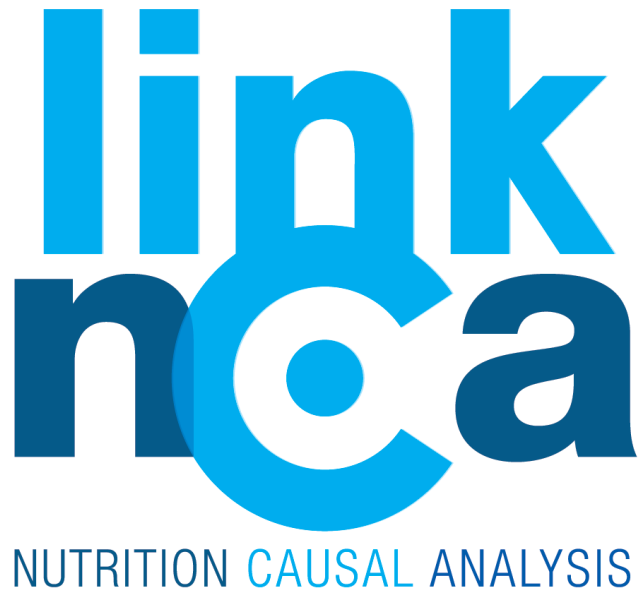


# Final report



July 2017 – April 2018

Wag Himra Zone, Amhara Region

Ethiopia

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## ABBREVIATIONS

AAH / ACF	Action Against Hunger / Action Contre la Faim
ACSI	Amhara Credit and Savings Institution
ANC	Antenatal Care
ARI	Acute Respiratory Infections
CI	Confidence Interval
CMAM	Community Management of Acute Malnutrition
CSB	Corn-Soya Blend
DCA	Danish Church Aid
DHS	Demographic and Health Survey
ECHO	European Civil Protection and Humanitarian Aid Operations
ENA	Emergency Nutrition Assessment
EU	European Union
FANTA	Food and Nutrition Technical Assistance
FAO	Food and Agriculture Organization
FGD	Focus Group Discussion
FSL	Food Security and Livelihoods
GAM	Global Acute Malnutrition
GCM	Global Chronic Malnutrition
HAZ	Height for Age z-score
HH	Household
HHS	Household Hunger Scale
HDDS	Household Dietary Diversity Score
HQ	Headquarters
IDDS	Individual Dietary Diversity Score
IPC	Integrated Phase Classification
IYCF	Infant and Young Child Feeding
LCD	Litres per Capita per Day
Link NCA	Nutrition Causal Analysis
MAHFP	Months of Adequate Household Food Provisioning
MAM	Moderate Acute Malnutrition
MUAC	Mid-Upper Arm Circumference
NGO	Non-Governmental Organization
ORDA	Organization for Rehabilitation & Development in Amhara
OTP	Outpatient Therapeutic Programme
PHCU	Primary Health Care Unit
PLW	Pregnant and Lactating Woman
PNC	Postnatal Care
PPS	Probability Proportionate to Size
PSNP	Productive Safety-Net Program
rCSI	Reduced Coping Strategy Index
RESET	EU Resilience Building Programme in Ethiopia
RFS	Risk Factor Survey
RUTF	Ready-to-Use Therapeutic Food
SAM	Severe Acute Malnutrition
SCI	Save The Children
SFP	Supplementary Feeding Programme
SSI	Semi-Structured Interview
SMART	Standardized Monitoring for Assessment in Relief & Transitions
UNICEF	United Nations' Children's Fund
WASH	Water, Sanitation and Hygiene
WFP	World Food Programme
WHO	World Health Organization
WHZ	Weight for Height z-score

## LIST OF FIGURES

Figure 1	Map of Wag Himra Zone illustrating main livelihood zones
Figure 2	Summary of key barriers to healthcare in Sekota and Dehana woredas
Figure 3	Cycle of malnutrition
Figure 4	Price fluctuations (in ETB) of cereals and beans in Sekota and Dehana woredas between Nov./Dec. (post-harvest period) and Feb./Mar. (planting period)
Figure 5	Causal pathway illustrating interconnections between household food security risk factors and nutritional status of women and infants in Sekota and Dehana woredas, Wag Himra zone
Figure 6	Evolution of prevalence of undernutrition in Sekota woreda from May 2013 till December 2017, based on available nutrition surveillance surveys.
Figure 7	Causal pathway illustrating interconnections between household food security risk factors and nutritional status of women and infants in Sekota and Dehana woredas, Wag Himra zone
Figure 8	Causal pathway illustrating interconnections between water, hygiene and sanitation risk factors and nutritional status of infants and young children in Sekota and Dehana woredas, Wag Himra zone
Figure 9	Simplified causal pathway likely to explain most cases of wasting in Sekota and Dehana woredas, Wag Himra zone
Figure 10	Simplified causal pathway likely to explain most cases of stunting in Sekota and Dehana woredas, Wag Himra zone

## LIST OF TABLES

Table 1	Calculation of a sample size for the Link NCA Anthropometric data collection with ENA for SMART software, Wag Himra zone
Table 2	Qualitative sampling framework for the Link NCA qualitative survey, Wag Himra zone
Table 3	Summary of community consultations during the Link NCA qualitative survey, Wag Himra zone
Table 4	List of hypothesised risk factors validated for field-testing during Initial Technical Workshop, including Technical Experts Rating
Table 5	Therapeutic itineraries for current childhood diseases in Wag Himra zone
Table 6	Seasonal calendar of main child illnesses in Wag Himra zone
Table 7	Barrier analysis related to a use of birth-spacing/family planning
Table 8	Perception of risk relating to certain birth-spacing behaviours
Table 9	Results of a participatory exercise on meal composition
Table 10	Seasonal calendar of main fasting seasons observed in Wag Himra zone
Table 11	Barrier analysis related to exclusive breastfeeding
Table 12	Perception of risk relating to breastfeeding practices
Table 13	Barrier analysis related to complementary feeding of children 6-23 months
Table 14	Perception of risk relating to certain child care practices
Table 15	Seasonal calendar for economic activities and food security in Wag Himra zone
Table 16	Results of a participatory exercise on household spending
Table 17	Perception of risk relating to certain hygiene behaviours
Table 18	Perception of difficulty relating to certain hygiene behaviours
Table 19	Overview of decision-making powers within a household
Table 20	Summary of Anthropometric data collection findings for Sekota and Dehana woredas, Wag Himra zone
Table 21	Prevalence of undernutrition by sex, Anthropometric data collection findings for Sekota and Dehana woredas, Wag Himra zone
Table 22	List of expressions in a local language used to describe malnutrition and/or other childhood diseases
Table 23	Summary of results of a community rating exercise
Table 24	Summary of categorisation of risk factors
Table 25	Rating grid for the categorisation of risk factors

## LIST OF PHOTOS

- |         |  |
|---------|--|
| Photo 1 | Community restitution in Begugn, Silda   |
| Photo 2 | Men ploughing fields in Guld, Tsata  |
| Photo 3 | Community members reflecting upon their household expenditure in Begugn, Silda |
| Photo 4 | Example of a typical latrine in Debere Saine, Dabil Maryam                     |
| Photo 5 | Children during P.E. class at school in Dida                                   |
| Photo 6 | Distribution of PlumpySup® in Debere Saine, Dabil Maryam                       |

## TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....	2
ABBREVIATIONS.....	3
LIST OF FIGURES .....	4
LIST OF TABLES .....	4
LIST OF PHOTOS .....	5
EXECUTIVE SUMMARY.....	8
I. INTRODUCTION .....	11
II. STUDY OBJECTIVES.....	12
III. METHODOLOGY.....	12
A. KEY STAGES.....	13
B. SAMPLING FOR QUANTITATIVE SURVEY .....	14
C. SAMPLING FOR QUALITATIVE SURVEY .....	15
D. QUANTITATIVE DATA COLLECTION .....	16
E. QUALITATIVE DATA COLLECTION .....	16
F. DATA MANAGEMENT AND ANALYSIS.....	19
G. ETHICAL CONSIDERATIONS.....	19
H. STUDY LIMITATIONS .....	20
IV. FINDINGS.....	21
HYPOTHESISED RISK FACTORS.....	21
A. HEALTH.....	21
B. NUTRITION AND CARE PRACTICES .....	35
C. FOOD SECURITY AND LIVELIHOODS.....	46
D. WATER, SANITATION AND HYGIENE.....	58
E. GENDER.....	64
F. UNDERNUTRITION.....	72
ANTHROPOMETRIC DATA COLLECTION RESULTS.....	72
G. COMMUNITY PERCEPTIONS OF UNDERNUTRITION AND THERAPEUTIC ITINERARIES .....	74
H. COMMUNITY PERCEPTIONS OF CAUSAL MECHANISMS OF UNDERNUTRITION .....	78
I. MAPPING OF OPERATIONAL ACTORS AND PERCEPTIONS OF INTERVENTIONS .....	81
J. SUMMARY OF FINDINGS AND CATEGORISATION OF RISK FACTORS.....	83
V. CONCLUSION AND RECOMMENDATIONS.....	87
VI. ANNEXES .....	90
A. DETAILED SAMPLING FOR ANTHROPOMETRIC DATA COLLECTION & RISK FACTOR SURVEY .....	90
B. CALCULATIONS OF STATISTICAL ASSOCIATIONS BETWEEN HYPOTHESISED RISK FACTORS AND ANTHROPOMETRIC MEASUREMENTS OF CHILDREN IN RESPECTIVE HOUSEHOLDS .....	92
C. QUALITATIVE SURVEY GUIDE .....	95
D. COMMUNITY ACTION PLAN.....	121
E. MAPPING OF INTERVENTIONS .....	125



## EXECUTIVE SUMMARY

Located in the north-eastern part of the Amhara region, Wag Himra zone is a drought-prone area, infamously known as the epicenter of famines in 1974 and 1985. Its population, living mostly in rural villages, is chronically food insecure and heavily reliant on humanitarian assistance. Despite numerous governmental and non-governmental interventions, the prevalence of undernutrition (both wasting and stunting) in the area remains rather high.

Understanding that various forms of undernutrition have serious implications for social development and economic growth in Ethiopia, the government issued the *Sekota declaration* to end child malnutrition by 2030. This bold commitment, aligned with Sustainable Development Goals, aspires to bring together all sectors of the Government of Ethiopia with the aim to end hunger and to achieve food security, paying particular attention to the importance of good nutrition during pregnancy and the first two years of child's life.

A part of this initiative, the EU Resilience building programme in Ethiopia (RESET) strives to build the resilience and expand the coping capacities of the most vulnerable populations in selected areas of the country, including the Wag Himra zone. During the first phase of the project, however, consortium partners recognised the unavailability of plausible analyses on the causes of undernutrition in Wag Himra zone and deemed it a key constraint for a tailored response addressing principal problems ravaging concerned communities.

For this reason, Action Against Hunger sought to undertake the Link NCA study in two operational woredas of RESET II consortium project in order to deepen the understanding on causes of undernutrition in Sekota and Dehana woredas and to help consortium partners to develop a comprehensive operational plan aiming to improve the nutritional security in Wag Himra zone.

### KEY FINDINGS

The analyses undertaken during this Link NCA study allowed to identify 17 risk factors, believed to have an impact on the incidence of undernutrition in the zone of study. Following a triangulation of data from diverse sources, four (4) risk factors were identified as having a major impact, nine (9) risk factors were classified as having an important impact and three (3) risk factors were judged to have a minor impact on the incidence of undernutrition in the zone of study. In addition, one (1) risk factor was interpreted as not having an influence on the incidence of undernutrition in the zone of study.

Among the major risk factors, three were identified in the sector of water, sanitation and hygiene, namely poor access to water, poor hygiene and sanitation practices and unhygienic play area for children, while the last major risk factor, poor complementary feeding practices of children 6-23 months, was identified in the sector of health and nutrition.

The calculation of statistical associations between individual risk factors and wasting/stunting allowed to differentiate between causal mechanisms of these two forms of undernutrition and to simplify rather complex pathways for operational purposes.



## Wasting

A key trigger for wasting is long distance to water point, which translates into a poor access to water and consequently into a low household consumption. The unavailability of water in the household leads to poor hygiene practices, such as inadequate food handling, contributing to a heightened risk of contamination and spread of illnesses – the recurrences of which can lead to wasting. The illnesses can also be brought about by inadequate defecation practices due to a lack of a household latrine. Alternatively, a heavy workload of women, fuelled by their numerous duties in and out of the household, reflects negatively on women's capacity to maintain a clean play area or children. This increases a risk of contamination via animals or their faeces, leading to diseases, including diarrhoea, and potentially to wasting.

It is also important to note that analyses demonstrate a significant link between wasting and sex of a child, meaning that boys are more likely to be wasted than girls. This may be due to diverse, gender-determined care practices after childbirth.

## Stunting

A causal mechanism for stunting is a little bit more complex and extends beyond the sector of water, sanitation and hygiene. While a water, sanitation and hygiene mechanism remains largely applicable for stunting as well (with the exception of poor food handling replaced by inadequate water treatment practices), it acquires a new and important dimension linked to a household composition and decision-making powers. The findings indicate that a male head of household may tend to restrict decision-making powers of his spouse, particularly with regards to the use of her own income, food purchases and a consumption of household's own production. This not only limits woman's capacities to prepare adequate meals for the household, both in terms of quality and quantity, but it may also provoke negative coping strategies within the household, which a woman is not capable to control. The risk increases proportionately to a growing household size. As a result, children do not have access to adequate food intake, especially at young age, and their growth may be delayed.

## KEY RECOMMENDATIONS

Based on the findings of this Link NCA study and considering that causes of undernutrition are multi-sectoral and necessitate longer-term interventions, RESET II project proves its significant value in the context of Wag Himra zone. However, there is a need and a room for improvement or reorientation of current interventions to act more effectively on community's needs and priorities.

- Reinforce the community empowerment to detect problems and identify local solutions to address them by improving telephone network coverage facilitating the access to information;
- Expand mobile banking into rural areas to allow for a quicker access to financial resources.
- Improve the community access to quality health care and acceptable contraception methods;
- Re-design sensitisation strategies on birth-spacing/family planning, household nutrition and hygiene and sanitation, considering current community understanding and identified barriers to change, paying particular attention to gate-keepers with influence to sway public opinion on the matter;

- Support the establishment of farmer's associations to promote information sharing and effective agricultural techniques;
- Improve the diversification of income-generating activities through information sharing and training, e.g. poultry farming, brick-laying, masonry, sewing, wood work, metal work, bee-keeping, small-scale trade, etc.;
- Improve the community access to water, through a construction of new or a rehabilitation of existing water points and their regular chlorination;
- Improve the community access to electricity/solar power, thus facilitating the use of alternative cooking devices to help reduce women's workload related to food preparation and firewood collection.

## I. INTRODUCTION

Wag Himra Zone is identified as a drought prone area, located in the dry lowlands of north eastern part of the Amhara region. The zone was the epicenter of famines in 1974 and 1985. It is chronically food insecure and heavily reliant on humanitarian assistance.

Wag Himra zone is sub-divided into six districts (woredas) with an estimated population of 543,020 people.<sup>1</sup> The majority of the population lives in rural villages where their main livelihood is mixed farming (two livelihood zones: mixed cereal and lowland sorghum and goat).

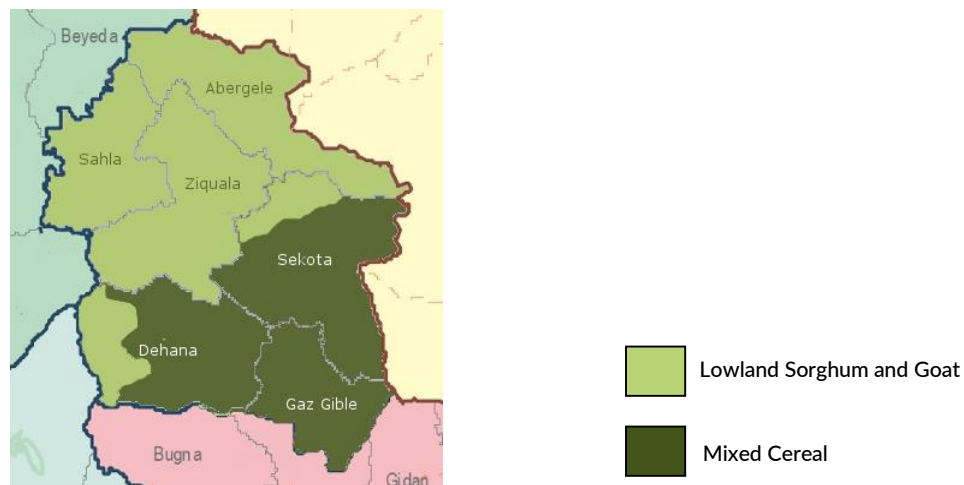


Figure 1: Map of Wag Himra Zone illustrating main livelihood zones

While a number of regions in Ethiopia experience two rainy seasons in a year, Wag Himra zone experiences only one rainy season, whose failure means going more than 12 months without water. Low water availability coupled with the high population growth put strain on already small landholdings<sup>2</sup> and reflect negatively on household income capacities and coping mechanisms at the time of climate/economic shocks.

In order to address chronic vulnerabilities of the zone, many programs, including the Productive Safety-Net Program (PSNP) have been implemented in Wag Himra to help people survive the hunger period and avoid depleting productive assets. Since September 2016, a consortium composed of Action Against Hunger (ACF), Save the Children International (SCI) and Danish Church Aid (DCA) has been implementing a project titled *Integrated multi-sectoral approach to improve the resilience of vulnerable communities of Wag Himra Zone, Amhara Region, Ethiopia* (RESET II) to improve the utilization and quality of basic services to prevent undernutrition, to enhance livelihoods, income diversification and employment for vulnerable communities, to improve disaster risk management capacity of the targeted communities and to improve knowledge through research of evidence-based innovations adapted to drought-prone areas.

### Justification of the study

The necessity for conducting a Link NCA study in Wag Himra zone was established during the implementation of RESET I project, during which partners perceived the unavailability of plausible

<sup>1</sup> Wag Himra Zone Office, 2017.

<sup>2</sup> Average 0.25 - 0.75 ha per household, as per Sekota and Dehana Woreda Agricultural Office, 2017.

analyses on the causes of undernutrition in the area and deemed it a key constraint for a tailored response addressing principal problems ravaging concerned communities. For this reason, Action Against Hunger sought to undertake the Link NCA study in two operational woredas of RESET II consortium project in order to deepen the understanding on causes of undernutrition in Sekota and Dehana woredas and to help consortium partners to develop a comprehensive operational plan aiming to improve the nutritional security in Wag Himra zone. The credibility of these intentions was reinforced by the findings of a SMART survey conducted in Dehana woreda by Plan International in April 2017, which confirmed a rather stagnant, yet worrying trends in the prevalence of stunting and wasting in the zone of study. According to this SMART survey, the prevalence rate of global acute malnutrition (GAM) was estimated at 15.1%<sup>3</sup> with 1.9% of children under 5 years of age being severely malnourished (SAM). According to the same survey, the prevalence rate of global chronic malnutrition (GCM) was estimated at 39.20% with the prevalence of severe stunting 11%.

## II. STUDY OBJECTIVES

The global objective of the Link NCA is to provide a greater level of understanding of plausible causes of child undernutrition in Sekota and Dehana woredas of Wag Himra Zone, Amhara Regional State.

The study will answer to the following specific objectives:

1. To identify and categorize risk factors responsible for the undernutrition among the population in the target area and to estimate the prevalence of these risk factors;
2. To understand how risk factors responsible for the undernutrition among the population in the target area interact with each other in order to determine which causal pathways to undernutrition are likely to explain most undernutrition cases in the target area;
3. To understand how risk factors responsible for the undernutrition among the population in the target area have evolved over time and/or evolve in different seasons;
4. To identify vulnerable groups for each major risk factor of undernutrition among the population;
5. To identify and map the interventions of operational actors in the target area and analyse the perception and degree of adequacy and appropriation by communities of the current humanitarian operational response in relation to causes of undernutrition;
6. To identify the needs and capacities of communities to respond to the identified underlying mechanisms;
7. To identify with the communities, the levers and barriers likely to influence the main causal mechanisms of undernutrition;
8. To develop recommendations to improve nutrition security programs in the target area and to support the development of a comprehensive, multi-sectoral strategy.

## III. METHODOLOGY

A nutrition causal analysis Link NCA is a method for analyzing the multi-causality of undernutrition, as a starting point for improving the relevance and effectiveness of multi-sectoral nutrition security programming in a given context. It is a structured, participatory and holistic

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<sup>3</sup> 15.1% (11.6-19.5, 95% CI) and 1.9% (1.1-3.3, 95% CI).

study that builds on UNICEF's conceptual framework with an objective to build an evidence-based consensus on plausible causes of undernutrition in a local context<sup>4</sup>.

The methodology has been precisely defined and tested in the field with a guidance available for every step of the method. It offers a unique opportunity for a great variety of key informants, from technical experts to community members, to express their opinions on the causes of undernutrition in the zone of study. The findings are constantly reviewed until validated by all stakeholders. The Link NCA places value on perceived causes as well as on evidence-based causes to display the complexity of perspectives. Undernutrition is examined globally, avoiding a vertical, sectoral approach, linking different verified sources of information to build consensus around the plausible causes of undernutrition in a given context.

## A. KEY STAGES

### Preparatory phase (07-08/2017)

The main objective of a preparatory phase was to define key parameters of the study, including its objectives, geographical coverage and feasibility. A preliminary secondary data and literature review was conducted in order to define the structure of the study. Considering new methodological advancements<sup>5</sup> and a lack of availability certain key indicators for the zone of study, an option comprising all three Link NCA study components<sup>6</sup> was selected.

