6%	153	29.3%	113	34.1%	218	65.9%
INCOME								
Low Income	327	36.0%	251	27.6%	176	28.9%	432	71.1%
Middle Income	155	34.0%	144	31.6%	86	29.7%	204	70.3%
High Income	157	30.2%	161	31.0%	72	21.8%	258	78.2%
TOWNSHIP								
Tedim	133	32.4%	117	28.5%	67	24.7%	204	75.3%
Tonzang	49	34.0%	40	27.8%	17	20.2%	67	79.8%
Tonzang (Cikha)	24	38.7%	24	38.7%	12	31.6%	26	68.4%
Falam	42	35.0%	38	31.7%	17	22.4%	59	77.6%
Falam (Rihkhawdar Sub-township)	8	44.4%	9	50.0%	1	11.1%	8	88.9%
Hakha	56	32.7%	62	36.3%	19	19.6%	78	80.4%
Thantlang	71	37.2%	59	30.9%	48	38.7%	76	61.3%
Mindat	56	33.5%	32	19.2%	42	32.3%	88	67.7%
Kanpetlet	25	35.2%	22	31.0%	10	21.3%	37	78.7%
Matupi	52	32.5%	47	29.4%	33	32.0%	70	68.0%
Matupi (Rezua Sub-township)	<5	13.3%	7	23.3%	4	18.2%	18	81.8%
Paletwa	67	32.8%	70	34.3%	45	34.9%	84	65.1%
Paletwa (Samee Sub-township)	52	38.2%	29	21.3%	19	19.4%	79	80.6%

Table 37: Knowledge Antenatal Care Visits

	ANC VISITS KNOWLEDGE					
	< 4 Visits		4 or more Visits		Don't Know	
	Count	Row %	Count	Row %	Count	Row %
TOTAL	**602**	**23.3%**	**1774**	**68.6%**	**209**	**8.1%**
COMPARISON/ TREATMENT						
Comparison	228	26.1%	573	65.7%	71	8.1%
Treatment	374	21.8%	1201	70.1%	138	8.1%
LOCATION						
Urban	91	14.0%	514	79.0%	46	7.1%
Rural	318	25.6%	834	67.1 %	91	7.3%
Rural Remote	193	27.9%	426	61.6%	72	10.4%
INCOME						
Low Income	311	25.7%	776	64.2%	122	10.1%
Middle Income	160	25.6%	424	67.7%	42	6.7%
High Income	131	17.5%	574	76.5%	45	6.0%
TOWNSHIP						
Tedim	98	18.0%	418	76.8%	28	5.1%
Tonzang	59	35.8%	96	58.2%	10	6.1%
Tonzang (Cikha)	23	33.8%	37	54.4%	8	11.8%
Falam	22	11.9%	150	81.1%	13	7.0%
Falam (Rihkhawdar Sub-township)	5	15.6%	25	78.1%	<5	6.3%
Hakha	39	16.3%	189	79.1%	11	4.6%
Thantlang	41	14.6%	206	73.6%	33	11.8%
Mindat	52	24.2%	143	66.5%	20	9.3%
Kanpetlet	16	15.4%	84	80.8%	<5	3.8%
Matupi	33	15.6%	148	69.8%	31	14.6%
Matupi (Rezua Sub-township)	14	34.1%	24	58.5%	<5	7.3%

Paletwa	112	36.5%	167	54.4%	28	9.1%
Paletwa (Samee Sub-township)	88	45.6%	87	45.1%	18	9.3%

Table 38: Knowledge Child Illness

CHILD ILLNESS KNOWLEDGE

	Nothing (no cause for alarm)		Take her to see a health facility or health staff		See a healer/traditional doctor		Self-medicate		Don't know	
	Count	%	Count	%	Count	%	Count	%	Count	%
TOTAL	**11**	**.4%**	**2069**	**80.0%**	**16**	**.6%**	**359**	**13.9%**	**127**	**4.9%**
COMPARISON/ TREATMENT										
COMPARISON	<5	.5%	663	76.0%	<5	.5%	151	17.3%	48	5.5%
Treatment	7	.4%	1406	82.1%	12	.7%	208	12.1%	79	4.6%
LOCATION										
Urban	<5	.2%	566	86.9%	<5	.2%	67	10.3%	16	2.5%
Rural	7	.6%	1011	81.3%	7	.6%	155	12.5%	60	4.8%
Remote	3	0.4%	492	71.2%	8	1.2%	137	19.8%	51	7.4%
INCOME										
Low Income	<5	.3%	921	76.2%	8	.7%	187	15.5%	87	7.2%
Middle Income	<5	.6%	503	80.4%	5	.8%	92	14.7%	21	3.4%
High Income	<5	.4%	645	86.0%	<5	.4%	80	10.7%	19	2.5%
TOWNSHIP										
Tedim	<5	.4%	449	82.5%	<5	.6%	68	12.5%	20	3.7%
Tonzang	0	0.0%	117	70.9%	0	0.0%	30	18.2%	18	10.9%
Tonzang (Cikha)	0	0.0%	43	63.2%	<5	4.4%	13	19.1%	9	13.2%
Falam	0	0.0%	169	91.4%	0	0.0%	14	7.6%	<5	1.1%
Falam (Rihkhawdar Sub-township)	0	0.0%	29	90.6%	<5	3.1%	<5	6.3%	0	0.0%
Hakha	<5	.4%	206	86.2%	0	0.0%	30	12.6%	<5	.8%

Thantlang	0	0.0%	228	81.4%	0	0.0%	41	14.6%	11	3.9%
Mindat	<5	.9%	162	75.3%	0	0.0%	35	16.3%	16	7.4%
Kanpetlet	<5	1.0%	99	95.2%	0	0.0%	<5	2.9%	0	0.0%
Matupi	<5	.5%	164	77.4%	0	0.0%	26	12.3%	21	9.9%
Matupi (Rezua Sub-township)	<5	2.4%	26	63.4%	<5	2.4%	9	22.0%	<5	9.8%
Paletwa	<5	.3%	229	74.6%	<5	1.3%	56	18.2%	17	5.5%
Paletwa (Samee Sub-township)	<5	1.0%	148	76.7%	<5	2.1%	32	16.6%	7	3.6%

INTERVENING VARIABLES

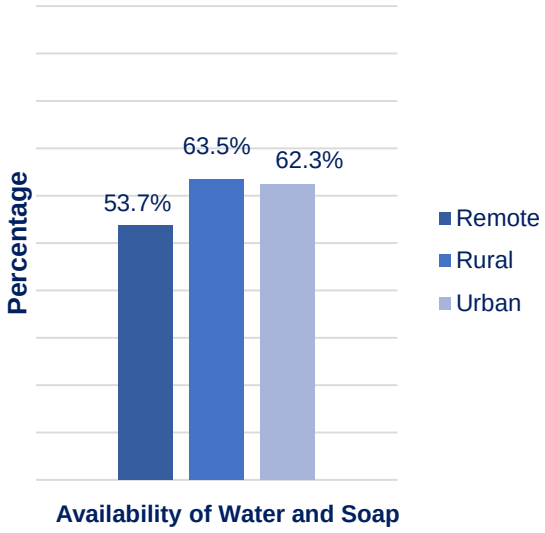
1. Sanitation and Hand Washing

While insignificant, there is a difference in the usage of basic sanitation requirements between sixty-two percent (62.3%) of households in urban and sixty percent (60%) in rural households. Basic sanitation requirements refer to households that have an improved toilet or latrine[71] for household members that is *not* shared with other households and that is functional at the time of visit. No significant difference exists between the treatment (60.8%) and comparison (60.2%) group overall.

