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SUAAHARA
Building Strong & Smart Families

SUAAHARA II GOOD NUTRITION PROGRAM

ANNUAL SURVEY YEAR ONE (2017)



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Annual Survey Year One (2017)

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Executive Summary

Nepal has made tremendous reductions in maternal and child undernutrition since the mid 1990s but continues to face high burdens. Among children under five years, 36% are stunted, 10% are wasted and 27% are underweight. Additionally, 17% of women of reproductive age (15-49 years) are underweight while 41% are anemic. The Government of Nepal (GoN) is currently rolling out the second phase of a national Multi-Sectoral Nutrition Program (MSNP), with the support of external development partners. *Suaahara II* is a USAID-funded multisectoral nutrition program, aligned with Nepal's MSNP, being implemented in 42 of Nepal's 77 districts from 2016 to 2021. *Suaahara II* aims to reduce the prevalence of stunting, wasting and underweight among children under 5 years of age and to reduce the prevalence of anemia among WRA and children 6-59 months of age.

Annual surveys are a key component of *Suaahara II*'s monitoring system. The primary purpose is to monitor progress over time related to key *Suaahara II* inputs, outputs, outcomes and impacts in intervention areas. The first SII annual monitoring survey was conducted between June to September 2017 among a representative sample of households with a child under five years, by New Era, a local survey firm. At the household level, mothers were the primary survey respondents a primary male (or female, if male unavailable) household decision maker was also interviewed. Additionally, the young child's grandmother and an adolescent girl (10-19 years), when residing in the same household, were also interviewed. Data was also collected from Female Community Health Volunteers (FCHVs) and 1 key informant from each health facility in the sampled areas. The household surveys included questions related to exposure, knowledge and practices for each of the thematic areas *Suaahara II* works across such as nutrition, health and family planning, water, sanitation and hygiene, agriculture/homestead food production, and gender, equity and social inclusion. Anthropometric status was also assessed for all women of reproductive age, children under five, and adolescent girls residing in the household. FCHV and health facility surveys collected information on their exposure to training, motivation, supervision, work-related activities, knowledge, skills, and availability of supplies/services.

The final survey sample included 3643 households, 192 FCHVs and 96 health facilities. The households in the sample mostly represented lower equity quintiles, with two-thirds of the households belonging to the middle quintile or lower. Almost all households owned some agricultural land and had a mobile phone. While very few households had a roof, floor, and walls made of improved materials, more than 8 of 10 had improved sanitation facilities at the household.

In this survey sample, 28% of children under five were stunted, 10% were wasted, 23% were underweight and 0.4% were overweight. Among children aged 6-59 months, around 32% were anemic, after adjusting for altitude. Among women of reproductive age, 18% had chronic energy deficiency, around 14% were overweight, and 2% were obese. Around 29% were anemic, after adjusting for pregnancy status and altitude.

Approximately 36% of adolescent girls had some grade of thinness, and 6% of adolescent girls had the highest grade of thinness. After adjusting for altitude and pregnancy status, 21% of adolescent girls were found to be anemic.

Less than half of all household respondents (mothers, men, children, grandmothers, and adolescents) met the recommended cut-off for minimum dietary diversity, although knowledge of appropriate diets was high. Knowledge of appropriate infant and young child feeding practices was also relatively high across household respondents however, practices were not always equally high. Although almost three in four mothers with children under the age of two had practiced exclusive breastfeeding, the introduction of complementary foods was at lower ages than appropriate.

Knowledge of appropriate water, sanitation and hygiene practices was high yet the percentage of respondents applying this knowledge in practice was low. Over 60% of households were not using any methods for drinking water treatment and handwashing always at the six critical time points was rare, when measured by an open recall.

Over half of the mothers in the survey were knowledgeable about maternal health while grandmothers and household heads seemed to have poor knowledge. Almost all mothers had at least one antenatal care (ANC) visit and about 80% had the recommended four visits. About four of five mothers had an institutional delivery for their youngest child, assisted by a skilled birth attendant. Postnatal care practices were poorer with less than a third of mothers having received three postnatal checkups in the first week after delivery.

Suaahara II also has an enhanced homestead food production (EHFP) component in certain prioritized intervention areas due to their populations' remoteness, food insecurity, and disadvantaged status. Of the land owned by survey respondents, 92% was used to cultivate crops and half of the respondents also reported using the land owned for kitchen gardens. About a quarter of households sold the vegetables they produced through homestead food production.

Awareness of *Suaahara* and its behavior change platforms is the first step towards achieving key outcomes. Mothers had the highest interactions with *Suaahara* field supervisors and FCHVs compared to grandmothers and HH heads. More than 30% of mothers reported ever hearing about *Bhanchhin Aama*, and among those who had heard about the program, more than two-thirds reported to have listened to it.

Empowerment in agriculture, health and nutrition domains and attitude towards domestic violence were measured. Around 85-90% of mothers, grandmothers and male household heads participated in staple grain farming and processing of harvest. Mothers had higher input in making decisions regarding the use of family planning products, child healthcare and child feeding, compared to other household members. Male household heads had the highest freedom of movement and grandmothers faced the highest objection to freedom of movement. Among all household respondent types,

about 1 in 5 agreed that a husband is justified for hitting/beating a wife for at least one of the reasons asked about.

The FCHVs in this sample had an average of 16 years of experience and reported spending an average of 33 hours in the last month on work-related activities. Almost all of these FCHVs reported to facilitate a Health Mothers' Group. Almost all also reported to identify and keep a list of 1000-day households based on collaboration with *Suaahara II* staff. FCHVs' training in the last 12 months was low across all themes, the highest being 21% for breastfeeding. FCHVs' knowledge of assessing anthropometric measurements and diagnosing malnutrition, including being able to accurately interpret child health cards, was low.

The primary respondents to the health facility questionnaire were staff nurses or health assistants and their mean years of work experience as a health worker was approximately 11 years. On average, facilities provided health services on 6 days of the week for 9 hours of the day. Health service providers were present at all times or available on-call for emergencies at 86% of health facilities. Nutrition assessment services were provided for children under 5 years, pregnant women and lactating mothers at more than 80% of health facilities. More than half of health facilities reported providing services for the management of severe acute malnutrition and moderate acute malnutrition cases. Health workers' training exposure in the last 12 months was highest for measuring weight and height/length of children, followed by nutritional care of a sick child. Similar to FCHVs, health workers' knowledge of assessing anthropometric measurements and diagnosing malnutrition, including being able to accurately interpret child health cards, was low.

It is important to consider the potential for differences between findings of nationally representative surveys, such as Demographic and Health Surveys (DHS) and program surveys, such as the *Suaahara II* annual survey. These differences may stem from geographic or cultural variations in sampled areas, differences in wording of survey questionnaires and data collection and analysis techniques, or even variations in the temporal context, such as seasonality. Additionally, it could be related to external factors that have changed between two surveys even when the time period between them is short. For example, this survey found that about 45% of children had the age-appropriate inactivated poliovirus vaccine (IPV) whereas the Nepal DHS in 2016 found this percentage to be nearly 70%. This variation could possibly be attributed to the recent global vaccine shortage.

The results presented in this report establish the baseline levels and targets for key indicators, so that subsequent annual surveys can monitor changes in these indicators. These results highlight the gaps in knowledge and practice for key nutrition and health behaviors among household respondents, and service provision among FCHVs and health facilities. These findings will inform future program implementation to improve reach and quality to ensure the program can optimally influence the nutritional status of children and women.

1. Background

1.1 Health and nutrition context in Nepal

Nepal has witnessed substantial political, economic, and demographic changes over the last three decades. Years of political instability culminated in the formation of a democratic republic government in Nepal in 2008. A new constitution was signed in 2015, replacing the interim constitution created in 2007. The related restructuring of administrative and geographic boundaries throughout Nepal included a transition from 75 to 77 districts organized into 7 provinces. Within the districts, rural and urban municipalities were allocated to replace and, in most instances, amalgamate the former village development committees (VDCs) as the first sub-district unit, with wards (usually former VDCs) now being the smallest formal administrative unit. Local elections were held for the first time in over twenty years to select leaders for these newly established municipalities and wards.

The most recent Nepal Demographic and Health Survey report (NDHS), released in 2016, again found high rates of malnutrition in children under five. Among this age group nationally, 36% are stunted, 27% are underweight, and 10% are wasted. While the prevalence of stunting, underweight, and wasting have declined over the last 20 years in Nepal, the current prevalence of these indicators remains among the highest in the world. The NDHS 2016 also found 53% of children aged 6 to 59 months to be anemic. Furthermore, the same survey indicated that 17% of women of reproductive age (WRA) (15-49 years) are thin/underweight (BMI<18.5) and 41% of these women are anemic. These figures highlight the need for improvement of overall maternal and child health and nutrition status in Nepal. There is also substantial variation in nutrition indicators, for example, by socio-economic status, caste/ethnicity, and agroecological zone of residency (e.g. plains, hills, or mountains).

The Government of Nepal (GoN), with support from external development partners (EDPs), is now implementing the second phase (2018-2022) of its multi-sector nutrition plan (MSNP) throughout the country. Health, education, urban development, federal affairs and local development, and the agriculture and development sectors are managing their own programs with multi-sector coordination and all nutrition-specific and nutrition-sensitive activities are coordinated by the National Planning Commission (NPC) at the central level and local development committees as well. The MSNP's aim is for Nepal to significantly reduce malnutrition in the next decade and ensure that it no longer impedes development.

EDPs invest heavily in supporting the GoN to address persistent health and nutrition burdens and achieve goals outlined in Nepal's MSNP. *Suaahara II* is one such USAID-funded program, with an overall objective to reduce undernutrition among women and children, particularly those in the 1000-day period between conception and a child's second birthday and those residing in remote, disadvantaged communities.

1.2 Description of *Suaahara II*

Suaahara II is a USAID-funded multisectoral nutrition program, being implemented in 42 of Nepal's 77 districts from 2016 to 2021. *Suaahara II* builds on the first phase of five years of programming in *Suaahara I*. Helen Keller International (HKI) leads *Suaahara II* along with six consortium partners (CARE, Equal Access, Environment and Public Health Organization (ENPHO), FHI360, Vijaya Development Resource Center (VDRC), and Nepali Technical Assistance Group (NTAG)), along with 40 Community-Based Organization (CBOs) at the district level.

Suaahara II aims to reduce the prevalence of stunting, wasting and underweight among children under 5 years of age and to reduce the prevalence of anemia among WRA and children 6-59 months of age. The program uses a multi-sectoral approach across four key intermediate result (IR) themes: (1) improved household nutrition, sanitation and health behaviors; (2) increased use of quality nutrition and health services by women and children; (3) improved access to diverse and nutrient rich foods by women and children; and (4) accelerated roll-out of the Multi-Sector Nutrition Plan (MSNP) through strengthened local governance. *Suaahara II* activities span health including family planning (FP), nutrition, agriculture/homestead food production (HFP); and water, sanitation and hygiene (WASH). Diverse social behavior change communication (SBCC) approaches are used, primarily to generate demand for access to improved services. Gender equality and social inclusion (GESI), in part by targeting women and disadvantaged groups (DAGs), and monitoring, evaluation, and research (MER) for learning are cross-cutting themes for all *Suaahara II* implementation.

1.3 Structure of the baseline report

Following this introduction section (Chapter 1), this report will outline *Suaahara II*'s year one annual survey methods including sampling and data collection, management, and analysis (Chapter 2). The results sections will start with a background of survey sample (Chapter 3) and then a presentation of key findings by IR theme: IR 1 – Nutrition (Chapter 4); IR 1 – WASH (Chapter 5); IR 2 – Health (Chapter 6); IR 3 – Agriculture/Homestead Food Production (Chapter 7) and IR 4 – Governance (Chapter 8). Chapters 9 and 10 present results on cross-cutting themes of SBCC (Chapter 9) and GESI (Chapter 10). Results of the data collected from Female Health Care Volunteers (FCHVs) and Health Facilities are presented in Chapters 11 and 12, respectively.

2. Annual monitoring survey design

2.1 Survey objectives and description

The *Suaahara II* annual survey is part of the *Suaahara II* MER system. The primary purpose of this monitoring data is to track program implementation and monitoring progress over time of program inputs, outputs, outcomes and impacts in intervention areas, related to each of *Suaahara II*'s IRs. The survey will help to identify gaps in coverage indicators and *Suaahara II*-promoted integrated nutrition-related knowledge and behaviors. The survey also aims to monitor progress over time (first and last years) in inputs, outcomes, and outputs at the health facility and FCHV level, given that *Suaahara II* uses these platforms for delivery of key interventions and that both are of

crucial importance for maternal and child health and nutrition. Finally, the year one annual survey had an additional objective of establishing baseline levels and targets for key indicators, including on the nutritional status of WRA and under five children, in a representative population of *Suaahara II* target beneficiaries, so that subsequent annual surveys can monitor changes in these indicators.

The *Suaahara II* annual survey is a repeat cross-sectional design. For this, 16 districts were randomly selected using population proportional to size (PPS) techniques: 8 of 22 mature districts (defined as those where *Suaahara I* was implemented prior to 2016) and 8 of 18 non-mature districts (defined as those where *Suaahara I* was not implemented prior to 2016) (Figure 2.1) (Table 2.1).

Figure 2.1: Annual survey districts



Table 2.1: Mature and non-mature districts sampled in the annual survey

Mature	Non-mature
Bahrang	Arghakhachi
Bhojpur	Bardiya
Dadeldhura	Dailekh

Gorkha	Dang
Myagdi	Dhading
Nawalparasi	Kailali
Rupandehi	Palpa
Sindhupalchok	Salyan

The *Suaahara II* annual survey was approved by the Nepal Health Research Council (NHRC). Written informed consent was also obtained from each respondent included in the survey prior to beginning any interview, and consent to continue the survey was obtained after the completion of each module in the questionnaire. For adolescents under 18 years of age, written parental assent was also obtained.

2.2 Survey design

2.2.1 Sample size and power calculations

The sample size calculations were done in Stata13 SE, for each of the six-key anthropometric and hemoglobin outcomes: stunting, underweight, and wasting in children under 5, anemia in children 6 to 59 months of age, and body mass index (BMI) and anemia in WRA. We used *Suaahara I* baseline data to establish the intracluster correlation for each outcome and assumed a desired power of 0.80, in a two-arm cluster-designed study. Using these factors, along with the prevalence from DHS 2011 and expected change over time, we calculated the sample sizes needed for each indicator (Table 2.2).

Table 2.2: Sample sizes needed for each indicator, by population type

Indicator	Population	Sample Size Needed
Stunting	Children <5 years	1728
Underweight	Children <5 years	980
Wasting	Children <5 years	980
Anemia	Children 6-59 months	3460
Body mass index	Women aged 15-49 years	2304
Anemia	Women aged 15-49 years	3072

Given the need for 3460 children between 6-59 months of age for measuring changes in anemia over time, and to allow for refusals, we decided to include 3600 households in the survey with a child 0-5 month.

After completion of trainings, ethical approvals, and other logistics, data collection occurred during the rainy season (June 10 – September 10, 2017). All *Suaahara II* annual surveys are planned for the same season. (Table 2.3).

Table 2.3: Annual survey year one timeline

Activity	01/17	02/17	03/17	04/17	05/17	06/17	07/17	08/17	09/17	10/17	11/17	12/17	01/18	02/18	03/18
Questionnaire development	x	x	x	x	x										
Survey firm selection	x														

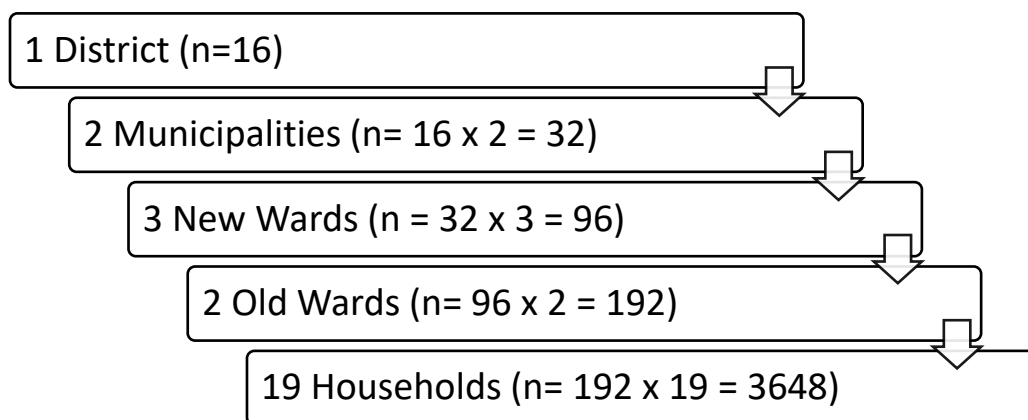
Beta testing	x								
Training of field teams	x	x							
Questionnaire pretesting			x						
Data collection		x	x	x	x				
Data entry, cleaning and analysis					x	x	X	x	x
Internal data use workshops								x	X
Report finalized									x

2.2.2 Sampling methodology

As this survey took place immediately after Nepal’s decentralization, it was designed using the new administrative units (e.g. urban and rural municipalities and wards). We employed a multi-stage cluster sampling design (Figure 2.2) with the first-stage sampling unit as districts (n=16), the second-stage sampling unit as municipalities (1 urban and 1 rural per district, excluding the district headquarter municipality; n=32), the third-stage sampling unit as new wards (3 per municipality, n=96), the fourth-stage sampling unit as “old” wards (2 per new ward, n=192) because the new wards are so big, and the final-stage sampling unit as households with children under 5 years of age (19 per cluster, n=3648). The first four stages were conducted using probability proportion to size (PPS) techniques. For the fifth stage, households with a child under 5 years and his/her mother in residence were selected randomly from a full list.

The primary respondents were mothers of children <5 years of age from the selected households. The secondary respondents included: primary male (or female, if male unavailable) household decision makers; adolescent girls (10-19 years) residing in the households and grandmothers of child <5y residing in the household. Data was also collected from one Female Community Health Volunteers (FCHVs) per ward and 1 key informant from each health facility per VDC.

Figure 2.2: Sampling methodology



Household population data from the 2016 census was used to inform the PPS methods to select the sample districts, municipalities and clusters. Using the list of the districts and number of households per district, sampling interval (k) was obtained by dividing the total number of households in the district in each study arm by the desired sample size of 8 per study arm. A random number (x) between one and the sampling interval (k) was chosen as the starting point, and the sampling interval (k) was added cumulatively and repeatedly $(x+k)^{th}$, $(x+2k)^{th}$, and so on, until the 8 districts were selected in each arm. The same process of listing, sampling interval and selection of the desired number of municipalities (1 urban and 1 rural per district), new wards (3 per municipality) and clusters (2 per new ward) was followed.

In the selected wards, a listing of households was conducted which contained information about the name of the household head, whether the household has a child under 5 years or not, and if yes, the name of the mother of the child. From the list of all households, a list of households having a child under 5 years of age and the child's mother residing together was prepared and 19 households were randomly selected for inclusion in the survey, by drawing names from a hat. If there was an insufficient number of eligible households in cluster, the same procedures were followed in the adjoining cluster (old ward) to select the remaining required households.

From each selected household, one child under 5 years was selected as the index child. If there were more than 2 children in the same household under 5 years, the youngest child was selected. The mother of the selected child was the respondent for the mothers' questionnaire. A male (or female, if male unavailable) primary decision maker in the household was selected for the household questionnaire, with first preference given for the father of the child. If available and residing in the same households, the index child's grandmother was invited to participate in a short survey designed for her. One adolescent girl (10-19 years), if available and residing in the same household, was also recruited for an adolescent questionnaire. If multiple adolescent girls were residing in the household, one girl was chosen at random. In addition, all women of reproductive age (15-49 years), all younger adolescent girls (10-14 years) and all children (0-59 months) were recruited for anthropometry and hemoglobin level measurements. Children 0-5 months were excluded from hemoglobin measurements.

One FCHV per cluster was selected for inclusion in the survey. Most clusters had only one FCHV but if a cluster had more than one FCHV, a random selection was done by drawing one FCHV's name from a hat in which all potential FCHV respondent names had been placed. One health facility per new ward was included in the survey. Each sample ward had either a hospital, Primary Health Care Center (PHCC) or Health Post and the available facility was selected for the survey. The health facility in-charge was the primary respondent, and the health facility co-in charge was the preferred respondent in the absence of the health facility in-charge. In the absence of both, the respondent was selected based on seniority of role at the facility.

2.3 Survey instruments

2.3.1 Household questionnaires

A total of 4 surveys were administered at the household level for four different respondents: 1) mother of the child under 5 years of age; 2) household decision-maker (male, when possible); 3) grandmother of child under 5 years of age (when residing in the same household); and 4) adolescent girl between 10 to 19 years of age (when residing in the same household).