This phase also included preparation and planning stages necessary for any type of study, i.e. a development of Terms of Reference, resource mobilisation as well as a recruitment of a Link NCA Analyst.

### Identification of hypothesised risk factors and causal pathways (10-11/2017)

The key responsibility of a Link NCA Analyst at this stage was to gather an overall understanding of a local context and to identify a set of risk factors and their interactions, which could potentially trigger undernutrition among the target population in the zone of study. The identification of hypothesised risk factors and causal pathways was based on a systematic literature review (using the Link NCA *Pathways to Undernutrition* module and all grey<sup>7</sup> literature available locally), supported by a series of exploratory interviews with key informants, such as representatives of relevant governmental institutions, non-governmental organisations and/or academia with an in-depth knowledge or work experience in the zone of study. The identified hypothesised risk factors were presented, examined and validated for field testing during the Initial Technical Workshop<sup>8</sup>, which took place in Sekota on 24<sup>th</sup> November 2017.

### Primary data collection (12/2017 – 04/2018)

The Link NCA methodology relies on a triangulation of both qualitative and quantitative data. The quantitative data collection, which comprised of an Anthropometric data collection and a Risk Factor Survey, took place in two phases: the first phase lasted three days between 13<sup>th</sup> to 15<sup>th</sup>

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<sup>4</sup> For more information about the methodology, please refer to [www.linknca.org](http://www.linknca.org).

<sup>5</sup> E.g. Integration of statistical associations' calculations (prevalence of wasting/stunting in relation to identified risk factors) with an aim to enrich the data analysis/triangulation for a more precise definition of local causal pathways.

<sup>6</sup> Qualitative Inquiry, Risk Factor Survey and Anthropometric Data Collection.

<sup>7</sup> Annual, research and technical project reports, working papers, evaluations, policies, etc. produced by government agencies, non-governmental organizations, academia or private companies/consultants.

<sup>8</sup> Participants included 27 technical experts covering a variety of sectors, such as health and nutrition, maternal health and care practices, agriculture, food security and livelihoods, water, hygiene and sanitation, and education.

December 2017, marked by a resignation of the first Link NCA Analyst, while the second phase commenced 11 days later and lasted from 26<sup>th</sup> December 2017 to 2<sup>nd</sup> January 2018. It consisted of anthropometric measurements and 38 indicators, covering all risk factors identified and validated in preceding stages. The questionnaires were deployed on mobile devices and the collected data was uploaded and compiled in a KoboToolBox<sup>9</sup>.

The qualitative data collection, conducted by the second Link NCA Analyst, lasted four weeks, spanning from March to April 2018. The data was collected exclusively by a Link NCA Analyst, accompanied by a translator and a community facilitator. It comprised of an in-depth inquiry on all risk factors identified and validated in preceding stages through semi-structured interviews and focus groups discussions as two principal data collection methods. The collected data was recorded in writing in the form of notes and later reproduced electronically. This stage also included a series of community consultations about past and/or ongoing interventions as well as a prioritisation exercise with regards to future assistance.

#### Synthesis of results and building a technical consensus (05 - 06/2018)

Upon the completion of a data collection stage, the Link NCA Analyst synthesized all collected data sets and conducted a series of analyses in order to categorise risk factors according to their relative impact on undernutrition in the zone of study and to describe dynamic relationships between various risk factors and their effects on undernutrition. The categorisation of risk factors took into account all sources of information collected in the course of study. The results were presented during the Final Technical Workshop<sup>10</sup>, which took place on 9<sup>th</sup> -10<sup>th</sup> July 2018 in Sekota, followed by a development of operational recommendations for interventions in the zone of study.

## B. SAMPLING FOR QUANTITATIVE SURVEY

### Sample size

The sample size for the Link NCA Anthropometric data collection was calculated using ENA for SMART software (2011 version). A precision of 5%<sup>11</sup>, a design effect of 1.5<sup>12</sup> and an estimated GAM prevalence of 15%<sup>13</sup> was used giving a sample size of 320 children (including 3%<sup>14</sup> contingency).

Population	% Pop. < 5 yrs. old (15%)	Estimated prevalence (wasting)	Average Family Size	Precision	Design effect	% Non-response	Sample size - children	Sample size HH	Number of clusters
274,420 <sup>15</sup>	43,563	15%	4.9 <sup>12</sup>	5.0%	1.5	3%	320	499	64

Table 1: Calculation of a sample size for the Link NCA Anthropometric data collection with ENA for SMART software, Wag Himra zone

Unlike in other Link NCA Risk Factor Surveys, the sample size for Wag Himra zone was not calculated for each indicator separately. The preference was given to a fixed sample size for both

<sup>9</sup> Free and open source tool for field data collection in challenging environments, [www.kobotoolbox.org](http://www.kobotoolbox.org).

<sup>10</sup> Participants included 21 technical experts covering a variety of sectors, out of which 9 also participated in the Initial Technical Workshop to ensure the continuity of discussions.

<sup>11</sup> Based on National Emergency Interim Guidelines, 2008.

<sup>12</sup> Based on a considered homogeneity across kebeles.

<sup>13</sup> Based on SMART Nutrition Survey conducted in Dehana woreda, Wag Himra zone, 2017.

<sup>14</sup> Based on woreda's current level of population mobility.

<sup>15</sup> Sekota Woreda Office, 2017.

woredas, allowing for a calculation of correlations between anthropometric measurements and risk factors' prevalence. As per advice of technical advisors in Action Against Hunger Paris HQ, a sample size of 320 households in each woreda was selected, hence ensuring good precision and stratification of analyses.

The sampled households were selected across 64 clusters in both woredas, i.e. 32 clusters per woreda. In other words, 10 households were selected in each sampled cluster.

#### Sampling procedure

The selection of households was carried out according to a two-stage cluster sampling methodology. In the first stage, ENA software was used to select clusters<sup>16</sup> using Probability Proportional to Size (PPS)<sup>17</sup>. In the second stage, households within clusters were randomly selected using exhaustive lists of households obtained in each village and a printed random number table.

### C. SAMPLING FOR QUALITATIVE SURVEY

The objective of the Link NCA's qualitative survey sampling framework was not to be statistically representative of the target population but rather to be qualitatively representative of different population segments living in the area. In order for the collected qualitative data to represent realities of a majority of households, a purposive sampling was used to select kebeles (municipalities) and villages or clusters of villages within those kebeles. A particular attention was paid to the representativeness of livelihoods zones, distance to health facilities and prevalence of severe acute malnutrition.

Woreda	Kebele	Livelihood zone	Village	Sampling
Sekota	Tsata	Mixed cereal	Guld	Close to health centres, but high malnutrition
Sekota	Dabil Maryam	Sorghum and Goat	Debere Saine	Far from health centres, but lower malnutrition
Dehana	Silda	Mixed cereal	Begugn	Far from health centres, but lower malnutrition
Dehana	Dida	Sorghum and Goat	Dida	Close to health centres, but high malnutrition

Table 2: Qualitative sampling framework for the Link NCA qualitative survey, Wag Himra zone

On the village level, the following categories of participants were selected to participate in semi-structured interviews and focus groups discussions:

- a. Community leaders (village leaders, religious leaders and other prominent community figures);
- b. Traditional healers or birth attendants;
- c. Health centre personnel (doctors, nurses, health extension workers);
- d. School directors or teachers;
- e. Representatives of community-based organisations;
- f. Mothers and fathers of children under 5 years of age;
- g. Grandparents of children under 5 years of age
- h. Key government staff and staff of consortium partners

<sup>16</sup> Villages or *gotts*.

<sup>17</sup> A complete set of sampled clusters is available in Annex A.

## D. QUANTITATIVE DATA COLLECTION

### Team composition and training

The quantitative data collection team was composed of 8 teams of two enumerators, 4 supervisors and a survey leader. Each supervisor was responsible for methodology compliance and quality assurance of 2 teams of two enumerators. A guide was hired in each sampled cluster to facilitate team's work and to ensure community acceptance.

Prior to the commencement of data collection, all team members received a thorough 5-day training, which took place in Sekota from 4<sup>th</sup> to 8<sup>th</sup> December 2017. The training included, among others, modules on survey methodology, anthropometric measurements using the SMART methodology and an administration of household questionnaires using mobile devices. All team members participated in a standardisation test and a pilot test<sup>18</sup> of all data collection tools for quality assurance purposes.

### Data collection tools

The quantitative data was collected via an electronic questionnaire downloaded onto mobile devices. The questionnaire covered all areas of interest linked with validated hypothesised risk factors. It was composed of sub-sections pertaining to a head of household, a caregiver of a child under 5 years of age or such child. One sub-section was dedicated to observations of caregiver care practices or household hygiene and sanitation practices. It was translated into Amharic and administered in Amharic or Agonya, depending on respondents' speaking abilities.

In addition, for all children aged 6 – 59 months, anthropometric measurements, such as height/length, weight, mid-upper arm circumference (MUAC) and a presence of oedema, were recorded, as per the SMART methodology guidelines. The height/length was measured using standard UNICEF height boards borrowed from Plan International. The weight was measured by using salter hanging scales and recorded to the nearest 0.1kg. MUAC was measured using three-coloured standardised tapes, following the 2008 revised Interim Guidelines for Emergency Nutrition Assessments in Ethiopia. MUAC readings were recorded to the nearest 0.1cm. Oedema was diagnosed by applying a moderate finger pressure on the top of the feet. The child was recorded as oedematous only if both feet clearly had oedema.

### Main challenges

- Accuracy in terms of child's age: Due to a low availability of recorded birth dates in the zone of study, the data collection team had to determine an approximate age of a child using a local calendar.
- Team competencies & supervision: Due to a low availability of experienced enumerators, less experienced individuals were recruited to collect the survey data. A sudden departure of a Link NCA Analyst might have led to poorer supervision of the data collection process and quality assurance, and thus certain data discrepancies.
- Participant bias: Due to a long history of humanitarian assistance, participants in sampled communities might have perceived some benefit in participating in the survey and the validity of their responses could be questioned. This potential threat was mitigated through an active engagement with community leaders, local guides, and a systematic provision of detailed information about the study to all participants prior to their interview.

## E. QUALITATIVE DATA COLLECTION

### Team composition and training

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<sup>18</sup> Pilot test took place on 11<sup>th</sup> – 12<sup>th</sup> December 2017.



The qualitative data collection was led by a Link NCA Analyst with the help of a translator, a community facilitator and a community mobiliser recruited locally in each kebele. The main role of community mobilisers was to ensure equitable selection of participants for each focus group discussion in coordination with community leaders and to carry out any support functions, as needed.

Prior to the commencement of data collection, team members received a detailed 2-day training, which took place in Sekota from 14<sup>th</sup> to 15<sup>th</sup> March 2018. The training included, among others, modules on survey methodology and tools as well as a detailed explanation of ethical considerations to be respected during the study. A series of practical tests was integrated into a learning process in order to test the team's level of comprehension of key concepts and practices and to ensure that high quality standard of the data collection will be met.

#### Data collection tools

The qualitative survey team used semi-structured interviews and focus groups discussions as two principal data collection methods. However, in order to avoid an information bias due to a long history of humanitarian interventions in the zone and a community dependence on external assistance, the qualitative survey team used a variety of participatory tools, aiming to reveal real determinants of undernutrition in the area. The selection of participatory tools included:

- a. Historical calendar
- b. Seasonal calendar
- c. Ranking
- d. Storytelling
- e. Daily activities chart
- f. Meal composition chart
- g. Household expenses
- h. Health journey / Therapeutic itinerary
- i. Agree/disagree game
- j. Courage to change game
- k. Risk game

Semi-structured interviews and focus group discussions were guided by interview guides, covering key topics related to risk factors validated during the initial technical workshop. The content of the interview guides took into account available findings for Wig Himra zone and instead of repeating certain inquiries it aimed to deepen the understanding about individual risk factors and their interactions in the zone of study.

For more information about qualitative survey methods and tools, please refer to Qualitative Survey Guide in Annex C.

#### Data collection

The qualitative survey took place in selected communities from 16<sup>th</sup> March to 26<sup>th</sup> April 2018. Due to Easter festivities, the qualitative survey was divided into two parts, 16<sup>th</sup>-31<sup>st</sup> March 2018 and 11<sup>th</sup>-24<sup>th</sup> April 2018. The first data collection period was marked by pre-Easter fasting, which holds a culturally prominent role in the zone of study and extends to 180 obligatory days over the course of a calendar year. The second data collection period took place during a non-fasting period and thus allowed for a comparison of the target population's customs during these two distinct periods.

The qualitative survey team spent approximately 6 consecutive days in each selected community. The length of semi-structured interviews or focus group discussions was limited to 1h or 1h15min maximum. The focus group discussions took place exclusively in the mornings in order to accommodate to community's availability and their daily routine.

Locality	Focus group discussions / Participatory exercises	Semi-structured interviews	Observations	Community restitution	Days	Total no. participants	Out of which female participants
Dabil Maryam	12	7	3	1	7	145 (+27*)	97 (+14*)
Silda	12	5	3	1	6	125 (+25*)	82 (+9*)
Dida	12	9	5	1	5	136 (+20*)	100 (+10*)
Tsata	12	9	3	1	6	129 (+27*)	73 (+13*)
TOTAL	48	30	14	4	24	535	352

\* Number of participants per community restitution.

Table 3: Summary of community consultations during the Link NCA qualitative survey, Wag Himra zone

The last day of a data collection in each sampled community was dedicated to a restitution of findings to community representatives with an objective to seek their feedback on the interpretation of collected data and, more importantly, to engage them in a design of community-based solutions to identified problems and their prioritisation.



Photo 1: Community restitution in Begugn, Silda

#### Main challenges

- Team composition: Due to an unavailability of experienced research assistants, the qualitative data collection was composed solely of a Link NCA Analyst, a translator and a community facilitator. This resulted in a high workload in a desire to complete the data collection within a

set timeline. In addition, a translator needed to be replaced for a week in the course of study due to other engagements, which heavily distorted the team's dynamics. However, the impact of these challenges on the quality of the collected data is deemed low.

- Language barrier: Due to a non-Ethiopian origin of a Link NCA Analyst, her communication with community members relied heavily on translator's competencies. As a recruitment of fluent English-Amharic speakers proved extremely difficult, only one translator (a male) was deemed suitable to fulfil the task. While in most circumstances this setup worked well, it would have been more appropriate to have a female translator as well to assist the Link NCA Analyst during focus group discussions with women only, especially on sensitive or taboo subjects. In addition, some members of selected communities did not speak Amharic while neither a translator nor a community facilitator could speak their native tongue (Agonya) fluently. For that reason, a community member speaking Amharic was selected to assist the team in exchanges with the community. As a result, respective conversations were subjected to a double translation from English to Amharic to Agonya and back. Despite it being a very tedious process with implications on the data quality, considering its scope its influence on the survey outputs are deemed limited.
- Low community empowerment in terms of problem-solving: Due to a long history of humanitarian assistance on a "beneficiary" side, rather than a "partner" side, selected communities displayed great difficulties when asked to input on potential solutions to identified problems. More often than not they lacked ideas how to approach an obstacle on a local level, rather than awaiting a help from the exterior in the form of assistance from the government or non-governmental organisations. If they managed to propose a solution, this turned out to be a sensitisation message that has in the meantime proved inefficient or inappropriate in their context. For that reason, the data collection team had to modify their approach and dedicate more time to problem-solving consultations in order to gather relevant feedback.

## F. DATA MANAGEMENT AND ANALYSIS

The quantitative data was collected via an electronic questionnaire downloaded onto mobile devices and regularly uploaded onto an online platform KoboToolBox. Before and after each upload, the data was scanned for logical errors. After a final compilation, all the data was exported in the form of an Excel spreadsheet and analysed with Epi Info and STATA software. The anthropometric data was analysed using ENA for SMART software (2011 version).

The qualitative data was recorded manually in a notebook and reproduced electronically at the end of each data collection period in a sampled community. The data was grouped by themes for a more efficient analysis, making sure that a confidentiality of speakers is guaranteed. All views were then analysed using qualitative content analysis methods.

## G. ETHICAL CONSIDERATIONS

The following provisions were respected during the course of the Link NCA study:

- a. All relevant authorities, including the Amhara Regional State Public Health Institute, Wag Himra Zone Health Bureau and Sekota and Dehana woredas Health Offices were duly informed about the study by Action Against Hunger Field Office in Sekota and expressed their agreement with the study implementation via support letters addressed and delivered to the mentioned field office;

- b. The participants were selected equitably and their informed consent was sought to ensure that they participate in the study voluntarily;
- c. The participants of a qualitative survey were able to participate in more than one focus group discussion, if they chose to, but considering their heavy workload in the pre-Easter and post-Easter period, community leaders were advised to spread the selection of participants across the whole village or a cluster of villages, if needed;
- d. The community leaders were informed of the selection of their community for the purpose of a qualitative study at least two days in advance. During the initial meeting they received a detailed planning of research activities in their kebele in order to facilitate the participant selection process and ensure the participants' availability at stated times. The detailed planning was subject to change, if required by community members. The qualitative data collection team accommodated to their routine as much as possible, taking into account time constraints of the study;
- e. The anonymity of participants was ensured during all stages of the study (data collection, data analysis and data storage). Their names were not collected nor shared;
- f. The qualitative data collection team organised a community wrap-up discussion during the last day of the data collection in order to allow communities to review their findings, rank identified risk factors and prioritise actions for the way forward;
- g. All children aged 6 – 59 months who were identified as suffering from severe acute malnutrition and/or other medical condition were referred to the nearest health facility for appropriate treatment.

#### H. STUDY LIMITATIONS

- Risk factor prevalence estimates: Risk factor prevalence estimates featured in this report were calculated from a complete data set, where certain entries might have been doubled or tripled for caregivers and/or households with more than one child under 5 years of age<sup>19</sup>. For this reason, they cannot be deemed statistically representative and should not be used as a reference in project proposals and/or any other documentation requiring a sound quantitative evidence. They were integrated into a core text of this report for purely comparative purposes, despite their approximate value. While they tend to align with the findings of previous surveys and huge deviations are not expected, their statistical value cannot be guaranteed.
- Correlations: It is advised to appraise statistical associations with caution as observed links do not necessarily prove the causality, while unobserved links do not mean that the causality does not exist. Correlations thus must be considered within a larger framework, triangulated with other sources of data, and as such can be used for a prioritisation of current and future interventions.
- Heterogeneity: The time designated for a qualitative data collection, although substantial, did not allow for a complex study of the dynamics and heterogeneities of the zone of study. While certain differences were observed and are rightfully highlighted in the findings, certain information might have been omitted or distorted, depending on participants' knowledge.

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<sup>19</sup> Data collected through a merged electronic questionnaire deployed on mobile devices.

## IV. FINDINGS

### HYPOTHESISED RISK FACTORS

The identification of hypothesised risk factors was based on a systematic literature review (using the Link NCA *Pathways to Undernutrition* module and all grey literature available locally), supported by a series of exploratory interviews with key informants, such as representatives of relevant governmental institutions, non-governmental organisations and/or academia with an in-depth knowledge or work experience in the zone of study. The identified hypothesised risk factors were presented, examined and validated for field testing during the Initial Technical Workshop<sup>20</sup>, which took place in Sekota on 24<sup>th</sup> November 2017.

Out of 19 hypothesised risk factors, 17 were retained for field-testing while 2 were merged with other factors validated for field testing. Technical Experts were afterwards invited to categorize risk factors according to their anticipated contribution to undernutrition in the zone of study on the scale from 1 (risk factor expected to contribute marginally to undernutrition) to 5 (risk factor expected to contribute substantially to undernutrition). The results of this exercise are presented in the table below<sup>21</sup>.

	Risk factors	Technical Experts Rating	
		Sekota woreda	Dehana woreda
A	Poor access, utilization, and quality of health services	4.18	4.64
B	Poor birth spacing	3.23	3.36
C	Low birth weight	3.36	3.86
D	Sub-optimal breastfeeding practices	4.18	4.23
E	Poor complementary feeding practices of children 6-23 months	4.45	4.23
F	Poor agricultural (crop and livestock) production	4.23	3.73
G	Low household purchasing power	3.36	3.59
H	Poor physical access to markets	3.18	3.68
I	Poor resilience capacities	3.91	3.55
J	Poor access and availability of water (quality and quantity)	4.14	3.82
K	Poor water handling leading to unsafe water	4.05	4.05
L	Poor sanitation and hygiene practices	4.09	4.14
M	Unhygienic play area for children	3.77	3.73
N	High women workload	4.14	4.00
O	Low women empowerment and low involvement of women in household decisions	3.82	3.77
P	Early marriage and pregnancies	3.23	3.32
Q	Low nutritional status of women including adolescents	4.23	4.24

Table 4: List of hypothesised risk factors validated for field-testing during Initial Technical Workshop, including Technical Experts Rating

### A. HEALTH

Health services in Sekota and Dehana woredas are provided through a three-pier health care delivery system, which relies on the following model: Level 1 is a woreda health system comprised of a primary hospital, which covers 60,000 to 100,000 people, health centres for a population of 15,000 to 25,000 people and satellite health posts for a population of 3,000 to 5,000 people. They

<sup>20</sup> Participants included 27 technical experts covering a variety of sectors, such as health and nutrition, maternal health and care practices, agriculture, food security and livelihoods, water, hygiene and sanitation, and education.