Eighty-two percent (82.3%) of households have water and soap available for hand washing. As seen in **Figure 40**, the availability of water and soap is significantly lower in remote households (53.7%) compared to urban (62.3%) and rural (63.5%) households.

On an individual level, and as shown in **Figure 41**, hand washing practices[72] are generally better than the corresponding (unprompted) knowledge, except for the hand washing before eating, for which eighty-one percent (80.9%) of respondents know that they should wash their hands when asked unprompted, but only fifty-one percent (50.6%) had a practice of hand washing before eating.

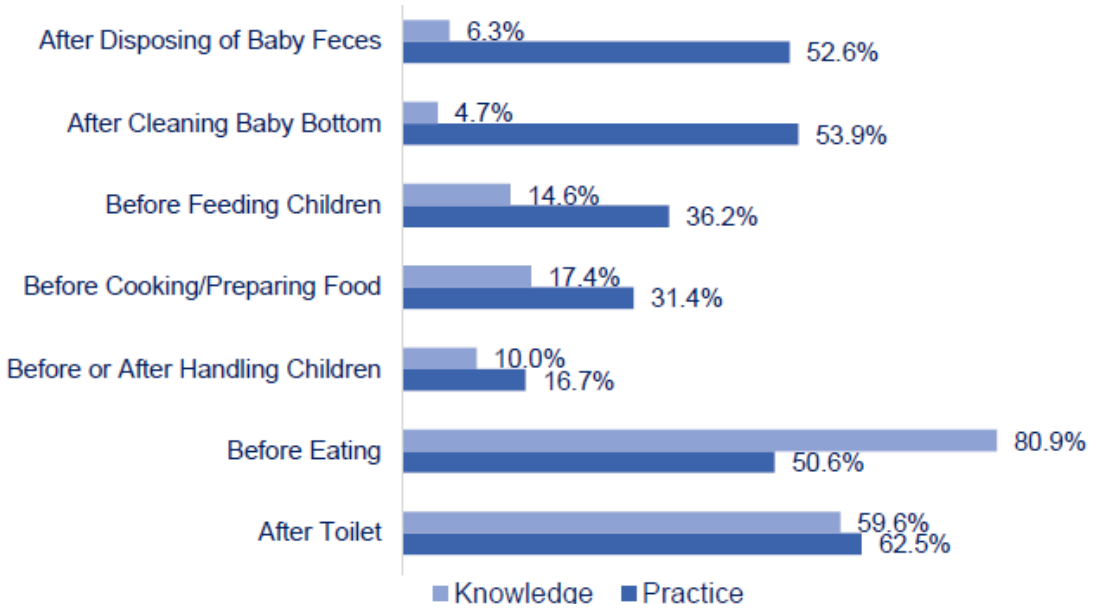
Figure 40: Access to Basic Sanitation



Knowledge was the **lowest** for situations that include the general handling of children, but also the specific knowledge about hand washing after cleaning a baby's bottoms or disposing of its feces. However, when asked about other situations in which handwashing was important, respondents frequently[73] mentioned *after your hands get dirty*, indicating that the knowledge is higher than results show, but that respondents were unable to identify specific categories when asked unprompted.

[71] Improved includes for example utilities that have a water flush with septic tank or without tank but with water seal, or a fly proof pit latrine.
[72] It is considered a practice if respondents answered 'Always' when being asked if they wash their hand in a specific situation.
[73] Twelve percent (12.2%) out of 1153 respondents mentioned *after hands get dirty,* and another twelve percent (12.1%) mentioned *after your hand get dirty before you sleep.*

Figure 41: Hand Washing Knowledge and Practice



2. Drinking Water Sources

- Seventy-two percent (72.4%) of households in the sample use an improved water source[74] for drinking water all year, with only small differences between seasons.[75] This is lower than the national average that is found to be at eighty percent (80%).[76]

- Sixty-nine percent (68.5%) of sampled rural households use an improved water source, which presents a significant difference to eighty-four percent (84.2%) of urban household.

- **Eighty-nine percent (88.9%)** of respondents **treat water** in some way to make it safer to drink. Ninety percent (89.5%) of respondents boil water to make it safe for consumption. Another treatment frequently mentioned is the straining of water through a cloth (16.5%).

[74] This includes piped water into dwelling or to yard/plot, public tap/standpipe, tube well/borehole, protected dug well, protected spring or bottled purified water.
[75] Seventy-one percent (71.8%) in summer, seventy-two percent (72.2%) in the rainy season and seventy-three percent (73.2%) in winter.
[76] Ministry of Health and Sports (MoHS) and ICF. 2017. *Myanmar Demographic and Health Survey 2015-16.* Nay Pyi Taw, Myanmar, and Rockville, Maryland USA: Ministry of Health and Sports and ICF.