For the mother, specific questions on maternal and child health including antenatal care (ANC), postnatal care (PNC) and newborn care, infant and young child feeding (IYCF) practices and knowledge, dietary diversity, empowerment, and access to health and nutrition services were asked. The household questionnaire included questions on household demographics and socio-economics, agricultural practices, WASH, and access to nutrition and health services and also observations on household water and sanitation practices. The grandmothers' questionnaire collected information on her knowledge and perceptions related to maternal and child health and nutrition, empowerment and access to nutrition and health related services. The adolescent girls' questionnaire focused on FP, health and nutrition, dietary diversity, her health and nutrition knowledge and access to nutrition and health related services.

For anthropometric measurements, a standard height/length-measuring board (Shorr board) was used and height was measured twice; for children under 2 years, length was measured, whereas height was measured for all others. Weight for all the target groups was measured once using a lightweight electronic SECA digital scale (UNICEF Electronic Scale or Uniscale). Anemia was tested by measuring hemoglobin levels, using HemoCue® Hb-301 photometers to draw blood from the fingertip (HemoCue® Ltd., Anglhom Sweden). A brochure with the result was given to each person. Participants whose results indicated risk of undernutrition or severe anemia were provided with a card referring them to the nearest health facility. *Suaahara II* field supervisors were also notified to follow-up.

Information on altitude, latitude, and longitude of all sampled households was collected using GPS. The GPS coordinates were measured using Garmin eTrex 30x machine.

Table 2.4: Household questionnaire modules

Women	Men/ household head
1. Child health and nutrition practices	1. Demographic information
A. Child health and childcare	A. Household roster
B. Child dietary recall	B. Background information of respondents
C. IYCF practices	2. Household economics
2. Maternal health and nutrition	A. Socioeconomic status
A. General health seeking practices	B. Economic events
B. Antenatal care	C. Assistance
C. Delivery and postnatal care	3. Food security and diets
3. Maternal dietary recall	A. Household food security
4. Empowerment	B. Dietary recall
A. Role in household decision-making	4. Land use and agricultural practices

B. Productive capital	5. Empowerment
C. Group membership	A. Role in household decision-making
D. Freedom of movement autonomy	B. Productive capital
E. Time allocation	C. Group membership
5. Agriculture/homestead food production	D. Freedom of movement autonomy
6. Water, Sanitation, and Hygiene	E. Time allocation
7. Integrated nutrition knowledge and exposure	6. Integrated nutrition knowledge and exposure
8. Self-efficacy, gender-based violence and psychosocial well-being	7. Self-efficacy, gender-based violence and psychosocial well-being
9. <i>Suaahara</i> exposure	8. <i>Suaahara</i> exposure
10. Adolescent mother-specific questions	9. Observations

Grandmothers	Adolescents
1. Integrated nutrition knowledge and exposure	1. Health-related background
2. Dietary recall	2. Integrated nutrition exposure
3. Self-efficacy and gender-based violence	3. Dietary recall
4. Empowerment	4. Water, sanitation and hygiene
5. <i>Suaahara</i> exposure	5. Social participation, freedom of movement, self-efficacy, and social desirability
	6. Time allocation
	7. <i>Suaahara</i> exposure

2.3.2 FCHV and health worker questionnaires

Given the importance of FCHVs and health workers for delivering *Suaahara II* messages in intervention districts, capturing issues related to their performance and their awareness of key nutrition, WASH, health, family planning and related concepts, is a critical part of collecting data for program implementation (Table 2.5). The survey also collected information on their work activities, exposure to training, demand for services, knowledge of *Suaahara II* messages, contact with others and information access. The survey enumerator also made observations on commodity availability and sanitation practices.

Table 2.5: FCHV and health worker questionnaires

Female Community Health Volunteers	Health facilities
1. Socioeconomic status and social desirability	1. Roster
2. Work activities	2. Availability of amenities and services
3. Exposure to training and other frontline workers	3. Family planning and maternal and child health services
4. Job motivation, satisfaction and supervision	4. Job motivation, satisfaction and supervision
5. Knowledge of integrated nutrition	5. Exposure to training and other frontline workers
6. Exposure to <i>Suaahara</i>	6. Knowledge of integrated nutrition
7. Observations (house and WASH)	7. Exposure to <i>Suaahara</i>

2.4 Training and fieldwork logistics

2.4.1 Training of personnel and testing of survey tools

New Era recruited a team of 104 field staff, including 6 quality controllers, 20 supervisors., 59 enumerators, and 19 anthropometrists. Selecting from their pool of field researchers, criteria for the field staff included: prior work experience in similar

surveys (or a relevant area, such as work experience in rural communities), academic qualification (at least bachelors' degree), fluency in a local language needed for the survey and rapport building skills, while also keeping gender and caste/ethnicity diversity in mind. This field staff recruited included a backup team of 10% for each position, who were invited to the training. Each field staff was evaluated during the training and further screened.

New Era led a training of trainings (ToT) for 20 supervisors from March 6-22, 2017. This training included detailed discussions around the adequacy of the survey questions, clarity/wording of questions, adequacy of potential responses that were pre-coded, sequence/flow of questions and skip patterns. The supervisors beta tested the ODK programming for all survey tools in Nuwakot from March 18-21, 2017. The feedback from the field testing informed revisions to the surveys in preparation for the main training.

Core New Era and *Suaahara II* staff trained the entire field survey team for 26 days from April 12-26 and May 17 to June 7, 2017; the training was paused in the middle due to local elections throughout Nepal and the related GoN code of conduct which prevented travel to the field for field testing. The training purpose was to familiarize the trainees with the survey objectives and tools. Role play and mock interviews with peers were used and the questionnaires were further checked for content, consistency, flow, validity and reliability. The training included detailed explanations of the survey objectives and design including multi-stage sampling and selection of households and appropriate informed consent and interviewing methods. Every question of every module was discussed and skip patterns, filtering, and probing techniques were explained. They were also trained in how to collect data using android phones. Roles and responsibilities of the field team members were clearly outlined and quality control elements by interviewers, supervisors and the quality controllers were highlighted.

Anthropometrists were trained separately from April 24 to June 7, 2017 in measuring height/length, weight, mid-upper arm circumference (MUAC) and hemoglobin levels of the target populations. They were trained on how to use equipment and record measurements, including in-depth lectures, discussions and practice sessions of taking measurements. They were also trained in collecting GPS coordinates by taking longitude, latitude and altitude measurements.

All the questionnaires were tested multiple times in training and pre-testing before finalization. A total of 18 teams, each including 1 supervisor, 3 enumerators, and 1 anthropometrist, were sent to 4 VDCs in Lamjung: Bhotedar, Udipur, Basisahar, and Gaunsahar for a pilot test from May 26-30, 2017. This pilot test was practice for the data collectors to use the survey equipment in real field settings. The team tested all the tools including the questionnaires, anthropometric measurements, hemoglobin measurements and GPS measurements. Each team completed piloting the survey tools in at least 6 households. After pre-testing, the survey tools were again revised and *Suaahara II* and New ERA re-checked and finalized the revised questionnaire.

2.4.2 Standardization of anthropometry and hemoglobin measurement

All anthropometrists were standardized separately for height/length and MUAC of four groups: children 0-23 months; children 24-59 months; adolescent girls; and women of reproductive age (15-49 years). The lead trainer was identified as the “gold standard” for the anthropometry standardization. Children 0-59 months were brought to the training venue from a school/day care center named “Sungava Batika Nepal (Orchid Garden Nepal)” in Kalopul. For each age group (0-23 months and 24-59 months), each enumerator measured 10 children twice. Additionally, 10 adolescent girls and 10 women of reproductive age were also measured twice by each anthropometrist. The precision and accuracy of each type of measurement (height, weight, and MUAC) was calculated with reference to the result of the gold standard measurement to calculate the Technical Error of Measurement (TEM). The TEM accepted for height was less than 0.5 and for MUAC was less than 0.2. Female enumerators and supervisors were trained and standardized for the measurement of MUAC of adolescent girls and women. Re-standardization was carried out for anthropometrists who did not pass the first standardization.

2.4.3 Administration of survey questionnaires

On June 8, 2017, 17 field teams of five members each (one male supervisor, one female supervisor, two enumerators and one anthropometrist) departed for data collection. Enumerators were responsible for household-level data collection, supervisors for FCHV and health facility level data collection, and anthropometrists for collecting anthropometric, hemoglobin and GPS data. Female enumerators administered the questionnaire to mothers and adolescent girls. There were no restrictions for the other questionnaires, which were administered by male or female enumerators.

All the teams were deployed to Gorkha (12) and Myagdi (5) initially. A two-day field work review meeting was held in Pokhara on June 17-18, 2017 after completion of data collection in each team’s first cluster. New ERA and *Suaahara II* core team members participated in the review meeting. Various topics including district and cluster level coordination by field teams, response rates for household interviews and anthropometric measurements, issues in data collection programming, anthropometry measurements, and other logistics were discussed during the review meetings.

Each field team was then provided with a field schedule for departure to assigned clusters. As the teams reached each district, they contacted the concerned authorities including District Health Office (DHO) and *Suaahara II* district office. After consultation with district level authorities, the field teams then moved to the assigned clusters. New ERA core team members supervised the first phase of fieldwork through June 16, 2017 giving feedback on the interviews and the anthropometric measurements and verifying the consistency and accuracy of the completed questionnaires.

2.4.4 Fieldwork challenges

There were a few challenges encountered by the field team that delayed the field work and data collection. The timing of data collection coincided with the rainy season in

Nepal, which created logistical obstacles for the field teams. Heavy rains and flooding in some *terai* districts and landslides in some hill districts impacted the roads and means of transport for the field teams. Additionally, there were two phases of local elections during the data collection period which created some political instability and slowed the data collection process. There were also multiple field team members who became ill and returned to Kathmandu for medical care necessitating changes in team composition.

2.5 Data management

2.5.1 Data entry, cleaning, and analysis

For the household, FCHV and health facility interview questionnaires, data was collected on Android phones by the field staff, using Ona, an offline data collection application. Once the data was collected and reviewed by the supervisor, the enumerator synced the data to the Ona server. Key New Era and *Suaahara II* staff had access to the uploaded data. New Era staff would download the data from the Ona server, check the quality and consistency of the data, and provided feedback to enumerators, as needed. All corrections were recorded by the New Era staff who consequently updated the database and informed the *Suaahara II* team. During data collection, field team supervisors regularly reviewed the data collected by the enumerators prior to syncing the data to the online database. New Era staff also double checked the consistency and quality of the data.

There was some overlap between field work and data management. Each field team collected anthropometry, diet and time allocation data on paper forms; they maintained the files of completed listing forms and sent completed forms and questionnaires from each completed cluster to Kathmandu in files, labelled by location and cluster number. Immediately after mobilizing the field teams, a software package for data entry was developed by the data supervisor in the central office, for these paper-based survey modules. Quality check mechanisms, such as range checks and skip instructions, were developed to help detect errors in data entry. Before data entry, each questionnaire was thoroughly checked by the coders, and open-ended questions were coded.

New Era completed the first round of data cleaning and verification, and translated the data (e.g. other (specify) responses), into English, where necessary. They sent the cleaned raw data files in SPSS to the *Suaahara II* MER team for further data cleaning. The *Suaahara II* MER team followed standard data cleaning procedures such as range checks and skip patterns, before starting the process of variable generation and tabulations. All data cleaning and variable generation was done using Stata 14. The *Suaahara II* MER team, supported by an intern from Columbia University, conducted the analyses using Stata 14. The team generated results on means and proportions for the entire survey sample. For some indicators, results were stratified by sex, age, urban/rural setting, or whether it was a mature or non-mature *Suaahara II* district.

3. Results: Background

3.1 Sample sizes

The annual survey sample included 3643 households, 192 FCHVs and 96 health facilities (Table 3.1).

Table 3.1: Sample sizes

	Districts	Clusters	Mothers	HH heads	Adolescent girls	Grand-mothers	FCHVs	Health facilities
Mature Districts	8	96	1823	1824	456	696	96	47
Non-mature Districts	8	96	1819	1819	381	774	96	49
Total	16	192	3642	3643	837	1470	192	96

3.2 Household demographic characteristics

This section presents results on the demographic characteristics of the sampled households (Table 3.2) and then sampled household heads (Table 3.3) mothers (Table 3.4), children (Table 3.5), grandmothers (Table 3.6) and adolescent girls (Table 3.7).

The distribution of households across equity quintiles indicated that the sample mostly represented lower equity quintiles, with two-thirds of the households belonging to the middle quintile or lower. Almost all households owned some agricultural land (98%) and the mean size of land owned was slightly more than 1,000 hectares. Almost all households (96%) have a mobile phone and 40% have a smart phone. While very few households have a roof, floor, and walls made of improved materials, more than 8 of 10 have improved sanitation facilities at the household. Finally, two-thirds of the sampled households are food secure, using the Household Food Insecurity Access Scale (HFIAS) (Table 3.2).

More than half of the household heads were male (55%) and most of the household heads were Hindu (90%). About half of the households belonged to socially excluded castes (Dalits, Disadvantaged Janajatis or Muslims) and 34% of household heads reported having no formal education (Table 3.3).

On average, the mothers were 26 years and their youngest child was 25 months. Agriculture was reported to be the primary occupation for 63% of these women. Almost half resided with their husband's family (47%), but almost 1 in 5 (19%) reported living alone. More than half of the mothers reported having at least some level of secondary schooling and about 1 in 5 (21%) have no formal education (Tables 3.4 and 3.5).

The grandmothers included in the survey were 55 years of age on average; 1 in 3 were also WRA. Nearly all the grandmothers had no formal education (93%) and 75% reported agriculture to be their primary occupation (Table 3.6).

The adolescent girls were 14 years of age, on average, and 87% of them were enrolled in a school or university at the time of the survey. Less than 10% of these girls were married and among those married, the mean age of marriage was 16 years and about 1 in 3 had been pregnant at least once (Table 3.7).

Table 3.2: Household socio-economic and demographic characteristics

	HH heads (N=3644) Mean (SD)/%
Equity quintile	
Poorest	22.5%
2nd Poorest	18.9%
Middle	24.5%
2nd Wealthiest	23.5%
Wealthiest	10.7%
Individual assets owned	
Radio	28.7%
TV	41.1%
Mobile phone	96.4%
Household has smart phone with internet access	40.1%
Owns any agricultural land	97.6%
Size of land in hectares* (Among those who own any)	1061.6 (1812.1)
Other indicators of socio-economic status	
Usual place for cooking: indoors in a separate kitchen room	50.4%
Used for cooking: closed stove with chimney (improved stove)	10.2%
Main material of the floor: cement	18.7%
Main material of the exterior/outer wall: cement	16.0%
Main material of the roof: cement	12.6%
Improved sanitation (toilet is: flush to piped sewer system, flush to septic tank, flush to pit latrine, composting toilet/eco-san, bio-gas toilet)	86.6%
Main source of energy for lighting	
Electricity	70.8%
Solar panel	23.4%
Main source of energy for cooking	
Electricity	0.1%
Firewood	76.5%
Liquefied propane gas	17.1%
Biogas	4.1%
Animal dung	2.0%
Household food insecurity in past 30 days (HFIAS)	
Food secure	67.6%
Mildly food insecure	15.7%
Moderately food insecure	14.7%
Severely food insecure	2.1%

Table 3.3: Household heads' demographic characteristics

	HH heads (N=3643) %
Gender: male	54.7%
Household member	
Mother	33.7%
Grandmother	11.3%
Father	29.2%
Other male	25.5%

Other female	0.3%
Religion: Hinduism	89.8%
Caste	
Socially excluded (Dalit, Muslim, Disadvantaged Janajati)	49.6%
Brahmin/Chettri	39.3%
Others (Newar, Gurung/Thakali, Non-dalit terai, Other)	11.1%
Education levels	
Never attended school/ grade 1 not complete	34.1%
Some primary school (grades 1-4)	17.3%
Completed primary school (grades 5)	8.7%
Some secondary school (grades 6-9)	24.4%
Completed secondary school (grade 10)	9.3%
Completed class 12	4.7%
Higher education	1.6%

Table 3.4: Mothers' demographic characteristics

	Mothers (N=3642) Mean (SD)/%
Age, completed years (range: 15-49y)	26.2 (5.5)
Married	99.4%
Currently pregnant	5.0%
Agriculture as main occupation	62.6%
Education	
Never attended school	20.6%
Some primary school (grades 1-5)	13.9%
Completed primary school (grades 1-5)	7.7%
Some secondary school (grades 6-9)	34.1%
Completed secondary school (grade 10)	12.6%
Completed grade 12	9.2%
Higher education	1.9%
Residency	
Alone	19.4%
With husband and/or child only	30.8%
Maternal family	2.3%
Paternal family	47.3%
Age at marriage	18 (2.8)
Married at or after 20 years of age	25.4%
Number of times pregnant	2.4 (1.6)
Age at first pregnancy	19.5 (3.0)
Age at first birth	20.1 (3.3)

Table 3.5: Children's demographic characteristics

	Children (N=3642) Mean (SD)/%
Age, completed months (range: 0-59)	24.8 (16.0)
Age of children (months)	
0-23.9	50.8%
24-59	49.2%
Age of youngest child (completed months)	
0-5.9	12.5%
6-11.9	14.6%
12-17.9	11.1%
18-23.9	12.5%
24-29.9	10.5%

30-35.9	11.5%
36-41.9	8.8%
42-47.9	7.9%
48-53.9	6.0%
54-59.9	4.5%
Gender of youngest child: male	55.6%

Table 3.6: Grandmothers' demographic characteristics

	Grandmothers (N=1470) Mean (SD)/%
Age (completed years) (Range: 34-90y)	54.5 (9.4)
Women of reproductive age (Range: 15-49y)	32.2%
Married	75.1%
Education level	
Never attended school/ grade 1 not complete	92.5%
Some primary school (grades 1-5)	4.6%
Completed primary school (grades 1-5)	1.3%
Some secondary school (grades 6-9)	1.3%
Completed secondary school (grade 10)	0.3%
Main occupation: agriculture	74.6%

Table 3.7: Adolescent girls' demographic characteristics

	Adolescent girls (N=837) Mean (SD)/%
Age (completed years)	13.7 (2.7)
Younger adolescents (10-14 years)	61.5%
Older adolescents (15-19 years)	38.5%
Currently at school/university	87.2%
Currently married	8.0%
Currently pregnant (among those married, N=67)	25.4%
Age at first marriage (among those married, N=67)	16.2 (1.5)
Ever pregnant (among those married, N=67)	32.8%
Age at first pregnancy (among those who have been pregnant, N=22)	16.3 (1.4)

4. Results: nutritional status

Suaahara II's primary goal is to reduce undernutrition among women and children. This section presents key findings on the nutritional status of children (Tables 4.1-4.6) and their mothers (Tables 4.7 and 4.8), all WRA in the household (Tables 4.9 and 4.10), and adolescent girls (Table 4.11-4.12).

Anthropometric indicators of height-for-age z-scores, weight-for-age z-scores, weight-for-height z-scores and mid-upper arm circumference (MUAC) measurements are presented for all children under five, disaggregated by age group and sex (Tables 4.1 and 4.2). These measurements were used to calculate the prevalence of stunting, wasting, underweight and overweight. In the survey sample, 28% of children were stunted, 10% were wasted, 23% were underweight and 0.4% were overweight. The prevalence of stunting and underweight were highest in the age group between 24 and 60 months while the prevalence of wasting was highest in the 12-24 months age group and the prevalence of overweight was highest in the 0-6 months age group (Table 4.3). There were no substantial differences between boys and girls in the prevalence of stunting, wasting, underweight and overweight (Table 4.4). Among children aged 6-60 months, the mean hemoglobin level was around 11 g/dL and 32% of children were anemic, after adjusting for altitude. The highest prevalence of anemia was found in children aged 6 to 12 months (Table 4.5) and a higher percentage of male children overall were anemic compared to female children (Table 4.6).

Using BMI measurements, chronic energy deficiency, overweight and obesity were assessed. Among the women who were respondents for the mothers' questionnaire, 16% had chronic energy deficiency, while 14% were overweight and 2% were obese. Chronic energy deficiency and obesity were highest among mothers who had given birth in the last 3 years while overweight was highest in non-pregnant mothers. The average MUAC measurement was 25 cm and this was similar across pregnancy status of the mothers (Table 4.7). The mean hemoglobin level among mothers was 13 g/dL and around 29% were anemic, after adjusting for pregnancy status and altitude. Mothers who had given birth in the last 3 years had the highest prevalence of anemia, at 42%, compared to currently pregnant women and women who had not given birth in the last 3 years, among whom the prevalence was under 30% (Table 4.8).