<sup>21</sup> Cells highlighted in orange designate top 3 most plausible risk factors, while cells highlighted in green designate the least plausible risk factors.

form a Primary Health Care Unit (PHCU). Level 2 consists of a general hospital covering a population of 1 – 1.5 million people while Level 3 also includes a specialized hospital.<sup>22</sup>

The health facilities' coverage in both Dehana (1 primary hospital, 6 health centres and 31 health posts) and Sekota woredas (1 general hospital, 7 health and 37 health posts<sup>23</sup>), is close to meeting respective national standards<sup>24</sup>. However, the geographical repartition of these facilities may be more problematic in Sekota woreda, where participants of focus group discussions described their physical access to a health facility as problematic. In Dabil Maryam, for example, a studied village (*gott*) was located at approximately 7 km from a health post, which represents 2-4 hours' walking distance in case of a medical emergency. During a rainy season, up to 20 health facilities in Sekota woreda become inaccessible due to poor road conditions. The population described the public means of transportation, such as buses, which could facilitate their access to a health facility, as very sporadic. The irregularity of connections translates into lengthy waits on the side of the road, which may last for hours, if not for days. The same is applicable to an ambulance service, which has only one or two vehicles available for the whole woreda. The participants admitted that an ambulance often arrives too late<sup>25</sup> and for that reason they cannot count on the service in case of a childbirth or a serious medical condition. All these factors combined, focus group participants admitted a discouragement to using health facilities as their first therapeutic choice<sup>26</sup>.

The situation is slightly more favourable in Dehana woreda, where participants described their access to a health facility as relatively easy and stable throughout seasons. Nonetheless, 7 health posts do not have a road access.

This community feedback is supported by Risk Factor Survey results, according to which 79.2% of households in Sekota woreda and 68.4% of households in Dehana woreda live more than 60 minutes from a health facility. Only 10.2% and 16.1% of households in Sekota and Dehana woredas, respectively, live within 30 minutes of the nearest health facility.<sup>27</sup> The results were further analysed taking into consideration anthropometric measurements of children in the household. These calculations did not reveal a statistical association between two indicators, meaning that distance to a health facility is not a key risk factor leading to undernutrition (Cf. *Annex B*).

Where the health facility accessibility is problematic, health extension workers play a key role of linking communities with a biomedical treatment. They are mainly responsible for first aid, treatment and prevention of most current diseases, including malnutrition, as well as an organisation of sensitisation sessions on a variety of topics, including an administration and follow-up of family planning. While their numbers per woreda are comparable (65), the coverage in Sekota is perceived as insufficient in both quantity and quality. While health extension workers admitted a heavy workload in often harsh conditions without the suitable support (e.g. means of transport), the community highlighted that they are not present as frequently as needed and often

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<sup>22</sup> Health Sector Development Programme IV, 2010/11 – 2014/15.

<sup>23</sup> A total for Sekota Town and Sekota Zuria.

<sup>24</sup> Standards are either met or will be met shortly with a construction of new health posts.

<sup>25</sup> Approximately two days after the call.

<sup>26</sup> Therapeutic itineraries for frequent childhood diseases are detailed further below.

<sup>27</sup> Risk Factor Survey prevalence estimates not statistically representative. Please refer to *Study limitations* for more details.

lack the technical knowledge, which could partially address the geographical accessibility barrier by receiving a treatment or advice for common health nuisances directly in the community.

However, the lack of technical knowledge is not inherent to health extension workers only. Due to a high staff turnover, the health staff based in health facilities is not sufficiently qualified to provide adequate care and is in constant need of training. In Sekota and Dehana woredas, health care workers do not qualify for a hardship allowance. With limited access to telecommunications, transportation, universities for additional qualifications, poor sanitation at health facilities, there is minimal motivation for health care workers to come/stay. In addition, a number of health professionals admitted that they would welcome a reinforced supervision as the current level of supervision is not sufficient while the workload is high as certain staff fill multiple positions.

The unfavourable work conditions may translate into the quality of provided services. While in Dehana woreda, focus groups participants generally praised the continuous availability of staff and medicine in respective health facilities, communities in Sekota woreda complained of the staff unavailability and/or frequent stock outs of basic medicine. Focus group participants in Dida openly appreciated the service availability 24/7, which was not the case some years ago. However, they noted that the service is most useful for children while adults need to seek treatment in Silda or Ammedork due to the limited offer of services in the health post and the unavailability of medicine, including basic painkillers. Another group of participants noted that the treatment for a frequent eye infection is restricted to pregnant and lactating women only but these also do not receive it, when needed. The reported poor availability of medicine aligns with findings of the RESET II baseline study, according to which 19% of health facilities in Sekota and 0% in Dehana had 14 essential drugs.

*“In the past, medicinal products were easily available. Now it is often not the case and we need to travel to Sekota for treatment. We pay 15 birr per journey or we walk for 6-7 hours to get there. Depending on the severity of illness, we may need to pay additional 20 to 200<sup>28</sup> birr for treatment.”*

Focus group participants, Tsata

While a low availability of medicine may be an issue, one health professional noted that certain individuals may have treatment preferences and they are not fully satisfied if they do not receive what they think they should receive. As an example, he described that community members leave disappointed if they receive “only” paracetamol while they would prefer intravenous drugs.

Another important service quality component, i.e. health staff behaviour and approachability, leaves also some room for improvement. While many health staff, whom the data collection team approached, were very cooperative, focus group participants in Dida highlighted that they were often unpleasant and unfriendly. They said that they did not feel welcome at a health facility and/or were not properly informed about waiting times. One participant shared a story of her recent experience, during which she felt violated and left the facility untreated.

*“One day, when I was pregnant, I woke up with a fever. I decided to walk two hours to a health centre for treatment. A male health staff wanted to perform a vaginal examination, which I felt was inappropriate. I only had a fever, I did not feel any itching or burns in my vagina or urinary track. I felt*

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<sup>28</sup> 20-40 birr for common cold, 15-100 birr for diarrhea, 100-200 birr for headache/backache, as per community testimonies.

*disrespected. I don't mind being checked by a male staff, it may happen during antenatal care or childbirth, but in this case I felt he abused his position and did not provide sufficient explanation why a vaginal examination needed to be done. I refused the exam and walked back home without a treatment. The fever eventually disappeared."*

Focus group participant, Dida

In addition, the health facility infrastructure does not create a favourable working environment for the health staff nor a pleasant treatment environment for the patient. None of the visited health facilities during a qualitative survey was equipped with a functional water point. In one health facility the staff could potentially access water from a rain catchment reservoir, but it was empty at the time of the visit. The building was in an inappropriate condition for the provision of health care services and toilets at the rear of a compound could not be classified otherwise as highly unsanitary.

Special aides to health extension workers, 1:30 leaders are often involved in vaccination, deworming and vitamin supplementation campaigns. They also participate in hygiene (toilet construction) and community health insurance promotion. 1:30 leaders meet twice a month. These meetings are often followed by sensitization sessions on prioritized topics and pregnant women referral to a health facility for antenatal care or delivery. While no major challenges were reported, one 1:30 leader highlighted that *"three years ago there was a male 1:30 leader and he was paid for his work.<sup>29</sup> Women leaders are not paid. This does not seem to be very fair. Without proper incentive we give preference to our household duties."*

In Tsata, one key informant expressed that 1:30 leaders and health extension workers create a good structure for linking communities with health care, but *"closer monitoring and follow-up is needed to bring the best of it in order to fulfil its mandate."* follow-up needs substantial improvement.

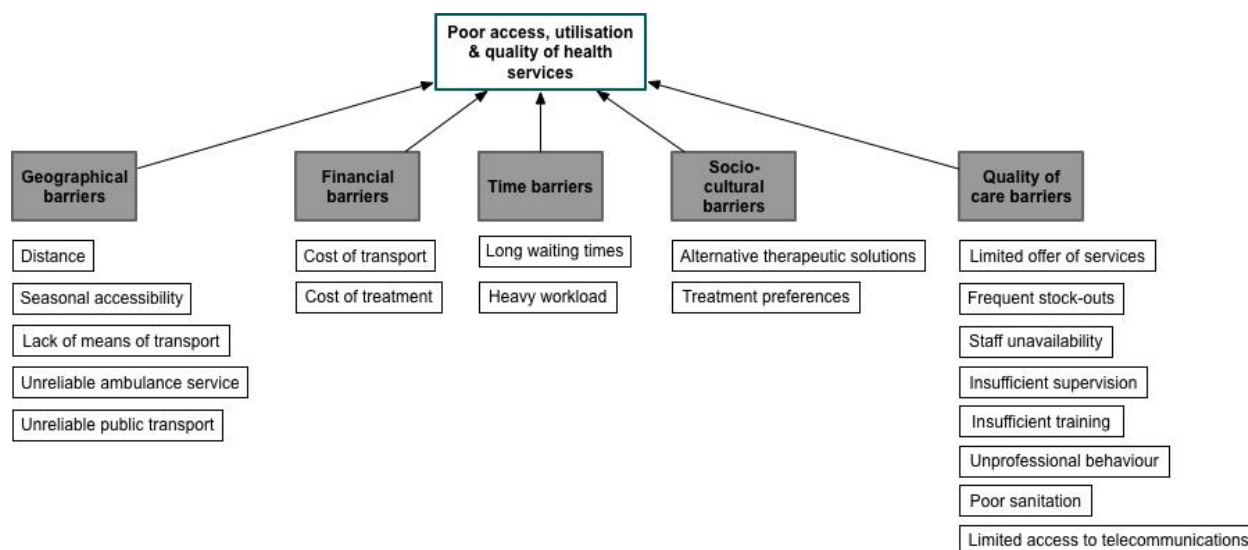


Figure 2: Summary of key barriers to healthcare in Sekota and Dehana woredas

<sup>29</sup> Possibly Vitamin A Supplementation campaigns, highlighting a lack of understanding among 1:30 leaders between remuneration for special campaigns and regular activities.



## Child illnesses

*“A healthy baby is happy, plays, wants to be around other children and has an appetite.”*

Focus group participants, Tsata

The exchanges with focus groups participants revealed that parents are attentive to their children and recognize when their child does not fit the criteria, as described in a quote above. Any combination of these “symptoms” is interpreted as child being unwell. However, a recognition of recurrent childhood illnesses among community members was rather problematic. Further away from a health facility a village was located, more difficult it was for the participants to recognize childhood illnesses illustrated on flashcards, describe their causes and therapeutic itineraries.

Due to their close relationship with a child and a child caring priority, it is mothers who make a decision on the type of treatment to be used in case of child’s illness. Fathers comply with the decision and mobilise financial resources to pay for the treatment. They do not refuse or alter the treatment on the basis of money but a treatment may be delayed for a few days if the amount is not readily available in household savings. Whenever possible, a family would engage in a parallel treatment, i.e. seeking a biomedical treatment at a health facility while treating a child with holy water (“tsebel”) at the same time. However, it is worthwhile to note that in villages far away from a health facility, a treatment of any child disease may be replaced by the use of holy water because it is more easily accessible and/or cheaper than a visit and medications from a health facility.

*“If other treatment options are not available or feasible, we try holy water at least as a blessing for a sick child. It may not work but it’s all we can do.”*

Focus group participants, Dabil Maryam

It is also important to clarify that while members of interviewed communities believe that an illness is a representation of God’s will, this belief in itself does not influence the use of holy water as a treatment option. The decision-making related to the use of holy water is swayed by a recognition or rather non-recognition of a disease and already mentioned logistical/financial barriers, which may discourage or even obstruct the use of a health facility. According to focus group participants, certain illnesses, such as diarrhoea or acute illnesses, cannot be treated with holy water. However, they consider it a suitable treatment for abdominal pain/cramps or chronic illnesses, such as joint pain, stomach burn, seizures, moonwalking, stress or poisoning (“woulosh”) (due to revenge). As a general rule of thumb, acute illnesses would be referred to health facilities while chronic illnesses would be treated with holy water only or in parallel with a biomedical treatment, if feasible.

Disease	Cause	Treatment	Community justification + additional information
Fever / Nightmare (“matekus”)	“Evil eye” (“buda”) or exposure to environment after being carried on mother’s back (“agarfot”)	Bathing in/drinking holy water or a health facility treatment	A community in Sekota woreda explained that a child can get an “evil eye” if he is naughty and walks around unsupervised in the dust under the scorching sun. Parents should always protect a child from this behaviour by keeping him at home, under a supervision of a responsible adolescent/adult. If a child falls ill, the priest must come to a house, pray and spray the holy water around.

Common cold ("gunfon")	High winds, colder temperatures, contaminated air	Hot tea or a hot beverage on the basis of boiled cereals (wheat, maize, barley), possible a porridge.	Holy water not considered an appropriate treatment for this type of illness.
Cough ("sal") or whooping cough/pertussis ("kerkero")	Contaminated air	Health facility treatment	N/A
Heat exhaustion <sup>30</sup> ("mitch")	Sun/wind/dust	Minced root ("mitatala") mixed with water.	Community members explained that a child can catch <i>mitch</i> if s/he is sitting on the ground (cold element) while the air is hot. According to them, the illness is triggered by a cold-hot opposition or when the ground is moist after rains.
Diarrhoea ("takmat" or "wedetach")	Child playing in the dirt or poor sanitation, i.e. poor utilisation of latrines.	ORS (home-prepared or available at health facility).	Participants linked diarrhoea with poor utilisation of latrines (which are scarce) rather than unsafe water as some have an access to an "improved" <sup>31</sup> water point. Even those who fetched water from a river did not believe that water was a cause of diarrhoea but they could not specify what it was caused by. In most communities, there was no local treatment for diarrhoea. Only in Tsata participants admitted that they would administer "mitatala" first and when unsuccessful, ORS would be given as the second treatment option.
Vomiting ("wedelay")	Sun/wind/dust	Minced root ("mitatala") mixed with water.	Community members perceive connections between heat exhaustion, diarrhoea and vomiting and for that reason cited causes and preferred treatment align.
Measles ("wotetie", "alemoche", "cuffin") or smallpox ("shilimi")	Contaminated air	Health facility treatment	Considered highly contagious - people try to avoid a village where an infected person lives.
Skin infections, e.g. scabies ("ekek")	Poor hygiene practices (infrequent bathing & clothes' washing) due to poor water access	Bathing in holy water or health facility treatment	At a health facility, a soap and an ointment (sulphur) are administered for the treatment of scabies. Between the two, the soap is perceived as more efficient. 1:30 leaders assume that mothers are not following given instructions for the application of the ointment and/or the medication has expired and for that reason it is not delivering desired results.

<sup>30</sup> Exposure to hot weather (sun) in combination with an exposure of unhealthy environment or followed by a sudden cool down by wind.

<sup>31</sup> Term is placed in quotation marks as these water points are not regularly chlorinated.

Eye infection	High winds	Tetracycline ointment at health facility	N/A
Paralysis (“shiva”)	“Evil eye” (“buda”)	Bathing in/drinking holy water	N/A

Table 5: Therapeutic itineraries for current childhood diseases

Considering the data collection for Risk Factor Survey was conducted in December, which is a month of a low diarrhoea prevalence (Cf. *Seasonal calendar*), only 7.6% of caregivers in Sekota woreda and 13.3% of caregivers in Dehana woreda reported that their child had diarrhoea in a period 14 days prior to the data collection. These figures are considerably lower than the data released by Wag Himra Health Department for the period of July – September 2017, according to which 42.2% of children under 5 years of age suffered from diarrhoea. However, it is important to note that the months of June through August generally see an increase in the prevalence of diarrhoea due to an ongoing rainy season. The findings of Risk Factor Survey are, nonetheless, aligned with regional and national estimates of Demographic and Health Survey conducted in 2016, according to which 13.7% of children in Amhara region and 11.8% of children in country suffered from diarrhoea at a time of the data collection.<sup>32</sup>

More importantly, further analyses taking into consideration anthropometric measurements of children in the household, revealed a statistical association between two indicators, meaning that diarrhoea is one of key risk factors leading to stunting in both woredas and potentially to wasting in Sekota woreda (Cf. *Community perceptions of causal mechanisms of undernutrition and Summary of findings and categorisation of risk factors*).

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Climate												
Dry season	+++	+++	+++	++						++	+++	+++
Rainy season				+++	+++	++	++	++	+			
Health												
Diarrhoea	+	+	+	+	+	++	+++	+++	+	+	+	+
Acute respiratory infections (ARI) / Common cold	+++	+++	+++	+							+	+++
Fever	++	++	++	+	+							
Scabies	+	+	+								+++	+++
Malnutrition	+	++	++	+++	+++	+++	++	+				
Malaria									++	++	++	++
Eye infection										+++	+++	

Table 6: Seasonal calendar of main child illnesses in Wag Himra zone

On the prevention side, focus group participants claimed that in order to keep their babies healthy they need to “*feed them nutritious food at recommended frequency and keep them clean.*” However, they admitted that they find this advice difficult due to a lack of money, which does not allow

<sup>32</sup> Risk Factor Survey prevalence estimates not statistically representative. Please refer to *Study limitations* for more details.

them to buy recommended food items. Some participants sighed that *“the only thing they can do is to breastfeed.”* Considering that they would not be able to do so when pregnant, they confirmed to follow 2-3 year’ birth-spacing in order to keep their children as healthy as possible. Few community members added that they should also *“play with their children, never leave them alone and give them holy water whenever they are taken by a devil.”* Some focus group participants elaborated that they need to pray and cover their baby up to 6 months to protect him from “evil eye”.

#### Birth spacing and family planning

*“Women are physically and mentally ready to have their first child at 18 years of age. Any pregnancy before that age is risky because a young woman’s womb is not yet ready to receive a child.”*

Focus group participants, Dabil Maryam

According to focus group participants, women give birth in at least two years’ interval. They claim to recognize positive effects of birth spacing, especially a mother having more time for care practices and household having more food on the table. In a different focus group discussion male participants left themselves be heard that *“less children equals more money.”* They also stated that they were not so eager to have a lot of children and that it is often women who want more. When asked about a reason, female participants explained that they *“liked children a lot but they also needed help with their workload.”* That aligns with another statement with male participants, who said that *“less children equals more work.”* According to both sexes though, a decision-making related to a family size is shared by both a man and a woman. While some women feel empowered to tell their husband that they feel tired and want to stop child-bearing, others may not be so brave, notably if such a refusal could provoke a divorce. Focus group participants in Dida considered husband’s pressure to bear more children as a reason for divorce and did not show any intimidation in that respect. However, it is worthwhile to note that many women in that community lived as single so there might have been a general acceptance and support mechanisms for such lifestyle.

The same principle applies to the use of family planning. The decision-making is reported as shared by both a man and a woman. In focus groups discussions and semi-structured interviews, it became apparent that men like to be informed about their wives’ use of family planning. As some women are known to make a decision themselves in secret, some suspicious husbands have been reported to visit a health facility and request to see registers of all women on family planning to verify whether their wife’s name features in the books.

*“Women are happy to use contraception and they tend to make the decision alone. However, husbands like to be informed. Otherwise they can be very upset and request health personnel to provide them with a proof.”*

Health extension worker, Dabil Maryam

On the other hand, some men in remote villages around Dida were reported to consider women on family planning in menopause.

*“Some women in remote villages take family planning in secret on market days. Men do not create any problems because they are not sufficiently sensitised and they assume that women are in their menopause. They do not investigate whether their wives are on family planning.”*

Focus group participants, Dida

Focus group participants testified that a situation around birth-spacing and family planning is much more relaxed now and families use it extensively. Thanks to sensitisation sessions by health workers, the previously forbidden family planning is now accepted and tolerated by religious authorities.

*“I understand the advantages of birth-spacing. The change in maternal and child’s health has been very positive. They are now stronger and healthier. But I think that family planning is against God’s will. The Bible says that the world should be populated by men. Even if a family is poor, God always provides what is needed. They only have to pray. However, if a woman chooses to use family planning, I do not condemn her.”*

Religious leader, Dida

As far as different types of family planning are concerned, women report a dislike of a three-year plan (implant), because they experience unpleasant physical reactions.

*“I feel very weak from time to time. Sometimes I feel pain, sometimes I vomit, and sometimes I feel very hot.”*

Focus group participant, Silda

They stated that it is important to use family planning in order to avoid unwanted pregnancies but side-effects are particularly strong during a fasting season. They admitted that once their three-year plan is finished, they do not want to use it again.

*“I do not want to get pregnant and I do not want to use it again either. I am not sure what I will do.”*

Focus group participant, Silda

Some women stated that they switched to a three-month plan (injection) and this option suits them better. However, a huge inconvenience consists in its renewal.

*“I have started using a three-month plan and I do not feel any side-effects. However, a health post is really far and I do not always have time to go there, as scheduled. But if I don’t get a shot in time, I can get pregnant easily.”*

Focus group participant, Silda

According to one health extension worker, most women respect their appointments for a renewal of a family planning method. Some come a week later and in that case she performs a urine test and administers a new injection, if a woman is not pregnant.