4. Decision-Making

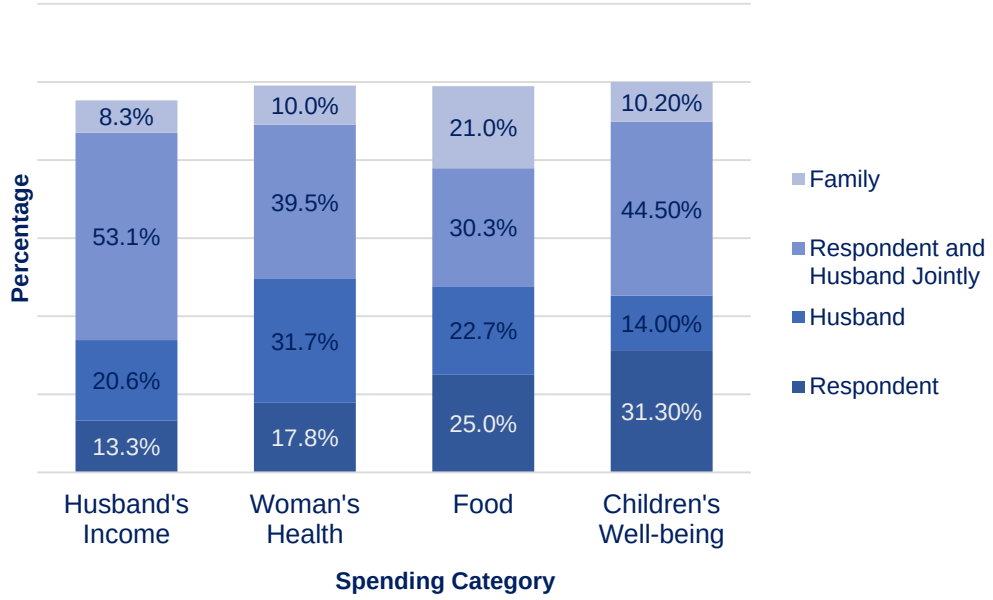
- **Thirteen percent (13.3%)** of overall respondents have sole decision-making power on how earnings are spent. The decision-making power of female respondent increases for **health care** spending overall to **eighteen percent (18%)** and is the highest for food purchases with **twenty-five percent (25%)** and the wellbeing of children with **thirty-one percent (31.3%)**.

- Significant differences exist between female respondents in urban and rural households for decision-making in general. Sixteen percent (15.6%) of women in rural households decide on spending on health, and twenty-one percent (20.8%) on food. In urban households, twenty-five percent (24.6%) of women decide how money on health is spent and almost forty percent (37.5%) have decision-making power for food purchases.

- With thirty-two percent (31.7%), women's health is the domain where husbands most frequently decide on who money is being spent, with twenty-three percent (22.7%) for decisions related to food and twenty-one percent (20.6%) for decision on how earnings are spent.

- **Family continues to play an important role** in decision-making, being the most important for decisions related to food (21%) but also when it comes to decisions on a woman's health (10%) and the wellbeing of children (10.2%).

Figure 42: Women's Decision-Making on Spending



5. Credit and Saving

- Overall, fifty-one percent (51.4%) of households in the sample have taken out a **loan** in the past twelve months. A significant difference exists between rural (55.6%) and urban (38.9%) households as well as low-income (58.7%) and high-income (40.1%) households.

- The most important **uses of loans** mentioned was food purchases, with a significant difference between urban (43.1%) and rural (56.6%) households in the sample, and health expenses (41.0%), followed by school/education fees (12.6%).

- Thirteen percent (12.8%) of all sampled households saved money in the last 12 months, with a significant difference between remote (8.5%), rural (13.1%), and urban (16.7%) areas.

6. Family Planning

- **Thirty-two percent (32%)** of respondents are currently using or have used **contraception**, with a significant difference in urban (40.3%) compared to rural (32.4%) and rural remote (23.4%) areas. In rural areas, the most **frequent methods of contraception** are injections (54%), followed by the pill (27.5%), and the implant (10.6%). In urban areas, injections are also the most frequently used method although their usage is lower compared to rural areas with thirty-seven percent (37.4%). Other frequent methods in urban areas are implants (26.5%), the pill (22.6%) and IUD (8.6%).

- Thirty-one percent (30.9%) of respondents received information about family planning in the past twelve months. Households from the sample that reside in rural areas received significantly more information (36.2%) compared to urban (28.7%) or rural remote (23.5%) areas. While the baseline survey only asked about information received regarding family planning and is not representative, the MCCT Chin programme should assure that populations from remote as well as urban areas are equally targeted for nutrition awareness messaging and social and behavior change communication (SBCC).

- Non-governmental organizations (NGOs) were the predominant **source of information** for both urban (32.6%) and rural (26.3%) areas. Other important sources differed in urban and rural areas, whereby respondents in urban households mostly received information from UHC/MHC Center (19.3%) or a government health center (8%). Respondents in rural areas received it mostly from government health posts (21.4%) or Health Staff (18.8%).