In addition to mothers, anthropometric measurements were taken for all other women of reproductive age residing in the household. Among these WRA, 18% had chronic energy deficiency and this proportion was highest among non-pregnant WRA compared to pregnant women and women who gave birth in the last 3 years. Around 14% of WRA were overweight and 2% were obese. Upon disaggregation by pregnancy status, it was found that overweight was highest among women who had given birth in the last 3 years and obesity was highest among non-pregnant women, although it is quite similar among pregnant women. The average MUAC measurement was around 25 cm and this was quite evenly distributed among WRA, irrespective of pregnancy status (Table 4.9). Among WRA, the mean hemoglobin level was 13 g/dL and 29% were anemic, after adjusting for pregnancy status and altitude. The highest prevalence

of anemia was found in WRA who had given birth in the last 3 years at 42% (Table 4.10).

BMI was used to calculate thinness of adolescent girls, aged 10-19. Approximately 36% of adolescent girls had some grade of thinness, while 6% of adolescent girls had the highest grade of thinness. Thinness was generally higher among younger adolescents between 10-14 years of age however, the highest grade of thinness was more prevalent in older adolescents between 15-19 years of age (Table 4.11). Among adolescent girls, the mean hemoglobin level was around 13 g/dL and 21% were anemic, after adjusting for altitude and pregnancy status. Anemia was higher in older adolescent girls (15-19) compared to younger adolescent girls (10-14) (Table 4.12).

Table 4.1: Child anthropometric indicators of nutritional status, by age group

	Children (N=4585) Mean (SD)
Height- for- age Z-score (HAZ)	
All	-1.3 (1.3)
0-5.9 m	0.1 (1.3)
6-11.9 m	-0.6 (1.2)
12-23.9m	-1.4 (1.2)
24-59.9m	-1.6 (1.1)
Weight -for-age Z-score (WAZ) (N=4594)	
All	-1.2 (1.1)
0-5.9m	-0.1 (1.2)
6-11.9 m	-0.8 (1.1)
12-23.9 m	-1.3 (1.1)
24-59.9 m	-1.4 (0.9)
Weight -for-height Z-score (WHZ) (N=4579)	
All	-0.7 (1.0)
0-5.9 m	-0.2 (1.2)
6-11.9 m	-0.6 (1.1)
12-23.9 m	-0.8 (1.1)
24-59.9 m	-0.8 (1.0)
Mid upper arm circumference (MUAC) in cm (N=4179)	
All	14.2 (1.9)
6-11.9 m	13.7 (1.7)
12-23.9 m	13.8 (1.5)
24-59.9 m	14.4 (2.0)

Table 4.2: Child anthropometric indicators of nutritional status, by sex

	Children (N=4585) Mean (SD)
Height- for- age Z-score (HAZ)	
All children	-1.3 (1.3)
Male children	-1.2 (1.3)
Female children	-1.3 (1.3)
Weight -for-age Z-score (WAZ) (N=4594)	
All children	-1.2 (1.0)
Male children	-1.2 (1.1)
Female children	-1.2 (1.1)

Weight -for-height Z-score (WHZ) (N=4579)

All children	-0.7 (1.0)
Male children	-0.7 (1.0)
Female children	-0.7 (1.0)

Mid upper arm circumference (MUAC) in cm (N=4179)

All children	14.2 (1.9)
Male children	14.3 (1.9)
Female children	14.1 (1.8)

Table 4.3: Child nutritional status, by age group

	Children (N=4585) %
Stunting	
All	28.1%
0-5.9 m	5.9%
6-11.9 m	11.2%
12-23.9m	31.3%
24-59.9m	34.3%
Wasting (N=4579)	
All	9.9%
0-5.9m	6.4%
6-11.9 m	8.4%
12-23.9 m	13.3%
24-59.9 m	9.5%
Underweight (N=4594)	
All	22.6%
0-5.9 m	6.1%
6-11.9 m	13.4%
12-23.9 m	25.0%
24-59.9 m	26.5%
Overweight (N=4594)	
All	0.4%
0-5.9 m	2.8%
6-11.9 m	0.4%
12-23.9 m	0.3%
24-59.9 m	0.1%

Table 4.4: Child nutritional status, by sex

	Children (N=4585) %
Stunting	
All children	28.1%
Male children	27.7%
Female children	28.6%
Wasting (N=4579)	
All children	9.9%
Male children	10.8%
Female children	8.8%
Underweight (N=4594)	
All children	22.6%
Male children	21.6%
Female children	23.6%
Overweight (N=4594)	

All children	0.4%
Male children	0.5%
Female children	0.4%

Table 4.5: Hemoglobin levels and anemia prevalence in children aged 6-59.9 months, by age group

	Children (N=4096) Mean (SD)/%
Hemoglobin levels (g/dL)	
All	11.4 (1.2)
6-11.9 m	10.6 (1.1)
12-23.9m	11.0 (1.1)
24-59.9m	11.7 (1.0)
Anemia	
All	32.3%
6-11.9 m	56.8%
12-23.9 m	43.2%
24-59.9 m	23.3%

Note: all hemoglobin scores have been adjusted by altitude.

Table 4.6: Hemoglobin levels and anemia prevalence in children aged 6-59.9 months, by sex

	Children (N=4096) Mean (SD)/%
Hemoglobin levels	
All children	11.4 (1.2)
Male children	11.4 (1.2)
Female children	11.5 (1.1)
Anemia	
All children	32.3%
Male children	34.1%
Female children	30.3%

Note: all hemoglobin scores have been adjusted by altitude.

Table 4.7: Anthropometric indicators of mothers, by pregnancy status

	Mothers (N=3637) Mean (SD)/%
Body mass index (BMI) (kg/m²)	
All	21.7 (3.4)
Non-pregnant	21.6 (3.4)
Pregnant	22.3 (2.9)
Women who gave birth in 3 last years	22.2 (3.0)
Chronic energy deficiency (BMI <18.5 kg/m²)	
All	16.2%
Non-pregnant	17.0%
Pregnant	8.0%
Women who gave birth in 3 last years	7.6%
Overweight	
All	13.7%
Non-pregnant	13.4%
Pregnant	14.8%

Women who gave birth in 3 last years	18.9%
Obesity	
All	2.1%
Non-pregnant	2.1%
Pregnant	1.7%
Women who gave birth in 3 last years	1.5%
Mid upper arm circumference (MUAC) (cm)	
All	25.0 (2.9)
Non-pregnant	25.1 (3.0)
Pregnant	24.0 (2.3)
Women who gave birth in 3 last years	24.5 (2.6)

Table 4.8: Hemoglobin levels and anemia prevalence of mothers, by pregnancy status

	Mothers (N=3627) Mean (SD)/%
Hemoglobin levels	
All	12.6 (1.3)
Non-pregnant	12.6 (1.3)
Pregnant	11.7 (1.3)
Women who gave birth in 3 last years	12.2 (1.7)
Anemia prevalence	
All	28.9%
Non-pregnant	28.7%
Pregnant	23.6%
Women who gave birth in 3 last years	41.7%

Note: all hemoglobin scores have been adjusted by altitude.

Table 4.9: Anthropometric indicators of all women of reproductive age, by pregnancy status

	WRA (N=4998) Mean (SD)/%
Body mass index (BMI) (kg/m²)	
All	21.6 (3.5)
Non-pregnant	21.6 (3.5)
Pregnant	22.2 (3.0)
Women who gave birth in 3 last years	22.2 (3.0)
Chronic energy deficiency (BMI <18.5 kg/m²)	
All	17.7%
Non-pregnant	18.5%
Pregnant	8.3%
Women who gave birth in 3 last years	7.6%
Overweight	
All	13.8%
Non-pregnant	13.6%
Pregnant	13.5%
Women who gave birth in 3 last years	18.9%
Obesity	
All	2.2%
Non-pregnant	2.3%
Pregnant	2.2%
Women who gave birth in 3 last years	1.5%
Mid upper arm circumference (MUAC) (cm) (N=5000)	
All	25.0 (3.0)

Non-pregnant	25.1 (3.0)
Pregnant	24.0 (2.3)
Women who gave birth in 3 last years	24.5 (2.6)

Table 4.10: Hemoglobin levels and anemia prevalence of all women of reproductive age, by pregnancy status

	WRA (N=4982) Mean (SD)/%
Hemoglobin levels	
All	12.6 (1.3)
Non-pregnant	12.6 (1.3)
Pregnant	11.8 (1.3)
Women who gave birth in 3 last years	12.2 (1.7)
Anemia prevalence	
All	29.3%
Non-pregnant	29.3%
Pregnant	21.1%
Women who gave birth in 3 last years	41.7%

Note: all hemoglobin scores have been adjusted by altitude.

Table 4.11: Anthropometric indicators of adolescent girls, by age

	Adolescent girls (N=833) Mean (SD)/%
Thinness Grade 1	
All	35.8%
10-14 years (N=511)	42.1%
15-19 years (N=322)	25.8%
Thinness Grade 2	
All	14.5%
10-14 years (N=511)	15.3%
15-19 years (N=322)	13.4%
Thinness Grade 3	
All	6.0%
10-14 years (N=511)	5.5%
15-19 years (N=322)	6.8%
MUAC (cm)	
All (N=831)	21.1 (3.0)
10-14 years (N=509)	19.1 (2.6)
15-19 years (N=322)	23.2 (2.2)

Table 4.12: Hemoglobin levels and anemia prevalence of adolescent girls, by age

Hemoglobin levels and anemia prevalence	Adolescent girls (N=825) Mean (SD)/%
Hemoglobin levels	
All	12.7 (1.2)
10-14 years (N=503)	12.7 (1.2)
15-19 years (N=322)	12.6 (1.3)
Anemia	
All	20.9%
10-14 years (N=503)	17.1%
15-19 years (N=322)	26.7%

Note: all hemoglobin scores have been adjusted by altitude.

5. Results: IR 1/Nutrition

Exposure to child nutrition and women's nutrition and health messages was high across all household members, with the highest being in mothers, followed by grandmothers, household heads and adolescent girls (Table 5.1).

While knowledge of general breastfeeding was high, more than half of mothers, grandmothers and household heads reported that they didn't know the definition of exclusive breastfeeding. However, 80% of mothers and more than two-thirds of grandmothers and household heads knew that the appropriate age to stop exclusive breastfeeding was 6 months (Table 5.2). In practice, almost all mothers with children under the age of 2 years had breastfed at some point and 71% of mothers with children under the age of 6 months were practicing exclusive breastfeeding (Table 5.3).

Knowledge of the appropriate timing of introduction of complementary foods was high for water/clear liquids, milk/milk products and semi-solid foods but quite lower for solid foods, eggs and meat. Mothers, grandmothers and household heads reported higher ages for introduction of these latter categories with means ranging up to 11 months of age (Table 5.4). In practice, the appropriate timing of introduction of complementary foods in children aged 6 to 24 months was considerably lower than as reflected in the household members' knowledge. Around half or less than half of mothers reported introducing these foods at 6 months of age, and the mean ages for introduction were skewed to lower ages (Table 5.5). Knowledge of child feeding during illness was low, which was also reflected in practice (Tables 5.6 and 5.7).

The 24-hour recall method was used to collect diet data. Dietary diversity scores for children were calculated out of 7 food groups: grains, pulses, dairy, flesh foods, eggs, vitamin-A rich fruits/vegetables, other fruits and vegetables. Less than half of children between 6 months and 5 years of age met the minimum dietary diversity of having consumed 4 out of 7 food groups (Table 5.8).

Around 15% of children in the sample had their weight taken by a health professional or FCHV in the one month prior to the survey and 27% of mothers were informed about their child's growth during their last growth monitoring (Table 5.9).

Knowledge of appropriate maternal diets during pregnancy was high among mothers, grandmothers and household heads however in practice, only around half of mothers ate more than usual during their pregnancy (Tables 5.10 and 5.11). Dietary diversity score for women was calculated out of 10 food groups: grains, pulses, nuts and seeds, dairy, flesh foods, eggs, dark green leafy vegetables, vitamin-A rich fruits/vegetables, other fruits, other vegetables. Women's dietary diversity was low among mothers, adolescent girls and grandmothers, with only about one-thirds of all three samples meeting minimum dietary diversity of consuming 5 out of 10 food groups (Table 5.12).

Table 5.1: Ever heard key messages for maternal and child nutrition

	HH head (N=1894)	Mothers (N=3637)	Grand- mothers (N=1466)	Adolescent girls (N=837)
	%	%	%	%
Children should only be fed breast milk and no water, other liquids or other foods up to six months of age.	72.0%	90.0%	82.4%	66.4%
Children 6 months of age and older should eat foods from different food groups	78.3%	92.4%	83.0%	71.6%
Children 6 months of age and older should be fed animal-source foods including eggs, fish and meat	78.1%	92.7%	85.3%	70.0%
Children should be fed more than usual when he/she is sick or recovering from sickness	64.8%	84.6%	75.9%	48.2%
Breastfeeding should be continued or increased when children are sick or recovering from sickness.	66.6%	84.9%	74.8%	48.0%
Children should be given ORS and zinc when sick with diarrhea	95.6%	97.6%	93.5%	92.0%
Babies should be put to the breast for breastfeeding immediately after birth.	81.4%	94.6%	86.8%	68.7%
Women should eat more food, and consume animal source foods, during pregnancy and lactation.	82.5%	93.7%	85.3%	62.4%

Table 5.2: Breastfeeding knowledge

	HH head (N=1898)	Mothers (N=3640)	Grandmothers (N=1470)
	Mean (SD)/%	Mean (SD)/%	Mean (SD)/%
Breastfeeding initiation within 1 hour	62.6%	82.4%	66.5%
Colostrum given to baby	76.1%	91.0%	83.2%
Appropriate timing to stop breastfeeding (in months)	35.3 (12.7)	38.6 (14.9)	40 (14.8)
Exclusive breastfeeding characteristics			
Breast milk and nothing else (not even water)	11.4%	16.4%	4.0%
Breast milk and water	2.4%	3.5%	2.2%
Breast milk and other liquids	6.5%	7.1%	4.6%
One person only breastfeeding	2.0%	1.9%	1.4%
Other	15.4%	15.3%	8.3%
Don't know	62.4%	55.8%	79.5%
Appropriate timing to stop exclusive breastfeeding (in months)	3.1 (4.2)	6.0 (3.7)	5.9 (4.1)
Appropriate timing to stop exclusive breastfeeding: 6 months	65.5%	80.0%	70.8%

Table 5.3: Breastfeeding practices among children aged <2 years

	Mothers (N=1848)
	Mean (SD)/%
Ever breastfed	99.7%
Colostrum given (among mothers who ever breastfed, N=1843)	93.1%
Early initiation of breastfeeding: within 1 hour (among mothers who ever breastfed, N=1843)	67.5%
Exclusive breastfeeding (among children 0-6m, N=455)	70.6%
Liquids/food, other than breast milk, not given immediately after birth	12.7%
Continued breastfeeding at 1 year (among children 12-14.9m, N=201)	98.5%
Continued breastfeeding at 2 years (among children 20-23.9m, N=308)	93.8%
Age at which breastfeeding stopped (among those who have stopped, N=29)	11.3 (7.2)

Table 5.4: Complementary feeding knowledge

	HH Heads (N=1898) Mean (SD)/%	Mothers (N=3640) Mean (SD)/%	Grandmothers (N=1470) Mean (SD)/%
Appropriate age to introduce each liquid/food (in months)			
Water/clear liquids	5.8 (2.2)	5.8 (1.7)	5.6 (1.5)
Milk/milk products (excluding breast milk)	6.8 (3.9)	6.3 (2.4)	6.1 (2.2)
Semi-solid foods	6.8 (2.9)	6.3 (2.0)	6.3 (1.6)
Solid foods	8.7 (4.6)	7.4 (2.8)	7.4 (2.8)
Eggs	9.7 (5.2)	8.1 (3.4)	8.9 (4.3)
Animal meat/fish	10.8 (5.8)	8.7 (4.2)	9.6 (5.0)
Appropriate age to give each liquid/food: 6-8.9 months			
Water/clear liquids	73.7%	83.4%	75.7%
Milk/milk products (excluding breast milk)	71.1%	85.0%	75.2%
Semi-solid foods	80.3%	90.5%	84.0%
Solid foods	60.2%	74.6%	72.1%
Eggs	48.3%	66.0%	53.3%
Animal meat/fish	38.2%	58.8%	49.2%

Table 5.5: Complementary feeding practices among children less than 2 years

	Mothers (N=1848) Mean (SD)/%
Introduction of solid, semi-solid or soft food at 6-8.9m of age (6-23.9m, N=1385)	51.7%
Minimum dietary diversity (4+ of 7FG) (6-23.9m, N=1385)	43.5%
Minimum acceptable diet (6-23.9m, N=1385)	37.5%
Consumption of iron-rich foods (6-23.9m) (N=1394)	83.8%
Age in months of introduction, among those who have been introduced already	
Water/other liquids (N=1502)	4.9 (1.8)
Milk/milk products (other than breast milk) (N=1358)	5.2 (2.8)
Semi-solid foods (N=1357)	5.9 (1.5)
Solid foods (N=1392)	6.7 (1.9)
Eggs (N=1102)	7.6 (2.6)
Animal meats (N=1217)	7.9 (2.8)
Appropriate age (months) of introduction, among those introduced already (6-8.9 months)	
Water/other liquids (N=1502)	47.5%
Milk/milk products (other than breast milk) (N=1358)	41.8%
Semi-solid foods (N=1357)	57.6%
Solid foods (N=1392)	57.0%
Eggs (N=1102)	38.8%
Animal meats (N=1217)	40.5%

Table 5.6: Child feeding during illness knowledge

	HH Heads (N=1896) %	Mothers (N=3640) %	Grandmothers (N=1470) %
Feed an extra meal daily	16.4%	16.8%	13.9%
Feed more food than usual	11.2%	13.4%	9.1%
Feed different types of food than usual	30.2%	33.1%	23.4%
Give more liquids than usual	14.4%	18.7%	13.3%
Give different types of liquid than usual	23.3%	29.3%	22.8%
Continue breastfeeding	9.7%	12.1%	8.2%
Increase frequency of breastfeeding	17.0%	19.0%	16.5%

ORS	6.1%	5.9%	3.9%
Give Zinc tables	2.7%	2.4%	1.4%
Give syrups	65.6%	69.6%	65.4%
Give traditional medicine	13.0%	10.8%	18.4%
Go to health facility/FCHV	56.7%	54.2%	59.5%

Table 5.7: Child feeding during illness practices, among children who were ill in the last 2 weeks

	Mothers (N=1400) %
Offered to drink including breastmilk	
Less than usual	10.2%
About the same as usual	52.5%
More than usual	32.4%
Nothing	4.9%
Offered to eat, excluding breastmilk	
Less than usual	16.7%
About the same as usual	52.3%
More than usual	21.6%
Nothing: stopped foods	0.9%
Nothing: doesn't yet eat foods	8.4%

Table 5.8: Dietary diversity among children aged 6-59.9 months

	Children 6-23.9m (N=1385) Mean (SD)/%	Children 24-59.9m (N=1779) Mean (SD)/%
Individual dietary diversity score (7FG)	3.4 (1.2)	3.8 (1.0)
Minimum diet diversity met (4+ of 7FG)	46.7%	60.5%
Consumption of specific food groups		
Grains (cereals and tubers) (N=1394, 1792)	96.3%	99.4%
Pulses (legumes and nuts) (N=1394, 1792)	71.7%	75.6%
Dairy (N=1394, 1792)	50.4%	41.3%
Flesh foods	17.9%	25.4%
Eggs	10.6%	8.7%
Vitamin A rich fruits and vegetables	32.0%	42.2%
Other fruits and vegetables (N=1394, 1792)	57.5%	81.8%
Vegetarian diet (no animal source foods given) (N=1394, 1792)	4.7%	1.0%
Consumption of snack foods (unprobed)		
Commercial savory snacks	37.9%	40.0%
Commercial sugary foods	28.6%	37.2%
Commercial fizzy or sweetened drinks	2.9%	4.7%
Consumption of snack foods (probed, 24 hr dietary recall)		
Commercial savory snacks	26.2%	23.6%
Commercial sugary foods	25.8%	33.7%
Commercial fizzy or sweetened drinks	5.1%	7.8%
MNPs/sprinkles/LBNS consumed	5.4%	1.4%
Times solid or semi-solid consumed	3.2 (1.3)	3.7 (1.1)
Times jaulo consumed	0.5 (0.9)	0.1 (0.4)
Jaulo commercially sourced (N=384, 97)	16.2%	11.3%