Barrier	Doers	Non-doers
	Use of pills/injections, 3-year pause between two childbirths	Used pills/injections but discontinued the use due to pain/sickness.
Perceived susceptibility	YES <i>“If I don’t space births, my child will become malnourished. Repeated pregnancies deplete my energy and I cannot feed my baby enough.”</i>	NO <i>“If I don’t space births, nothing will happen.”</i>
Perceived severity	YES <i>“Malnutrition is dangerous for the development of my child.”</i>	NO
Perceived action efficacy	YES	NO <i>“I did not birth space and my children are in good health.”</i>

	<i>“If I birth space, my children will be healthy, they will not be malnourished.”</i>	
Perceived self-efficacy	YES <i>“Birth-spacing is easy.”</i>	YES
Cues for action	YES	YES
Perceived social acceptability	YES <i>“Only HEWs and 1:30 leaders are supporting it There is no opposition, though.”</i>	NO <i>“There is no order in the Bible to birth space plus priests advise against family planning.”</i>
Perception of divine will	NO	NO
Perceived advantages	<i>“I have a lower workload as children are not so close apart.”</i>	N/A
Perceived disadvantages	<i>“I sometimes feel weak using it as I do not eat enough.”</i>	<i>“I did not feel well using family planning so I discontinued using it.”</i>

Table 7: Barrier analysis related to a use of birth-spacing/family planning

During focus group discussions in Dida, participants highlighted that families with 8 or more children still exist in remote locations. They attributed the lack of birth-spacing to a knowledge gap and a distance to a health centre. Due to the lack of resources in the household, children as young as 7-8 years of age are sent to live as live-in servants in richer households. Boys usually look after animals while girls are entrusted with child care. As a compensation, their families receive crops or livestock for the years of service. Their treatment in host families varies but it has been reported that in addition to their regular activities, children are asked to fetch water or collect firewood. If they don't comply, they are not fed.

*“I worked as a child servant for 10 years until I got married. I understand why it was necessary – my family did not have enough money – but I felt sad. I do not keep in touch with my family anymore.”*

Focus group participant, Dida

Another participant admitted that her experience as a child servant motivated her to sign up for a service with the Ethiopian army.

*“I hated everything about being a child servant. I decided to leave and start a new life in the military. Unfortunately, I got injured and had to start yet another “new” life here.”*

Focus group participant, Dida

The participants testified that this traditional practice now decreases and is slowly replaced by daily labour.

While the perceptions of birth-spacing and family planning were very much aligned in three out of four selected communities, the data collection team found a situation in Tsata quite different from previous locations. Even though remoteness may play a role in the dissemination of messages, Tsata has also a reputation of a “resistant-to-change” community, protecting its orthodox beliefs to the greatest extent possible. A summary of their testimonies is provided in a case study below.

Case study: Birth-spacing and family planning in Guld, Tsata

The community in Guld, Tsata adheres strongly to its ideological heritage and is known to be resistant to change. Birth-spacing and family planning are believed to be in God's hands and therefore any interventions by humans in this respect are perceived as a sin. Community members attested that it is God's will how many children and how apart are born. They believe that God will provide for all of them and if some of them die, God's decision cannot be contested.

Apart from God's will, it is also father's will that influences a number of children born into a household. Men talked about a feeling of pride when counting their offspring – the pride which grows exponentially as a number of children increases. This is linked with a perception of wealth, to which the community assigns great importance. The concept of wealth, however, is not linked with financial resources but God's blessings, which take "flesh and bones" form of children. While focus group participants denied being in a competition with one another with regards to a number of children, they confirmed that having more children means more community respect and higher social status so they do indeed pay great attention to "living blessings" of their peers and try to "keep up". According to their testimonies, families with one or two children are considered poor and while the poverty does not have an economic connotation, it has serious implications on family's positioning in a close-knit community structure. In addition, in a community heavily-reliant on agriculture, children represent "free" labour as they are involved in farming and animal-rearing activities since a very young age and thus they contribute to a household's survival, especially in difficult times. They also guarantee parents' survival as they are expected to take care of them at an advanced age. Certain men declared that in their quest for more children they would not hesitate to have them with different women – even if it is against current religious practices. They also felt that each deceased child needs to be replaced by a new-born to safeguard household's status.

*"If we have a good harvest, we will need to make another child."*

Focus group participants, Tsata

In a series of exchanges, community members revealed that an improvement of their economic situation motivates further reproduction as they feel confident they can feed more stomachs. If that equals more work in the fields or higher workload of women, they know they have enough workforce to accomplish the task. This reflection, however, gets more problematic at a point where higher workload of children meets school absence, which eventually translates into children's poor education and thus poor job prospects. The community admitted that they did not reflect upon those negative implications before, thinking more about their current situation rather than their children's future. In fact, some men demonstrated rather a passive attitude towards the well-being of their children, declaring that *"it is God's will, if they are born, and it is God's will, if they survive."* As far as their contribution is concerned, it starts and ends with sowing their fields – the actual output (harvest) is not relevant. However, one religious priest noted that this mind-set contradicts holy script's teachings, according to which parents are deemed responsible to care for all their children properly. He added that it is a greater sin to have children and not to care for them, as needed, than not to have them<sup>33</sup>. He admitted observing that children are happier and healthier in smaller families while a greater number of children has implication on a household's quality of life. For that reason, he supports government's efforts in birth-spacing and family planning, which have met with resistance in his community for all reasons mentioned above.

*"The government has introduced limitations on a number of people in the household for the Productive Safety Net Programme. Now they provide rations to 5 members of a household only. Maybe they think we will stop having children but the opposite is true. There should be no limit on how many children we can have."*

Focus group participants, Tsata

In contrast with family planning, the notion of birth-spacing is generally better perceived. The community seems to understand that birth-spacing is important for the good growth of children and the protection of maternal health, among others by *"having more food in the household"*. However, they seem to struggle with a "control" mechanism of birth-spacing through the use of contraceptive methods, which means

<sup>33</sup> Implying birth-spacing and family planning.

they are contradicting God. In other words, they think it is important to birth space if only it was God's doing, rather than their doing - which is considered a sin.

For this reason, family planning in this community is rarely used. Those, who use it, do so in secret as they can be punished verbally/physically or even divorced. Apart from already discussed barriers to contraceptive use related to religious beliefs or women's low decision-making power, others include: distance to a health facility, lack of privacy during consultations<sup>34</sup>, husband's insecurity<sup>35</sup>, undesired side effects and/or community misconceptions<sup>36</sup>. The majority of women admitted feeling discomfort using an implant as it makes them "sick and tired" due to their limited access to a "rich and balanced diet", which is recommended during a use of 3-year plans. In addition, implants are visible - which makes their use automatically undesirable in an orthodox religious community, especially if husbands are unfavourable to their use. Women also complained of a weight loss, disrupted menstrual cycles<sup>37</sup> or delayed pregnancies.

In this respect, injections are generally more preferred as women do not tend to experience any of the cited side effects, admitting that only occasional stomach problems may occur. In addition, the use of shorter term contraceptive methods seems to be more easily accepted by husbands.

*"A child is a bond between a man and his wife. It is a proof of love, far more important than the sexual intercourse. If a woman does not want to have more children with her husband, that means she does not love him anymore."*

Focus group participants, Tsata

During a discussion about potential solutions to poor birth-spacing/lack of family planning in this community, community members expressed a wish to be properly sensitised about all options available.

*"Do not just tell us what to do or not to do. Explain us all options and their implications so that we can decide for ourselves what is best for us."*

Focus group participants, Tsata

It is worthwhile to note that a series of analyses, taking into consideration anthropometric measurements of children in the household, revealed a statistical association between the size of household and stunting, especially in Sekota, meaning that the size of household is one of key risk factors leading to undernutrition in the zone of study (Cf. *Community perceptions of causal mechanisms of undernutrition* and *Summary of findings and categorisation of risk factors*).

### Antenatal care and childbirth

Focus group participants agreed that pregnant women should consult a doctor/nurse at a health facility to make sure their baby is in good health and good position. Some added that it is necessary for a prevention of deformities. A visit at a religious leader, exercised by some, is done purely for a good feeling/blessing but it is not really considered to have an impact on child's development in the womb.

*"If we do not go for a medical check-up during our pregnancy, we are risking that we or our babies die. Some women do not go and they deliver healthy babies but they are only trying their luck. We would not risk it."*

Focus group participant, Dida

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<sup>34</sup> Health post setup does not allow for a consultation in private, allowing other patients to eavesdrop (voluntarily or involuntarily).

<sup>35</sup> Fear of wife's engagement in sexual relations with another man without "consequences".

<sup>36</sup> Starting and stopping a use of contraceptive means leads to having twins.

<sup>37</sup> No bleeding or too much bleeding.



While some participants testified that they visit a health post 5-6 times before the delivery, certain women admit that they do not visit it as prescribed due to a long distance to the nearest health facility.

*“I was pregnant three times but I only went to a health centre during my third pregnancy. The previous two pregnancies I was living in a remote village and a health post was simply too far.”*

Focus group participant, Dabil Maryam

These testimonies are supported by Risk Factor Survey results, according to which 62.3% of women in Sekota woreda and 78.2% women in Dehana woreda attended antenatal care<sup>38</sup> during their last pregnancy. These results are comparable with the latest data from Demographic and Health Survey in 2016, according to which 67.1% of women in Amhara region attended antenatal care. However, a number of consultations seems to be problematic with only 22.5% of women in Sekota woreda attending antenatal care 4 or more times before giving birth. This is approximately 10 percentage points lower than regional or national estimates<sup>39,40</sup>. More importantly, further analyses taking into consideration anthropometric measurements of children in the household, revealed a possible statistical association between two indicators, meaning that a woman not attending a prescribed minimum of antenatal care consultations may be a risk factor leading to stunting in Sekota woreda (Cf. *Summary of findings and categorisation of risk factors*).

While these results may not be as positive as desired, focus group participants talked about a positive, gradual change in women’s behaviour during a pregnancy.

*“Six or seven years ago we would not go to a health centre at all. Now many of us see its importance and we want to make sure that our baby is growing healthy in a womb. However, in our community we do not start antenatal care before 5 months. If we go earlier, health staff turns us away saying we are not pregnant. If we go at 5 months, pregnancy is already visible and the health staff is obliged to examine us.”*

Focus group participants, Tsata

Considering that this feedback could be relevant in other communities of Sekota and Dehana woreda as well, it may partially explain why a percentage of women attending antenatal care 4 or more times before childbirth is so low. In addition, women revealed that they preferred to attend antenatal care in the earlier stages of the pregnancy as often long distances to a health facility are difficult to walk in the later stages. In other words, if they are refused antenatal care early on and cannot attend it later for logistical reasons, this narrows a window of opportunity to 1-2 visits – as estimated by a health professional in one of visited facilities. The older generation does not know that a service is provided free of charge and say that they do not go because they do not have enough money.

According to focus group participants who used the service, a health worker checks an expecting mother’s abdomen, “gives her pills and injections.” While they admitted that a health worker provides them with the information on what treatment they are given, they no longer remember. They did remember, however, that “red pills” are given for the prevention of anaemia.

When it comes to a childbirth, women in Sekota woreda stated that they preferred to give birth at home. While some feel a burden of responsibility by having other children to care for, certain

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<sup>38</sup> Attended at least one antenatal care consultation.

<sup>39</sup> 32.4% regional level vs. 37.1% national level, Demographic and Health survey, 2016.

<sup>40</sup> Risk Factor Survey prevalence estimates not statistically representative. Please refer to *Study limitations* for more details.

women expressed a discomfort by being attended by a male midwife. One woman added that she gave one birth of three in a health facility but she would not do it again as neither the ambulance service nor the health facility is comfortable and she could not benefit from her family's support.

In Dehana woreda, women said that they preferred to deliver their children at a health centre. They claimed not to have delivered their children at home so they cannot compare advantages/disadvantages of the two options but felt strongly about a childbirth being difficult, possibly deadly, if unattended by a skilled personnel as *“there is a lot of bleeding and when a placenta stays inside a woman's body, she can die.”*

These testimonies are supported by Risk Factor Survey results, according to which only 37.7% of women in Sekota woreda and 53.3% women in Dehana woreda delivered their last child in a health facility. These results are approximately 10 percentage points higher than regional or national estimates<sup>4142</sup>. Further analyses, taking into consideration anthropometric measurements of children in the household, did not reveal a statistical association between two indicators, meaning that a place of delivery is not a key risk factor leading to undernutrition in Sekota and Dehana woredas (Cf. Annex B).

During a systematic literature review in the early stages of this Link NCA study, technical experts affirmed that women are allowed to stay at health centres two weeks prior the childbirth (meals provided) in order to encourage deliveries at health facilities. However, focus group participants revealed that while delivery is free of charge, they need to bring a can of cereals for the preparation of meals. In addition, as the ambulance service does not function well, women are often carried to a health facility on a stretcher. If, despite all efforts, they do not deliver at a health facility, women in Dehana woreda declare to go to a health facility for a post-natal care to avoid any further complications and to ensure that their baby is in good health. The opposite is true for women in Sekota woreda, who return home if birth takes place on a journey to a health facility. Women rest a maximum of 12-15 days after childbirth. After that, they need to resume their regular activities.

Behaviour	Perceived risk	Community justification + additional information
Non-attendance of antenatal care consultations	High	It is considered of high importance to check a position and a health status of a baby. Women declare that they consult a doctor at the beginning of their pregnancy and then each time they receive an appointment. However, women further away from a health facility admitted only two antenatal visits approximately 5-6 months apart.
Childbirth at 15 years of age.	High	Young woman's uterus is not yet prepared to host a baby.
Childbirth at 30 years of age.	Low	Perfect reproductive age for a woman. A woman is considered old and unsuitable to have more children at 40 years of age.
Childbirth at home	High	Some women admitted that a childbirth at home can be a traumatising experience if a child is in a wrong position and/or if they lose too much blood. However, some declared that they prefer giving a childbirth at home as it is more comfortable.

<sup>41</sup> 27.1% regional level vs. 26.2% national level, Demographic and Health survey, 2016.

<sup>42</sup> Risk Factor Survey prevalence estimates not statistically representative. Please refer to *Study limitations* for more details.

Poor birth-spacing	High	Having a baby at short intervals is considered very tiring (physically and emotionally). In addition, a new pregnancy would trigger premature weaning of an infant, potentially putting her/him at risk of malnutrition or other illnesses.
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Table 8: Perception of risk relating to certain birth-spacing behaviours

#### Post-partum religious (and other) ceremonies

Birth of a child is one of key moments in a mother's life while other family or community members assign it an equally high importance. While the celebration of a new life is certain, its form may vary substantially from a community to another. Focus group participants in Sekota and Dehana woredas mentioned three common practices, an application of which may depend on family or micro-local customs. In Sekota woreda, for example, mothers visit a religious leader three days after giving birth in a desire to request a blessing for their new-born child. Similarly, as during the baptism, a baby is bathed in holy water but receives no holy water to drink. That is administered only to a mother of the child. The whole ceremony is accompanied by prayers.

In addition to bathing, parents may feel urged to perform another, non-religious, ritual to multiply child's blessings.

*"After a childbirth, there is a traditional child blessing ceremony, during which a germinated sorghum is ground, mixed with butter and placed on a ring. The ring is then positioned on a child's forehead, stomach and hands to attract riches and prevent fear. The procedure, accompanied by prayers, is performed 7 times for a boy and 3 times for a girl."*

Key informant, Dida

While even religious leaders failed to explain a difference in a number of "blessings" for a new-born boy and a girl, they did not hesitate to clarify why a baptism ceremony takes place 40 days after giving birth to a boy and 80 days after giving birth to a girl. According to them, a bleeding woman is not allowed to enter the premises of a church and she is believed to bleed longer after giving birth to a girl. The baptism ceremony involves bathing a child in holy water and making a sign of the cross on a child's forehead. The ritual is accompanied by prayers and followed by festivities that involve the whole community. Traditionally, *injera*<sup>34</sup>, bread, goat meat and local alcohol (*korafa* and *tala*<sup>43</sup>) are served. According to testimonies, once a child is baptised, s/he can receive holy water to drink as a treatment of certain nuisances (Cf. *Child illnesses*).

In a period between a childbirth and a baptism ceremony, parents should not engage in sexual intercourse. According to religious leaders, this practice is forbidden by holy scripts but nowadays not fully respected. As a consequence, they have observed an increase in new pregnancies shortly after a childbirth. All pregnant and lactating women wear silver bracelets to protect them from evil.

## B. NUTRITION AND CARE PRACTICES

### Household nutrition

Selected communities in the area of study tend to eat three meals a day: breakfast at 8.00am, lunch at midday and dinner at 7.00pm. The number of meals is reduced to two during a fasting season, which prescribes the first meal of the day to be skipped, with the exception of Saturday and Sunday when breakfast can be consumed. That is applicable especially during a Great Lent

<sup>43</sup> *Korafa* is made from barley while *tala* is made from sorghum.

Fast before Easter, which is considered the most “severe” fasting season. Pre-Christmas fast is more flexible and breakfast is generally allowed.

In addition, no meat nor animal products, including milk, butter or eggs, can be consumed during a fasting season or fasting days. This reduces population’s diet to a vegan-type diet, heavily relying on *injera*<sup>44</sup> and *chiro*<sup>45</sup>. Other staple foods include *kolo*<sup>46</sup>, bread and *amizza*<sup>47</sup>.

A participatory exercise on meal composition, integrated into a series of focus group discussions, revealed that communities’ eating habits during a fasting and a non-fasting season vary very little. In fact, while meat and animal products are permitted during a non-fasting season, they are rarely eaten and often reserved for holiday consumption only. They are usually sold at the market to generate more household income<sup>48</sup>.

“We like eating animal products, they make us fat. But we eat them rarely. We prefer to sell them and buy other items instead.”

Focus groups participants, Dabil Maryam

	Dabil Maryam / Dida	Silda / Tsata
<b>Fasting season</b>		
Breakfast	(no breakfast eaten)	(no breakfast eaten)
Lunch	<i>Injera</i> with cooked peas or crushed dried pepper paste, sometimes tomatoes and potatoes	<i>Injera</i> with cooked peas, <i>chiro</i> or lentils
Dinner	<i>Injera</i> with cooked peas or crushed dried pepper taste, sometimes tomatoes and potatoes	<i>Injera</i> with cooked peas, <i>chiro</i> or lentils
<b>Non-fasting season</b>		
Breakfast	<i>firfir</i> <sup>49</sup> <i>chiro</i>	<i>Injera</i> with a crushed dried pepper paste
Lunch	<i>Injera</i> with cooked peas, sometimes tomatoes and potatoes	<i>Injera</i> with cooked peas, <i>chiro</i> or lentils
Dinner	<i>Injera</i> with cooked peas, sometimes tomatoes and potatoes	<i>Injera</i> with cooked peas, <i>chiro</i> or lentils

	Dabil Maryam / Tsata	Silda / Dida
<b>Desired meal<sup>50</sup></b>		

<sup>44</sup> Large pancake made from *teff* or sorghum flour.

<sup>45</sup> Smooth, slightly spicy sauce made from bean flour.

<sup>46</sup> Roasted wheat grains.

<sup>47</sup> Two pizza-like slices joined together by a sesame paste.

<sup>48</sup> Average sale prices based on a market survey in Dida: tomato 1 birr, green peppers 25-40 birr, garlic 15 birr, onion 12-15 birr, banana 1-1.50 birr, meat 100 birr, egg 1-1.50 birr, butter 10 birr. Depending on a season, it is either the price of the quantity that changes, as for example in case of meat or butter.

<sup>49</sup> *Injera* soaked in milk.

<sup>50</sup> While meal compositions in Dabil Maryam and Dida are similar during a fasting and non-fasting season, a desired meal in Dida is preferably meat based and other food groups were not really mentioned. In this sense, it is closer to a desired meal in Silda. Inversely, meal compositions in Silda and Tsata are similar during a fasting and non-fasting season. However, a desired meal in Tsata resembles more that of Dabil Maryam.

Breakfast	Milk, eggs, (dried) meat Bread, rice, spaghetti / macaroni Honey Fruit	Bread
Lunch	<i>Injera</i> with lentils, cabbage, potatoes and meat sautéed with peppers	No change but would add some onions and meat.
Dinner	<i>Injera</i> with cheese Vegetables	Idem.

Table 9: Results of a participatory exercise on meal composition

It is also worthwhile to note that meals in sorghum and goat livelihood zone are a bit more varied than in a mixed cereal livelihood zone. However, an analysis of perceptions of food diversity (description of a desired meal, if financial resources were not a determining factor) reveals that those are not necessarily linked with livelihoods zone but most likely with a level of community exposure to sensitisation activities on the subject, supported by different humanitarian actors, general community capacities to access relevant information<sup>51</sup> and/or chronic poverty that has for a long time restricted their food choices. In other words, Dabil Maryam and Tsata in Sekota woreda seem to perform a little bit better than Dida and Silda in Dehana woreda. While focus group participants in the first two kebeles covered a variety of foods representing all important food groups, the meal composition in Dida and Silda did not change. The community would only add some onions and meat to meals that they are currently consuming.

An analysis of Household Dietary Diversity Score (HDDS) revealed that communities in Sekota and Dehana woreda consume on average only three food groups, i.e. cereals, legumes, oil and spices. Results in Dehana woreda are slightly more favourable than in Sekota woreda but they are not statistically significant. According to the collected data, 61.4% of households in the zone of study consumed only up to three food groups within the 24-hour recollection period of the Link NCA Risk Factor Survey, 35.4% of households consumed 4 to 5 unique foods while only 3.2% were able to consume 6 or more different foods.<sup>52</sup> Further analyses, taking into consideration anthropometric measurements of children in the household, did not reveal a statistical association between two indicators, meaning that a household dietary diversity is not a key risk factor leading to undernutrition in Sekota and Dehana woredas (Cf. *Annex B*).