Figure 43: Contraception Methods by Location

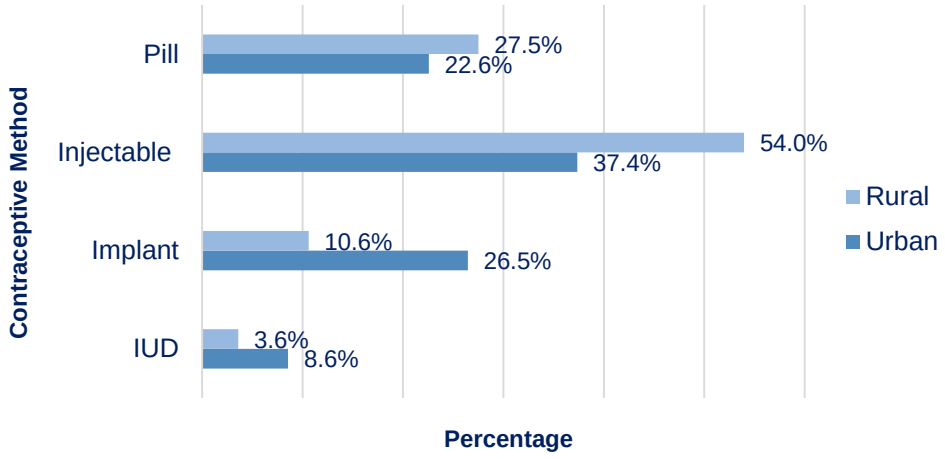


Table 39: Basic Sanitation and Drinking Water

	BASIC SANITATION FACILITIES				DRINKING WATER SUMMER				DRINKING WATER RAINY SEASON				DRINKING WATER WINTER			
	Yes		No		Improved Water Source		Unimproved Water Source		Improved Water Source		Unimproved Water Source		Improved Water Source		Unimproved Water Source	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
TOTAL	**1494**	**60.6%**	**972**	**39.4%**	**1827**	**71.8%**	**717**	**28.2%**	**1846**	**72.2%**	**710**	**27.8%**	**1871**	**73.2%**	**686**	**26.8%**
COMPARISON/ TREATMENT																
Comparison	503	60.2%	333	39.8%	615	71.5%	245	28.5%	619	71.6%	245	28.4%	629	72.8%	235	27.2%
Treatment	991	60.8%	639	39.2%	1212	72.0%	472	28.0%	1227	72.5%	465	27.5%	1242	73.4%	451	26.6%
LOCATION																
Urban	392	62.3%	237	37.7%	533	83.9%	102	16.1%	534	83.4%	106	16.6%	545	85.2%	95	14.8%
Rural	1102	60.0%	735	40.0%	1294	67.8%	615	32.2%	1312	68.5%	604	31.5%	1326	69.2%	591	30.8%
INCOME																
Low Income	647	56.6%	496	43.4%	807	67.8%	384	32.2%	814	68.2%	380	31.8%	820	68.6%	375	31.4%
Middle Income	346	57.7%	254	42.3%	433	70.4%	182	29.6%	444	71.7%	175	28.3%	450	72.7%	169	27.3%
High Income	501	69.3%	222	30.7%	587	79.5%	151	20.5%	588	79.1%	155	20.9%	601	80.9%	142	19.1%
TOWNSHIP																
Tedim	399	74.6%	136	25.4%	427	79.2%	112	20.8%	430	79.3%	112	20.7%	430	79.3%	112	20.7%
Tonzang	114	73.1%	42	26.9%	138	88.5%	18	11.5%	141	90.4%	15	9.6%	138	88.5%	18	11.5%
Tonzang (Cikha)	42	64.6%	23	35.4%	52	78.8%	14	21.2%	46	69.7%	20	30.3%	53	80.3%	13	19.7%
Falam	156	85.2%	27	14.8%	168	93.9%	11	6.1%	167	93.3%	12	6.7%	169	94.4%	10	5.6%
Falam (Rihkhawdar Sub-township)	27	90.0%	<5	10.0%	32	100.0%	0	0.0%	32	100.0%	0	0.0%	32	100.0%	0	0.0%
Hakha	135	60.3%	89	39.7%	188	80.3%	46	19.7%	192	81.0%	45	19.0%	191	80.6%	46	19.4%
Thantlang	184	65.7%	96	34.3%	231	83.4%	46	16.6%	234	83.9%	45	16.1%	237	84.9%	42	15.1%
Mindat	95	45.7%	113	54.3%	168	80.8%	40	19.2%	174	82.9%	36	17.1%	175	82.9%	36	17.1%
Kanpetlet	51	58.0%	37	42.0%	65	65.0%	35	35.0%	71	69.6%	31	30.4%	72	70.6%	30	29.4%
Matupi	144	72.7%	54	27.3%	136	64.2%	76	35.8%	120	56.6%	92	43.4%	139	65.6%	73	34.4%

Matupi (Rezua Sub-township)	38	92.7%	<5	7.3%	31	75.6%	10	24.4%	31	75.6%	10	24.4%	31	75.6%	10	24.4%
Paletwa	79	28.3%	200	71.7%	75	24.4%	232	75.6%	82	26.7%	225	73.3%	79	25.7%	228	74.3%
Paletwa (Samee Sub-township)	30	16.8%	149	83.2%	116	60.1%	77	39.9%	126	65.3%	67	34.7%	125	64.8%	68	35.2%

Table 40: Handwashing Knowledge and Practice (1/2)

	AFTER USING TOILET				***BEFORE EATING***				***BEFORE/AFTER HANDLING CHILDREN***			
	Knowledge		**Practice**		**Knowledge**		**Practice**		**Knowledge**		**Practice**	
	Yes		Always		Yes		Always		Yes		Always	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
TOTAL	1540	59.6%	1499	62.5%	2091	80.9%	1215	50.6%	258	10.0%	400	16.7%
COMPARISON/ TREATMENT												
Comparison	527	60.4%	505	63.2%	688	78.9%	409	51.2%	111	12.7%	124	15.5%
Treatment	1013	59.1%	994	62.1%	1403	81.9%	806	50.4%	147	8.6%	276	17.3%
LOCATION												
Urban	405	62.2%	463	73.3%	489	75.1%	342	54.1%	119	18.3%	120	19.0%
Rural	1135	58.7%	1036	58.6%	1602	82.8%	873	49.4%	139	7.2%	280	15.8%
INCOME												
Low Income	654	54.1%	605	56.0%	987	81.6%	508	47.0%	81	6.7%	154	14.3%
Middle Income	379	60.5%	372	63.9%	505	80.7%	287	49.3%	57	9.1%	99	17.0%
High Income	507	67.6%	522	70.8%	599	79.9%	420	57.0%	120	16.0%	147	19.9%
TOWNSHIP												
Tedim	348	64.0%	334	62.2%	473	86.9%	287	53.4%	49	9.0%	83	15.5%
Tonzang	104	63.0%	89	63.1%	143	86.7%	82	58.2%	19	11.5%	23	16.3%
Tonzang (Cikha)	30	44.1%	34	50.0%	57	83.8%	27	39.7%	<5	5.9%	<5	1.5%
Falam	136	73.5%	133	74.3%	160	86.5%	107	59.8%	26	14.1%	38	21.2%

Falam (Rihkhawdar Sub-township)	28	87.5%	23	71.9%	26	81.3%	14	43.8%	<5	6.3%	7	21.9%
Hakha	177	74.1%	187	78.6%	200	83.7%	142	59.7%	37	15.5%	58	24.4%
Thantlang	170	60.7%	184	68.4%	254	90.7%	152	56.5%	29	10.4%	50	18.6%
Mindat	142	66.0%	97	47.3%	162	75.3%	75	36.6%	27	12.6%	23	11.2%
Kanpetlet	71	68.3%	58	57.4%	81	77.9%	32	31.7%	11	10.6%	8	7.9%
Matupi	103	48.6%	139	70.2%	148	69.8%	107	54.0%	16	7.5%	24	12.1%
Matupi (Rezua Sub-township)	16	39.0%	30	73.2%	29	70.7%	26	63.4%	0	0.0%	10	24.4%
Paletwa	133	43.3%	120	49.4%	220	71.7%	106	43.6%	26	8.5%	41	16.9%
Paletwa (Samee Sub-township)	82	42.5%	71	48.3%	138	71.5%	58	39.5%	12	6.2%	34	23.1%

Table 41: Handwashing Knowledge and Practice (2/2)

	BEFORE PREPARING FOOD				BEFORE FEEDING CHILDREN				AFTER CLEANING BABY BOTTOM				AFTER DISPOSING OF BABY FECES			
	Knowledge		Practice		Knowledge		Practice		Knowledge		Practice		Knowledge		Practice	
	Yes		Always		Yes		Always		Yes		Always		Yes		Always	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
TOTAL	450	17.4%	754	31.4%	378	14.6%	869	36.2%	122	4.7%	1292	53.9%	163	6.3%	1263	52.6%
COMPARISON/ TREATMENT																
COMPARISON	136	15.6%	243	30.4%	161	18.5%	319	39.9%	51	5.8%	466	58.3%	69	7.9%	458	57.3%
TREATMENT	314	18.3%	511	31.9%	217	12.7%	550	34.4%	71	4.1%	826	51.6%	94	5.5%	805	50.3%
LOCATION																
URBAN	113	17.4%	221	35.0%	108	16.6%	258	40.8%	50	7.7%	404	63.9%	49	7.5%	384	60.8%
RURAL	337	17.4%	533	30.2%	270	14.0%	611	34.6%	72	3.7%	888	50.3%	114	5.9%	879	49.7%
INCOME																
LOW INCOME	190	15.7%	310	28.7%	140	11.6%	354	32.8%	42	3.5%	527	48.8%	59	4.9%	516	47.8%
MIDDLE INCOME	94	15.0%	178	30.6%	95	15.2%	205	35.2%	32	5.1%	299	51.4%	42	6.7%	288	49.5%