Table 5.9: Growth monitoring practices among children under five years

	Mothers (N=3642) Mean (SD)/%
Weight was taken in last 1 month by professional/FCHV, among those who ever had it taken (N=3002)	14.5%
Time (in months) since weight was taken by professional/FCHV, among those who ever had it taken (N=3002)	8.2 (11.1)
Height was taken in last 1 month by professional/FCHV, among those ever had it taken (N=81)	6.2%
Time (in months) since length/height was taken by professional/FCHV, among those who ever had it taken (N=81)	6.7 (6.1)
Told about child's growth in last GMP session, among those who ever attended GMP (had height or weight taken) (N=3023)	27.3%

Table 5.10: Maternal nutrition knowledge

	HH Head (N=1898) %	Mothers (N=3640) %	Grandmothers (N=1470) %
Diet during pregnancy			
Less than usual	6.2%	3.5%	7.4%
Same as usual	20.0%	10.6%	17.2%
More than usual	72.2%	85.9%	74.2%

Table 5.11: Maternal nutrition practices during pregnancy and lactation

	Mothers (N= 1848) Mean (SD)/%
Extra meal	57.4%
Amount ate during pregnancy	
Less than usual	18.2%
Same as usual	33.4%
More than usual	48.4%
Fasting during pregnancy	
Fasted at least 1 day during pregnancy	14.6%
Number of days fasted during pregnancy, among those who fasted (N=267)	3.7 (6.2)
Extra meal usually during first 6 months after delivery	75.9%

Table 5.12: Women's diet diversity and practices

	Mothers (N=3640) Mean (SD)/%	Grandmothers (N=1470) Mean (SD)/%	Adolescent girls (N=837) Mean (SD)/%
Individual dietary diversity score (10 food groups)	4.1 (1.2)	4.1 (1.2)	4.1 (1.2)
Minimum dietary diversity (5/10 food groups)	35.6%	33.8%	34.3%
Consumption of specific food groups			
Grains, white roots and tubers, and plantains	99.9%	99.8%	100.0%
Pulses (Beans, lentils)	76.0%	73.7%	72.5%
Nuts and Seeds	3.5%	3.5%	3.9%
Dairy	28.9%	29.3%	28.8%
Meat, Poultry, and Fish	28.4%	26.7%	26.1%
Eggs	5.7%	2.1%	2.8%
Dark green leafy vegetables	44.6%	44.3%	41.3%
Other Vitamin A rich fruits and vegetables	6.5%	6.9%	10.3%
Other vegetables	86.1%	85.2%	86.3%
Other fruit	32.3%	36.1%	35.6%
Vegetarian diet followed	1.7%	6.6%	4.8%

Consumption of snack foods (unprobed)

Commercial savory snacks	16.4%	10.1%	30.5%
Commercial sugary foods	9.9%	8.0%	23.4%
Commercial fizzy or sweetened drinks	3.3%	2.2%	3.8%

Consumption of snack foods (probed; 24 hr diet recall)

Commercial savory snacks	6.9%	3.6%	14.1%
Commercial sugary foods	7.6%	5.9%	20.6%
Commercial fizzy or sweetened drinks	3.9%	2.4%	4.8%

6. Results: IR 1/WASH

Exposure to key WASH messages was high among all household members but was highest among mothers, followed by household heads, adolescent girls and grandmothers for messages relating to drinking water, handwashing, cooking and hygiene practices. For menstrual hygiene messages, exposure was highest among mothers, followed by adolescent girls and then grandmothers and household heads (Table 6.1).

Appropriate drinking water treatment (boiling, bleaching, filtering and SODIS) knowledge was the highest among household heads (Table 6.2). The practice of treatment drinking water with one of these four appropriate methods is rare with 60% of households reporting to never do this (Table 6.3).

Handwashing knowledge was highest among mothers, followed by household heads and then grandmothers. Overall, the prevalence of being knowledgeable about all 6 times a caretaker of a young child should wash their hands was very low (<5%), when measured by asking an open-ended question of when a caretaker of a young child should wash his/her hands with soap and water. The respondents had the lowest knowledge of handwashing before preparing food/cooking, before eating and before feeding the child (Table 6.4). Handwashing practice data was available for mothers and adolescents and this was reported through open-ended and close-ended questions. In both, practice of handwashing after defecation and after cleaning a child's bottom were high, however it was considerably lower for practices of handwashing handling animals/livestock, before preparing food/cooking, before eating and before feeding the child. Handwashing with soap and water always at these 6 critical time points was very low for mothers and adolescent girls (Table 6.5).

About a third of mothers reported practicing appropriate disposal methods of a young child's stools. On observation of household head practices, 42% of households had all their drinking water pots covered and 42% also had clean toilets. Over a third of households (37%) had handwashing stations with both soap and water available (Table 6.6).

More than two-thirds of mothers and adolescent girls reported using old cloths during menstruation and only 20% of mothers and 30% of adolescent girls reported using commercial/disposable pads. Around 62% of mothers and 86% of adolescent girls reported that they would use commercial pads if they were available and affordable. The most common practice for sanitary pad disposal was reported to be digging a hole to throw it and then covering it (Table 6.7). Over 30% of mothers and adolescent girls reported avoiding certain foods during menstruation, and more than 20% of them reported specifically avoiding dairy products (Table 6.8).

Among in-school adolescent girls, 70% reported having a separate toilet for girls at school. While 86% had regular water supply, only 38% had dustbins for sanitary pad disposal. More than 90% attend school regularly during menstruation (Table 6.9).

Table 6.1: Ever heard key messages for WASH

	HH heads (N=1894)	Mothers (N=3637)	Grandmothers (N=1466)	Adolescent girls (N=837)
	%	%	%	%
Water should be treated by boiling, SODIS, water filter or similar method regularly before drinking.	91.7%	93.4%	83.6%	88.5%
Hands should be washed with soap and water before cooking and preparing food.	94.6%	96.8%	90.9%	95.0%
Improved cooking stove and ventilation are important for decreasing indoor air pollution	84.8%	87.5%	73.4%	71.3%
Importance of hygienic toilet use and toilet cleanliness	95.7%	97.1%	93.1%	93.7%
Child feces should be safely disposed of and not thrown out in the open.	92.6%	96.6%	90.2%	89.3%
Importance of changing one's cloth or pad at least every 7 hours for proper menstrual hygiene management	32.3%	68.4%	37.3%	50.2%
Importance of using a clean cloth or pad, including washing it with soap and water for proper menstrual hygiene management	50.6%	86.7%	61.5%	66.8%
Importance of safe and hygienic food practices to ensure a healthy family.	84.9%	90.4%	76.9%	79.5%

Table 6.2: Drinking water treatment knowledge

	HH heads (N=1896)	Mothers (N=3640)	Grandmothers (N=1466)	Adolescent girls (N=837)
	%	%	%	%
Boil it	81.4%	82.8%	69.5%	72.8%
Add bleach/chlorine	22.4%	13.1%	3.6%	13.5%
Filter it	59.1%	55.2%	26.6%	54.1%
Solar disinfection/SODIS	8.4%	8.9%	1.4%	14.9%
Let it stand/settle	15.7%	14.8%	16.1%	8.1%
Strain it through cloth	35.8%	44.1%	40.3%	35.4%
Other	9.7%	9.7%	11.7%	9.1%
Don't know	0.0%	14.8%	N/A	N/A
Any appropriate method (boil, chlorine, filter, SODIS)	91.1%	89.2%	77.6%	80.1%
Any inappropriate method	14.5%	58.8%	58.4%	46.8%

Table 6.3: Drinking water treatment practices

	HH heads (N=3630)	Mothers (N=3640)
	%	%
Improved drinking water source	N/A	90.6%
Drinking water treatment (based on household observation)		N/A
Boil it	8.3%	
Add bleach/chlorine	0.1%	
Filter it	6.6%	
Solar disinfection/SODIS	0.2%	
Let it stand/settle	10.9%	

Strain it through cloth	4.5%	
Other	0.2%	
Do not treat water	62.2%	
Could not observe	9.3%	
Any appropriate method (boil, chlorine, filter, SODIS)	14.3%	
Any inappropriate method	15.4%	
Frequency of treating drinking water	N/A	
Always		16.4%
Sometimes		23.5%
Never		60.1%

Table 6.4: Handwashing knowledge

	HH Heads (N=1898) %	Mothers (N=3640) %	Grandmothers (N=1470) %
All six critical times caretaker should wash hands (open-ended)	1.5%	3.3%	1.0%
Specific times caretaker should wash hands (open-ended)			
After defecation	81.3%	78.1%	77.4%
After cleaning the child's bottom	67.6%	84.7%	67.6%
After handling animals/livestock	37.1%	43.1%	40.3%
Before preparing food/cooking	10.7%	13.0%	9.0%
Before eating	37.6%	32.3%	30.5%
Before feeding the child	48.3%	60.1%	39.7%

Table 6.5: Handwashing practices

	Mothers (N=3640) %	Adolescent girls (N=837) %
Handwashing with soap and water (open-ended)		
After defecation	96.4%	80.9%
After cleaning a young child's bottom	73.1%	12.4%
After handling livestock/animals	61.0%	24.1%
Before cooking/preparing food	21.5%	5.0%
Before eating	46.0%	21.0%
Before feeding children	22.1%	1.0%
Handwashing with soap and water always (closed-ended/read aloud)		
After defecation	82.1%	84.7%
After cleaning a young child's bottom	73.6%	83.2%
After handling livestock/animals	39.3%	44.7%
Before cooking/preparing food	14.0%	30.4%
Before eating	13.3%	31.4%
Before feeding children	13.9%	32.0%
Handwashing with soap and water all 6 critical times always	7.8%	0.1%

Table 6.6: Hygiene practices

	HH Heads (N=3630)	Mothers (N=3640) %	Adolescent girls (N=837) %
Appropriate disposal of a young child's (<2 years) stools	N/A	35.8%	N/A
All drinking water pots covered (observation)	42.4%	N/A	N/A
Clean toilets (observation, among those who had observable toilets, N=3374)	42.4%	N/A	N/A

Handwashing station with soap and water (observation, among those observable, N=3629)	37.1%	N/A	N/A
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Table 6.7: Menstrual hygiene practices

Menstrual hygiene: pad use during menstruation	Mothers (N=3640) %	Adolescent girls (N=467) %
Nothing	5.1%	2.6%
Commercial/disposable pad	20.2%	29.8%
Old cloth	72.2%	66.0%
Reusable/homemade pad	2.4%	1.3%
Place of pad purchase (among those who use pads, N=734, 139)		
Small shop	71.8%	66.9%
Pharmacy	50.8%	23.7%
Other	6.4%	7.9%
Would use commercial/disposable pads if available and affordable	61.9%	85.7%
Sanitary pad disposal		
Burn it	16.1%	13.0%
Dig a hole and throw and cover	36.0%	41.0%
Drop in toilet	15.9%	15.1%
Throw it in dustbin	9.1%	7.9%
Throw haphazardly without covering	13.2%	13.0%
Other	22.1%	16.6%

Table 6.8: Menstruation-related food practices

	Mothers (N=3640) %	Adolescent girls (N=467) %
Papaya	2.1%	2.4%
Banana	2.3%	1.7%
Meat	0.2%	0.0%
Dairy	21.7%	21.4%
Religious offerings	4.5%	3.4%
Hot and sour food	2.8%	5.8%
Other	1.0%	1.9%
None	68.9%	66.4%

Table 6.9: Sanitation facilities at schools, among those attending school

	Adolescent girls N=730 %
Common toilet	29.7%
Separate toilet for girls	69.6%
Regular water supply in toilet (among those with toilet, N=725)	85.9%
Dustbin for sanitary pad disposal (among those with toilet, N=725)	37.7%
School regularity during menstruation (among those who have attained menarche, N=367)	92.9%

7. Results: IR 2/Health

Suaahara II's IR 2 focuses on increased use of quality nutrition and health services by women and children. This section presents data on child and maternal health, including exposure to key messages and health-related knowledge and practices. Slightly more than half the sample had GoN vaccination cards for children under five years. Age-specific vaccination rates were high for most of the required vaccinations for all children, with the lowest being for the IPV polio vaccine at 45% (Table 7.1).

During child illness (diarrhea and acute respiratory illness), almost two-thirds of mothers tend to seek care for their children from health facilities. Among children who had diarrhea in the two weeks prior to the survey, 61% of mothers reported giving ORS for treatment, but only 22% of mothers reported giving both ORS and zinc. Among children who had acute respiratory illness, 95% of mothers who sought care gave their children medicine (Tables 7.2 and 7.3).

Over half of the mothers were knowledgeable about maternal health while grandmothers and household heads seemed to have poor knowledge. Knowledge about PNC checkups was especially low among mothers, as well as other household members (Table 7.5). Antenatal care (ANC) practice was high among mothers with around 96% of mothers receiving any (at least 1) and about 80% attending least 4 visits (Table 7.6). Almost three-quarters of women had an institutional delivery for their youngest child and had a skilled birth attendant to assist the delivery (Table 7.7). Less than a third of mothers received three postnatal checkups in the first week after delivery (Table 7.8).

More than two-thirds of adolescent girls reported receiving family planning advice from no one, whereas only one-third of mothers reported this. Most of the mothers received family planning advice from health workers and FCHVs whereas most of the adolescent girls received family planning advice from teachers (Table 7.9). Family planning knowledge was highest among mothers. Knowledge of healthy timing and spacing of pregnancy was highest among mothers, followed by household heads (Table 7.10). At the time of the survey, 38% of mothers and 20% of adolescent girls were trying to delay/avoid pregnancy and almost all of these women were employing modern methods of family planning. Migration of husbands was the most common reason for not using family planning (Table 7.11).

Table 7.1: Child vaccinations and supplementations

	Mothers (N=3642)
	%
Vaccination: has card (seen)	55.1%
Most recent Vitamin A received (among children 6-59.9m, N=3173)	49.7%
Received specific vaccinations at right age	
BCG (N=3547)	99.2%
OPV1 (N=3495)	97.5%
OPV2 (N=3443)	95.6%
OPV3 (N=3383)	92.6%
DPT-HEPB-HIB1 (N=3495)	97.9%

DPT-HEPB-HIB2 (N=3443)	96.2%
DPT-HEPB-HIB3 (N=3383)	93.5%
PCV1 (N=3495)	78.2%
PCV2 (N=3443)	74.4%
PCV3 (N=2856)	67.5%
IPV (N=3383)	44.6%
MR (N=2856)	95.0%
Japanese Encephalitis (N=2286)	62.8%
De-worming in last 6 months	63.2%
Micronutrient powder in last week	5.6%

Table 7.2: Child health: diarrhea and treatment

	Mothers (N=3642) %
Diarrhea in last 2 weeks	11.1%
Blood in stools (among those who had diarrhea, N=404)	11.9%
Treatment sought for diarrhea, among those who had diarrhea (N=404)	
None	23.0%
Health facility	63.9%
At home by HW/FCHV	5.5%
Traditional healer	3.5%
At home by self	9.7%
Given for diarrhea, among those who were treated for diarrhea (N=311)	
ORS	60.8%
Zinc	28.9%
ORS and Zinc	22.2%

Table 7.3: Child health: acute respiratory illness (ARI) and treatment

	Mothers (N=3642) %
Fever in last 2 weeks	26.1%
Cough in last 2 weeks	24.4%
Fast, short, difficult breath while ill with a cough (N=887)	38.6%
Chest and/or nose problem causing fast/difficult breathing (N=342)	97.7%
Treatment sought for ARI signs (among those who had ARI signs, N=342)	
Nowhere/no one	16.7%
Health facility	63.2%
Traditional healer	1.5%
Drugs given for illness (fever/cough), among those who sought treatment (N=285)	95.4%

Table 7.4: Ever heard key messages for women's health

	HH head (N=1894) %	Mothers (N=3637) %	Grand- mothers (N=1466) %	Adolescent girls (N=837) %
Women should attend at least 4 ANC visits	63.5%	92.1%	63.2%	53.3%
Women should take 180 iron and folic acid (IFA) tablets during pregnancy	23.4%	73.0%	25.4%	27.0%
Modern methods of family planning should be used to delay or avoid pregnancy.	87.8%	95.6%	75.4%	51.9%
Girls should avoid marriage until at least 18 years of age.	95.6%	97.1%	90.0%	88.3%

Table 7.5: Knowledge of maternal pregnancy and post-partum health care

	HH Head (N=1898) %	Mothers (N=3640) %	Grandmothers (N=1470) %
4 ANC checkups needed for pregnant woman	30.5%	69.5%	31.8%
180 days of iron/folic acid tablets need for pregnant woman	14.7%	71.4%	16.2%
45 iron/folic acid tablets needed for part partum woman	15.6%	55.1%	10.9%
2 TT injections needed for pregnant woman	13.2%	63.2%	16.7%
3 PNC checkups needed for post-partum woman	17.0%	17.9%	8.8%
1 Vitamin A capsule needed for post-partum woman	6.2%	44.3%	6.5%

Table 7.6: Antenatal care practices

	Mothers (N= 1848) Mean (SD)/%
Any ANC received	95.9%
4+ ANC checkups, among mothers who received any (N=1772)	79.5%
Months pregnant for first ANC, among mothers who received any (N=1772)	3.2 (2.48)
ANC card available, among mothers who received any (N=1772)	13.8%
Weight taken in most recent ANC, among mothers who received any (N=1772)	86.7%
Received ANC at health facility, among those who receive (N=1772)	96.8%
Iron/Folic acid tablets for 180 days for pregnancy (among mothers who reported taking any, N=1752)	52.4%
Any deworming taken during pregnancy	82.5%
Counselling received during ANC	
The need for women to have one extra meal per day during pregnancy	77.6%
The need for women to take iron after the 1st trimester of pregnancy	92.6%
Danger signs during pregnancy	83.1%
The importance of institutional delivery	92.4%
Breastfeeding, including when and how	67.9%
Complementary feeding, such as what kinds of food to feed young children and at what age to start feeding young children, liquids and foods other than breastfeeding	65.7%

Table 7.7: Delivery practices, among mothers with children under 2 years

	Mothers (N=1848) Mean (SD)/%
Child weight (for those with record) in kg (N=621)	3.0 (0.5)
Cesarean birth	10.5%
Incentive for transportation to facility received	83.3%
Delivery assistance: skilled birth attendance	73.2%
Institutional delivery	74.4%

Table 7.8: Postnatal care practices, among mothers with children under 2 years

	Mothers (N=1848) Mean (SD)/%
Received 3 PNC checks in first 7 days post-delivery	28.1%
Received for mother within 1 day	73.3%
Received for baby within 1 day	73.5%
Times of health worker visit in first 7 days	1.8 (2.3)
Times of FCHV visit in first 7 days	0.4 (1.0)

Vitamin A received in 6 weeks after delivery	63.1%
Breastfeeding counselling in first hour after birth	70.6%
Type of counselling received, among those who received any (N=1305)	
Demonstration	16.6%
Counselling	54.3%
Both	28.7%
Assistance with breastfeeding, among those who received any (N=1305)	
Positioning	26.2%
Attachment	16.2%
Positioning and attachment	26.9%
Neither	30.6%
Iron/Folic acid taken after delivery	70.0%
Iron/Folic acid tablets for 45 days (among those who took any, N=1282)	52.3%

Table 7.9: Family planning advice received

	Mothers (N=3642) %	Adolescent girls (N=837) %
Ever received family planning advice from		
No one	36.6%	69.1%
Health worker	42.9%	2.5%
FCHV	39.3%	2.0%
HMG member	0.8%	0.1%
<i>Suaahara</i>	1.1%	0.0%
Family/Friend/Neighbor	19.1%	11.5%
Teacher	1.7%	24.7%
When family planning advice received (among those who received, N=2320)		
ANC	49.9%	N/A
PNC	30.3%	
Vaccination	37.7%	
PHC/ORC/EPI clinics	6.5%	
Routine health facility visit	11.1%	
FCHV visit to home	13.6%	
Visit to FCHV home	10.7%	
FCHV-facilitated group meeting	4.7%	
<i>Suaahara</i> activity	1.4%	
Other	7.3%	

Table 7.10: Family planning knowledge

	HH head (N=1898) %	Mothers (N=3640) %	Grandmothers (N=1470) %	Adolescent girls (N=837) %
Specific Healthy Timing and Spacing of Pregnancy (HTSP) messages				
Age in years woman should first become pregnant: 20 years	51.6%	58.2%	48.4%	22.5%
Months woman should wait between giving birth and becoming pregnant again: 24 months	13.4%	12.3%	11.8%	13.0%
Months woman should wait between miscarriage/abortion and becoming pregnant again: 6 months	13.9%	17.9%	10.7%	6.1%
Knowledge of any modern method of family planning	92.9%	98.6%	81.4%	54.0%

Table 7.11: Family planning practices among married and non-pregnant mothers and adolescent girls

	Mothers (N=3462) %	Adolescent girls (N=50) %
Doing anything to delay/avoid pregnancy	38.2%	20.0%
Using modern method of family planning (i.e. female/male sterilization, IUCD, injectable, implant, pills, condom, diaphragm, foam jelly)	34.2%	18.4%
Reasons why (among those not using any, N=2069, 33)		
Husband migrated	76.5%	57.6%
Not allowed by HH members	0.6%	0.0%
Don't know what to do	1.1%	6.1%
Supplies not available	0.2%	3.0%
Want another child	3.9%	15.2%
Health side effect for woman	5.4%	3.0%
Health side effect for child	2.2%	0.0%
Religious belief/restriction	0.7%	0.0%
Baby being very small/menstruation not started	7.0%	0.0%

8. Results: IR 3/Agriculture and Enhanced Homestead Food Production

Suaahara II also has an enhanced homestead food production (EHFP) component in certain areas. There are EHFP intensive districts where all areas of the district receive the EHFP interventions and EHFP non-intensive districts where EHFP implementation only happens in select VDCs (now called wards). EHFP intervention was prioritized in remote, disadvantaged populations in which households have limited land, livelihood opportunities, and poor access to resources.