As far as historical trends are concerned, focus groups participants claimed that their eating habits have not changed over the course of last 10-15 years. Only in Dida they mentioned that their diet now includes onions, oil and cumin paste (thanks to donations), which was not the case in the past. When presented with an image depicting various quantities of food, focus groups participants agreed that a child with a lesser portion is happier because he can eat less but more frequently, which in their understanding is better for health. When presented with a picture with a balanced and non-balanced meal, they admitted that they have never eaten like a girl (a balanced meal) and their diet resembles a plate of a boy (non-balanced meal). They added that desired foods are too expensive for a regular purchase or not available on a local market, e.g. fruits.

#### Implications of fasting on pregnant and breastfeeding women

<sup>51</sup> Due to woreda remoteness or associated reasons.

<sup>52</sup> Risk Factor Survey prevalence estimates not statistically representative. Please refer to *Study limitations* for more details.

According to a population census of 2007, a prevailing majority of people in Sekota (98.8%) and Dehana (99.7%) woredas practice Ethiopian Orthodox Christianity. This implies a devout following of dietary restrictions during the so-called “fasting” days or seasons. For a general population, 180 fasting days are mandatory; reaching up to 250 days for nuns and priests. While all Wednesdays and Fridays throughout a year are considered fasting days, there are three great fasting seasons extending over a period of more than 40 days: Great Lent Fast lasting 55 days prior Easter (February/March), Fast of the Prophet lasting 43 days prior Christmas (November/December) and Apostles’ Fast lasting between 10 to 40 days from May to July. In addition, there is a two-week fasting period in August in preparation for the Assumption of Virgin Mary.

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Main fasting seasons (combined)	+	+++	+++		++	++	++	++			+++	+++
Great Lent Fast		+++	+++									
Fast of the Prophet	+										+++	+++
Apostles’ Fast					++	++	++					
Assumption of Virgin Mary Fast								++				
Social celebrations (e.g. tsegi)		+++	+++		++	++	++	++			+++	+++

Table 10: Seasonal calendar of main fasting seasons observed in Wag Himra zone

According to a tradition, all adults and children over 7 or 10 years of age<sup>53</sup> are expected to avoid all meat and animal products, including milk and eggs. This also applies to pregnant and lactating women with the exception of women giving birth up to the 40<sup>th</sup> (or 80<sup>th</sup>) day after childbirth when a baptism takes place (Cf. *Post-partum religious practices*). During this period, women are allowed to consume all types of foods in order to be able to regain strength and produce enough milk for the new-born. Prior to that period or after it, women need to follow established dietary restrictions but are permitted to eat a bit earlier, if necessary.

*“A pregnant or lactating woman needs to fast like everyone else. No exceptions are allowed<sup>54</sup>. Even though I understand that they may feel weak and don’t have enough breastmilk, while children are dependent on it, they cannot eat any animal products because the holy scripts forbid it. However, instead of midday, they can start eating at 11am, if needed<sup>55</sup>.”*

Religious leader, Dabil Maryam

When asked about a possibility of lifting dietary restrictions for pregnant and lactating women in order to improve their nutritional status and/or to assure a proper development of a foetus/infant, a religious leader stated that such change is not possible at the moment because he *“would be rejected by his followers as well as other religious leaders.”* His statement is aligned with a strong sentiment expressed by a group of women, who stated that they *“choose religious leaders according to what they say,”* implying that priests preaching against their beliefs would motivate their search for another leader, whose ideology would better reflect their views.

<sup>53</sup> Information varies.

<sup>54</sup> Cf. The Holy Bible, John 28. [Please note that this reference was provided by religious authorities but it is not exact as there are only 21 chapters in this gospel.]

<sup>55</sup> In Dida all participants confirmed that pregnant and lactating women can eat breakfast but they need to refrain from animal products.

*“Eating animal products during a fasting season is considered a big sin. Even if we were allowed to eat normally, we would not follow because it is against our religion.”*

Focus groups participants, Dabil Maryam

During a semi-structured interview in one locality, a teacher confirmed that *“fasting during a pregnancy or a breastfeeding period is difficult to change.”* However, he noted that *“young men have started drinking milk during a fasting season and they are not reproached by religious authorities”*. The data collection team has also observed men breaking another fasting period rule, i.e. engaging in alcohol drinking, to which religious authorities tend to turn a blind eye. However, a different standard seems to be applied to women, who admit being reproached in private (*ensaha*) by religious leaders, if they are observed not respecting prescribed dietary restrictions. This could eventually provide a window of opportunity for a reconsideration of fasting practices and making it equal and just for both sexes. In addition, if deemed essential, negotiations for the PlumpySup® use by pregnant and lactating women may be used as the stepping stone for further lifting of dietary restrictions for this group. According to a religious leader, a consumption of PlumpySup® during a fasting season was highly debatable because of its milk powder content. However, after nationwide consultations of religious patriarchs, an exception was granted as *“it is beneficial for health and helps prevent a loss of life”*. Religious leaders in villages then assisted in population’s sensitization to support the administration of PlumpySup® throughout the course of treatment, disregarding the season.

Considering a meal composition described in the section above, consulted communities highlighted that *“fasting in itself is not a problem. What is really problematic is our inability to consume a variety of foods during non-fasting periods.”* One focus group participant shared his personal story to illustrate the point.

*“I have two children, 4 years apart. During the first pregnancy I was able to provide a varied diet to my wife. She was fasting as prescribed by our religion but she was eating well during non-fasting periods. The first child is strong and healthy. However, my financial status has deteriorated since then and I was not able to provide the same, in quality and quantity, when she was pregnant with our second child. The second child is smaller and weaker than the first one.”*

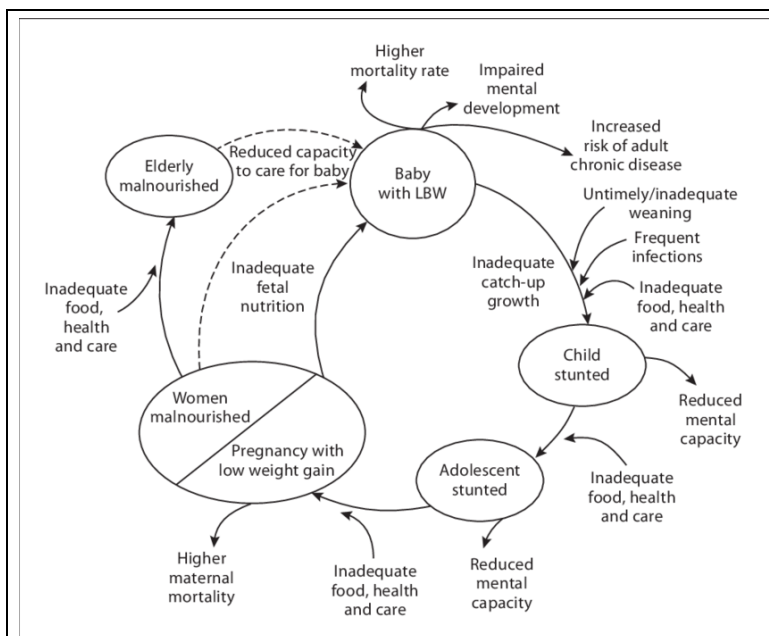
Focus group participant, Dabil Maryam

Another key informant confirmed, *“Low nutritional status of women is a real problem. An inadequate food intake equals less or no breastmilk. However, I do not think that fasting is the main cause; rather an insufficient diversity of consumed food should be blamed.”*

Disregarding a season, women report eating less during a pregnancy due to a loss of appetite, nausea or vomiting. Although health extension workers advise them on eating a variety of foods, the advice is not put into practice due to a lack of financial resources. After a childbirth, they report regaining their appetite and eating more while no change is observed on the diet diversity front for the same reasons.

#### Importance of maternal nutrition

Pregnant and lactating mothers are generally considered as a nutritionally vulnerable group. Maternal nutrition during pregnancy has a significant impact on foetal growth and birth weight. Due to the nursing process, mothers are subjected to nutritional stress, which may result in chronic energy deficiency – likely affecting their ability to provide appropriate care. Poor maternal nutritional status may be due to insufficient food intake, excessive energy expenditure or poor utilization of nutrients.



Inadequate dietary intake or exposure to infections during pregnancy can lead to infant under-nutrition. A child born with a low birth weight will have a high probability to become malnourished and thus maintain the vicious cycle of malnutrition presented here.

The findings of Risk Factor Survey, conducted during this Link NCA study, revealed that 30.2% of caregivers in Sekota woreda and 50.4% of caregivers in Dehana woreda had their middle upper arm circumference measured under 22cm, meaning they could be classified as malnourished at the time of the data collection.<sup>56</sup>

Figure 3: Cycle of malnutrition

These results are particularly troubling, considering that the month of December is reputed for the good availability of food. Although it is true that it also coincides with a pre-Christmas fasting, approximately two months of post-harvest abundance should have been sufficient to balance potential negative impact of the hunger gap (June – September). In other, it is possible to assume that a prevalence of maternal undernutrition is higher during that period.

### Breastfeeding practices

Disregarding a religious stance, women admit feeling a difference between fasting and non-fasting season, when breastfeeding.

*“We feel tired, weak and sick. When there is no food in the mouth, there is no food in the breast.”*

Focus group participants, Silda

All women attested that they had observed a lower breastmilk production during a fasting season, when their food intake is restricted. At that time their breasts are particularly sensitive, if not painful, as babies are sucking a lot. To boost its secretion, they resort to *korafa*<sup>33</sup>, a local alcohol with a low alcohol content, which is known to stimulate the breastmilk production. In addition, they claim that *“a varied diet, especially injera with chiro, gamfo<sup>57</sup> and a bread with tea”* can help to produce breastmilk. If that is not possible or does not help, a woman may be forced to resort to alternative solutions, such as administering tea to her child, even if under 6 months of age, to compensate for her lack of breastmilk.

*“Urban women have lots of breastmilk; we do not have as much. Their children can get bigger and fatter. This is impossible here.”*

Focus group participants, Silda

All focus groups participants agreed that women need to breastfeed on demand.

<sup>56</sup> Risk Factor Survey prevalence estimates not statistically representative. Please refer to *Study limitations* for more details.

<sup>57</sup> Porridge.



*“Baby needs a breast on demand, he needs to be fed many times because the milk is like water; it digests very quickly.”*

Focus group participants, Silda

They admitted that it is time-consuming and tiring but *“a woman needs to stop working and find time to do it.”* When her breasts are hot (from work or high outside temperature), they need to be washed with cool water before the breastfeeding is initiated.

When it comes to exclusive breastfeeding, women’s opinions tend to vary. While some claim to exclusively breastfeed for only 40 days (till baptism), others practice exclusive breastfeeding till the age of three months, after which they start complementing breastmilk with cow’s milk, if they have an access to it and when their breastmilk production is low. This practice takes roots in their desire to keep their children healthy, considering they are too young to digest any other type of food. Yet another group claims to be exclusively breastfeeding for the first 6 months but admits giving water to a child after 4 or 5 months, if thirsty.

Barrier	Doers	Non-doers
	No administration of water or other liquids before 6 months of age.	Administration of holy water in case of child’s sickness. No breastfeeding up to 3 days of birth and non-administration of colostrum <sup>58</sup> .
Perceived susceptibility	YES <i>“If I don’t exclusively breastfeed, my child will become ill, thin and malnourished.”</i>	NO <i>“If I don’t exclusively breastfeed, nothing will happen.”</i>
Perceived severity	YES <i>“Malnutrition is dangerous for the development of my child.”</i>	NO
Perceived action efficacy	YES <i>“If I exclusively breastfeed, my child will be in good health.”</i>	NO <i>“I gave holy water to my child and he is still in good health.”</i>
Perceived self-efficacy	NO <i>“Exclusive breastfeeding is difficult as there is not enough food to encourage milk production.”</i>	NO <i>“Exclusive breastfeeding is difficult due to the lack of a variety of food and heavy workload.”</i>
Cues for action	YES	YES/NO <sup>14</sup>
Perceived social acceptability	YES <i>“Only HEWs and 1:30 leaders are supporting it There is no opposition, though.”</i>	YES
Perception of divine will	NO	NO
Perceived advantages	N/A	N/A
Perceived disadvantages	N/A	N/A

Table 11: Barrier analysis related to exclusive breastfeeding

After a childbirth, women initiate the breastfeeding immediately. They report not to have enough breastmilk during the first three days but they continue breastfeeding to encourage more breastmilk production. According to them, the first milk (colostrum<sup>59</sup>) is denser and acts as a vaccination for children.

<sup>58</sup> Applicable only to Tsata.

<sup>59</sup> Locally known as “*anger*” in Amharic or “*siri*” in Agonya.

The situation is quite different in Tsata, where women claimed not to breastfeed during the first three days after giving birth.

*“We do not have milk in the first three days after childbirth. Our breasts are dry. We need to wait until the milk production is initiated to feed our babies.”*

Focus group participants, Tsata

In the meantime, they feed their baby pure butter<sup>60</sup> or ask another lactating woman to nurse him/her. Feeding water to a baby within this three-day window is not permitted. While a group of women explained that this practice has actually died out due to a number of diseases, which can be transmitted through breastmilk, all other exchanges with members of this community confirmed that the practice is still “alive and thriving”. When it comes to colostrum itself, only one young woman acknowledged giving colostrum to her baby. All others scolded her as, “according to [their] tradition, colostrum must be thrown away because it blocks a milk flow and can cause stomach discomfort”.

When children are cared for by other persons, e.g. mothers-in-law, these only feed a baby if the baby is already used to eating food. If no food is given, then a role of a caregiver is restricted to hushing a baby without administering any food or drinks.

Behaviour	Perceived risk	Community justification + additional information
Giving holy water to a baby under 6 months of age.	Low	Holy water is a blessed substance that can only have a positive effect on one’s health. It is useful mainly when a child has a fever or experiences abdominal cramps.
Giving water to a baby under 6 months of age.	Low	Water can be administered to a baby following his/her baptism to quench thirst. It does not contradict their understanding of “exclusive breastfeeding” as a child is not fed any other food.
Giving food to a baby under 6 months of age.	High	Some participants expressed that a child can choke. Others explained that a child’s stomach is not yet ready for the reception of food and they tend to refuse it.
Giving family food to a baby under 12 months of age.	Low	Community does not perceive child’s increased needs in food intake to support its healthy development.
Not breastfeeding on demand	High	When a child is not fed on demand, he cries a lots and becomes tired and unhealthy.
Breastfeeding while pregnant	High	Pregnancy and breastfeeding is very tiring for a woman. If it was coupled, a woman would suffer and neither of her children would be properly fed. If a woman continues to breastfeed while pregnant, a child in her womb will be too small.
Breastfeeding while woman feels hot (due to exterior temperature or work)	High	When a child is breastfed from a warm breast, he will vomit. The breasts need to be washed with cool water first (to cool them down) and only then a child can be fed. Some women, however, declared that they would feed a child directly, which attracted some criticism from others.
Fasting during pregnancy/breastfeeding	High	Women recognise a risk of fasting on their pregnancy and/or breastfeeding (they admit feeling weak and tired) but their religious beliefs do not permit them to do otherwise.

<sup>60</sup> Also used for an umbilical cord to prevent infection.

Table 12: Perception of risk relating to breastfeeding practices

Young child feeding practices

Depending on the exposure to young child feeding sensitisation messages, the knowledge of focus group participants on the matter varied. While some demonstrated good understanding of meal frequency and composition, others displayed a substantial lack of knowledge. However, the knowledge of optimal young child feeding practices did not prove to be a booster of actual practice by informed mothers. In fact, it became very quickly evident that “*complementary feeding practices can be hardly practiced due to a lack of household resources*”. For that reason, children are fed family food (mainly composed of *injera* with *chiro*) from the age of 8 or 9 months, under the condition they accept it.

*“We start complementary feeding when a child is one-year old. Our children refuse the family food earlier. We breastfeed our children till their stomachs are prepared to accept family food.”*

Focus group participants, Silda

A health extension worker active in the zone for the past eight years observed, however, that the lack of financial resources in the household can only be partially “blamed” for complementary feeding not being practiced.

*“If a mother has other children, it is very hard to convince her to start complementary feeding. If her first child did not receive complementary feeding and is in good health, she assumes the same would be applicable for her second child. Why should she do differently?”*

Health professional

A mother practicing complementary feeding stated that women, who do not initiate complementary feeding at 6 months, do not test whether their children would like to eat; they only assume that a baby is not ready. As for her daughter, she tried giving her simple foods, such as porridge, pasta, bread with tea, in small quantities at 6 months and her daughter accustomed to eating, while being breastfed at the same time.

During an in-depth discussion on complementary feeding in Dida, a group of mothers stated that they initiate the feeding when “*a child cries*”. When asked, how they differentiate between a crying for breastmilk and crying for food, mothers declared that they breastfeed first and start giving food only when they perceive that a child has started losing weight. According to them, that usually happens when a child is about 1-year old. The food given to a child at this point would include *injera*, *kita*<sup>61</sup>, banana, bread and biscuits. They said that during the first year, a child only tastes the food but cannot eat to his/her satisfaction. That changes when a child is about 2-3 years old.

Barrier	Doers	Non-doers
	Complementary feeding initiated at 6 months	Complementary feeding not initiated at 6 months + feeding not age-appropriate.
Perceived susceptibility	YES <i>“If I don’t provide complementary feeding to my child, she will start losing weight and will become malnourished.”</i>	YES <i>“If I don’t provide complementary feeding to my child, he can have diarrhoea, he can vomit and become malnourished.”</i>
Perceived severity	YES	YES

<sup>61</sup> Similar to *biskwit*.

	<i>“Malnutrition is dangerous. A child can die.”</i>	<i>“Diarrhoea and vomiting is dangerous.”</i>
Perceived action efficacy	YES <i>“If I properly feed my child, she will be healthy, happy and strong.”</i>	N/A
Perceived self-efficacy	YES <i>“Complementary feeding can be difficult as no money is allocated to child’s diet. I prepare her meals from the food available in the house.”</i>	NO <i>“I am not able to practice complementary feeding, I don’t have money for it.”</i>
Cues for action	YES	NO <i>“Certain families talk about the importance of complementary feeding but I do not know much about it.”</i>
Perceived social acceptability	YES <i>“Only HEWs and 1:30 leaders are supporting it There is no opposition, though.”</i>	YES <i>“Only HEWs and 1:30 leaders are supporting it There is no opposition, though.”</i>
Perception of divine will	NO	YES <i>“Our lives and health are in God’s hands. Sometimes it is beyond our understanding and effort.”</i>
Perceived advantages	Healthy and happy child	N/A
Perceived disadvantages	Heavy workload <i>“Preparing a separate meal for my child and the rest of the family represents a double workload. It is not always possible and the baby eats family food with the rest of us.”</i>	N/A

Table 13: Barrier analysis related to complementary feeding of children 6-23 months

An analysis of Individual Dietary Diversity Score (IDDS) revealed that children under 23 months of age in Sekota and Dehana woreda consume on average only 1.9 food groups, i.e. approximately one food group less than other members of the household. Results in Sekota woreda are slightly more favourable than in Dehana woreda but they are not statistically significant. The results were further analysed taking into consideration anthropometric measurements of children in the household. These calculations revealed a statistical association between two indicators, meaning that food diversity is one of key risk factors leading to stunting, especially in Dehana woreda (Cf. *Community perceptions of causal mechanisms of undernutrition and Summary of findings and categorisation of risk factors*).

As far as the frequency of feeding is concerned, it resembles that of adults, i.e. two to three times a day, depending on the availability of food in the household. Considering increased nutritional needs of infants and young children, the frequency of eating cannot be classified as appropriate even though a child, who does not want to eat, is forced to eat to prevent disease.

In addition, food hygiene also plays an important role in child’s nutritional status. During one focus group discussion, a cookie fell down on a dusty ground where animal faeces were observed. A mother picked it up and fed to a baby. Similarly, during Risk Factor Survey of this Link NCA study,

uncovered food was observed in 50.1% of visited households in Sekota and Dehana woredas.<sup>62</sup> The results were further analysed taking into consideration anthropometric measurements of children in the household. The calculations revealed a statistical association between two indicators, meaning that food hygiene is one of key risk factors leading to wasting, especially in Dehana woreda (Cf. *Community perceptions of causal mechanisms of undernutrition and Summary of findings and categorisation of risk factors*).

#### Other care practices

Focus group participants admitted that most attention and care is attributed to small children. With the birth of a child, a mother shifts her attention from her previously youngest child to a new-born, leaving the other in the care of older siblings or other family members. In this way, children having younger siblings but still being too young can be the most vulnerable to disease, including malnutrition. Some participants stated that children with younger siblings are more often neglected and left on their own, while not all can cope with the change. This is particularly applicable to children from larger families as parents are overburdened and do not have means to care for all children properly.

Children are bathed once every two to three days as the water is scarce. Mothers cut children's nails to prevent hand-mouth infections but children and animals live in close proximity in the compound, which presents a high risk of exposure to dirt and faeces. During focus group discussions in different localities, children were spotted eating dirt or licking stones. Mothers, who observed it happening, would try to take out larger pieces from child's mouth so s/he would not choke but the risk of contamination via smaller particles was still very high.

When it comes to disposal of child's faeces, mother declared that children "*defecate as they go*," meaning there is no particular place they would relieve themselves. The faeces are then picked up by a mother and thrown in and around the compound. During one focus group discussion, a child defecated while his mother was waiting for her turn to join a community consultation. She left faeces on the ground and scraped off the remains of her child's buttocks with a couple of stones. During another focus group discussion, a child defecated inside a classroom, where the discussion was taking place. In fact, that child had a diarrhoea and his mother's first reaction was to throw some dust on the spot, where he relieved himself. Only when scolded by other women, the mother would get up, take her child outside the classroom and clean him up. During a final restitution in one community, a child peed on the ground, accidentally peeing on another child sitting close by. Neither of mothers were particularly concerned and continued chatting as if nothing happened. Both children were later spotted playing with the "contaminated" dirt and putting it into their mouth, once again without any reaction from their mothers. While these children may have developed a strong immunity to environmental hazards present around them, it may still be safe to conclude that these practices may require some improvement to limit potential risks of contamination and repeated illnesses, leading eventually to malnutrition.