HIGH INCOME	166	22.1%	266	36.1%	143	19.1%	310	42.1%	48	6.4%	466	63.2%	62	8.3%	459	62.3%
TOWNSHIP																
TEDIM	75	13.8%	156	29.1%	105	19.3%	175	32.6%	17	3.1%	297	55.3%	32	5.9%	290	54.0%
TONZANG	15	9.1%	29	20.6%	26	15.8%	45	31.9%	16	9.7%	65	46.1%	10	6.1%	61	43.3%
TONZANG (CIKHA)	<5	2.9%	9	13.2%	18	26.5%	15	22.1%	<5	2.9%	33	48.5%	<5	1.5%	32	47.1%
FALAM	45	24.3%	65	36.3%	38	20.5%	75	41.9%	<5	2.2%	118	65.9%	14	7.6%	117	65.4%
FALAM (RIHKHAWDAR SUB-TOWNSHIP)	14	43.8%	7	21.9%	6	18.8%	11	34.4%	<5	9.4%	14	43.8%	5	15.6%	15	46.9%
HAKHA	38	15.9%	92	38.7%	41	17.2%	107	45.0%	17	7.1%	150	63.0%	19	7.9%	151	63.4%
THANTLANG	40	14.3%	109	40.5%	44	15.7%	104	38.7%	5	1.8%	159	59.1%	13	4.6%	148	55.0%
MINDAT	67	31.2%	55	26.8%	35	16.3%	68	33.2%	19	8.8%	89	43.4%	21	9.8%	93	45.4%
KANPETLET	39	37.5%	27	26.7%	17	16.3%	40	39.6%	<5	1.9%	64	63.4%	16	15.4%	63	62.4%
MATUPI	33	15.6%	58	29.3%	15	7.1%	80	40.4%	11	5.2%	107	54.0%	9	4.2%	101	51.0%
MATUPI (REZUA SUB-TOWNSHIP)	6	14.6%	15	36.6%	<5	9.8%	14	34.1%	<5	4.9%	26	63.4%	<5	4.9%	23	56.1%
PALETWA	54	17.6%	79	32.5%	22	7.2%	73	30.0%	11	3.6%	104	42.8%	12	3.9%	105	43.2%
PALETWA (SAMEE SUB-TOWNSHIP)	22	11.4%	53	36.1%	7	3.6%	62	42.2%	13	6.7%	66	44.9%	9	4.7%	64	43.5%

Table 42: Women's Decision-Making Power

	HUSBAND'S EARNINGS		*WOMAN'S HEALTH*		*FOOD PURCHASES*		*CHILDREN'S WELL-BEING*	
	Respondent		Respondent		Respondent		Respondent	
	Count	Row %	Count	Row %	Count	Row %	Count	Row %
TOTAL	**338**	**13.3%**	**461**	**17.8%**	**646**	**25.0%**	**808**	**31.3%**
COMPARISON/ TREATMENT								
Comparison	118	13.8%	178	20.4%	242	27.8%	287	32.9%
Treatment	220	13.0%	283	16.5%	404	23.6%	521	30.4%
LOCATION								
Urban	105	16.4%	160	24.6%	244	37.5%	205	31.5%
Rural	233	12.3%	301	15.6%	402	20.8%	603	31.2%
INCOME								
Low Income	165	13.9%	209	17.3%	263	21.8%	384	31.8%
Middle Income	75	12.2%	104	16.6%	168	26.8%	197	31.5%
High Income	98	13.3%	148	19.7%	215	28.7%	227	30.3%
TOWNSHIP								
Tedim	37	7.0%	59	10.8%	79	14.5%	134	24.6%
Tonzang	18	11.1%	26	15.8%	30	18.2%	51	30.9%
Tonzang (Cikha)	<5	4.7%	<5	4.4%	6	8.8%	17	25.0%
Falam	23	12.6%	26	14.1%	36	19.5%	56	30.3%
Falam (Rihkhawdar Sub-township)	<5	9.7%	6	18.8%	13	40.6%	7	21.9%
Hakha	40	17.0%	63	26.4%	70	29.3%	75	31.4%
Thantlang	55	19.9%	55	19.6%	81	28.9%	113	40.4%
Mindat	18	8.6%	42	19.5%	50	23.3%	61	28.4%
Kanpetlet	11	10.9%	29	27.9%	47	45.2%	48	46.2%
Matupi	53	25.4%	64	30.2%	75	35.4%	83	39.2%

Matupi (Rezua Sub-township)	12	29.3%	14	34.1%	12	29.3%	20	48.8%
Paletwa	41	13.5%	51	16.6%	89	29.0%	95	30.9%
Paletwa (Samee Sub-township)	24	12.5%	23	11.9%	58	30.1%	48	24.9%

Table 43: Contraception Methods

	METHODS OF CONTRACEPTION							
	Pill		**Injectable**		**Implant**		**IUD**	
	Count	%	Count	%	Count	%	Count	%
TOTAL	211	25.2%	396	47.4%	127	15.2%	42	5.0%
COMPARISON/ TREATMENT								
Comparison	56	17.8%	159	50.6%	65	20.7%	17	5.4%
Treatment	155	29.7%	237	45.4%	62	11.9%	25	4.8%
LOCATION								
Urban	58	22.0%	96	36.4%	68	25.8%	22	8.3%
Rural	98	24.1%	224	55.2%	43	10.6%	14	3.4%
Rural Remote	55	33.1%	76	45.8%	16	9.6%	6	3.6%
INCOME								
Low Income	98	28.4%	172	49.9%	40	11.6%	6	1.7%
Middle Income	51	24.6%	103	49.8%	28	13.5%	17	8.2%
High Income	62	21.8%	121	42.6%	59	20.8%	19	6.7%
TOWNSHIP								
Tedim	30	18.6%	91	56.5%	10	6.2%	18	11.2%
Tonzang	<5	9.3%	34	79.1%	<5	9.3%	0	0.0%
Tonzang (Cikha)	5	35.7%	<5	28.6%	<5	14.3%	<5	7.1%
Falam	29	27.6%	29	27.6%	26	24.8%	11	10.5%