The highest percentage of training received by household members was for home gardening followed by chicken husbandry (Table 8.1). Around 9% of mothers from households in HFP areas reported having a Household Food Production Beneficiary (HFPB) group in their ward. Of these mothers, 40% were members of the HFPB groups and all members reported participating at least once in the HFPB group meeting. Thirteen percent of mothers reported that they received vegetable seeds from graduated HFP households (Table 8.2).

Of the land owned by survey respondents, 92% was used to cultivate crops. About half the respondents also reported using the land owned for kitchen gardens (Table 8.3). The primary water source for land was from rain and dams/canals (Table 8.4). The most used agricultural input in the last 12 months was hand tools followed by local seed varieties, fertilizer, and seedlings/saplings (Table 8.5).

Knowledge of homestead food production was high among mothers, grandmothers and household heads in HFP areas (Table 8.6). Around 92% of households had vegetables growing in their kitchen garden/roof/wall. The mothers reported that vegetable production from homestead gardens provides food to family for around 6 months, on average (Table 8.7).

About a quarter of households sold vegetables they produced through HFP. The revenue from this was mostly used to buy other foods for consumption, to buy WASH-related supplies and to buy grains for consumption (Table 8.8).

Around 16% of HFP households reported receiving a chicken from *Suaahara* and these households reported to receive an average of 5 chickens from *Suaahara*. More improved chickens were kept in coops with fenced areas for grazing compared to local chickens and boiler/layer chickens. Among households who had sick chickens, 56% did not take any actions to treat their chickens (Table 8.9).

Table 8.1: Training of anyone in household on specific agricultural practices

	Mothers HFP (N=794) %
Field crop selection/rotation	7.4%
Improved seeds/crop varieties	9.6%
Pest management and identification	9.2%

Soil improvement (fertility and composting)	9.3%
Home gardening (other)	15.4%
Chicken disease, such as Newcastle	5.9%
Chicken breeding and husbandry	9.8%
Water conservation and use for agriculture	6.3%
Improved post-harvest food storage practices	5.2%

Table 8.2: Interactions with village model farmers (VMFs) and Homestead Food Production Beneficiaries (HFPB)

	Mothers HFP (N=794) Mean (SD)/%
Received from graduated HFP beneficiaries	
Seeds	13.0%
Chicks	6.4%
Agriculture/HFP-related info	9.1%
Other agriculture/HFP inputs	2.1%
HFPB group in the ward	9.1%
Member of HFPB group in the ward (among those with HFPB in ward, N=72)	38.9%
When joined HFPB group (months ago) (among those who are members, N=28)	23.8 (61.8)
Ever participated in HFPB group (among those who are members, N=28)	100.0%
Number of HFPB group meetings participated in last 6 months (among those ever participated, N=28)	2.8 (2.5)
Last participated in HFPB group meeting (months ago) (among those who participated in last 6 months, N=25)	3.9 (3.0)
Time spent at last HFPB group meeting (hours) (among those who participated in last 6 months, N=25)	1.9 (2.2)

Table 8.3: Household land use

	HH heads (N=3,552) %
Use of land owned	
Cultivated Crops	92.2%
Kitchen garden	56.7%
Livestock	6.0%
Decision maker on use of land (N=3,556)	
Male household head	42.2%
Female household head	37.5%
Other male member	12.9%
Other female member	7.4%

Table 8.4: Primary water source for land

	HH Heads (N=3,552) %
River/Stream	8.6%
Well/Pond	0.6%
Dam/Canal	30.1%
Rain	44.3%
Rain harvesting	0.3%

Deep tube well/ borehole	9.2%
Shallow tube well	0.4%
Piped	4.0%
Spring	2.4%
Other	0.3%

Table 8.5: Agricultural input usage in last 12 months

	HH Heads (N=3,552) %
Improved seed varieties (e.g. high yielding, hybrid seeds, etc.)	37.1%
Local seed varieties	88.4%
Seedlings/Saplings	69.0%
Bio-pesticide	7.6%
Fertilizer (e.g., chemical, organic)	85.8%
Hand tools (e.g., axe, sickle)	95.3%
Mechanized tools (e.g., thresher, harvester, tractor)	17.9%
Plough	68.1%

Table 8.6: Knowledge of homestead food production (HFP)

	HH Heads (%)	Grandmothers (%)	Mothers (%)
	HFP Areas (N=400)	HFP Areas (N=328)	HFP Areas (N=795)
Benefits of homestead garden			
Improve household food	84.5%	89.0%	88.1%
Source of income	67.0%	61.6%	70.6%
Improve diets of children/women	53.0%	40.6%	50.7%
Advantages of producing small animals			
Improve household food	75.5%	73.5%	77.6%
Source of income	98.0%	95.7%	97.7%
Improve diets of children/women	45.5%	39.3%	51.1%
Key points for planning a homestead garden			N/A
Proximity to home	N/A	N/A	49.1%
Ease of watering			62.5%
Plants that grow well in local conditions			9.7%
Plants that improve household nutrition			7.4%
Crops that bring in most income			4.9%
Protection from animals			53.0%
Available space			11.3%
Good poultry management practices			
Keep chicken inside a coop	N/A	N/A	85.5%
Provide quality food			67.9%
Vaccinate regularly			16.2%

Table 8.7: Homestead gardening practices

	Mothers HFP (N=794) Mean (SD)/%
Vegetables growing in garden/roof/wall	91.7%
Distance vegetables grown from home (minutes) (among those growing, N=730)	3.3 (5.8)
Arrangement of vegetable garden (among those able to observe, N=766)	
All of the garden is arranged into fixed plots	2.4%
Some of the garden is arranged into fixed plots, but some is not	21.9%

None of the garden is arranged into fixed plots	65.6%
Not able to observe	10.2%
Use chemical fertilizers in garden (N=766)	12.4%
Length of time vegetable production from homestead garden provides food to family (months) (N=766)	5.9 (3.6)
Crops/vegetables available, by observation (HFP: N=685)	
Chili	69.2%
Snake gourd	60.6%
Brinjal	35.5%
Colocasia	35.0%
Squash	33.9%
Tomato	26.7%
Four season beans	25.7%
Okra	24.8%
Cowpea	22.9%
Bitter gourd	20.6%
Pumpkin	21.5%
Sponge gourd	12.1%
Bottle gourd	12.1%
Radish	12.0%
Broadleaf mustard	7.9%
Potato	4.8%
Orange Fleshed Sweet Potato	0.3%

Table 8.8: Use of revenue earned by selling vegetables produced in the last 12 months, among those who sold any

	Mothers
	HFP Areas (N=685)
	%
Not sold	77.4%
Buy grain for consumption	6.0%
Buy vegetables/fruits for consumption	1.8%
Buy meat for consumption	2.5%
Buy eggs for consumption	0.3%
Buy dairy products for consumption	0.4%
Buy other foods for consumption	9.0%
Buy clothes	2.0%
Buy school supplies/pay fees	4.1%
Buy medicine	1.3%
Buy WASH-related supplies	8.9%
Seek health care	2.0%
Saving	3.3%

Table 8.9: Poultry ownership and management

	Mothers
	HFP (N=794)
	Mean (SD)/%
Has at least 1 chicken	47.7%
Has at least 1 improved chicken	8.7%
Has at least 1 local chicken	42.7%
Has at least 1 boilers/layer chicken	1.8%

Number of chickens

Improved	0.5 (5.6)
Local	3.2 (6.1)
Boilers/Layer	0.9 (14.6)
Where chickens are kept during an entire day: coop with fencing areas for grazing (among those who have any)	
Improved (N=69)	2.9%
Local (N=339)	1.5%
Boilers/Layer (N=14)	0.0%
% of chickens vaccinated with New Castle Disease (among those who have any)	
Improved (N=69)	10.4 (29.6)
Local (N=339)	0.6 (7.7)
Boilers/Layer (N=14)	14.3 (36.3)
Number of chickens vaccinated with New Castle Disease (among those who have any)	
Improved (N=69)	2.6 (18.1)
Local (N=339)	0.1 (0.8)
Boilers/Layer (N=14)	31.8 (94.0)
% who received a <i>Suaahara</i> chicken	16.3%
Number of chickens received from <i>Suaahara</i> , among those who received any (N=129)	4.9 (1.3)
Number of chicks hatched/regenerated using a <i>Suaahara</i> chicken (among those who received from <i>Suaahara</i> , N=129)	1.3 (3.8)
Any chickens' sick in last 1 month	9.2%
No actions for sick chickens (among those who had sick chickens, N=73)	56.2%
Number of chicks/chickens sold in last 12 months	9.8 (184.6)
Household produced eggs in last 1 month	26.9%
Number of eggs produced by household in last 1 month (among those who produced any, N=215)	20.9 (16.5)

9. Results: Social and Behavior Change Communication

Awareness of *Suaahara* and especially the platforms we use for behavior change is the first step towards achieving key outcomes. This section shares related findings.

Awareness of *Suaahara* was highest among mothers and around half or more of the respondents identified nutrition as a key *Suaahara* aim (Table 9.1).

In the last month prior to the survey, the highest mean number of messages received by mothers, household heads and adolescent girls from all information sources, was around the theme of health and family planning, whereas the lowest was for agriculture/homestead food production (Table 9.2).

Exposure to frontline workers was highest among mothers and similarly distributed among grandmothers and household heads. Most common interactions were with FCHVs/health mothers' group representatives, followed by health workers (Table 9.3).

Mothers had the highest interactions with *Suaahara* field supervisors and FCHVs compared to grandmothers and HH heads. Less than 10% of all respondents reported being visited by field supervisors at home whereas more than half of all respondents reported being visited by FCHVs at home. Contact with field supervisors outside the home and HMGs was also low (<10%) and contact with FCHVs outside the home and HMGs was close to 50% for mothers and slightly lesser for grandmothers and household heads (Tables 9.4 and 9.5).

Around 86% of mothers reported never participating in *Suaahara* activities outside of group meetings. Among those who did participate, the highest participation was in food demonstrations (Table 9.6).

Among the tools/materials that *Suaahara* employs, mothers reported greatest exposure to handwashing demonstration at handwashing station, discussion cards, pictorial books, and posters, and least exposure to Sugandapur and Durgandapur DVD and coop game cards (Table 9.7).

More than 30% of mothers reported ever hearing about *Bhanchhin Aama*, and a smaller percentage of household heads, adolescent girls and grandmothers reported ever hearing about the radio program. Among those who had heard about the program, more than two-thirds reported to have ever listened to the program (Table 9.8).

Almost all mothers reported household ownership of a mobile phone (96%). Among these households, 76% of mothers reported sole ownership of a mobile phone. More than two-thirds of mothers reported having access to a mobile phone owned by a family member and almost half reported having access to a smartphone. Of these mothers, very few (2%) had received health/nutrition-related text messages in the last month (Table 9.9).

Table 9.1: Awareness of Suaahara

	HH Head (N=1894)	Mothers (N=3637)	Grandmothers (N=1466)	Adolescent girls (N=837)
	%	%	%	%
Ever heard of <i>Suaahara</i>	29.6%	40.8%	16.6%	14.0%
<i>Suaahara</i> aims (among those who had ever heard of <i>Suaahara</i>, N= 560, 1485, 244, 117)				
Nutrition	58.0%	65.2%	45.1%	52.1%
Health	25.4%	36.4%	22.1%	25.6%
Family planning/HTSP	3.4%	5.2%	1.6%	1.7%
Agriculture	37.3%	46.2%	40.6%	30.8%
WASH	15.4%	19.9%	13.9%	15.4%
Multi-sectoral collaboration	1.8%	0.5%	0.4%	0.0%
Other	5.0%	6.7%	3.7%	4.3%
Don't know	28.9%	19.2%	34.8%	29.9%

Table 9.2: Number of sources of information in the last month

	HH head (N=1894)	Mothers (N=3637)	Adolescent girls (N=837)
	Mean (SD)	Mean (SD)	Mean (SD)
Health/family planning	0.6 (0.9)	0.5 (0.7)	0.4 (0.8)
Nutrition	0.4 (0.7)	0.4 (0.6)	0.4 (0.7)
Water, sanitation, and hygiene	0.4 (0.7)	0.3 (0.6)	0.5 (0.8)
Agriculture/homestead food production	0.3 (0.6)	0.1 (0.5)	0.2 (0.5)
GESI	0.3 (0.7)	0.2 (0.5)	0.3 (0.6)

Table 9.3: Frontline worker interactions

	HH Head (N=1894)	Mothers (N=3637)	Grandmothers (N=1466)
	Mean (SD)/%	Mean (SD)/%	Mean (SD)/%
Met at all in last 6 months			
FCHV/health mother's group representative	32.5%	69.0%	41.0%
Health assistant/AHW/ANM	44.8%	67.4%	40.3%
Livestock extension worker	25.6%	15.8%	18.0%
Agricultural extension worker	11.7%	7.3%	6.5%
Social mobilizers (MOFALD, DDC/VDC, LDC)	14.5%	7.2%	3.0%
VDC WASH Committee representative	9.1%	5.4%	3.6%
Citizen Awareness Center representative	4.2%	3.7%	1.8%
VDC Nutrition and Food Security Steering Committee representative	0.5%	0.8%	0.1%
VDC representative	51.6%	27.1%	24.5%
Ward citizen forum representative	14.4%	5.7%	3.9%
<i>Suaahara</i> (e.g. field supervisor, village model farmer, WASH triggerer)	6.5%	10.8%	5.0%
Number of times met in last 6 months			
FCHV/health mother's group representative (N=616, 2509, 601)	2.3 (2.2)	2.7 (2.0)	2.7 (2.0)
Health assistant/AHW/ANM (N=849, 2452, 590)	2.6 (2.0)	2.7 (2.1)	2.5 (2.1)
Livestock extension worker (N=484, 575, 264)	2.0 (1.8)	1.5 (0.9)	1.7 (1.2)
Agricultural extension worker (N=221, 267, 95)	2.5 (2.6)	1.9 (1.9)	1.8 (1.1)
Social mobilizers (MOFALD, DDC/VDC, LDC) (N=275, 261, 44)	3.0 (7.4)	2.7 (3.3)	2.6 (2.2)
VDC WASH Committee representative (N=172, 196, 53)	2.5 (1.3)	2.0 (1.5)	2.3 (1.4)
Citizen Awareness Center representative (N=80, 136,	2.8 (2.6)	7.37 (8.3)	6.2 (6.2)

27)			
VDC Nutrition and Food Security Steering Committee representative (N=10, 28, 2)	4.4 (7.1)	2.3 (2.4)	1.0 (0.0)
VDC representative (N=977, 986, 359)	2.3 (2.0)	1.6 (1.2)	1.6 (1.0)
Ward citizen forum representative (N=273, 206, 57)	2.8 (3.1)	2.3 (1.9)	2.3 (1.7)
<i>Suaahara</i> (e.g. field supervisor, village model farmer, WASH triggerer) (N=123, 393, 73)	1.5 (1.0)	1.4 (0.9)	1.4 (0.9)

Table 9.4: FCHV interactions

	HH head (N=1894) Mean (SD)/%	Mothers (N=3637) Mean (SD)/%	Grandmothers (N=1466) Mean (SD)/%
Ever visited at home by FCHV	35.5%	50.4%	42.4%
Number of times visited at home by FCHV in last 6 months (N=672, 1832, 622)	1.7 (1.9)	1.4 (1.5)	2.5 (8.2)
Length of time (weeks) since last visited at home by FCHV (N=672, 1832, 622)	N/A	18.9 (26.3)	N/A
Length of time spent last time FCHV visited at home (minutes) (N=672, 1832, 622)	N/A	18.4 (20.3)	N/A
Spoke with FCHV during last visit (N=672, 1832, 622)			
Self	46.9%	93.5%	68.7%
Spouse	N/A	11.5%	N/A
Mother/mother in law	N/A	29.6%	N/A
father/father in law	N/A	7.1%	N/A
Other adult HH member	N/A	3.5%	N/A
Other child HH member	N/A	0.7%	N/A
Adolescent	N/A	1.5%	N/A
Ever contact with FCHV outside of home/HMG	27.7%	44.1%	33.9%
Number of times contact with FCHV other than home visit or HMG meeting in last 6 months (N=524, 1602, 497)	2.2(3.8)	2.0 (2.3)	2.5 (5.5)
Length of time (weeks) since last contact with FCHV other than home visit or HMG meeting (N=524,1602, 497)	N/A	11.3 (14.2)	N/A

Table 9.5: Field supervisor interactions

	HH head (N=1894) Mean (SD)/%	Mothers (N=3637) Mean (SD)/%	Grandmothers (N=1466) Mean (SD)/%
Ever visited at home by field supervisor	6.8%	9.1%	4.6%
Number of times visited at home by field supervisor in last 6 months (N=129, 330, 68)	0.9 (0.8)	0.8 (0.7)	1 (0.8)
Length of time (weeks) since last visited at home by field supervisor (N=129, 330, 68)	N/A	16.7 (19.6)	N/A
Length of time spent last time a field supervisor visited at home (minutes) (N=129, 330, 68)	N/A	27.8 (27.9)	N/A
Spoke with FS during last visit (N=129, 330, 68)			
Self	60.9%	87.3%	73.5%
Spouse	N/A	16.7%	N/A
Mother/mother in law	N/A	22.1%	N/A
Father/father in law	N/A	10.9%	N/A
Other adult HH member	N/A	5.5%	N/A
Other child HH member	N/A	0.9%	N/A
Adolescent	N/A	2.1%	N/A
Ever contact with FS outside of home/HMG	4.0%	9.5%	3.1%
Number of times contact with FS other than home visit	1.1 (1.2)	0.7 (1.0)	1.3 (2.2)

or HMG meeting in last 6 months (N=76, 346, 45)

Length of time (weeks) since last contact with FS other than home visit or HMG meeting (N=76, 346, 45)	N/A	41.6 (31.8)	N/A
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Table 9.6: Participation in Suaahara activities, other than group meetings

	HH head (N=1894) %	Mothers (N=3637) %	Grandmothers (N=1466) %
None	97.4%	85.7%	96.7%
Specific activities among those who participated in any (N= 50, 520, 49)			
Food demonstrations	58.0%	86.1%	77.6%
Ideal family celebrations	12.0%	4.1%	6.1%
Key life events	2.0%	2.5%	2.0%
Triggering sessions	2.0%	0.6%	0.0%
PHC/ORC community interactions	8.0%	1.2%	4.1%
PDQ community interactions	0.0%	6.2%	0.0%
Day celebrations	8.0%	3.3%	4.1%

Table 9.7: Exposure to Suaahara tools and materials, among those who have had interactions with field workers and groups

	Mothers (N=3637) %
Discussion cards (N=3450)	44.5%
Pictorial book (N=3446)	38.2%
Posters (AFATVAH, coop, water purification etc.) (N=3439)	37.5%
Locally available food (N=3448)	34.3%
Training aid pictures (N=3435)	21.0%
Crop calendar (N=759)	32.2%
Poultry flip chart (N=757)	33.6%
Vegetable flip chart (N=757)	32.8%
Coop game cards (N=756)	10.7%
Handwashing demonstration at handwashing station (N=3455)	49.3%
Sugandapur and Durgandapur DVD (N=3430)	2.9%
PA vial (N=3435)	10.0%

Table 9.8: Bhanchhin Aama exposure

	HH head (N=1894) %	Mothers (N=3637) %	Grandmothers (N=1466) %	Adolescent girls (N=837) %
Ever heard of this radio program	20.7%	31.1%	12.6%	20.0%
Ever listened to this radio program, among those who have ever heard (N=391, 1132, 185, 167)	73.9%	69.8%	67.4%	71.9%
Frequency of listening to <i>Bhanchhin Aama</i> in the last month, among those who have ever listened (N=289, 790, 124, 120)				
Every week	13.5%	9.0%	12.9%	6.7%
Two to three times a month	17.0%	19.0%	21.0%	21.7%
Once a month	6.2%	8.4%	4.8%	7.5%
Less than once a month	23.2%	23.9%	20.2%	21.7%
Only listened once or twice	40.1%	39.8%	41.1%	42.5%

Table 9.9: Phone access/use

Phone access/use	Mothers (N=3637) Mean (SD)/%
Household ownership of mobile phone (N=3642)	96.0%
Sole ownership of mobile phone (among those who reported household ownership, N=3495)	76.0%
Access to a mobile phone owned by other family members	69.1%
Smart phone access (own or household member ownership)	45.3%
Received any health/nutrition related texts on mobile in last month (N=2861)	2.0%
Number of health/nutrition texts received in last month (N=55)	2.7 (1.5)

10. Results: Empowerment and Violence

This section presents results on empowerment (access to information for production decisions, asset ownership, decision-making power, group availability and participation, freedom of movement, workload and time availability and so on) of mothers, grandmothers, and male household heads and perceptions and practices of gender-based violence.