These observations align with findings of Risk Factor Survey, conducted in the course of this Link NCA study, according to which only 35.1% of all interviewed households in Sekota and Dehana woredas were found to understand and practice appropriate child faeces management.<sup>63</sup> However, further analyses, taking into consideration anthropometric measurements of children in

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<sup>62</sup> Risk Factor Survey prevalence estimates not statistically representative. Please refer to *Study limitations* for more details.

<sup>63</sup> Idem.

the household, did not reveal a statistical association between two indicators, meaning that an inappropriate child faeces management is not a key risk factor leading to undernutrition (Cf. Annex B).

However, when it comes to psychosocial links between babies and their mothers and/or other family members, including siblings, these were observed as very strong. Mothers were seen very affectionate and attentive to their children at all times, especially when a child cried, while babies were happy and interactive with their environment. One boy was spotted licking his younger sibling's feet after walking in the dust. Although his gesture was highly playful and affectionate, it was also unhygienic and could certain health risks through contamination by dust/faeces particles.

Behaviour	Perceived risk	Community justification + additional information
Leaving a baby with older siblings	High	Babies left with other siblings mean that they would not be properly cared for and that entails potential exposure to sickness.
Slapping a baby when disobedient	Low	Mothers expressed that while they do not like to be harsh with their babies, it is a necessary corrective measure when they are disobedient.
Baby playing in the dirt	High	Babies often insert hands into their mouths, which presents a high risk for their health due to the contamination of dirt/faeces by various viruses/bacteria. Simply put, baby playing in the dirt equals getting sick. However, as noted above, babies were continuously observed playing in the dirt while no particular precautions were taken by their mothers to prevent it.
Baby in contact with animals	High	The community is concerned mainly about a physical risk, i.e. being kicked by an animal, if unsupervised. One group, however, also mentioned a risk related to unsanitary conditions resulting from the proximity with animals, e.g. transmission of diseases by ticks, lice and other parasites.

Table 14: Perception of risk relating to certain child care practices

### C. FOOD SECURITY AND LIVELIHOODS

#### Income-generating activities

According to focus group participants, main sources of income for men in a sorghum and goat livelihood zone are farming, animal rearing and masonry. In Dida, daily labour in road construction and loading/unloading vehicles is also available. Women generate income through a production of alcohol and occasionally through weaving, although they mostly weave for their personal use.

In a mixed cereal livelihood zone, a bigger diversification of income was observed. While men generate most income through farming and animal rearing, they complement their income through seasonal migration<sup>64</sup>, daily labour in road construction, small-scale trade and wood sale. In Silda, they plant trees in their compounds and sell them after 3-4 years for construction purposes. Alternatively, they plant *gesho*<sup>65</sup> trees, fruits of which are used for the alcohol production. These represent a limited income as they can be harvested only once a year.

<sup>64</sup> Seasonal migration and daily labor are two main sources of income for women as well.

<sup>65</sup> Shiny-leaf buckthorn, *Rhamnus prinioides*.

*“We usually plant trees around our houses; each according to his capacities but often around 100. We sell them after 3-4 years for about 30-50 birr each. We could sell them at double prices if we could wait one more year for them to grow taller/thicker. However due to numerous household expenses we need to cut them down sooner.”*

Focus group participants, Silda

Men who engage in small-scale trade travel long distances to buy crops for a resale on local markets. One merchant stated that he used to travel to a market 3 days away but as he grew older he only walks to a market 1.5 days away to buy his stock at convenient prices. He usually leaves his village on Mondays or Tuesdays to come back three days later and resell his stock on a local market on Saturday.

According to the findings of Risk Factor Survey, which was conducted during the course of this Link NCA study, crop sales are the main source of income for 35.5% of households in both Sekota and Dehana woredas in rainy season, rising to 54.9% in dry season. Livestock sales represent the second most important source of income for 20% of households in rainy season, falling to only 6.9% during a dry season. Casual labour represents the third most important source of income in Sekota and Dehana woredas, but is applicable to only 14% of households during both rainy and dry season. Productive Safety-Net Program and aid represent a source of income for about 10% of households each during both rainy and dry season. In addition, while loans represent a source of income for about 5% of households during a rainy season, they drop to a mere 1.2% during a dry season. The findings of Risk Factor Survey did not demonstrate a differentiation of income between a head of household and a caregiver.<sup>66</sup>

### Farming

Farming is the main source of income and food for most households in Sekota and Dehana woredas. It has a priority over animal rearing as that is mostly used to complement household income and/or help household to cope with eventual shocks. Most common crops include barley, wheat, sorghum and beans.

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<sup>66</sup> Risk Factor Survey prevalence estimates not statistically representative. Please refer to *Study limitations* for more details.



Photo 2: Men ploughing fields in Guld, Tsata

Among many issues that affect household capacity to generate enough income and food from this activity is the availability of land. While some focus group participants (primarily of younger age) claim not to have access to land, other complain of its small size (0.25 -0.75 ha), which is insufficient to feed a household over the course of a year.

*“Some 25 years ago young couples would receive land at marriage but that is no longer possible. Sometimes when a childless couple dies, the government confiscates their land and donates it to families in need. However, this policy does not satisfy the current demand.”*

Focus group participants, Silda

Communities stated that most land is available through inheritance. However, nowadays the land is reserved only for one child and others are encouraged to go to school in hope that they would be able to secure other jobs in future.

*“The best option for our children is the education so that they can government jobs, such as teachers and nurses, and have a good life.”*

Focus group participants, Dabil Maryam

Focus group participants attested that no land is available for purchase. Some years ago there was a possibility to get land in other parts of Ethiopia but people returned back to Wag Himra zone after learning that their land here would be confiscated by the government and redistributed. Currently they are not aware of similar relocation schemes but they would not be motivated to participate for the same reasons.



Community members who do not own land<sup>67</sup> are allowed to share land with landowners, where they practically exchange labour for an unspecified percentage of the harvest. In Dida, community members reported a rental scheme, the price of which has dramatically risen in the recent 7-8 years. While at that time, the land could be rented for 200-300 birr/year, nowadays it costs 1200 birr<sup>68</sup>.

In contrast to the past when land could only be owned by men, the land ownership is nowadays shared by a husband and a wife<sup>69</sup>. When a couple divorces, a woman has a right to 50% of the land. Women in woman-headed households can own the land themselves. Yearly taxes amount to 30 birr for a land lot of 0.25 ha.

The physical access to land is described as rather difficult. While they do not generally experience seasonal variations and the land is accessible in the same manner throughout a year, the lots may be located as far as 3 hours of walking distance from a village and/or located in topographically hardly accessible terrain, which makes it complicated for the use of animals to transport compost, among other things. In fact, focus group participants admitted that the difficult accessibility of the land they own discourages them from using compost, which they often need to transport on their backs. For that reason, they do not fertilise their lands in remote locations and/or use chemical fertilisers, which are easier to carry.

In addition, the land accessibility coupled with the unavailability of water points makes the land irrigation hardly possible. Some farmers mention that closest water points may be at 1hr walking distance from their fields, which discourages manual irrigation techniques. In addition, they admitted not to use water harvesting techniques, such as a creation of water reservoirs in their fields, due to a perceived low benefit/efficiency.

*"I tried to build a water reservoir on my lot according to the instructions of a woreda agricultural agent but the water was all absorbed in the land and I did not see any benefit of doing it again."*

Focus group participant, Silda

To prevent erosion, communities are building stone terraces on their lots, whenever feasible, however they do not find them particularly useful. Due to the unavailability of land, putting soil at rest for a year cannot be generally practiced.

*"In the past, we could leave the soil to rest for one farming season and the harvest afterwards was abundant. Nowadays it is not possible as all land is in use to keep our families alive."*

Focus group participants, Silda

Farmers agree that a diversification of income streams could help them to farm "properly" (i.e. to observe a resting period) but they may not have enough skills to abandon farming for the whole season and provide for their families nevertheless.

*"We are already planting trees, keeping vegetable gardens or work as daily labourers to complement our income but earned amount would not be sufficient to subsist our families over the course of a year."*

Focus group participants, Silda

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<sup>67</sup> While it is difficult to estimate, a greater proportion of focus group participants, who participated in the qualitative inquiry, claimed not to be landowners.

<sup>68</sup> All production costs, such as cost of seeds / fertilizers / rent of draught oxen, etc., are covered by a person sharing the land, rather than a landowner.

<sup>69</sup> Land titles issued in names of both spouses upon marriage.

Focus group participants attested that the low soil fertility has become one of their prime concerns in the past years.

*“Our land was very fertile in the past, now we do not harvest as much even if the rainfall is good. The quality of the land changed due to the population growth (no land to rest) and tree cutting, which leads to soil erosion.”*

Focus group participants, Dabil Maryam

They are very much aware that they should be using fertilizers (organic or chemical) to improve the land quality but those are not easily accessible. While chemical fertilizers are considered expensive, natural fertilizers are difficult to transport to lands with difficult geographical access.

*“The government runs different programs, distributing seeds and fertilisers on credit. However, they are still expensive and we need to pay the interest on them.”*

Focus group participants, Silda

When it comes to a production of compost, some people reported getting sick (symptoms including fever and coughing) while transferring a compost from one place to another. After a series of exchanges on the subject, it became apparent that a sickness is related to an incorrect handling of the compost as its transfer is recommended in the evening hours and not during a day. In addition, *kebele* leaders pointed out that some farmers may not be motivated to use organic fertilizers due to a government push for the use of non-organic alternatives. The preparation of compost also adds to their already heavy workload and thus they may be more inclined to use chemical fertilizers. Some farmers did, however, observe that their animals promenading on chemically-fertilized fields get sick when licking the soil. Alternatively, chemical fertilizers are considered unsuitable for use on stony or sloped surfaces because the *“chemicals burn the crop”*<sup>70</sup>.

In an exchange with farmers in Tsata it also became apparent that the timing for the preparation and application of the compost is not well respected and thus it does not yield results until a year later. In other words, while animal faeces are dispensed on their land in November/December, allowing for a good absorption of nutrients, the compost is not administered until June the following year. This delay substantially reduces its capacity to revitalize the land for the imminent farming season and it may not be until the following year that its impact may be really observed. The reason behind this lag is men’s heavy workload, which does not allow them to prepare the compost ahead of time. Therefore, the preparation of the compost does not start until November while time is needed for it to ferment properly. The households in possession of the livestock thus prefer to use readily available animal faeces for the fertilization of their fields, even though large quantities of it may not be available at one specific point in time.

As far as the crop rotation is concerned, most focus group participants did not confirm using this technique to increase their crop production. Only in Tsata farmers attested to have observed a decrease in harvest *“if we plant the same crop in the same field twice in a row.”* For this reason, they try to switch their crops as much as possible. However, crop associations are neither known nor practiced<sup>71</sup>.

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<sup>70</sup> Chemical fertilizers are also not recommended in moisture-stressed areas.

<sup>71</sup> Contradictory findings were observed during Action Against Hunger's staff visit in project locations in Sekota in May 2018. It is possible that participants to these exchanges were purposefully selected, thus leading to mentioned discrepancies. It is thus advised to exercise caution in relation to these Link NCA findings as local differences in knowledge/practice may be possible.

All arguments combined, focus group participants concluded that their lands do not receive much needed revitalization care, which consequently impacts the harvest volume at the end of a farming season. This becomes even more troubling if there is not enough rain.

*“Our harvest depends on the volume of rain we get. In recent years, the rain has become very erratic: sometimes it comes too soon, when our land is not yet prepared. Sometimes it comes late and sometimes it stops prematurely.”*

Focus group participants, Silda

Focus group participants reported a gradual change in rainfall patterns since 1990 E.C.<sup>72</sup> Instead of climate change, they attributed it to a loss of vegetation. They admitted that through cutting trees for firewood and household/compound construction they depleted their natural resources, which consequently had a negative impact on the rainfall. The government has since then criminalised deforestation activities, including a production of charcoal, and introduced a 200 birr fine for cutting trees. At the same time, reforestation activities have been heavily promoted, even though the population does not yet perceive their impact. Focus group participants confirmed, nonetheless, that they believe in re-planting and want to continue in the efforts. As a motivation, they mentioned a village not too far away that is surrounded by greenery and, according to them, attracts more rainfall. Others believe that farmers should make peace among themselves at the start of each farming season in order to attract God's blessings, taking form of an abundance of rain.

Apart from the erratic rainfall, focus group participants complained that on some occasions their farming activities are interrupted by storms, which damage their crops. These can also be damaged by plant diseases or insect invasions<sup>73</sup> but their occurrence is not too frequent. If it happens, farmers report it to an agricultural office that studies and treats the disease by pesticides. A slightly different situation was reported in Tsata, where recurrent nuisances forced farmers to abandon the planting of beans in order to avoid future losses linked with their farming. According to them, the support of agricultural extension workers<sup>74</sup> is not sufficient, especially due to significant knowledge gaps. Their zones of intervention are also too large and thus cannot accommodate to everybody's needs.

### Animal rearing

Communities in Sekota and Dehana woredas raise mostly cattle, donkeys, goats and sheep. While in sorghum and goat livelihood zone they raise them for income, grazing on lowland pastures, in mixed cereal livelihood zone they raise them as a source of an emergency income (shoats<sup>75</sup>) in case of an unexpected shock or to help them during field work (cattle). According to the findings of Risk Factor Survey, 93.2% of households in Sekota and 89.1% of households in Dehana own some livestock. Most households (~60%) own a cow or an ox while every other household reports

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<sup>72</sup> Approximately year 1997 or 1998 according to a European (Gregorian) calendar.

<sup>73</sup> Some of reported nuisance include: a) insects of unknown name bigger than flies, which attack *teff* and sorghum. They can be manually collected early in the morning when these insects cannot fly due to dew; b) worms/earthworms, which attack beans and peas. They can be chased out of fields using tree branches; c) mice. Farmers spray their fields with holy water, which does not kill the mice but the community believes that it minimizes the “destruction”; invasive weeds (“*ankara*”), which disrupt sorghum and beans fields.

<sup>74</sup> Key roles (as described by focus group participants): provision of farming advice, promotion of the use of fertilizers, distribution of seeds for credit.

<sup>75</sup> Average sale prices in March/April 2018 based on market surveys in Dabil Maryam and Dida: goat 1200-1500 birr, sheep 1400-1500 birr, cow 4000-5000 birr.

owning chickens and/or shoats. The ownership of horses or donkeys is less frequent and concerns approximately 34% of households.<sup>76</sup>

While a livestock ownership has its significance from the food security point of view, in-depth analyses, taking into consideration anthropometric measurements of children in the household, revealed a statistical association between two indicators, meaning that a livestock ownership is one of key risk factors leading to stunting, especially in Sekota woreda (Cf. *Community perceptions of causal mechanisms of undernutrition* and *Summary of findings and categorisation of risk factors*) due to an increased risk of contamination via their proximity to children or their play area.

The animals are generally reported to be in good health but veterinary services are sought to ensure proper vaccination. In one community further away from the *kebele* centre, focus group participants complained that a veterinary agent does not visit their animals despite their numerous requests.

One of the major concerns regarding animal rearing is the availability of forage. Communities would like to practice “animal fattening” but that is very difficult as pastures are not sufficient and commercially available animal feeding products are expensive. Focus group participants expressed additional frustration related to a government ban of grazing on pastures in the watershed<sup>77</sup>. As a consequence, the capacity to feed animals is actually a determining factor of how many of them a household decides to procure, if any. In addition, focus group participants highlighted difficulties related to an access to water for animals.

*“The water point nearby can only be used for a human consumption. We need to walk one hour to the closest stream to give water to our animals. Actually, few people in the village stay there and take care of all animals in the village as going back-and-forth would be too time-consuming. We bring them food three times a day.”*

Focus group participants, Dabil Maryam

#### Household expenditure and coping strategies

Considering main sources of income, the majority of financial resources tend to flow in household reserve after harvest in the months of October through December. The most expenditure occurs in January, which is a time of celebrations/weddings, and in June, when households need financial resources to procure tools and refreshments (alcohol/*injera*) for labourers at their fields during the onset of a farming season. The end of a principal fasting season (Easter) is also a time of increased expenditure.

*“As there is a lot of work in the fields, we invite other people to help us with the work in the fields. We “pay” them with meals and drinks and return the favour by working on their fields.”*

Focus group participants, Silda

At the same time, communities declare facing a shortage of money during the same period, i.e. from April to September, which influences their capacities to invest in a new farming season, if they are not well prepared and/or dealt with a shock within a household in the previous months.

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<sup>76</sup> Risk Factor Survey prevalence estimates not statistically representative. Please refer to *Study limitations* for more details.

<sup>77</sup> During the course of the qualitative inquiry, it was not possible to define properly, which areas fall under the term “watershed”. Considering that community members in all 4 locations felt concerned by it, it may be worthwhile to investigate further how the law delimits watershed and how the community understands it.

These testimonies align with the findings of Risk Factor Survey, according to which 86% of households in Sekota woreda and 85% of households in Dehana woreda reported food shortage in the last 12 months prior to the data collection. Most households reported food shortage in the months of April and May, raising above 70% over the course of these two months. This slightly differs from testimonies collected during the qualitative survey, which highlighted the months of July and August as the most difficult. However, according to Months of Adequate Household Provisioning (MAHFP) indicator, communities in Sekota and Dehana woredas have, on average, an ability to obtain food over the course of 9 months, which is slightly higher than a reported 7.5 months of self-reported security recorded at the time of RESET II baseline survey.<sup>78</sup>

These results were further analysed taking into consideration anthropometric measurements of children in the household. The respective calculations revealed a possible statistical association between two indicators, meaning that a longer lean season may be a risk factor leading to wasting in Sekota woreda (Cf. Annex B).

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<b>Climate</b>												
Dry season	+++	+++	+++	++						++	+++	+++
Rainy season				+++	+++	++	++	++	+			
<b>Economic activities</b>												
Principal season (preparation/planting/ weeding/harvest)	Pr.	Pr.	Pr.		Pl.	Pl.	W	W	H	H	Pr.	Pr.
Demand for (local) agricultural work								+++			+++	+++
Migration	+++	+++	+++	+++	+++				+++	+++		+++
Heavy workload of men	++					+++	+++	+++	+++	+++	++	++
Heavy workload of women	++					+++	+++	+++	+++	+++	+++	+++
Productive Safety-Net Program (PSNP)	+++	+++	+++	+++	+++	+++						
<b>Food security</b>												
Price of food	++	+++	+++	+++	+++	+++	+++	+++	++	++	+	+
Availability of food	+++	+								+++	+++	+++
Availability of financial resources										+++	+++	+++
Hunger gap			+	++	++	++	+++	+++	++			

Table 15: Seasonal calendar for economic activities and food security in Wag Himra zone

Considering that farming is the main source of income and food for most households in Sekota and Dehana woredas, crops are usually cultivated for household consumption while certain quantities are set aside for sale in order to allow for the purchase other necessary household items, such as salt and oil. Seeds for the next farming season are also systematically put aside, however, households practicing crop rotation need to purchase seeds of new selected crops at the

<sup>78</sup> Risk Factor Survey prevalence estimates not statistically representative. Please refer to *Study limitations* for more details.

beginning of a planting season. The eventual purchase of seeds for planting may also arise if a household sells seeds, previously set aside for farming, to cope with an unexpected shock. As farmers in Tsata pointed out, they would sell more expensive crops, such as *teff* and beans, or the livestock to generate needed financial resources. In this respect, it is worthwhile to note that the beginning of a farming season is inconvenient for the sale of animals as the prices are lower due to a low demand/high cost of animal feeding.

As the prices of cereals are considerably higher at the wake of a planting season, communities need to mobilise more resources to cover that expenditure. While some engage in daily labor, such as house/road construction, paid agricultural labor or collecting firewood, to complement the income, certain households may decrease their food consumption. When this happens, the available quantity of food is reported to be shared equally among all members of the household. However, some mothers stated that they would give the more food to their children even if it meant that they would be hungry. Exchanges in Tsata also revealed a change in eating habits, meaning that households in difficult circumstances would give up preferred *teff injera* and replace it with a “low cost” alternative in the form of *injera* made from barley.

When other coping strategies do not bring necessary relief, loans from family or friends may be sought. Among neighbors, borrowing money up to 15 birr is a current practice and considered very easy (no interest charged). However, when 200 birr is borrowed for a period of one year, an interest rate of 100 birr is charged upon return. Whatever the value, borrowed money needs to be returned otherwise a person who borrowed would feel very uncomfortable, even ashamed, risking that a person would not borrow him some more in another emergency.

For larger amounts, communities can resort to Amhara Credit and Savings Institution (ACSI)<sup>79</sup>, which borrows money up to 10,000/15,000 birr for farmers/merchants. ACSI offers collective loans (3-5 people), for the repayment of which the whole group is responsible. In other words, if one is unable to pay off his part, co-creditors are responsible for the loan repayment. However, during focus group discussions participants attested that when one creditor faces financial difficulties, he turns to neighbors and friends to borrow money in order to repay the loan. Alternatively, the concerned group can request a mediation through village elders or file a court application leading to debtor’s imprisonment. As a precaution, they pay utmost attention to their choice of fellow borrowers so all complications can be avoided.