Falam (Rihkhawdar Sub-township)	7	36.8%	7	36.8%	<5	10.5%	<5	5.3%
Hakha	32	30.8%	38	36.5%	24	23.1%	<5	1.0%
Thantlang	26	23.6%	52	47.3%	20	18.2%	5	4.5%
Mindat	9	16.4%	22	40.0%	18	32.7%	<5	3.6%
Kanpetlet	5	17.2%	16	55.2%	<5	10.3%	0	0.0%
Matupi	7	21.2%	12	36.4%	11	33.3%	<5	3.0%
Matupi (Rezua Sub-township)	<5	50.0%	<5	50.0%	0	0.0%	0	0.0%
Paletwa	32	33.3%	49	51.0%	7	7.3%	<5	2.1%
Paletwa (Samee Sub-township)	22	36.1%	39	63.9%	0	0.0%	0	0.0%

Table 44: Household Credit and Savings

	HOUSEHOLD LOANS PAST 12 MONTHS				HOUSEHOLD SAVING PAST 12 MONTHS			
	NO		YES		NO		YES	
	Count	%	Count	%	Count	%	Count	%
TOTAL	1257	48.6%	1328	51.4%	2254	87.2%	331	12.8%
TREATMENT/ COMPARISON								
COMPARISON	395	45.3%	477	54.7%	779	89.3%	93	10.7%
TREATMENT	862	50.3%	851	49.7%	1475	86.1%	238	13.9%
RESIDENCE								
URBAN	398	61.1%	253	38.9%	542	83.3%	109	16.7%
RURAL	517	41.6%	726	58.4%	1080	86.9%	163	13.1%
RURAL REMOTE	342	49.5%	349	50.5%	632	91.5%	59	8.5%
INCOME								
LOW INCOME	499	41.3%	710	58.7%	1106	91.5%	103	8.5%
MIDDLE INCOME	309	49.4%	317	50.6%	554	88.5%	72	11.5%

HIGH INCOME	449	59.9%	301	40.1%	594	79.2%	156	20.8%
TOWNSHIP								
TEDIM	236	43.4%	308	56.6%	502	92.3%	42	7.7%
TONZANG	65	39.4%	100	60.6%	150	90.9%	15	9.1%
TONZANG (CIKHA)	16	23.5%	52	76.5%	63	92.6%	5	7.4%
FALAM	110	59.5%	75	40.5%	142	76.8%	43	23.2%
FALAM (RIHKHAWDAR SUB-TOWNSHIP)	27	84.4%	5	15.6%	27	84.4%	5	15.6%
HAKHA	138	57.7%	101	42.3%	212	88.7%	27	11.3%
THANTLANG	170	60.7%	110	39.3%	264	94.3%	16	5.7%
MINDAT	92	42.8%	123	57.2%	153	71.2%	62	28.8%
KANPETLET	33	31.7%	71	68.3%	88	84.6%	16	15.4%
MATUPI	101	47.6%	111	52.4%	191	90.1%	21	9.9%
MATUPI (REZUA SUB-TOWNSHIP)	29	70.7%	12	29.3%	40	97.6%	1	2.4%
PALETWA	152	49.5%	155	50.5%	258	84.0%	49	16.0%
PALETWA (SAMEE SUB-TOWNSHIP)	88	45.6%	105	54.4%	164	85.0%	29	15.0%

RECOMMENDATIONS AND CONCLUSIONS

Findings from the baseline survey confirm that levels of stunting amongst sampled children are still amongst the lowest in Myanmar; highlighting the need for an intervention that aims to improve nutritional outcomes for both mothers and children. Results on nutritional outcomes for women indicate an increasing rate of levels of obesity in urban areas, something that should be integrated into nutrition awareness education and SBCC, with specific messaging to women in urban locations.

Across results, low-income households fare less well on most relevant indicators, and benefits from the cash transfer are expected to have the most impact on poorer households. However, some nutritional outcomes, such as wasting, are not linked to income levels, which confirms the need for a universal coverage approach taken by the nutrition programme in Chin State. However, programme intervention should consider findings concerning the decision-making role of women when it comes to expenditures, which indicates that decisions for spending's on health or nutrition are seldom made by women alone.

Chin remains one of the poorest regions in Myanmar, and adequate household food provisioning is still lower than the national average. Findings show that the dietary diversity of both women and children in the sample is low and should be addressed adequately by nutritional awareness education and SBCC by stressing the importance of diversity and quality of food. A lack of availability of diverse food groups in the region however may ultimately be a constraining factor to programme impact that is external to intervention efforts. While most children receive the recommended number of meals per day, the programme should seek to understand and address the sharp decrease in adequate meal frequency for children 12 - 23 months of age. Moreover, the meal frequency is mostly inadequate for non-breastfed children, which corresponds to the low level of knowledge of respondents, another message that should be integrated into nutritional awareness education efforts.

Children below the age of two years from the sample in Chin State who are still breastfeeding are significantly less stunted. Moreover, breastfed children in the sample are found to suffer less from infectious diseases, which confirms other studies that show the important role breastfeeding plays in preventing infections. While high for children under one-year old, breastfeeding rates drop significantly for children 12 - 23 months of age. One third of respondents still think that breastfeeding should stop at six months of age. Similarly, exclusive breastfeeding rates drop sharply in the first five months of age.

Therefore, increasing adequate breastfeeding practices and knowledge should be the key concern of programme intervention in Chin State. According to the results from the baseline

survey, two principal factors seem to play a role in the discontinuation of breastfeeding: the preference of the child and the fact that mothers become pregnant again. These reasons need to be better understood to specifically target messaging around breastfeeding practices and to integrate information on birth spacing into the programme where adequate.

The baseline survey finds that results for remote locations are often lower in the negative sense across indicators and significantly so for health seeking behavior. The difference between levels of knowledge and practice in remote areas in terms of antenatal care practices for example shows that inadequate practices are not only a result of a lack of knowledge, but are also indicative of a lack of access to appropriate services and/or a lack of service provision. The biggest challenge for the MCCT Chin programme is therefore to ensure that nutrition awareness and social behavioral change messaging is inclusive of the most remote populations in Chin State. The programme intervention can make important efforts to reach remote areas, and can thus aim to positively impact more immediate causes of malnutrition. However, structural issue such as service provision in general may present a barrier to targeting the underlying causes of malnutrition in children and mothers in Chin State more generally and in remote locations particularly.

ANNEX A

SAMPLING

Sample Frame

The sample frame used for the MCCT Chin Baseline Survey is the Myanmar Population and Housing Census 2014 issued by the Department of Population.

A multi-stage random sampling approach was applied for the MCCT Chin Baseline Survey to identify enumeration areas. More specifically, and since both urban wards as well as village tracts were sampled, PPS sampling of wards and village-tracts was applied in a first step in order to ensure appropriate representation of towns and villages across all nine townships and four sub-townships.

Ward/Village Selection

Urban and rural areas are officially defined by the government. Except for townships in Yangon and Mandalay cities, each township includes urban and rural areas. Urban areas are called wards and rural areas are called villages. On average, each township has about 5 wards and about 80 villages. Considering the target sample size and the expected number of pregnant women and recent births in each enumeration area, a total of 200 enumeration areas were sampled across all nine townships and four sub-townships within Chin State.