Given the agrarian context, empowerment in agriculture was measured. Around 85-90% of mothers, grandmothers and male household heads participated in staple grain farming and processing of harvest. Other household productive activities with high participation rates were large livestock raising, small livestock raising, poultry and processing of milk and/or meat and horticulture or high value crop farming. Grandmothers had the highest participations rates for most activities (Table 10.1). All reported high rates of ability to access information (to any extent) to make household productive activity decisions (Table 10.2).

For *Suaahara II*, non-agricultural empowerment particularly in health and nutrition related domains is important and thus, this was also measured. Mothers had higher input in making decisions regarding the use of family planning products, child healthcare and child feeding. Grandmothers had the least decision-making power in own health care and own food consumption (Table 10.3).

There was variation in perceptions of household ownership of commodities. A common trend was that grandmothers appeared to have the highest perception of ownership whereas mothers had the lowest. Exceptions were small consumer durables and mobile phones, where mothers had the highest perception of ownership. Sole ownership was highest among male household heads for agricultural or other land, fishpond/fishing equipment, beehives, mechanized farm equipment, house/building and motorized/non-motorized transportation. Sole ownership of livestock, poultry, non-mechanized farm equipment, non-farm business equipment, consumer durables and mobile phones was highest among mothers (Table 10.4).

FCHV-facilitated groups, land/forest users' groups and credit or microfinance groups were the most common groups available in communities (Table 10.5). Highest participation rates were also in FCHV-facilitated groups and credit or microfinance groups. Differences in participation between household members varied by each group (Table 10.6).

Male household heads had the highest proportion of at least one visit per month to urban centers, markets, and public village gatherings. Mothers had the highest proportion of at least one visit per month to family or relatives and seeking health services. Adolescent girls had the highest proportion of at least one visit per month to friends'/neighbors' house. The most frequent visiting location for all household members was friends'/neighbors' house. Grandmothers faced the highest objection to freedom of movement from household members, followed by adolescent girls.

Comparatively, mothers had higher freedom of movement, although more than 10% were still restricted from visiting urban centers and going outside the community/village (Table 10.7).

Among each type of survey respondent, about 1 in 5 agreed that a husband is justified for hitting/beating a wife for at least one of the reasons asked about (Table 10.8). Mothers reported violence experienced in the last 12 months, and the highest reported form of violence was humiliation in front of other people. Among those who reported experiencing any violence, the percentage of violence experienced from a male household member was high (Table 10.10).

Table 10.1: Participation in household productive activities

	Male HH heads (N=1733) %	Mothers (N=3642) %	Grandmothers (N=1470) %
Staple grain farming and processing of harvest	86.0%	84.9%	88.3%
Horticulture/high value crop farming	45.8%	43.7%	50.5%
Large livestock raising	64.9%	65.8%	80.3%
Small livestock raising	63.5%	66.1%	77.9%
Fishing/fishpond culture	9.9%	4.2%	5.4%
Poultry and processing of milk and/or meat	55.4%	60.7%	63.3%
Non-farm economic activities	27.5%	12.8%	10.7%
Wage and salary employment	48.5%	17.5%	10.7%

Table 10.2: Ability to access information to make household productive activity decisions, among those who participate in the activity

	Male HH heads (N=1733) %	Mothers (N=3642) %	Grandmothers (N=1470) %
Staple grain farming and processing of harvest (N=1490, 3091, 1298)	95.6%	88.0%	96.1%
Horticulture/high value crop farming (N=793, 1591, 743)	96.1%	88.3%	96.9%
Large livestock raising (N=1224, 2397, 1181)	95.7%	86.3%	96.4%
Small livestock raising (N=1100, 2407, 1145)	96.2%	87.0%	96.6%
Fishing/fishpond culture (N=171, 152, 80)	98.2%	92.1%	97.5%
Poultry and processing of milk and/or meat (N=960, 2209, 930)	95.0%	89.3%	95.7%
Non-farm economic activities (N=477, 465, 157)	98.7%	95.7%	96.2%
Wage and salary employment (N=841, 636, 157)	97.7%	95.9%	99.4%

Table 10.3: Health and nutrition-related decision-making power

	Male HH heads (N=1733) %	Mothers (N=3642) %	Grandmothers (N=1740) %
Use of family planning methods			
Little to no input	9.2%	5.7%	N/A
Input into some decisions	28.5%	29.7%	
Input into most or all decisions	51.5%	50.7%	
No decisions made	10.9%	13.8%	
Own healthcare			
Little to no input	1.0%	0.9%	3.2%
Input into some decisions	10.2%	12.1%	24.7%

Input into most or all decisions	88.5%	86.7%	71.2%
No decisions made	0.4%	0.3%	0.9%
Own food consumption			
Little to no input	2.3%	3.1%	4.1%
Input into some decisions	17.5%	22.1%	24.5%
Input into most or all decisions	79.8%	74.5%	71.0%
No decisions made	0.4%	0.4%	0.5%
Child healthcare			
Little to no input	2.0%	0.7%	3.6%
Input into some decisions	35.9%	8.2%	44.8%
Input into most or all decisions	61.8%	90.9%	51.2%
No decisions made	0.3%	0.2%	0.3%
Child feeding			
Little to no input	8.0%	0.6%	3.3%
Input into some decisions	58.3%	7.1%	45.1%
Input into most or all decisions	33.0%	92.2%	51.2%
No decisions made	0.8%	0.1%	0.4%

Table 10.4: Productive capital

	Male HH heads (N=1733) %	Mothers (N=3642) %	Grandmothers (N=1470) %
Household ownership			
Agricultural land	82.1%	75.8%	90.3%
Other land not used for agriculture	29.8%	25.5%	32.6%
Large livestock (e.g. oxen, cattle, buffalo, horse)	73.3%	67.2%	83.8%
Small livestock (goats, pigs, sheep)	69.7%	66.9%	79.5%
Chicken	57.7%	57.5%	61.8%
Other poultry (e.g. ducks, pigeons)	10.0%	7.8%	11.3%
Fish pond or fishing equipment	10.8%	7.5%	9.5%
Beehives	10.0%	8.2%	8.9%
Non-mechanized farm equipment	91.3%	91.9%	93.5%
Mechanized farm equipment	2.9%	1.8%	2.6%
Non-farm business equipment (e.g. roti oven, sewing machine, solar panels, blacksmith equipment)	12.6%	9.3%	11.2%
House or building	83.8%	79.0%	91.8%
Large consumer durables (ex: fridge, TV, sofa)	45.1%	41.7%	50.1%
Small consumer durables (ex: radio, cookware)	94.2%	94.9%	94.3%
Mobile phone	94.2%	96.0%	91.6%
Motorized transportation (e.g. motorcycle, car)	14.8%	9.3%	13.3%
Non-motorized transportation (e.g. bicycle, cart)	27.5%	22.6%	26.7%
Sole ownership, if household owns			
Agricultural land (N=1549, 2761, 1327)	38.5%	5.1%	24.0%
Other land not used for agriculture (N=572,928, 479)	35.7%	5.1%	20.0%
Large livestock (e.g. oxen, cattle, buffalo, horse) (N=1392, 2446, 1232)	11.0%	13.3%	10.6%
Small livestock (goats, pigs, sheep) (N=1318, 2436, 1169)	7.8%	20.9%	11.9%
Chicken (N=1107, 2095, 908)	6.0%	26.6%	11.5%
Other poultry (e.g. ducks, pigeons) (N=185, 285, 166)	2.7%	8.8%	9.6%
Fish pond or fishing equipment (N=204, 272, 139)	23.0%	9.9%	8.6%
Beehives (N=185, 300, 131)	10.8%	6.7%	5.3%
Non-mechanized farm equipment (N=1731, 3347, 1374)	7.6%	16.1%	6.0%
Mechanized farm equipment (N=53, 64, 38)	32.1%	7.8%	0.0%

Non-farm business equipment (e.g. roti oven, sewing machine, solar panels, blacksmith equipment) (N=234, 338, 164)	31.6%	39.1%	5.5%
House or building (N=1590, 2876, 1335)	40.3%	5.1%	19.0%
Large consumer durables (ex: fridge, TV, sofa) (N=863, 1519, 737)	8.7%	15.5%	4.3%
Small consumer durables (ex: radio, cookware) (N=1783, 3457, 1386)	3.7%	16.8%	6.1%
Mobile phone (N=1794, 3495, 1347)	65.1%	76.0%	39.6%
Motorized transportation (e.g. motorcycle, car) (N=273, 339, 196)	55.7%	3.5%	1.5%
Non-motorized transportation (e.g. bicycle, cart) (N=515, 823, 392)	29.1%	23.3%	4.1%
Joint ownership, if household owns			
Agricultural land (N=1549, 2761, 1327)	14.3%	5.7%	10.6%
Other land not used for agriculture (N=572,928, 479)	13.6%	5.6%	7.9%
Large livestock (e.g. oxen, cattle, buffalo, horse) (N=1392, 2446, 1232)	74.4%	56.1%	70.5%
Small livestock (goats, pigs, sheep) (N=1318, 2436, 1169)	76.6%	53.3%	69.1%
Chicken (N=1107, 2095, 908)	76.2%	51.8%	70.4%
Other poultry (e.g. ducks, pigeons) (N=185, 285, 166)	82.7%	64.2%	77.7%
Fish pond or fishing equipment (N=204, 272, 139)	67.7%	63.2%	69.1%
Beehives (N=185, 300, 131)	76.8%	66.7%	77.1%
Non-mechanized farm equipment (N=1731, 3347, 1374)	82.9%	68.7%	82.1%
Mechanized farm equipment (N=53, 64, 38)	47.2%	42.2%	68.4%
Non-farm business equipment (e.g. roti oven, sewing machine, solar panels, blacksmith equipment) (N=234, 338, 164)	43.2%	31.7%	48.8%
House or building (N=1590, 2876, 1335)	20.6%	11.0%	13.6%
Large consumer durables (ex: fridge, TV, sofa) (N=863, 1519, 737)	78.5%	63.7%	74.1%
Small consumer durables (ex: radio, cookware) (N=1783, 3457, 1386)	86.5%	69.7%	83.1%
Mobile phone (N=1794, 3495, 1347)	14.6%	8.9%	11.5%
Motorized transportation (e.g. motorcycle, car) (N=273, 339, 196)	30.4%	28.0%	28.6%
Non-motorized transportation (e.g. bicycle, cart) (N=515, 823, 392)	60.8%	50.6%	55.4%

Table 10.5: Groups available in the communities

	Male HH heads (N=1733) %	Mothers (N=3642) %	Grandmothers (N=1470)
FCHV-facilitated group (e.g. savings, HMG)	59.4%	64.6%	62.3%
<i>Suaahara</i> HFP beneficiary group (HFP areas, N=375, 795, 328)	9.9%	11.8%	10.4%
Agricultural/livestock/fisheries producer group (including marketing groups but excluding HFP beneficiary group)	19.6%	19.8%	16.2%
Water users' group	39.1%	35.4%	30.3%
Land/forest users' groups	65.4%	59.5%	53.6%
Credit or microfinance group/ cooperative	59.4%	65.2%	54.4%
Trade and business association	2.9%	1.3%	0.7%

Civic group (improving community) or charitable group (helping others)	18.9%	14.2%	8.4%
HFOMC - Health facility operation management committee	11.3%	7.1%	4.1%
WASH coordination committee (district or VDC level)	16.6%	18.3%	11.6%
Ward citizen forum	31.9%	22.0%	13.3%
Nutrition and food security steering committee (district of VDC-level)	1.5%	2.1%	0.8%
PHC/ORC management	14.7%	17.2%	12.5%
Citizen Awareness center	9.2%	9.6%	5.2%

Table 10.6: Participation in community groups, where available

	Male HH heads (N=1733) %	Mothers (N=3642) %	Grandmothers (N=1470) %
FCHV-facilitated group (e.g. saving, HMG) (N=1030, 2353, 916)	1.8%	43.0%	32.6%
<i>Suaahara</i> HFP beneficiary group (N=37, 151, 50)	8.1%	39.7%	10.0%
Agricultural/livestock/fisheries producer group (including marketing groups but excluding HFP group) (N=339, 720, 238)	26.8%	27.6%	31.5%
Water users' group (N=677, 1290, 445)	43.1%	22.3%	18.4%
Land/forest users' groups (N=1133, 2168, 788)	44.3%	18.1%	22.0%
Credit or microfinance group/ cooperative (N=1029, 2376, 799)	28.3%	45.9%	40.9%
Trade and business association (N=51, 47, 10)	31.4%	8.5%	10.0%
Civic group (improving community) or charitable group (helping others) (N=328, 518, 123)	39.9%	11.6%	4.9%
HFOMC - Health facility operation management committee (N=195, 258, 60)	6.7%	5.8%	5.0%
WASH coordination committee (district or VDC) (N=287, 666, 171)	27.2%	19.4%	18.7%
Ward citizen forum (N=552, 802, 196)	17.2%	13.3%	15.3%
Nutrition and food security steering committee (district or VDC) (N=26, 75, 12)	11.5%	25.3%	8.3%
PHC/ORC management (N=255, 628, 183)	5.5%	11.0%	4.4%
Citizen Awareness center (N=160, 349, 76)	8.8%	33.2%	23.7%

Table 10.7: Freedom of movement

Freedom of movement	Male HH heads (N=1733) %	Mothers (N=3642) %	Grandmothers (N=1470) %	Adolescent girls (N=837) %
Visits at least once a month				
Urban center	43.7%	19.2%	7.9%	9.6%
Market/haat/bazaar	82.1%	65.2%	51.0%	62.8%
Family or relatives	21.2%	23.4%	14.0%	20.4%
Friends or neighbors house	90.4%	91.6%	91.0%	91.9%
Hospital/clinic/doctor/health post (seek health service)	12.3%	15.0%	8.6%	6.6%
Public village gathering/community meeting/training for NGO or programs	28.5%	26.2%	20.7%	5.7%
Husband/partner/household member objects to her going alone				
Urban center	N/A	15.0%	79.8%	56.2%

Market/haat/bazaar	6.5%	84.3%	31.4%
Family or relatives	9.7%	80.3%	35.4%
Friends or neighbors house	3.8%	73.3%	14.9%
Hospital/clinic/doctor/health post (seek health service)	6.0%	89.6%	31.2%
Public village gathering/community meeting/training for NGO or programs	6.8%	96.1%	29.9%
Outside community/village	11.9%	90.7%	48.5%

Table 10.8: Gender-based violence

	Male hh heads (N=1894) %	Mothers (N=3638) %	Grandmothers (N=1466) %	Adolescent girls (N=837) %
Agrees husband is justified in hitting/beating wife for any of the following reasons				
Goes out without telling him	9.0%	9.5%	12.0%	10.3%
Neglects the children	9.1%	11.4%	12.7%	12.3%
Argues with him	8.7%	7.4%	8.0%	8.4%
Refuses to have sex with him	3.5%	2.4%	3.7%	2.0%
Burns the food	1.5%	1.5%	2.3%	2.6%
Any of the above reasons	15.5%	17.9%	19.3%	20.8%

Table 10.9: Violence experienced by mothers in the last 12 months

	Mothers (N=3638) %
Insulted you or made you feel bad about yourself	9.0%
Belittled or humiliated you in front of other people	10.9%
Done things to scare or intimidate you on purpose (e.g. by the way he looked at you, by yelling and smashing things)	7.6%
Threatened to hurt you or someone you care about	3.5%
Slapped you or thrown something at you that could hurt you	2.1%
Pushed you or shoved you	2.9%
Hit you with his fist or with something else that could hurt you	2.1%
Kicked you, dragged you or beaten you up	2.8%
Choked or burnt you on purpose	0.4%
Threatened to use or used a gun, knife or other weapon against you	0.6%
Physically forced you to have sexual intercourse when you did not want to	0.7%
Ever had sexual intercourse with you that you did not want to because you were afraid of what he might do	0.3%
Forced you to do something sexual that you found degrading or humiliating	0.3%
Any violence	19.5%

Table 10.10: Violence experienced by mothers from a male in the household, in the last 12 months, among those who experienced any violence

	Mothers (N=3638) %
Insulted you or made you feel bad about yourself (N=326)	22.7%
Belittled or humiliated you in front of other people (N=396)	19.2%
Done things to scare or intimidate you on purpose (e.g. by the way he looked at you, by yelling and smashing things) (N=278)	30.9%
Threatened to hurt you or someone you care about (N=127)	19.7%
Slapped you or thrown something at you that could hurt you (N=76)	59.2%

Pushed you or shoved you (N=107)	55.1%
Hit you with his fist or with something else that could hurt you (N=78)	68.0%
Kicked you, dragged you or beaten you up (N=101)	73.3%
Threatened to use or used a gun, knife or other weapon against you (N=23)	34.8%
Physically forced you to have sexual intercourse when you did not want to (N=27)	77.8%

Note: only calculated percentages where the sample size was at least 20 persons.

11. Results: Female Community Health Volunteers

The 192 FCHVs in the survey sample were aged between 18 to 70 years, and the mean age was 41 years. Socio-demographic characteristics of the sample including religion, caste, education levels, literacy, equity quintiles and asset ownership are reported in Table 11.1.

The average years of experience as an FCHV among this sample was 15.8 years. Almost half of the FCHVs perceived their workload to be too high, with 68% of them reporting their workload to have increased over the last year and a majority of these FCHVs attributed their increased workload to an increased number of home visits (Table 11.2).

About half of the FCHVs in the sample had people visit her home, and a little less than half went out to make home visits in the day prior to the survey. Almost all the FCHVs reported facilitating a group in the community, and 97% of these FCHVs facilitated a Health Mothers' Group (HMG) while 39% of them facilitated a Savings Group. The average group size of HMGs was 30 people while the average group size of the Savings Groups was a little higher, at 34 people (Table 11.3). FCHVs spent an average of 33 hours in the last month on their work-related activities, and the highest time commitment was to home visits, which took up an average of 13 hours in the last month (Table 11.4).

FCHVs reported high interactions with health facilities, specifically with 96% of them attending monthly meetings. The most discussed topic at these meetings was reporting/HMIS processes (Table 11.5). About three-quarters of the FCHVs have ever supported a PHC/ORC clinic and among those who support, 82% report supporting on at least a monthly basis. The most common type of support reported was encouraging households to attend the clinics followed by supporting health workers with management (Table 11.6).

Sixty percent of FCHVs maintained a list of households with 1000-day mothers. Almost all the FCHVs reported identifying the 1000-day households through correspondence with *Suaahara II* staff (Table 11.7).

More than three-quarters of FCHVs reported that they have been sought for advice on child feeding, with the most common topic being complementary feeding (frequency, quantity, and food types) (Table 11.8).

FCHVs' training in the last 12 months was low across all themes, the highest being 21% for breastfeeding and lowest was counselling methods for groups/individuals, which none of the FCHVs received training for (Table 11.9). Almost all FCHVs reported interacting with a government health worker in the past month, and 38% reported interacting with *Suaahara* staff (Table 11.10)

Job motivation was considerably high among the FCHVs, with almost all FCHVs reporting that they are confident in their performance and that they are motivated by their work, indicating high job satisfaction. However, only around half of the FCHVs reported adequacy in support of the FCHV system (Table 11.11).

The most common supervisors were Auxiliary Health Workers (AHWs) and supervisor interaction seemed high, with FCHVs reporting an average of 2 meetings with their supervisor in the last month. FCHVs reporting of their supervision also indicated that it was highly supportive (Table 11.12).

FCHVs' knowledge of assessing anthropometric measurements such as weight gain during pregnancy, weight and height of children, weight for height Z scores, and mid-upper arm circumference was low. Very few FCHVs knew all the appropriate steps to conduct these measurements. Additionally, FCHVs' knowledge of the complete process to diagnose growth faltering, severe acute malnutrition/moderate acute malnutrition and bilateral pitting edema was also low. More than half of the FCHVs incorrectly classified a sample child's nutritional status. When presented with a growth chart of a child with a "red" reading, none of the FCHVs named all the steps that should be taken to counsel the caretaker of this child however, almost two-thirds reported they would refer the child to a health facility (Tables 11.13 to 11.17).