*“If we have financial difficulties, all the community helps and makes contributions according to their possibilities. The institutionalised loans are available only to those who have land or other piece of property.”*

Focus group participants, Dabil Maryam

Despite the high level of poverty, people do not generally report having debts.

The findings of Risk Factor Survey, conducted during the course of this Link NCA study, revealed that 31% of households admitted to adopting coping strategies – on average 3 days a week. Considering that Risk Factor Survey was conducted in a post-harvest period, it is safe to assume that this percentage could be considerably higher during a lean season. Almost a half of these households, i.e. 15% of all respondents, admitted to adopting all coping strategies, while 76-80% of these households, i.e. approximately 25% of all respondents, admitted to adopting most severe

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<sup>79</sup> Rural savings and credit cooperatives (RuSACCOs) not mentioned by focus group participants, although present in the zone of study.

strategies, i.e. restricting adult consumption for the benefit of children or borrowing food from family or neighbours, respectively.<sup>80</sup>

These results were further analysed taking into consideration anthropometric measurements of children in the household. The respective calculations revealed a possible statistical association between two indicators, meaning that negative coping strategies may be a risk factor leading to stunting (Cf. *Community perceptions of causal mechanisms of undernutrition and Summary of findings and categorisation of risk factors*).



Photo 3: Community members reflecting upon their household expenditure in Begugn, Silda

The decision-making power related to household expenditure rests with both husband and wife. Focus group participants attested that respective decisions are taken after a mutual consultation<sup>81</sup>. While in the past they managed to subsist their families on their own agricultural production and thus spent very little on food items, they reported that related expenses have risen in the recent years due to their incapacity to produce enough crops and due to the food price increase. However, in certain communities the investment into farming retains its financial priority as people believe that they can reap benefits at the end of a farming season. In fact, some farmers reported that they occasionally invest in the purchase of more expensive seeds (beans/lentils), hoping to make more profit at the end of the season. However, they could not explain how they generate the needed investment and whether it eventually pays off. Focus groups participants also highlighted that their health expenditure has increased as health facilities are at a greater proximity and the population is more sensitised about their utilisation.

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<sup>80</sup> Risk Factor Survey prevalence estimates not statistically representative. Please refer to *Study limitations* for more details.

<sup>81</sup> With an exception of income earned by a woman alone, as described in the Table 19 in the Section E.

	Dabil Maryam	Silda	Dida	Tsata
Food	10	6	11	8
Clothes	5	4	0	3
Health	4	4	5	6
School	4	2	0	4
Household items	7	7	3	7
House-related expenses	3	3	12	5
Farming-related expenses	0	9	5	9
Livestock-related expenses	4	7	5	1
Transport	2	5	2	2
Communications	2	0	0	2
Alcohol / Cigarettes	9	1	3	2
Debts	0	2	4	1

Table 16: Results of a participatory exercise on household spending<sup>82</sup>

### Market access and price fluctuations

A physical access to markets does not seem to be particularly troubling in neither of visited communities. In one village in Sekota woreda, a local market set up in its centre on Tuesdays is used for all buying and selling. No other market is reported to be used as all purchases/sales can be realised there. In Dehana woreda, communities seem to be more mobile. They use a number of markets (at 10, 45 min to 4 hrs of walking distance), depending on what and at what price they desire to buy/sell.

*“Amedork offers a better selection of merchandise at better prices. We like to go there on a monthly or bimonthly basis to procure certain goods in greater quantity. In fact, several families put resources together and we buy goods in bulk for a good price. We then use local markets for smaller purchases of fresh produce, as needed. In Amedork we also buy clothes there, which are not available locally.”*

Focus group participants, Silda

Focus groups participants confirmed that the access and the availability of products have very much improved in the last decade or so.

*“In the past we would need to travel to different parts of Ethiopia to get salt or peppers. These are now locally available so our life is easier.”*

Focus group participants, Silda

As the markets are closer, shopping is no longer done by husbands only but women can freely go to the market and buy what they need for the household. They have also taken up a responsibility for the sale of crops from own agricultural production, while men tend to the sale of animals. The market proximity also aids elders who may not have other family members to do shopping for them.

In Tsata, however, the availability of products on a local market fluctuates, depending on a season. Considering that a road to this *kebele* traverses a river, while a bridge has been under a construction for some years and has not been completed, vehicles with merchandise cannot pass during a rainy season when the river swells. While some merchandise can still be transported on donkeys, quantities are not sufficient to satisfy the community demand. As a result, certain

<sup>82</sup> Number in each cell represents a proportion of the income dedicated to each category of expenses, where a total equals to 50. Cells highlighted in orange designate top 3 household expenses. While certain differences between households are natural, community members in each location agreed that their expenditure resembles a model portrayed in the table.



merchandise, such as soap, onions and pots, which are usually transported from Sekota, are not often available for purchase during that time. Considering that communities do not have enough resources to pre-stock these items, shortages cannot be avoided. According to their testimonies, onions and oil are especially missed.

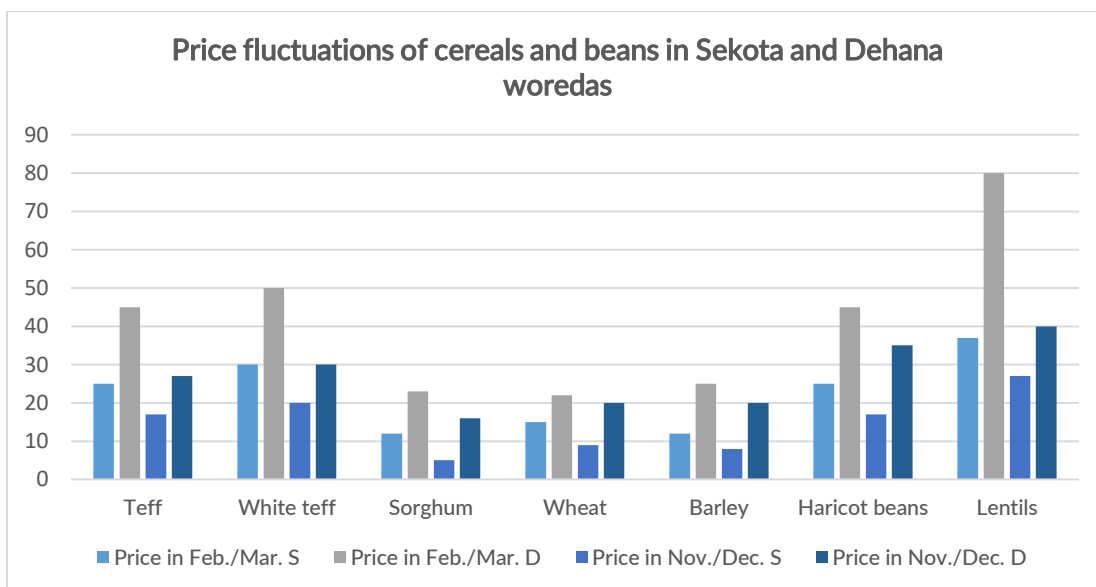


Figure 4: Price fluctuations (in ETB) of cereals and beans in Sekota and Dehana woredas between Nov./Dec. (post-harvest period) and Feb./Mar. (planting period)<sup>83</sup>

It is worthwhile to note that prices of all cereals and beans are higher in Dehana woreda as opposed to Sekota woreda. This may present additional stress of respective communities related to a procurement of stock for household consumption. In addition, it has also been observed that prices may differ substantially within the same woreda. For example, the price of *teff*<sup>84</sup> was reported at the level of 17/25 birr in Tsata while it cost 25/37 birr in Dabil Maryam (price of crop in the post-harvest/pre-harvest period). The similar differences were also noted for sorghum<sup>85</sup> and haricot beans<sup>86</sup>. In other words, depending on their location, certain communities pay up to a double of standard prices used elsewhere. In addition, communities report a substantial change in cereal prices since 1985 E.C.<sup>87</sup> with major turbulences noted in 2004 and 2010, when a storm passed through the area and most people lost their stock for planting. As a consequence, the crop production decreased and prices rose significantly. While in the past the price of cereals oscillated around 2-3 birr<sup>88</sup>, nowadays they cost 10-20 times as much.

### Community-based organisations

Communities in Sekota and Dehana woredas do not have a tendency to form community-based organisations for a common cause. Some communities reported the existence of associations in

<sup>83</sup> Based on market surveys in *kebeles* of Dida and Tsata. Prices are not linked to a particular year and depend heavily on community's recollection capacities. However, it is possible to infer that prices for a planting period refer to February/March 2018 while prices for a post-harvest period refer to November/December 2017.

<sup>84</sup> Species of lovegrass, *Eragrostis tef*, native to Ethiopia, greatly appreciated for its high content of dietary fiber, iron, calcium and even protein.

<sup>85</sup> Tsata: 5/12 birr vs. Dabil Maryam 11/17 birr (price of crop in the post-harvest/pre-harvest period).

<sup>86</sup> Tsata: 17/25 birr vs. Dabil Maryam 20/32 birr (price of crop in the post-harvest/pre-harvest period).

<sup>87</sup> Approximately year 1992 or 1993 according to a European (Gregorian) calendar.

<sup>88</sup> Prices in 2004: 2 birr for barley, 3 birr for *teff* and beans.

the past (e.g. for bee-keeping) but they no longer exist. According to collected testimonies, a number of associations dissolved due to an internal conflict. One focus group participant described the conflict as a “*prioritisation of private activities and personal interests over the interests of the association, which translated into an insufficient time dedicated to association’s affairs in order to make it prosper.*”

However, to cope with high sugar prices at a local market, an association has recently been formed in Tsata. A membership fee of 60 birr is used to generate funds for the purchase of sugar in Sekota and its resale at more convenient prices in their *kebele*, creating a competition for travelling merchants, who sell sugar at abusive prices. They also hope to generate profit and divide it among members at a later stage. Focus group participants also confirmed a recent setup of self-help groups<sup>89</sup> within the Productive Safety Net Programme. The main objective of these groups is to allow its members to benefit from financial injections from their peers on a rotating basis, with no interest paid.

Despite rather low community organisation activity, communities in these two woredas cherish the culture of helping and assisting each other in times of difficulties, even though there is no income generated. In Dida, for example, focus groups participants confirmed an existence of women’s and men’s associations on a religious basis, which help other community members in distress. According to their testimonies, they put money or crops together to support people in need, as for example during this past Easter holidays, during which they procured meat for underprivileged families. They also organise money contributions targeting vulnerable households after a death of a member of the family. In addition, they may provide free labour to elders, ploughing their lands, if needed. These associations meet on a monthly basis for a social celebration (*senbeti*), which usually takes place on Sundays. It helps them to reinforce solidarity and trust among its members. These gatherings also provide an excellent opportunity for a discussion on issues of interest or a conflict mediation, when a situation arises. In most cases, it is linked with property limits.

As a consequence, focus group participants, including women, reported feeling safe in the village, even at night. Perceived security concerns are exclusively linked with the exterior, be it dogs and wild animals<sup>90</sup> on the way to the water point, unknown people coming to their village for market days or mischief or them going to distant markets, implying potential assaults/thefts. For this reason, both men and women admitted that they prefer to be accompanied doing those errands in order to avoid possible nuisances. During days of increased population movement through the village, such as market days or special events, the protection of villagers is assured by a militia.

#### D. WATER, SANITATION AND HYGIENE

##### Water

According to Wag Himra Zone Water and Bureau Office, there is a total of 482 and 342 water points in Sekota and Dehana respectively, out of which only 85.2% in Sekota and 78.9% in Dehana are functional. In Dehana, 81% of functional water points are from springs and 16% are hand-dug

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<sup>89</sup> While NGO staff highlighted that self-help groups were created in a number of locations via previous projects, these seem not to have survived and/or found themselves in a limbo after a project closure. As one self-help group pointed out, “*NGO staff just stopped coming. They gave us some training but left us mid-way. We now have some money but do not know how to best invest them to make profit.*”

<sup>90</sup> Tigers, hyenas and monkeys.

wells. In Sekota, there are 54% spring water points and 43% hand dug wells. However, this data does not differentiate between protected and unprotected water points.

Focus group participants during a qualitative inquiry reported to walk between 30 minutes and 1 hour to the nearest water point. Similar findings came out of Risk Factor Survey, according to which 80.7% of households in Dehana woreda can access a water point within 30 minutes, while another 8.4% can access it within one hour. The physical accessibility is slightly better in Sekota woreda, where 76.3% of households can access a water point within 30 minutes and another 17.4% within one hour.<sup>91</sup> However, further analyses, taking into consideration anthropometric measurements of children in the household, revealed a statistical association between two indicators, meaning that distance to a water point greater than 30 minutes is one of key risk factors leading to wasting, especially in Sekota woreda (Cf. *Community perceptions of causal mechanisms of undernutrition* and *Summary of findings and categorisation of risk factors*).

While the distance itself may seem somewhat reasonable in comparison to other contexts, it is waiting times that have a considerable impact on women's workload. During a morning fetching "rush hour", women spend up to one hour waiting for their turn to fill their jerry cans. The waiting time is cut to only 10 minutes, if water is fetched during lunch time.

*"We have two streams where we fetch water from. They are each about 20 minutes away but we spend about two hours queuing as there is not enough water in the stream and many people come here. In September there is enough water in the stream but otherwise it is really low. We have a schedule to access it. We can only fetch water every other day, the second day is dedicated to a neighbouring village."*

Focus group participants, Silda

Because most water points are from surface and subsurface sources like springs and wells, yield proportion decreases during a dry season and water accessibility as well as availability becomes a problem. In recent years, springs have notably begun to dry. According to focus group participants, the driest months are from January through June, in other locations only from May to June. During that time, they are limited to only one jerry can per household per day (in contrast with 2-3 jerry cans fetched during other months of the year). Communities where a protected water point is available claim to fetch 4 jerry cans per day (80L).

According to the findings of Risk Factor Survey, households in Sekota woreda consume on average only 10 L per person per day while the water consumption is slightly higher in Dehana woreda, amounting to 12 L per person per day.<sup>92</sup> These findings were further analysed taking into consideration anthropometric measurements of children in the household. The respective calculations revealed a statistical association between two indicators, meaning that water consumption is one of key risk factors leading to stunting (Cf. *Community perceptions of causal mechanisms of undernutrition* and *Summary of findings and categorisation of risk factors*).

When water is scarce, it is reserved for drinking, cooking and handwashing. However, the community admitted that even handwashing is not systematic, if water quantity is low. Bathing

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<sup>91</sup> Risk Factor Survey prevalence estimates not statistically representative. Please refer to *Study limitations* for more details.

<sup>92</sup> Idem.

and clothes washing is put on hold and generally takes place only once a month or once in two months, depending on water availability.

Water from a river stream is shared with animals and it is not properly maintained. In general, it is considered unsafe to drink but people from concerned communities admitted drinking it without proper treatment. They only let the water sit for a while when it is visibly dirty. When water chlorination tablets are distributed, some people admit to using them, others claim that it changes water's taste and they prefer to drink it "natural". Before the beginning of one focus group discussion, a child was observed carrying water to school in a water bottle given to her parents a day before. The water was turbid in great contrast with the treated water distributed to the participants in the same container. Many community members expressed a belief that they cannot get sick drinking unsafe water but their children can suffer from discomfort.

*"When fetching water, we first need to remove weeds and algae. Only then we can fill our jerry cans. Upon arrival at home, we transfer water to a tank in the house. The tank is usually deposited on the ground. We do not treat the water before drinking."*

Focus group participants, Dida

On the other hand, water from a water point such as a hand pump well is considered safe as woreda authorities oversee a chlorination. Despite the fact that it is rather sporadic<sup>93</sup>, people still trust the source and do not treat water at the household level. Yet a series of in-depth analyses based on the findings of Risk Factor Survey revealed a statistical association between an inappropriate water treatment and anthropometric measurements of children in the household, meaning that it is one of key risk factors leading to stunting in Dehana woreda (Cf. *Community perceptions of causal mechanisms of undernutrition and Summary of findings and categorisation of risk factors*).

While members of interviewed communities argued that they drink unsafe water because they have "have no other choice", the qualitative data collection team tested their attitudes in Tsata, where a safe<sup>94</sup> and an unsafe<sup>95</sup> water points were available. Focus group participants explained that water from a hand pump well was clean and transparent while water from a protected spring was green, with leaves and mud in it. Both were located at a relatively equal distance from the community but the spring was a bit closer. For that reason, it was community's preferred option. In order to fetch water at any of these water points, households need to pay a contribution, which is used to pay a guard's salary<sup>96</sup>. The use of the well is charged at 0.20 birr per jerry can while the use of the spring costs 2-3 cups of cereal per year<sup>97</sup>. Water committees, deemed to manage these water points, were set up but they are currently rather dysfunctional as "the government does not support [their] operation anymore. The community affirmed that if a well was closer, they would fetch water there. If a well and a spring were located at the same distance from the community, they would be willing to pay a little extra money to access water of a better quality. However, if a well was closer but spring was free of charge, they would choose the spring – despite the water quality. For this reason, the lack of choice that community was referring to, may not be solely of

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<sup>93</sup> Conducted especially during outbreaks of water-borne diseases.

<sup>94</sup> Hand pump well.

<sup>95</sup> Protected but unmaintained water spring.

<sup>96</sup> A guard protects a water from unduly use and that agreed rules are respected by all community members.

<sup>97</sup> Estimated at approximately 60 birr, depending on the type of cereal.

a physical accessibility nature but it may also have an economic connotation. Depending on the scale of a burden on household's budget, a family may or may not be able to absorb the cost for a safe water access. In addition, communities do not seem to see a clear link between the water quality and certain health concerns that they or their children may experience (especially diarrhoea). This eventually leads to an underestimation of the issue and a low motivation to change current practices.

While the water quality at the source is certainly important, water handling during transportation and storage until consumption also plays a key role in a potential contamination pathways leading to water-borne diseases. According to the findings of Risk Factor Survey, no household in either Sekota or Dehana woreda is at no risk of contamination. The situation is slightly more alarming in Sekota woreda, where 35.6% of households are at mild risk of contamination. 61.4% at moderate risk of contamination and 3% at severe risk of contamination. In Dehana woreda, 67.7% of households are at mild risk of contamination, 31.9% at moderate risk of contamination while only one household is at severe risk.<sup>98</sup> During a qualitative inquiry of this Link NCA study, the team observed water to be stored in wide-mouthed pots, allowing for insects to crawl in, despite being covered. All pots, including a cup for fetching water, were placed on the ground, allowing thus for an easy contamination of water through mud particles.

The water is usually fetched by women but in certain circumstances, such as heavy workload or illness, men and children can lend a helping hand. In Dida, focus group participants confirmed water fetching as an income-generating activity - each jerry can of fetched water costing 5 birr.

Behaviour	Perceived risk	Community justification + additional information
Drinking water from the river stream	High	Water contains worms and leeches and can cause stomach problems (stomach cramps, vomiting, diarrhoea). This can be prevented by water boiling, which is considered easy but not practiced systematically as it is time consuming. They do it only when the water is perceived of bad quality, i.e. visibly dirty. In this case, some women boil small quantities of water reserved for drinking or let the dirt sit and then transfer the "clean" water to another recipient.
Drinking rain water	Medium	While one community classified the risk as high due to their insufficient exposure to rain water harvesting and thus expressing cautiousness using it (only for clothes washing but not drinking), another community classified the risk as low. In their environment the rain water is suitable for drinking with the exception of the first rain (which washes away the dust and could potentially be hazardous to health). In yet another community, focus group participants felt that rain water is unsafe for drinking because it can help spread diseases, such as common cold.
Leaving jerry cans open	High	Insects can enter and contaminate the water, which then results in sickness.

<sup>98</sup> Risk Factor Survey prevalence estimates not statistically representative. Please refer to *Study limitations* for more details.

Letting flies sit on a plate of food	High	Flies transmit the disease, the food always needs to be covered.
Eating without washing hands	High	Hands need to be washed before eating because their environment (house/compound/fields) is considered dirty. If they didn't wash hands, they would fall sick. It has been observed, however, that even though people wash hands before eating, they do so only with water. No soap or ashes were observed as used during the pre-meal ceremony. Handwashing is considered easy and the community always reserves water for handwashing. If they don't have enough water in the household, they declare to borrow it from neighbours. However, in certain communities it may happen in moments of great water scarcity, hands are not washed before eating.
Defecating around the house	High	Flies transmit the disease. Defecating should take place a bit further from the house or in the latrine.
Cleaning a latrine	Low	No perceived risk in connection with a latrine cleaning.

Table 17: Perception of risk relating to certain hygiene behaviours

## Sanitation & hygiene



The presence of latrines in visited communities is scarce. Among different household priorities, such as building a bigger house, preparing a compost for fields or investing money in an income-generating activity, building a latrine does not hold too much importance and is often shifted down the priority line. The construction of a latrine loses its importance altogether when people live in a rented house. In that case, the motivation to build a latrine on somebody else's property is close to zero.

*"It's a question of survival. Building a latrine will not generate any income for the household. For this reason, we prefer to invest in a purchase of animal, for example, which will pay off in the future when we try to sell it."*

Focus group participants, Dabil Maryam

Photo 4: Example of a typical latrine in Debere Saine, Dabil Maryam

In Dida, focus group participants mentioned that the government has recently introduced a new regulation, according to which house owners are obliged to build a latrine next to the house that they are renting. This has had a positive impact on the life in the community as more and more latrines are being constructed in their milieu.