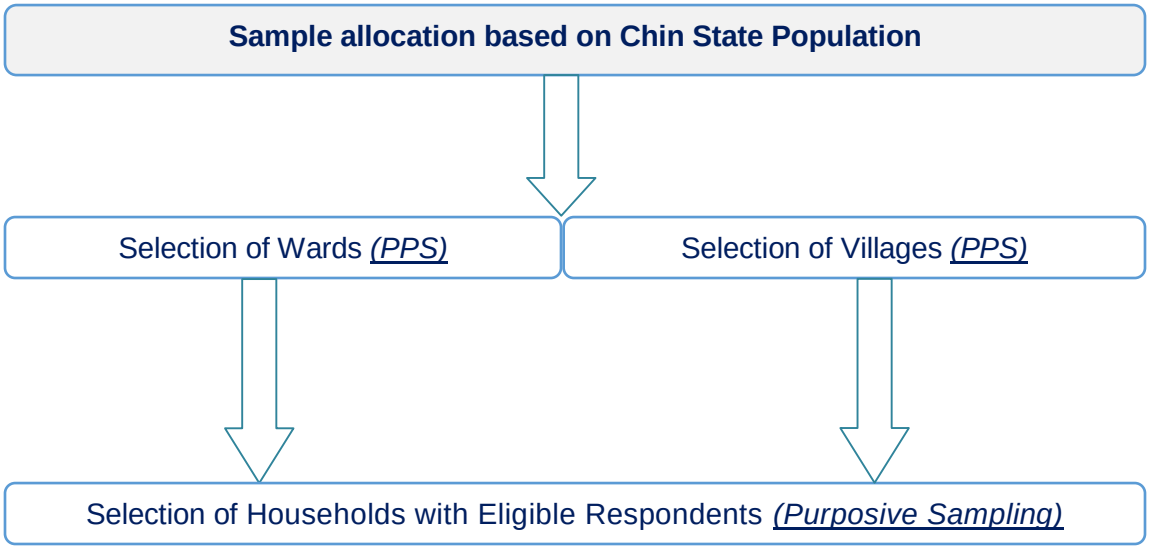
Since purposive sampling is applied for this survey, enumeration areas were clustered into an area of no more than 100 households in rural areas and 50 households in urban areas, for which, in urban areas, every household was screened for pregnant women and women that have recently given birth (in rural enumeration areas, a snowball sampling technique was be applied). Calculations based on fertility rates in Chin States yielded an estimated 4-5 pregnant women and 7-8 recent births per enumeration area on average (thus an estimated number of 11 to 13 eligible respondents per enumeration area).

The selection procedure of sample ward and village tract was as follows:

1. All wards/village tracts in each township were listed in a logical order;
2. The number of population was inserted in the second column in descending order;
3. The accumulated number of population was calculated in the third column;
4. The number of sample ward/village tract was determined;
5. The sampling interval was calculated by dividing the total number of population by number of sample ward/village tract;

6. A random number between 1 and the sample interval was generated;
7. The first sample ward/village tract was located by finding the township whose cumulative population just exceeds the random number;
8. The subsequent sample ward/village tract was selected by adding intervals.

Figure 1: Stages of Sample Selection



Applying the above described procedure, **Table 58** below provides an overview of the sample ward and village-tracts selected by applying the PPS method for each of the nine townships and four sub-townships in Chin State:

Table 1: Number of Enumeration Areas per Township

No	Township	Number of Sample EA	Urban Sample EA	Rural Sample EA
1	Cikha(S)	5	1	4
2	Reazu(S)	5	1	4
3	Sami(S)	14	2	12
4	Rihkhuadal(S)	3	2	1
5	Tonzaun	9	2	7
6	Kanpale	9	2	7
7	Paletwa	26	3	23
8	Thantlang	21	4	17
9	Matupi	16	4	12
10	Falam	17	4	13
11	Mindat	18	6	12
12	Tedim	36	7	29
13	Haka	21	12	9
Total		**200**	**50**	**150**

To achieve the necessary sample size, additional clusters were selected in four of the 200 enumeration points.

Table 2: Selected Sample Wards and Villages[1]

No	Township	Urban/Rural	Ward/Village-tract	Village	No of PSU[2]
1	Tonzang (Cikha) Sub-Township	Rural	Suangzang	Vanglai	1
2			Haicin	Khuaivum	1
3			Tuimui	Tuimui	1
4			Tuimang	Tuimang	1
5		Urban	No (1) Ward		1
6	Falam	Rural	Lenhai	Lenhai	1
7			Congkua	Congkua	1
8			Zatual	Zatual	1
9			Tlauhmun	Tlauhmun	1
10			C. Zamual	Congheng	1
11			Seipi	Seipi	1
12			Laizo	Zalai	1
13			Satawm	Satawm	1
14			Duhmang	Duhmang	1
15			Simzawl	Simzawl	1
16			MangKheng	Mangkheng	1
17			Bualkhua	Bualkhua	1
18			Khuapual	Khuapual	1
19		Urban	Phathauk Ward		1
20			Balai Ward		1
21			Cinmual Ward		1
22			Tlanlau Ward		1
23	Haka	Rural	Dauchim	Aive	1
24			Khuabe	Nabual	1
25			Vanhar	Vanha	1
26			Khuapi	Dinlaupa	1
27			Cangva	Chawnchum	1
28			Lungkhin	Lungkhin	1
29			Lungrang	Lungrang	1
30			Buanlung	Buanlung	1
31			Surkhua	Surkhua	1

[1] For the purpose of practicality and feasibility, villages that are smaller than 30 households were excluded from the sampling, since logistical efforts are too excessive for the expected number of eligible respondents.

[2] Primary Sampling Unit or Enumeration Area.