On observation of available supplies, almost one in four FCHVs had ORS packets and two-thirds of all FCHVs had condoms and contraceptive pills. Less than 10% of FCHVs had misoprostol available. In terms of job aids, more than 80% had HMIS FCHV registers and basic flip charts available. Less than one-third of FCHVs had an ARI classification card, cotrim card and chlorhexidine card available (Table 11.18).

Table 11.1: Background characteristics of FCHVs

	FCHVs (N=192) Mean (SD)/%
Age (completed years; range: 18-70)	41.1 (11.0)
Religion: Hinduism	92.2%
Caste	
Socially excluded (Dalit, Muslim, Disadvantaged Janajati)	55.7%
Brahmin/Chettri	30.2%
Others (Newar, Gurung/Thakali, Non-dalit terai, Other)	14.1%
Total number of household members (Range: 1-28)	4.7 (3.0)
Education levels	
Never attended school/ grade 1 not complete	3.5%
Some primary school (grades 1-5)	9.9%
Completed primary school (grades 5)	9.2%
Some secondary school (grades 6-9)	50.7%
Completed secondary school (grade 10)	16.9%
Completed class 12	8.5%
Higher education	1.4%
Literacy	
Can read whole sentence	78.1%
Can only read part of sentence	11.5%
Can't read any of sentence	10.4%

Equity quintile	
Poorest	9.4%
2nd poorest	17.2%
Middle	21.9%
2nd wealthiest	32.3%
Wealthiest	19.3%
Total types of assets owned (Range: 2-16)	8.4 (3.1)
Household has smart phone with internet access	31.2%
Owens any agricultural land	99.5%
Size of land in hectares* (among those who own any)	1214.2 (1822.4)

Table 11.2: FCHV work experience and workload characteristics

	FCHVs (N=192) Mean (SD)/%
Length of time as FCHV in years (among those who remember, N=190) (Range: 0-29)	15.8 (8.8)
Less than one year as FCHV (among those who remember, N=190)	1.1%
Hours per day working as FCHV (Range: 0-12)	1.1 (1.6)
Total number of other FCHVs in ward (Range: 0-6)	0.7 (1.2)
Perception of workload	
Too much	47.4%
Right amount	52.1%
Too little	0.5%
Workload change in last year	
More	68.2%
Same	29.7%
Less	2.1%
Reasons for increased workload (only among those who reported more work in last year, N=131)	
Increased number of home visits	61.1%
Increased duration of home visits	41.2%
Increased number of group meetings	23.7%
Increased duration of group meetings	18.3%
Larger geographic area to cover	23.7%
More paperwork	20.6%
More meetings	33.6%
More trainings	32.1%
Required multi-sectoral collaboration	19.9%
Other	26.0%

Table 11.3: FCHV engagement with community

	FCHVs (N=192) Mean (SD)/%
Number of people who came to her house the day before	1.3 (1.9)
None	48.4%
1 to 3	40.1%
4 to 6	9.9%
> 6	1.6%
Number of home visits made the day before	0.6 (1.4)
None	56.3%
1 to 3	27.1%
4 to 6	8.9%
> 6	7.8%

Facilitates any group meeting in community	93.2%
Facilitates Health Mothers Group (HMG), among those who facilitate any group (N=179)	96.7%
HMG characteristics, among those who facilitate (N=173)	
Group size	29.6 (15.9)
10 to 20	16.2%
20 to 30	48.0%
>30	35.8%
Number of meetings in last 3 months	2.8 (0.5)
Number of attendees at last meeting	23.8 (13.3)
Length of meeting (hours)	1.7(1.2)
Facilitates Savings Group, among those who facilitate any group (N=179)	39.1%
Savings group characteristics, among those who facilitate (N=70)	
Group size	34.0 (24.2)
10-20	24.3%
20-30	34.3%
>30	41.4%
Number of meetings in last 3 months	2.8 (0.5)
Number of attendees at last meeting	26.1 (20.3)
Length of meeting (hours)	1.6 (1.2)

Table 11.4: Time spent on work activities in last one month

	FCHVs (N=192) Mean (SD)
Group meetings and preparation	3.1 (8.4)
Home visits	13.3 (19.9)
Recording/reporting/paperwork	2.9 (7.3)
Getting additional supplies	3.9 (7.5)
Distributing products	4.7 (7.7)
People coming to house for advice/care	5.0 (8.3)
Total hours spent on above activities (Range: 0-582)	32.9 (47.0)

Table 11.5: Interactions with health facilities

	FCHVs (N=192) %
FCHV/HF monthly meetings	97.4%
Monthly attendance at FCHV/HF meetings (among those reporting a meeting is held, N=187)	98.4%
Topics discussed in FCHV/HF meetings (among those reporting a meeting is held, N=187)	
Reporting/HMIS	93.6%
Supervision/management	7.5%
Trainings	25.7%
Commodities/supplies	51.3%
Clinic services	12.8%
Child health and nutrition	48.7%
Maternal health and nutrition	39.6%
Family planning	44.4%
WASH	21.9%
CB-IMNCI	8.0%
NACS	13.4%
Recording work-related information	
On her own	78.7%

With assistance from others

20.8%

Table 11.6: FCHV support for PHC/ORC

	FCHVs (N=192) %
Ever supported PHC/ORC in community	74.5%
Frequency of support for PHC/ORC (among those who reported support, N=143)	
Monthly	81.8%
Bi-monthly	4.2%
Irregularly	14.0%
Specific support provided to PHC/ORC	
Encourage households to attend	80.4%
Support health workers with management	70.6%
Child health and nutrition counselling	30.1%
Women's health and nutrition counselling	18.9%
Men's health and nutrition counselling	4.9%
Family planning counselling	21.7%
Assisted in weighing child	4.7%
Other	8.4%

Table 11.7: Maintenance of 1000-day household lists

	FCHVs (N=192) %
Maintains a 1000-day household list	58.9%
1000-day household list updating (among those who keep a list, N=113)	
Monthly	56.6%
Bi-monthly	11.5%
Once or twice a year	9.7%
Irregularly	22.1%
1000-day household identification (among those who keep a list, N=113)	
Health worker/facility info	16.8%
Mothers' group meeting info	73.5%
<i>Suaahara</i> staff info	97.4%
Door to door visits	72.6%
1000-day woman self-identify	31.9%
Community word of mouth	40.7%
Other	2.7%

Table 11.8: Child feeding advice sought from FCHV by community

	FCHVs (N=192) %
Any advice/information sought on child feeding	81.8%
Specific topics (among those who are asked for advice, N=157)	
Positioning baby at breast	21.0%
Attaching baby at breast	15.9%
Breastfeeding initiation	10.2%
Breastfeeding frequency	24.2%
Exclusive breastfeeding duration	13.4%
Insufficient breast milk	26.1%
Complementary feeding initiation	22.3%
Complementary feeding frequency	51.0%

Complementary feeding quantity	35.0%
Complementary feeding food types	48.4%
Whether to give specific items (ASF, green veg, etc.) to children	36.9%
Complementary feeding texture	18.5%
Encouraging child to eat	24.8%
Preparing foods hygienically	21.7%
When to give water/other liquids	11.5%
Baby crying too much	10.8%
Sick child feeding	22.3%
Other	3.2%

Table 11.9: FCHV Training

	FCHVs (N=192) Mean (SD)/%
First full FCHV training (number of years ago; Range: 1-29)	16.0 (8.3)
Training received in last 12 months	
Maternal care (ANC, delivery, PNC)	18.2%
Newborn care	17.2%
Breastfeeding	21.4%
Child diet/complementary feeding: adequacy/quality	18.8%
Nutritional care of a sick child	20.8%
Growth monitoring	10.9%
Vitamin A/mineral supplementation	20.8%
Anemia (iron deficiency)	9.9%
Immunization	12.0%
Family planning	19.8%
Adolescent health and nutrition	8.9%
WASH	14.6%
Setting up/facilitating groups	9.9%
Counselling methods for groups or individuals	0.0%
Planning a homestead garden/vegetable diversification	10.9%
Chicken rearing/vaccination	6.8%
Multi-sectoral collaboration	2.1%
Gender equity and social inclusion	7.3%
VDC budget planning process	2.6%
Disaster management and climate change adaptation	2.1%
Preparation of Local Disaster Risk Management Plan (LDRMP) and/or	
Local Adaptation Plan of Action (LAPA) of Climate Change	1.6%

Table 11.10: Interactions with other frontline workers (at least once in last month)

	FCHVs (N=192) %
Government Health Worker (e.g. AHW/ANM/Doctor/nurse)	97.4%
NGO health/nutrition worker	24.0%
Government agriculture/livestock/fisheries extension worker	15.6%
NGO agriculture/food security worker	6.3%
MOFALD Social mobilizer	31.8%
<i>Suaahara</i> (e.g. field supervisor, village model farmer, WASH triggerer)	37.5%

Table 11.11: FCHV job motivation

	FCHVs (N=192)
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	%
I receive adequate training to meet my current responsibilities.	68.2%
I do not have a lot of pressure. Workload does not seem to be increasing	81.2%
I find my work to be motivating and I like to do my work.	96.9%
I feel that the health system values our efforts to improve communities	95.3%
I feel that the people in the community value our efforts to improve their lives.	92.2%
I feel confident that I am performing very well.	99.0%
I do not find it difficult to get adequate support from the FCHV system	54.7%

Table 11.12: FCHV supervision

	FCHVs (N=192) Mean (SD)/%
Supervisor	
Health assistant	10.9%
AHW/Sr AHW	55.2%
ANM/Sr ANM	31.3%
Other	2.6%
Times met with supervisor in last 1 month (Range: 0-8)	2.0 (1.3)
Reasons for meeting with supervisor (among those who met, N=177)	
Review performance	62.2%
Discuss a case	37.3%
Provide technical information	9.6%
Training	27.1%
Discuss workload	19.8%
Organize work	18.1%
Submission of report	6.8%
Other	13.0%
Supportive supervision: FCHV agrees/strongly agrees to	
I feel well informed by my supervisor about changes/modifications to the program activities that I am involved in.	91.7%
My supervisor ensures that I have enough supplies to do my daily work.	77.1%
My supervisor works with me to identify solutions to problems I face in my work.	78.1%
My supervisor is sympathetic to and cares about my work-related problems	85.9%
My supervisor gives me enough guidance and structure to help me do my job	93.2%
I look forward to interaction with my supervisor	97.4%

Table 11.13: Knowledge of appropriate anthropometric measurements

	FCHVs (N=192) %
Assessing weight gain during pregnancy	
Named all 5 steps	1.0%
Remove clothes, jewelry, etc. of the client	28.1%
Ensure client stands in the middle of the scale	29.7%
Ensure client stands with feet slightly apart	10.9%
Stand in front of the scale to read the weight as precisely as possible	19.8%
Record weight immediately	26.6%
Don't know	47.4%
Measuring weight among children <5	
Named all 5 steps	1.0%
Inform caretakers about the procedure and take consent	9.4%
Remove clothes, jewelry, etc. of the client	40.0%

Children <2 years: hang using salter scale; >2 years: stand child in middle of scale, feet slightly apart	27.6%
Stand in front of the scale to read the weight as precisely as possibly	19.8%
Record the weight	33.8%
Don't know	39.6%
Measuring height/length among children <5	
Named all 6 steps	0.5%
Inform caretakers about the procedure and take consent	2.6%
Remove clothes, jewelry, etc. of the client	6.8%
Children <2 years: lie flat on length board; >2 years: stand child on height board	5.2%
Hold key body parts so they are touching the board	1.6%
Move the movable pieces to be flat against the feet and head for measurement	1.0%
Record length/height	5.2%
Don't know	88.0%

Table 11.14: Knowledge of steps for measuring nutrition indicators

	FCHVs (N=192) %
Calculating WHZ of children <5	
Named all 6 appropriate steps	0.0%
Choose appropriate age group	2.1%
Choose appropriate cutoffs for male and female	1.0%
Identify length/height	2.1%
Find the height/length corresponding to the weight	1.6%
Find the exact Z score value	0.0%
Classify appropriately according to Z score	0.0%
Don't know	96.4%
Taking MUAC measurements of children 6-59 months, adolescent girls, pregnant and lactating women	
Named all 7 appropriate steps	4.2%
Inform caretakers about the procedure and take consent	10.4%
Use the appropriate MUAC tape (children, adult)	25.5%
Remove clothes of left arm	32.3%
Find mid-point of arm	32.3%
Measure the circumference	31.3%
Record the MUAC	25.0%
Classify nutrition status according to MUAC	17.7%
Don't know	55.2%
Assessing bilateral pitting edema	
Named all 4 appropriate steps	0.5%
Inform caretakers about the procedure and take consent	0.5%
Press firmly with thumbs on both feet for 3 full seconds and then remove thumbs	20.3%
Press on lower legs, hands and lower arms	15.1%
Classify based on if skin stays depressed on both feet or if skin stays depressed in legs/hands/arms, look for swelling in face, especially around eyes	16.7%
Don't know	61.5%

Table 11.15: Knowledge of reading and interpreting child health status

	FCHVs
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	(N=192) %
GMP in child health card (correct reading)	
Red	45.8%
Yellow	45.3%
Green	88.5%
Classifying nutritional status of child <5 years	
Correct reading (improving: but still in red (concern) area)	21.4%
Incorrect reading	56.7%
Don't know	21.9%

Table 11.16: Knowledge of diagnosing malnutrition

	FCHVs (N=192) %
Diagnosing growth faltering in children <2 years	
Named all 5 steps	0.5%
Weigh the child properly, as per protocol	43.8%
Record it in the graph of Child Health Card	13.5%
Drag the line connecting weight taken in different months	16.2%
Match with curve shown in child health card	11.5%
Identify correctly the growth trend (inclining, stagnant, or declining)	17.7%
Don't know	29.2%
Diagnosing presence/absence of SAM/MAM in children <5 years	
Named all 4 steps	0.5%
Weigh the child properly, as per protocol	35.4%
Measure length/height of child properly	18.2%
Calculate WHZ score	1.6%
Use WHZ score to classify child correctly	1.0%
Don't know	47.9%

Table 11.17: Knowledge of nutrition counselling to mother/primary caretaker of child aged <5 years who had a “red” reading in the growth chart

	FCHVs (N=192) %
Named all 6 counselling steps	0.0%
Continued breastfeeding	28.1%
Feed a more diverse diet	35.9%
Continue growth monitoring	14.1%
Refer to doctor/health facility	62.0%
Suggest baby food/formula	15.6%
Suggest preparing special baby foods	27.6%
Don't know	18.2%

Table 11.18: Availability of work-related commodities and job aids (observation)

	FCHVs %
Commodities available	
Condoms	65.6%
Contraceptive pills (cycles of 28)	61.5%
ORS packets	79.7%
Zinc tablets (strips of 10)	55.7%
Cotrimoxazole-Pediatric (strips of 10)	21.4%
Iron tablets	53.7%
Vitamin A capsules	51.6%
Navi Malam-Kawach	44.8%
Matri Surakshya Chakki (misoprostol, strips of 3)	9.4%
Balvita	32.3%
FCHV service registry	
No record	9.4%
Partial records done	28.1%
Full records done	47.4%
Could not observe	15.1%
Job aids available	
HMIS 4.2: FCHV register	86.5%
ARI classification card	22.9%
Cotrim card	25.0%
Zinc card	42.1%
Home therapy card	43.2%
Chlorhexidine/Kawach card	22.9%
Chlorhexidine doll	53.1%
Basic flip chart	88.5%
FCHV sign board	41.5%
FCHV Manual	66.7%
BPP flip chart	40.1%
BPP action card (to pregnant women)	30.1%

12. Results: Health Facilities

Background characteristics of 731 health facility staff from the 96 sampled health facilities were collected. A little more than half of the staff were female, with a mean age of 34 years, and almost two-thirds belonged to the Brahmin/Chettri caste (Table 12.1).

The primary respondents to the health facility survey had a mean age of 34 years, and 15% were female. Majority of the respondents were staff nurses or health assistants and their mean years of work experience as a health worker was approximately 11 years (Table 12.2).

Around 95% of health facilities had access to a mobile phone and almost three-quarters were connected to the national electricity grid. Improved water sources were available at 72% of sampled health facilities (Table 12.3).

On average, facilities provided health services on 6 days of the week for 9 hours of the day. Health service providers were present at all times or available on-call for emergencies at 86% of health facilities (Table 12.4).

Health facilities conducted an average of 9 PHC/ORC clinics in the 3 months prior to the survey. The most common services provided at the services included family planning, first aid, child growth monitoring and antenatal care. HIV services, newborn care, WASH counselling, and IMNCI were the least provided services (Table 12.5).

Health facilities conducted an average of 12 EPI clinics in the 3 months prior to the survey. The most common services provided at the services included child growth monitoring, family planning and nutrition and health counselling. HIV services, newborn care, WASH counselling, and IMNCI were the least provided services (Table 12.6).

Almost all (99%) of facilities reported FCHV support to PHC/ORC clinics. The most common form of support was FCHVs encouraging households to attend the clinics and supporting health workers with clinic management. (Table 12.7). The greatest challenge to holding PHC/ORC and EPI clinics was lack of fixed location/infrastructure, followed by remoteness and inadequate supplies (Table 12.8).

Health Facility Operation and Management Committees (HFOMCs) or Hospital Development Committees (HDCs) were formed in almost all health facilities, and on average, the last HFOMC/HDC meeting at the facilities took place less than one month prior to the survey. Almost half of the health facilities (45%) had both social and financial audits in the previous fiscal year, whereas around 23% of health facilities had neither. Monthly meetings with FCHVs were reported to be held at almost all health facilities (99%), with an average attendance of 12 FCHVs at the last meeting. The most common topic discussed at these meetings was reporting/health management information systems (HMIS). Family planning and child health and nutrition were also frequently discussed. The health facility in-charge was responsible for health services data management and reporting at most facilities (Table 12.9).

All health facilities in the sample provided family planning counselling and/or services and had at least one family planning product available at the facility. Condoms were available at all health facilities and pills and depots/injectables were available at almost all facilities (99%). The least available family planning services were referral for unavailable family planning methods, VSC (Minilap, vasectomy) and emergency contraception (Table 12.10).

Antenatal care (ANC) was available for 5 or more days per week at 79% of health facilities. The most common services (at 80% or more health facilities) always offered to pregnant women as part of ANC were albendazole/deworming treatment, weight

monitoring, counselling/information sharing and vital signs check. The least common was misoprostol, which was only offered at 21% of health facilities. More than half of health facilities carried out HIV rapid diagnosis tests during ANC, and almost half carried out urine pregnancy tests. Syphilis rapid diagnosis tests and blood glucose tests were least frequently carried out during ANC, at less than 10% of health facilities (Table 12.11).

Health workers were available for conducting deliveries at all times at 72% of the health facilities and Auxiliary Nurse Midwives (ANMs) were reported to be available at all times at 68% of health facilities. Partographs were used to monitor labor and delivery at about two-thirds of all health facilities, and it was routinely used at 55% of health facilities. At least one functional dedicated delivery bed and one maternity bed were available at more than two-thirds of the health facilities (Table 12.12).

Postnatal care services (PNC) were available at less than three-quarters of the surveyed health facilities, and two-thirds of health facilities reported PNC services being available for 5 or more days per week. The most common postpartum/newborn care practices that were routinely practiced during PNC were drying and wrapping the newborn, initiation of breastfeeding within the first hour after delivery and applying chlorhexidine to umbilical stump. The least common practices were delaying full bath until 24 hours after birth and Kangaroo Mother Care for low birthweight babies. Two-thirds of the health facilities reported counseling mothers about the importance of a minimum of 3 PNC visits within the week after delivery, prior to discharge (Table 12.13).

Child health services were available for 5 or more days per week at 84% of health facilities. The most common services provided included providing zinc and ORS for child diarrhea, providing deworming treatment, weighing child, assessing child's vaccination status, providing vitamin A supplementation and taking child's temperature, all of which were provided at more than 60% of the surveyed health facilities. The least common service was providing group health education, which was available at less than 10% of health facilities. Growth monitoring services were available for 5 or more days per week at two-thirds of the surveyed facilities (Table 12.14).

Nutrition assessment services were provided for children under 5 years, pregnant women and lactating mothers at more than 80% of health facilities. These services were less available for adolescent girls, with only 40% of health facilities reporting the available of nutrition assessment services for adolescent girls. Nutrition counseling was available for lactating mothers at all health facilities and for children under 5 years and pregnant women at almost all health facilities. This was available for adolescent girls at only 68% of health facilities (Table 12.15).

More than half of health facilities reported providing services for the management of severe acute malnutrition and moderate acute malnutrition (SAM/MAM) cases. Among those that reported this, SAM/MAM cases were mostly referred to the district hospitals

(60%) or the nearest nutrition rehabilitation home (24%) and less often to the regional hospital (11%) (Table 12.16).

Almost all health facility respondents reported high levels of job motivation, specifically agreeing that they find their work to be motivating, and they feel confident in their performance. Areas with less agreement included receiving adequate training to meet responsibilities and adequate support from the health system (Table 12.17).

Around 90% of health facilities had a visit from the District Health Office (DHO) or District Public Health Office (DPHO) or RHD in the last 12 months. On average, the health facilities had been visited around 3 months prior to the survey. Respondents at 71% of health facilities reported meeting with their supervisor at least once in the last 1 month. The most common reason for meeting with the supervisor was performance review and the least common was organization of work (Table 12.18).

Around 85% of health facilities had a formal system for reviewing FCHVs work, and this was commonly reviewed on a monthly basis. Around 90% of respondents reported receiving suggestions from their supervisors to strengthen their services. Respondent responses to prompts on supportive supervision indicate that the health workers look forward to interactions with supervisors. While 3 in 4 health workers suggested that their supervisors were sympathetic to their work problems and provided guidance and support, certain gaps in supportive supervision were also highlighted. Around half of the respondents indicated that they did not have enough supplies for their daily work, and a lack of support from supervisors in identifying solutions to work problems (Table 12.19).

Primary respondents' training exposure in the last 12 months was highest for measuring weight and height/length of children, followed by nutritional care of a sick child. In addition to these, training in essential newborn care, breastfeeding, and adequacy/quality of child diet was received by more than 30% of health facility respondents in the last 12 months. None of the respondents were trained in VSC (vasectomy and minilap) and very few were trained in IUD insertion and removal, chicken rearing, group facilitation, implant insertion and removal, and GESI, all of which were received by less than 10% of health facility respondents (Table 12.20).

On observation, all health facilities had deworming tablets available and almost all (>95%) had condoms, injectables, zinc tablets, ORS packets and iron-folic acid tablets available. The least available commodity was amoxicillin syrup and misoprostol. In terms of job aids, more than 90% of facilities had a stethoscope, thermometer, weighing scale, child health cards, HMIS forms for reporting and health visual aids. Height/length boards were the least available commodity, with less than 30% of facilities having one. Among health facilities where job aids were available, almost all of the job aids were also functional (Table 12.21).

Table 12.1: Background characteristics of all staff at sampled health facilities

Health facilities (N=731) Mean (SD)/%

Gender: female	52.8%
Caste/Ethnicity	
Socially excluded	21.5%
Brahmin/Chettri	65.5%
Other	13.0%
Age (completed years)	34.3 (10.4)
Post	
Medical officer	2.3%
SN/HA	11.6%
Sr. AHW/AHW	28.6%
Sr. ANM/ANM	34.6%
Lab Asst./Tech	3.3%
Support staff	14.9%
Administrative staff	1.2%
Other	3.4%
Sanctioned post	75.7%
Time in this post at this facility (years)	4.6 (6.0)
Time in this post at other facility (years)	2.1 (4.1)
Total years of experience as health worker	7.7 (9.1)

Table 12.2: Background characteristics of respondents at sampled health facilities

	Health facilities (N=96) Mean (SD)/%
Gender: female	14.6%
Caste/Ethnicity	
Socially excluded	12.5%
Brahmin/Chettri	65.6%
Other	21.9%
Age (completed years)	34.0 (9.7)
Post	
Medical officer	6.3%
SN/HA	59.4%
Sr. AHW/AHW	30.2%
Sr. ANM/ANM	2.1%
Administrative staff/ other	2.0%
Sanctioned post	97.9%
Time in this post at this facility (years)	2.8 (4.3)
Time in this post at other facility (years)	2.4 (4.1)
Total years of experience as health worker	10.6 (9.5)

Table 12.3: Health facility amenities

	Health facilities (N=96) %
Functioning communication	
Landline telephone	9.4%
Mobile telephone	94.8%
Computer	32.3%
Access to e-mail/internet	22.9%
Connection to national electricity grid	74.0%
No other sources of electricity	38.5%
Improved water source	71.9%

Water supply available throughout the year

79.2%

Table 12.4: Service availability

	Health facilities (N=96) Mean (SD)/%
Number of days per week facility is open to provide services	6.4 (0.5)
Hours per day facility is usually open to provide services	9.0 (5.8)
Number of clinical staff working in the facility on the day	4.4 (2.9)
Health service provider present at facility at all times or officially on-call for emergencies	88.5%

Table 12.5: PHC/ORC clinics

	Health facilities (N=96) Mean (SD)/%
Number of PHC/ORC conducted in last 3 months	9.4 (4.1)
Services provided from PHC/ORC (among facilities that conducted 1+ PHC/ORC in last 3 months, N=92)	
Child growth monitoring	68.5%
Weight gain during pregnancy	56.5%
FP services	89.1%
Iron & folic acid supplementation	33.7%
ORS/Zinc distribution	33.7%
ARI/Pneumonia treatment	22.8%
General treatment	52.2%
HIV services	8.7%
Health counselling	47.8%
FP counselling	64.1%
Nutrition assessment	31.5%
Nutrition counselling	48.9%
WASH counselling	13.0%
Referral to health facility	17.4%
IMNCI	14.1%
Antenatal care	62.0%
Postnatal care	31.5%
Newborn care	12.0%
First Aid	69.6%
Other	2.2%
Staff members who participated in the PHC/ORC clinics from the facility (N=92)	
ANM/ Sr. ANM	96.7%
AHW/ Sr. AHW	89.1%
Other	4.4%

Table 12.6: EPI clinics

	Health facilities (N=96) Mean (SD)/%
Number of EPI clinics conducted by the facility in the last 3 months	12 (5.0)
Services provided from the EPI clinic (among facilities that conducted 1+ EPI clinics in last 3 months, N=94)	
Child growth monitoring	57.5%
Weight gain during pregnancy	22.3%
FP services	28.7%

Iron & folic acid supplementation	13.8%
ORS/Zinc distribution	6.4%
ARI/Pneumonia treatment	4.3%
General treatment	11.7%
HIV services	2.1%
Health counselling	24.5%
FP counselling	34.0%
Nutrition counselling	27.7%
WASH counselling	10.6%
Immunization	19.2%
Other	5.3%
Staff members who participated in the EPI clinics from the facility	
SN/HA	7.5%
ANM/ Sr. ANM	91.5%
AHW/ Sr. AHW	90.4%
Other	6.4%

Table 12.7: FCHV support to PHC/ORC and EPI clinics

	Health facilities (N=96) %
Encourage households to attend clinics	90.6%
Support health workers with management	63.5%
Counselling on child health and nutrition	29.2%
Counselling on women's health and nutrition	19.8%
Counselling on men's health and nutrition	8.3%
Counselling on family planning	28.1%
Help with child growth monitoring	27.1%
Recording in health cards	10.4%
Iron & folic acid supplementation	12.5%
ORS/Zinc distribution	14.6%
Referral to health facility	11.5%
First Aid	11.5%
ARI/Pneumonia treatment	2.1%
General treatment	9.4%
Other	6.3%
N/A: FCHV does not support	1.0%

Table 12.8: Challenges to holding PHC/ORC and EPI clinics

	Health facilities (N=96) %
Remoteness/travel	54.2%
No per diem	13.5%
Inadequate supplies	47.9%
Inadequate human resources	26.0%
Lack of demand	11.5%
Lack of fixed location/infrastructure	84.4%
Other	2.1%

Table 12.9: Health facility operations and management

	Health facilities (N=96) Mean (SD)/%
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HFOMC or HDC formed in the health facility	99.0%
Number of male/female members in the HFOMC or HDC (N=95)	
Male	5.9 (1.5)
Female	3.2 (1.2)
Number of HFOMC or HDC meetings in the last fiscal year (2073-2074), N=95	8.8 (3.9)
Last committee meeting (number of months ago) (N=94)	0.9 (1.3)
Financial or social audit conducted/held in previous fiscal year	
None	22.9%
Yes, both	44.8%
Yes, financial audit only	10.4%
Yes, social audit only	16.7%
Don't know	5.2%
Monthly FCHV meetings at health facility	99.0%
Number of FCHVs who attended last health facility meeting (N=95)	12.3 (6.8)
Topics usually discussed in FCHV meeting in health facility (N=95)	
Reporting/HMIS	91.6%
Supervision/management	13.7%
Commodities/supplies	44.2%
Child health and nutrition	50.5%
Maternal health and nutrition	43.2%
Family planning	56.8%
WASH	21.1%
Mortality audits	3.2%
Collaboration with development programs	1.1%
Other	16.8%
Person responsible for health services data management and reporting in the facility	
HF in-charge	81.3%
Other HWs	18.8%

Table 12.10: Family planning services and products

	Health facilities (N=96) Mean (SD)/%
FP counselling and/or services are provided	100.0%
Availability of at least 1 FP product	100.0%
Availability of at least 3 FP products (condoms, pills, injectables)	97.9%
Available FP services*	
FP counseling	66.7%
Condom	100.0%
Depo/injectable	99.0%
Pills	99.0%
Referral for unavailable FP methods	5.2%
Any stock out of FP commodities in the last one year	13.5%
Among facilities that had stock outs, number of months of stock-out (in the last 12 months):	
Condoms (N=1)	5.0 (0.0)
Depo/injectable (N=2)	2.0 (1.4)
Pills (N=5)	1.0 (0.7)

*Note: This analysis covers the three family planning commodities (condoms, pills, injectables) which should be in all health posts and does not include IUD and implants because these commodities are not expected to be at all health posts to date. All 2 of 2 hospitals, 3 of 3 PHCCs and 30 of 91 health posts in the sample reported all five commodities (condoms, pills, injectables, IUDs and implants).

Table 12.11: Maternal health services: antenatal care (ANC)

	Health facilities (N=96) Mean (SD)/%
Availability of services in 5 or more days per week	79.2%
Number of days (in the last week) ANC services were offered	5.3 (1.7)
Services always offered to pregnant women as part of ANC	
Iron-folic acid supplementation	75.0%
Tetanus-diphtheria vaccine	72.9%
Albendazole/deworming	85.4%
Misoprostol (Matri Surakshya Chakki)	20.8%
Fundal height examination	74.0%
Nutrition assessment	56.3%
Weight monitoring	82.3%
Vital signs check	81.3%
Counselling/information sharing	82.3%
Diagnostic medical tests carried out by health service providers during ANC	
HIV rapid diagnosis test	57.3%
Urine protein test	29.2%
Urine glucose test	21.9%
Hemoglobin test	20.8%
Syphilis rapid diagnosis test	4.2%
Blood grouping	16.7%
Blood glucose test	6.3%
Urine pregnancy test	42.7%
Other	12.5%

Table 12.12: Maternal health services: delivery

	Health facilities (N=96) %
Health workers available for conducting deliveries at all times (24/7)	
None	28.1%
ANM/Sr. ANM	67.7%
AHW/ Sr. AHW	18.8%
Partograph use to monitor labor and delivery	
None	34.4%
Routinely (for all cases)	55.2%
Selectively (only for some cases)	10.4%
Dedicated beds	
At least one functional dedicated delivery bed available	70.8%
At least one functional dedicated maternity bed available	68.8%

Table 12.13: Maternal health services: postnatal care services (PNC)

	Health facilities (N=96) Mean (SD)/%
Postpartum/ newborn care practices routinely practiced	
Drying and wrapping newborn	67.7%
Initiation of breastfeeding within first hour	66.7%
Weighing the newborn immediately	46.9%
Apply chlorhexidine ointment to umbilical stump	61.5%
Delay full bath after 24 hours of birth	14.6%
Kangaroo Mother Care for low birth weight babies	39.6%

No delivery/PNC services	27.1%
Other	14.6%
Mothers are counseled about the importance of minimum 3 PNC visits prior to discharge	66.7%
Number of days (in a month) PNC services are offered	19.5 (14.1)
Availability of services in 5 or more days per week	64.6%

Table 12.14: Child health services

	Health facilities (N=96) Mean (SD)/%
Availability of services in 5 or more days per week	84.4%
Number of days per month child health services (including consultations or curative care) are provided	23.2 (6.65)
Child health services provided	
Diagnose and/ treat child malnutrition	56.3%
Provide Vitamin A supplementation	61.5%
Provide Zinc for child diarrhea	84.4%
Provide ORS for child diarrhea	76.0%
Provide deworming to children	69.8%
Provide Balvita/micronutrient powder	35.4%
CBIMNCI services	42.7%
Weighing the child	67.7%
Plotting child's weight on graph (e.g. HMIS card, child health card)	35.4%
Taking child's temperature	60.4%
Assessing child's vaccination status	62.5%
Providing group health education	9.4%
Administer fever-reducing medicines and/or sponge for fever	34.4%
Triaging of sick children	35.4%
Referral of severe acute malnourished cases	53.1%
Other	5.2%
Number of days per month growth monitoring services are provided	19.0 (10.1)
Availability of growth monitoring services in 5 or more days per week	65.6%

Table 12.15: Nutrition assessment and counselling services availability

	Health facilities (N=96) %
Nutrition assessment services are provided for:	
Children under 5 years	83.3%
Adolescent girls (10-19 years)	39.6%
Pregnant women	84.4%
Lactating mothers	80.2%
Nutrition counselling is provided for:	
Children under 5 years	96.9%
Adolescent girls (10-19 years)	67.7%
Pregnant women	97.9%
Lactating mothers	100.0%

Table 12.16: Severe acute malnutrition/ moderate acute malnutrition services

	Health facilities (N=96) %
Services for management of SAM/MAM cases are provided	53.1%

Locations where SAM/MAM cases are referred to (N=45)

Nearest nutrition referral center/ nutrition rehabilitation home (NRH)	24.4%
District hospital	60.0%
Regional hospital	11.1%
Other	4.4%

Table 12.17: Job motivation

	Health facilities (N=96) %
I receive adequate training to meet my current responsibilities.	61.5%
I find my work to be motivating and I like to do it.	99.0%
I feel that the leadership of the health system values our work in the health facilities	84.4%
I feel that the people in the community value our efforts to improve their lives.	93.8%
I feel confident that I am performing very well.	99.0%
Nutrition should be a major focus of this health facilities' work because it is a major problem in the district.	95.8%
I do not have a lot of pressure	83.3%
I do not find it difficult to get adequate support from the health system	50.0%

Table 12.18: Job supervision

	Health facilities (N=96) Mean (SD)/%
Last D(P)HO/RHD visit (in the last 12 months)	
Completed months	2.6 (2.61)
Never	10.4%
Don't know	1.0%
Met with supervisor at least 1 time in the last 1 month	70.8%
Times met with supervisor in last 1 month, among those who met at least once (N=68)	2.9 (3.9)
Reasons for meeting with supervisor (N=68)	
Review performance	60.3%
Discuss a case	36.8%
Provide technical information	25.0%
Training	30.9%
Discuss workload	19.1%
Organization of work	11.8%
Data verification	22.1%
Other	2.9%

Table 12.19: Supportive supervision

	Health facilities (N=96) Mean (SD)/%
Ever received suggestions from supervisors for strengthening services	89.6%
Last time received suggestions from supervisors for strengthening services, among those who ever received (N=86)	
Completed months, if less than 1 year (N=84)	1.4 (1.5)
1 year or more	2.3%
Formal system for reviewing FCHVs work	85.4%
Frequency of reviewing FCHVs work	
None	2.1%

Monthly	57.3%
Every 2 months	1.0%
Twice a year	24.0%
Annually	15.6%
Agrees/strongly agrees that:	
I feel well informed by my supervisor about changes/modifications to the program activities that I am involved in.	78.1%
My supervisor ensures that I have enough supplies to do my daily work.	51.0%
My supervisor works with me to identify solutions to problems I face in my work.	58.3%
My supervisor is sympathetic to and cares about my work-related problems	72.9%
My supervisor gives me enough guidance and structure to help me do my job	77.1%
I look forward to interaction with my supervisor	90.6%

Table 12.20: Training exposure in last 12 months

	Health facilities (N=96) %
Maternal care (antenatal, postnatal, or delivery)	22.9%
Essential newborn care	36.5%
Breastfeeding	35.4%
Adequacy/quality of children's diet	34.4%
Nutritional care of a sick child	38.5%
Measuring weight and height/length of children	42.7%
Vitamin A and mineral supplementation	26.0%
Anemia	15.6%
Immunization	15.6%
Family planning	21.9%
Adolescent health and nutrition	19.8%
Water, sanitation, and hygiene	12.5%
How to set up or facilitate groups	6.3%
Counseling methods for groups or individuals	18.8%
Planning a homestead garden and vegetable diversification	8.3%
Chicken rearing, including the importance of vaccines	4.2%
Multi-sectoral collaboration	12.5%
Gender equity and social inclusion (including family support)	8.3%
Comprehensive Family Planning and Counseling (CoFP/C)	10.4%
Implant insertion and removal training	8.3%
IUD insertion and removal training	1.0%
VSC training (Vasectomy and Minilap)	0.0%

Table 12.21: Availability of supplies and job aids, based on observation

	Health facilities (N=96) %
Supplies available	
At least 3 family planning products (condoms, pills and injectables)*	91.7%
Condoms	99.0%
Contraceptive pills (number of cycles)	93.8%
Injectables	99.0%

FP Counseling Tool Kit Box	80.2%
Decision Making Tool (DMT)	63.5%
Medical Eligibility Criteria Wheel (WHO)	43.8%
FP Informed Choice Poster	83.3%
ORS packets	97.9%
Zinc tablets (strips of 10)	99.0%
Cotrimoxazole-pediatric (strips of 10)	93.8%
Iron and folic acid tablets	97.9%
Vitamin A capsules	94.8%
Deworming tablets (albendazole)	100.0%
Navi Malam- Kawach/ Chlorhexidine gel 4%- 3 gm tube	92.7%
MatriSurakshyaChakki (misoprostol- strips of 3)	37.5%
Balvita sachets	45.8%
Ciprofloxacin 250 mg (strips)	80.2%
Amoxicillin DT (125 mg or 250 mg strips)	86.5%
Amoxicillin syrup (125mg/5ml)	13.5%
Gentamycin injection vile	80.2%
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Job aid available	
IMNCI chart booklet	79.2%
IMNCI mother's cards	54.2%
IEC materials on IYCF	49.0%
IEC materials on IMCI	47.9%
HMIS 9.3 forms for reporting	97.9%
HMIS user manual 2070	81.3%
FP counselling kit - DMT tool, MEC wheel, job aids	63.5%
Child health cards, including GMP (new card)	96.9%
Weighing scale (infant- 100 gm gradation)	94.8%
Weighing scale (child- 250 gm gradation)*	92.7%
Thermometer	97.9%
Stethoscope	100.0%
Timer or watch with second hand	88.5%
Height/Length board	27.1%
Tape for measuring head circumference	14.6%
MUAC tape	60.4%
Partograph	67.7%
Family planning visual aids	84.4%
WASH visual aids	67.7%
Health visual aids	91.7%
Nutrition/diet visual diets	81.3%
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Item functional (where available)	
IMNCI chart booklet (N=76)	96.8%
IMNCI mother's cards (N=52)	96.2%
IEC materials on IYCF (N=47)	93.6%
IEC materials on IMCI (N=46)	100.0%
HMIS 9.3 forms for reporting (N=94)	100.0%
HMIS user manual 2070 (N=78)	97.4%
FP counselling kit - DMT tool, MEC wheel, job aids (N=61)	93.4%

Child health cards, including GMP (new card) (N=93)	98.9%
Weighing scale (infant- 100 gm gradation) (N=91)	98.9%
Weighing scale (child- 250 gm gradation) (N=89)	100.0%
Thermometer (N=94)	100.0%
Stethoscope (N=96)	99.0%
Timer or watch with second hand (N=85)	94.1%
Height/Length board (N=26)	96.2%
Tape for measuring head circumference (N=14)	85.7%
MUAC tape (N=58)	98.3%
Partograph (N=65)	93.9%
Family planning visual aids (N=81)	100.0%
WASH visual aids (N=65)	96.9%
Health visual aids (N=88)	100.0%
Nutrition/diet visual aids (N=78)	98.7%

*Note: This analysis covers the three family planning commodities (condoms, pills, injectables) which should be in all health posts and does not include IUD and implants because these commodities are not expected to be at all health posts to date. All 2 of 2 hospitals, 2 of 3 PHCCs and 33 of 91 health posts in the sample had all five commodities, on observation (condoms, pills, injectables, IUDs and implants).

DISCLAIMER:

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