32		Urban	Myo Haung Ward		1
33			Myo Thit Ward		2
34			Pyi Taw Thar Ward		3
35			Zay Haung Ward		1
36			Zay Thit Ward		5
37	Kanpalet	Rural	Auk Kant	Auk Kant	1
38			Lon Ein Nu	Lon Ein Nu	1
39			Lon Ein Nu	Pyawt	1
40			Ton Nge	Ton Nge	1
41			Khar Yaing	Khar Yaing	1
42			Hman Taung	Hman Taung	1
43			Kyin Dway	Kyin Dway	1
44		Urban	Myo Ma Ward (1)		1
45			Myo Ma Ward (2)		1
46	Matupi	Rural	Radui	Tinam	1
47			Sungseng	Lungring	1
48			Resaw	Hmuntung	1
49			Ramting	Leising	1
50			Leising	Amsoi B	1
51			Amsoi	Sakhai A	1
52			Sakhai	Tingsi	1
53			Tingsi	Ramsi	1
54			Nabung	Satu	1
55			Satu	Phaneng	1
56			Phaneng	Sathongpi	1
57			Sabongpi	Tinam	1
58		Urban	Khoboi Ward*		1
59			Lungvan Ward		1
60			Cangbong Ward		1
61			Ngalar Ward		1
62	Mindat	Rural	Yatduk	Lway Thar	1
63			M'maitai	Pai Htwee	1
64			Gawnglaung	Gawnglaung	1
65			Auk Chaing	Ah Htet Chaing	1
66			M'htu	Chat	1
67			Khinphawng	Khinphawng	1
68			Kinhlih	M'awng	1
69			Hleikawng	Hleikawng	1
70			Muitui	Muitui	1
71			Hleikawng	Daut Htway	1
72			Ro	Ro	1
73			M'kuiimnu	M'kuiimnu	1
74		Urban	Ba Wa Thit Ward		1

75			San Pya Ward		1
76			Ah Shey Pyin Ward		1
77			(West) Ward		3
78	Paletwa	Rural	Maw Ta Lar	Maw Ta Lar	1
79			Kun Chaung Wa	Ngan Chaung Wa	1
80			Sin Oe Wa	Kauk Gyi Wa	1
81			Yin Khan Wa	Kyun Chaung Wa	1
82			Shin Let Wa (Upper)	Pyin Wa	1
83			War Yon (Upper)	War Yon (Lower)	1
84			Hpat Chaung	Hpat Chaung	1
85			Pa Kar Wa	Auk Mway Laik Wa	1
86			Ah Htet Thea Ma Wa	Kyauk Khan	1
87			Pein Hne Ta Pin	Pein Hne Ta Pin	1
88			Hta Man Thar	See Hpa Laung	1
89			Kyee Lay	Kyee Lay (Lower)	1
90			Mun Daunt	Kan Seik	1
91			Au Yin Wa	Done Let Wa	1
92			Hna Ma Dar	Rimawa	1
93			Kone Taw	Chin Dauk	1
94			Kun Chaung Wa	Kun Chaung Wa	1
95			Par Rar	Par Rar	1
96			Kon Pyin	Ka Ra Maik	1
97			Hta Man Thar	Tein Let Wa	1
98			Myeik Wa	Myeik Wa	1
99			Lel Hla	Lel Hla	1
100			Sat Chaing	Doe Chaung Wa	1
101		Urban	Ywar Ma Ward		1
102			Yeik Khar Ward		1
103			Myo Ma Ward		1
104	Matupi (Reazu Sub- Township)	Rural	Hinthang	Thangpi	1
105			Hunglei	Hungle	1
106			Calthawng	Calthawng B	1
107			Shar Ta Lai	Siatlai	1
108		Urban	Myo Ma Ward		2
109	Falam (Rihkhuadal Sub-Township)	Rural	Khuathlir	Khuathlir	1
110		Urban	No (1) Ward		1
111			No (2) Ward		1
112	Paletwa (Sami	Rural	War Daing Kone	Shwe Pyi Kone	1

113	Sub- Township)		Htoe Nu	Htoe Nu	1
114			Khway Gaung	Khoke Chaung Wa	1
115			Taing Wa	Rein Raung	1
116			Khaik Khar	Pu Chaung Wa (Ohn Thway)	1
117			Par Maung	Par Maung	1
118			Ah Lel Dein Kin	Ko Hpay Gyi (1)	1
119			War Daing Kone	War Daing Kone	1
120			Pyin Wa	Pyin Wa	1
121			Wet Ma	Wet Ma	1
122			Ah Lel Dein Kin	Buddha Gar Ma	1
123			Wet Ma	Meik Sar Wa (West)	1
124		Urban	Myo Ma (3) Ward		1
125			Myo Ma (1) Ward		1
126	Tedim	Rural	Limkhai	Leidawh	1
127			Khiangzang	Taaklam	1
128			Ngalzang	Ngalzang	1
129			Dampi	Dampi	1
130			Limkhai	Limkhai Zongal	1
131			Khiangzang	Kimlai	1
132			Lamzang	Gawngmual	1
133			Muizawl	Muizawl	1
134			Pimpih	Pimpih	1
135			Theizang	Theizang	1
136			Pangsak	Zangtui	1
137			Tuidil	Haimual (Old)	1
138			Muallum	Muallum	1
139			Gamngai	Gamngai	1
140			Valvum	Valvum	1
141			Anlangh	Anlangh	1
142			Anlangh	Lezang	1
143			Valvum	Ngennung	1
144			Lamzang	Lamzang	1
145			Lailo	Tuilangh	1
146			Suangpi	Suangpi	1
147			Mualbeen	Mualbeen	1
148			Tungzang	Tungzang	1
149			Vangteh	Vangteh	1
150			Saizang	Saizang	1
151			Tuithang	Tuithang	1

152			Kaptel	Kaptel	2
153			Laitui	Laitui	1
154		Urban	No Ward (2)		1
155			No Ward (1)		1
156			Myo Ma Ward		2
157			Lawibual Ward		1
158			Sakollam Ward		2
159	Thantlang	Rural	Belhar	Tluangram (A)	1
160			Belhar	Sanpi Chone	1
161			Thangzang	Sihhmuh	1
162			Lawngtlang	Lawngtlang	1
163			Surngen	Tisen A	1
164			Bungtlang	Bungtlang	1
165			Talan Ywar	Talan Ywar (A)	1
166			Ngaphaipi	Lungcawite	1
167			Ngaphaite	Ngaphaite	1
168			Thangzang	Fungkah	1
169			Hmawngtlang	Hmawngtlang	1
170			Vanzang	Farkawn	1
171			Zaangtlang	Zaangtlang	1
172			Congthia	Congthia	1
173			Lungler	Lungler	1
174			Dawn	Dawn	1
175			Hnaring	Hnaring (A)	1
176		Urban	No (1) Ward		2
177			No (2) Ward		2
178	Tonzaung	Rural	Tuitum	Nakzang	1
179			Balbil	Balbil	1
180			Siabok	Tuikhingzang (B)	1
181			Lungtak	Lungtak	1
182			Phaitu	Phaitu	1
183			Mualpi	Mualpi	1
184			Suangpek	Khumnuai	1
185		Urban	Khuavung Ward		1
186			Khualai Ward		1
Total PSU					**200**

Household and Respondent Selection

Since a purposive sampling approach was applied to the baseline survey, household and respondent selection was not random but based on pre-defined characteristics, in this case women that were either pregnant or who given birth in the six months prior to 1 June 2017, or between 1 June and data collection. As such, respondent selection was predefined, and households were selected based on the presence of eligible respondents within the household.

Figure 2: Household/Respondent Selection