In addition, other participants mentioned that with such heavy workload they have, building a latrine is the least of their worries. They reiterated that income-generating activities get a priority over a place of safe defecation.

In Tsata, focus group participants pointed out that the construction of a latrine in their community is impossible as certain properties are located on a stone slab, which makes digging a pit hole in

those locations extremely difficult. Others expressed a discouragement that latrines are not sufficiently durable, commenting primarily on wood slabs being eaten by termites or the mud structure crumbling relatively quickly. According to them, building a latrine requires an important amount of physical effort and financial resources while results do not last long enough to motivate such investment. If a latrine is built but then deteriorates, the respective household does not consider investing into its reconstruction again.

According to the findings of Risk Factor Survey, 38.6% of households in Sekota woreda and 58.2% of households in Dehana woreda have access to a latrine in their compound while 56.4% of households in Sekota and 43.1% of households in Dehana practice open defecation.<sup>99</sup> These results were further analysed taking into consideration anthropometric measurements of children in the household. The calculations revealed a statistical association between two indicators, meaning that the unavailability of a latrine in a household may be one of key risk factors leading to wasting in Sekota and stunting in Dehana woreda (Cf. *Community perceptions of causal mechanisms of undernutrition and Summary of findings and categorisation of risk factors*).

Equally alarming is the presence of animals in the compound, which was observed in 66% of households in Sekota and Dehana woredas. Consequently, animal faeces were observed in 72.7% of households, making this area unsafe for children in 76.6% of households.<sup>100</sup> Performing statistical associations' calculations between these factors and anthropometric measurements of children in the household revealed that unhygienic play area for children is one of key risk factors leading to stunting in Sekota while the presence of animals in the compound may lead to wasting in Dehana woreda (Cf. *Community perceptions of causal mechanisms of undernutrition and Summary of findings and categorisation of risk factors*).

Behaviour	Perceived difficulty	Community justification + additional information
Fetching water	Medium to difficult	The perception of difficulty is linked with distance, time for queuing and water availability. In studied communities, a water point was within a reasonable distance (< 30 min.) but queuing and water availability in certain timeframes/seasons can make the task more difficult than in other times of the year.
Water treatment	Medium	Some people attest using aqua tabs, when they receive them. When they run out of them, they cannot renew the stock as they are not available on the market and they do not know how to produce them. Those, who do not use them, dislike the taste of water after chlorination. Most people are also aware of a water boiling technique but do not use it because it is time-consuming and it consumes valuable firewood as well. Generally speaking, water treatment by aqua tabs is considered easy while water boiling difficult.
Handwashing	Easy	Handwashing as such is not considered difficult but an access to a soap can be difficult due to its price. In parallel, people do not seem to perceive a risk of

<sup>99</sup> Idem.

<sup>100</sup> Idem.

		washing hands without a soap, thinking that it is sufficient to do so with water only.
Buying a soap	Difficult	Soap is considered expensive, even though it costs only around 5-6 birr per bar. In-depth discussions with community members revealed that it is not the price itself that has a discouraging effect on the purchase but rather its consumption in the household, as per recommendations. In other words, handwashing is a frequent activity and thus necessitates a greater quantity of soap to be purchased – and that makes it expensive. On the other hand, a purchase of soap for clothes washing is a different matter as it is used once in a while and thus money is always set aside for it. As for handwashing, some participants mentioned using ashes instead but this has not been observed during any pre-meal handwashing ceremony.
Bathing	Easy	Adults declare to bathe once a month or once in two months, especially in the period of water scarcity. Babies are declared to be bathed every three days because they are perceived as happier and more active when clean. Certain mothers claim to bathe their children in the morning and again in the evening, if they are too dirty. When the outside temperature is low, they boil a small quantity of water and mix it with the cold one to prevent a risk of catching cold.
Using a latrine	Easy	N/A
Cleaning a house	Easy	Houses are cleaned every day, participants do not express any particular difficulties in this respect.
Cleaning a compound	Easy	Compounds are cleaned once a week; participants do not express any particular difficulties in this respect. The team, however, noticed a presence of animal faeces in all visited compounds with children playing in their immediate proximity.
Washing clothes	Easy	The frequency of washing clothes depends on a family size; most often it is done on a weekly basis under a condition that water is available. In times of water scarcity, clothes washing is done only once in a month or once in two months.

Table 18: Perception of difficulty relating to certain hygiene behaviours

## E. GENDER

### Women's daily workload

A typical woman's day starts at about 6.00am by visiting a latrine, cleaning a house and fetching water. Depending on how long it takes her to queue for water, she starts preparing food at about 7.00-8.00am. The main staple, *injera*, is often prepared in the mornings from *teff*, sorghum or a mix of cereals but the *teff* variation is most valued for its nutritional properties. Due to a lengthy cooking process (approximately 2-5 hours), women tend to prepare it in larger quantities in order to sustain the household over the course of 2-3 days<sup>101</sup>. The preparation is shorter, if a woman has

<sup>101</sup> *Injera* made from *teff* can last up to 3 days, sorghum only two days.



access to a ground flour and considerably longer and tedious, if she needs to grind the flour manually.

Once the food is prepared, a woman tends to animals and collects their faeces in the compound. They are dried in the sun and used as fuel while moist faeces are used as a fertiliser in home gardens or in the fields.

During a non-fasting season, 9.00am is a time for the first coffee ceremony of the day, followed by cleaning of the dishes to be used for a midday meal. She then leaves for the field to help her husband with weeding/harvesting. When that is not necessary, she engages in other income-generating activities, such as the production of alcohol or weaving. While weaving is normally done for household purposes only, it may be deployed as a coping strategy together with the preparation of cotton, when the household economic status deteriorates.

One day a week, a woman dedicates her time to clothes washing. That interval may be shorter or longer, depending on the family size and the availability of clothes and water to perform the task.

On Sundays, her typical daily routine is pleasantly “disrupted” by a participation in a church mass in the morning, followed by a social celebration. This usually lasts from 10.00am till 3.00pm. Social gatherings are especially popular during a fasting season.

When a woman is pregnant, her daily workload has a tendency to decrease. She would still need to fetch water but is spared from firewood collection or difficult field work, notably at the advanced stage. After childbirth, woman’s workload increases anew because of new child care responsibilities but firewood collection remains her husband’s responsibility.

Focus group participants evaluated their workload as high throughout the year but they consider it particularly high in the months of June through September because of their additional responsibilities in the field.

*“There is no rest for us during a day. When we don’t weed, we fetch water. When we don’t fetch water, we grind. No matter how much we work, there is always some other work awaiting us, especially when apart from our household duties we need to help our husbands in the field.”*

Focus group participants, Silda

Women in Tsata expressed a pure dislike of the double workload by saying that they preferred to be pregnant to avoid the work in the field.

Little light at the end of the tunnel...or observed improvements in women’s workload thus far  
*“In our village we grind grains manually. For this reason, we start our day by grinding and we grind every time we have a spare moment. Although the mill is available in the centre of kebele, the grains need to be transported there on donkeys, plus it costs money to grind. Our husbands give us some money to do it but we prefer to use this money otherwise and buy salt or other items for cooking.”*

Focus group participants, Silda

While in this particular community, women made a conscious decision not to use the mill nearby in order to save money for other household expenses, women in other selected communities spoke very highly of the innovation, which represents thus far one of greatest improvements in their daily workload. Its advantages are so highly valued that women don’t hesitate to invest time in some income-generating activity<sup>102</sup> in order to be able to pay for grinding.

*“No grinding means more time for our children. It’s worth paying for it.”*

Focus group participants, Dida

<sup>102</sup> Water fetching, firewood collection.

However, the price for service may differ substantially depending on where it is provided. Focus group participants in Dida explained that it costs 70-80 birr per 20 kg bag to grind cereals in Dida, while it costs only 10-15 birr for the same amount in Ammedork. The difference in price is justified by energy costs, meaning that the engine in Dida runs on petrol while the one in Ammedork is powered by the electricity. For this reason, households tend to grind their cereals in Ammedork at least once a month. However, that increases men's workload as it takes about 4h30 to walk there. A transportation by a vehicle is possible but it can cost up to 60 birr one way<sup>103</sup>, which makes it economically less appealing. In addition, community members noted that although sending their bags to Ammedork with a transporter, who would be in charge of the grinding, was a tempting option, they feared that the transportation service between their village and Ammedork was not properly regulated and thus their bags could be easily stolen.

Along the same "grinding" lines, focus group participants in Dabil Maryam highlighted the "invention" of a *chiro* powder, which they consider "*an absolute game-changer.*" Apart from being considerably less time-consuming, saving them up to 4 hours<sup>104</sup> for other activities, it is consequently less energy-demanding and more environmentally-friendly<sup>105</sup>.

Apart from the modernisation of grinding, women also praised the use of animals, which help them carry large loads. Other participants, not yet fully benefiting from this "luxury", said that the involvement of husbands in certain household tasks<sup>106</sup> has lowered the pressure that they felt some years ago<sup>107</sup>. They noted that while "*men do not understand our workload, they accept to help, if we ask.*" Alternatively, children also bring some relief by fetching water or collecting firewood.

*"In the past we hardly had time to sleep. Nowadays we are still very busy during a day but we can get some rest at night."*

Focus group participants, Dabil Maryam

Although women in all sampled villages spoke positively of their husbands' support, it would be daring to infer that the improvement in division of household duties is evenly applicable across both woredas. In fact, men have observed that the amelioration of women's workload happened at their expense, i.e. a decrease in women's workload has triggered an increase in men's workload.

*"There is gender equality now, we have more work than ever before."*

Focus group participants, Dabil Maryam

While certain men considered this change natural and did not feel that they were forced to do "feminine tasks", some participants let themselves heard that "*all women do now is to drink coffee all day long.*" It goes without saying that such feelings of resentment may motivate stubborn adherence to gender patterns of the past. However, it is just to say that a majority of interviewed men supported the current development, especially when their wives are pregnant or breastfeeding. Nonetheless, they deemed important to highlight that "*Gender is not a problem in [their] community, the poverty is.*" At this point they re-aligned with their wives, who in separate focus group discussions expressed that despite numerous improvements their workload is still unnecessarily high due to a lack of income. According to them, an access to electricity (thus bypassing the necessity to collect firewood for cooking, which is time-consuming) and a water point at greater proximity could help lower the workload further. In addition, they believed that an improved access to pesticides would not require them to engage in weeding activities during a farming season. However, it is important to note that studied communities did not fully understand potential harmful impact of chemical pesticides on their land and thus this statement should be studied with caution.

## Men's daily workload

A typical man's day starts at about 6.00am by visiting a latrine, opening barns for animals and preparing to go to the field. Breakfast is eaten only during a non-fasting season. While some men said they would wash, others stated that it is not mandatory for men. Apart from Dabil Maryam,

<sup>103</sup> 30 birr per person + 30 birr for a load up to 40 kg (2 cereal sacks).

<sup>104</sup> Difference in preparing a meal from beans and *chiro* powder.

<sup>105</sup> Requires smaller quantities of firewood to prepare a meal.

<sup>106</sup> Firewood collection, grinding, child care.

<sup>107</sup> Change brought about by sensitization sessions.

where men come from the field during lunch time to share a meal with their families, focus group participants in all other locations confirmed that they take their lunch and water to the field with them and do not return home before the evening.

*“In the past we would stay in the fields all day and women would need to bring us lunch at noon. Now women have less work to do and we have a possibility to rest a little too.”*

Focus group participants, Dabil Maryam

During a quiet period between two farming seasons, men tend to their houses/compounds and carry out all necessary repairs.

*“Our workload is particularly high in the months of June through October. In June and July we plough, in August and September we weed and in October we harvest.”*

Focus group participants, Dabil Maryam

While certain men have observed an increase in their workload due to their involvement in household duties, their bigger concern took roots elsewhere. According to them, their increased workload was essentially linked with low harvest, meaning that they “work on their lands and lands of their neighbors in order to maximize the harvest and still they harvest less than they used to have in the past.” Alternately, they engage in public works to earn more money and then they don’t have neither time nor energy to work on their fields.

#### Opportunities for young generations

Discussing life opportunities for their children, focus group participants admitted that there was only one option for their daughters.

*“Education is the only option for girls. If my daughter is educated, she can marry an educated man and lead a simpler life. If she does not go to school, she will marry in the village and bear children.”*

Focus group participants, Dabil Maryam



Photo 5: Children during P.E. class at school in Dida

Due to the unavailability of land, schooling has also become one of key opportunities for boys. As some focus group participants mentioned, they choose one or two offspring to follow in their footsteps as farmers but the rest needs to pursue their education, hoping they would succeed getting good jobs in the future. However, that automatically entails their parents facing higher workload as they cannot depend on children to guard animals when they are at school. In many households, however, priorities are not always clear and children skip school days when their help

is needed in the fields. Needless to say, this impacts their overall performance at school and their ability to pursue higher education. In addition, some participants admitted that if they had enough land for all their children, they would not send them to school because the land would be able to sustain them. In this respect, the education is only a coping strategy as there are no other opportunities for survival.

For many years young men have also been known to migrate to other parts of Ethiopia to find work. Metemma, on the border with Sudan, is a preferred destination for migrant workers in the months of June through September. Raya plain, east of Lalibela on the road between Mekele and Dessie, attracts migrants in November and December. In both places, migrant workers engage in agricultural work. Even though it would be logistically possible to work in both locations, one after another, focus group participants said that double missions were not practiced.

Focus participants in Tsata described that while they migrate to same locations, they tend to leave in December (post-harvest) and return in April to prepare their fields for a new farming season. The decision to migrate is triggered by a quantity of harvested crops and its capacity to sustain the household over the course of a year. If the quantity is too low and would not be able to feed the household in man's absence, the whole family may decide to migrate together. In case when only a husband and a wife travel together, their children stay in the care of grand-parents. However, according to focus group participants, this practice is not very common.

Considering that men leave for prolonged periods of time, psychological impact on temporarily "abandoned" women cannot be ignored. As one community member put it, *"I feared that he would never come back. I felt uncomfortable every day thinking he might never return."* On the other side, men also go through an emotional roller-coaster, worrying about their family every step of the way.

*"The decision to leave is never an easy one. There are often conjugal tensions as women do not want to be left alone. Once on the road, we worry about our families' well-being, especially our wives' well-being - will they be faithful to us? Will they wait for us?"*

Focus group participants, Tsata

Young men, who migrate for work, describe a life in migration as comfortable for people who want to work. A vision of being able to earn money to help their families is a constant source of motivation. However, feelings of loneliness are not infrequent, especially in unpredictable situations where family support would be needed. Considering the fact that mobile telephones are still rare in Sekota and Dehana communities, migrant men are often on their own, without any contact with their families during their entire stay. In addition, a number of focus group participants also mentioned a risk of theft and certain diseases (*malaria, mitch*) as the climate in those locations is different from their milieu.

#### Marriage and decision-making powers

In the past, girls had to marry as young as 9 years old. They had to move to their husband's family home to "familiarise" with their in-laws. They bore their first child at 15 years of age. Focus groups participants attested that this is a "story of the past". Nowadays women tend to marry at approximately 18 years of age and have the first child a year after, sometimes 2-3 years later. These testimonies seem to be supported by findings of Risk Factor Survey, which was conducted during this Link NCA study. According to them, young women in Sekota woreda marry on average when they are 17 years old while their counterparts in Dehana woreda marry few months later. Another set of analysis shows that 56% of interviewed women in Sekota and Dehana woredas

married under 18 years of age and 14.7% of them bore their first child before they turned 18 years old.<sup>108</sup> However, further analyses, taking into consideration anthropometric measurements of children in the household, did not reveal a statistical association between two indicators, meaning that an early marriage or an early pregnancy is not a key risk factor leading to undernutrition in Sekota and Dehana woredas (Cf. *Annex B*).

*“In the past we had no choice, we had to marry, but there has been a progress since. We appreciate that we no longer have an obligation to marry and can choose whom to marry.”*

Focus group participants, Dabil Maryam

Despite the fact that early marriage has become illegal in Ethiopia, community members in Dida and Tsata demonstrated a persevering adherence to traditional marriage practices based on the Gospel of Lucas in the Holy Bible. According to this script, a young woman should marry at the age of 15, a young man 5 years later. Although many feel that present-day girls are immature to start a family at that age and this landmark should not, therefore, be strictly followed, certain parents still push their daughters to marry early<sup>109</sup>.

The reasons behind their decision may be multiple. Most focus group participants mentioned that parents may be at an advanced age but still desire to see their daughter’s wedding ceremony. In addition, early marriage is also an effective means of protecting young women’s chastity as 16 years of age is considered a correct age for both boys and girls to start being sexually active – which implies early, unplanned pregnancies outside the wedlock. Alternatively, women in Dida reported that young women at this age are at risk of being raped, when fetching water or collecting firewood. Both incidents are viewed as a sign of disrespect towards a girl’s family, who can seek a public apology via a government’s ruling. However, a tainted public image cannot be easily undone so parents might hurry to see their daughter wedded before such accident may happen. A girl’s chastity is also an invaluable asset if parents have aspirations to marry her with deacons at church.

Considering erratic rainfalls in the zone of study and their impact on harvests, early marriage also has an economic justification. Parents argue that when they reap a good harvest, they need to marry their daughter quickly because they have no guarantee that the situation will repeat in the following years. Concerned that their daughter would miss a “window of opportunity” for marriage due to a low harvest, they precipitate to wed her off as soon as favourable circumstances arise.

The only thing that could possibly deter parents from marrying their daughter early is her physique. If deemed too delicate, parents may postpone the wedding until a girl grows bigger and stronger.

In Dida, the qualitative data collection team had an opportunity to meet with a number of young women, all married at 14 or 15 years of age. The decision was taken by their parents and none of them was involved in discussions about the matter. They thought that it was too early to marry but they were not in a position to refuse. If they attempted such impiety, they would be verbally and physically reprimanded. A couple of young women expressed deep sorrow with regards to

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<sup>108</sup> Risk Factor Survey prevalence estimates not statistically representative. Please refer to *Study limitations* for more details.

<sup>109</sup> Communities report a significant decrease in a number of early marriages in the last 10 years due to government repercussions.

their inability to continue schooling after their wedding. They are all now divorced and do not consider marrying again.

*“We prefer to stay single and decide for ourselves. All we need is an income-generating activity to be able to feed our children.”*

Focus group participants, Dida

Considering their young age at marriage coupled with their inability to take part in marriage arrangements, women wedded early suffer from a complete lack of decision-making power, which can be considered worse than the early marriage itself. According to testimonies, women need to accept to have sex with their husbands in all circumstances, otherwise they risk being thrown out of the house. If a meal is not ready upon husband’s arrival from the field, they face an extensive, uncomfortable questioning while in some locations physical punishment cannot be avoided. Most women feel that it is justified and do not object.

*“If we come from the field and we see that a woman is busy, we can show patience and wait for our meal. We will be disappointed but we will wait. However, if she says she is tired and refuses to prepare me a meal, she will receive a beating.”*

Focus group participants, Dabil Maryam

However, generally-speaking, focus group participants attested that a situation has changed considerably and women can take many decisions themselves and/or take them conjointly with their husbands. In addition, focus group participants highlighted a game-changing situation in the gender relations by being able to receive a half of the couple’s property after a divorce.

*“In the past we stayed in unhappy marriages because without a husband and a property we would not be able to survive. Now we can take a decision freely whether to stay married or divorce, knowing we will get 50% of what we own as a couple.”*

Focus group participants, Dabil Maryam

However, women may not be always eager to exercise their right, especially when children are involved. In case of extramarital relations, which are becoming more and frequent, women feel violated but still hesitate to leave their husbands, unless their behaviour reflects negatively on their well-being and that of their children.

Domain	Bearer of decision	Community justification + additional information
Marriage	Woman or Woman’s parents	According to participants, a girl can now decide when and whom to marry. Parents can and do share their opinion on her choice but she is free to make her own decision. Focus group participants highlighted that in the past mothers had no say in marriage arrangements of their children. They do have this power now and exercise it with pleasure. However, in most orthodox communities where early marriage is still practiced, young women do not really have a say their marriage arrangements.
Family size	Woman & Man conjointly	Certain participants claimed that women can decide how many children they would like to have. Others suggested that this decision is shared with their husbands. According to their testimonies, certain husbands menace their wives with a divorce if they

		refuse to have more children while others are known to be more understanding. According to women in Dida, a woman can use her husband's pressure to have more children as a motive for divorce. In Tsata, on the other hand, husband's decision must be respected and a woman is obliged to get pregnant if a man wishes so. Overall, young women admitted feeling a great pressure from their entourage right after their wedding to conceive and bear their first child. The inability to bear children can be used as a pre-text for divorce.
Family planning	Woman or Woman & Man conjointly	Participants attest that certain women can take a decision on family planning alone. Others are expected to share that decision with their husbands. Certain women are known to have taken a respective decision themselves in secret, if their husbands disagreed.
Schooling	Woman & Man conjointly	According to participants, a girl can decide whether to pursue education and/or to drop out. Due to a low age, it is understood that parents exercise influence over those decisions. It also became apparent that parents would decide whether all their children, not only girls, would attend school on specific days when they need extra help in the fields.
Treatment of illnesses	Woman or Woman & Man conjointly	Due to a close proximity with her children, a woman is a usual decision-maker when it comes to a treatment of illnesses, which her children are suffering from. In certain households a man may be included in those decisions, if she needs a specific guidance.
Household expenses	Woman & Man conjointly	All household expenses are discussed within the couple and decisions are taken conjointly. Men tend to share their income with their wives, leaving a bit aside for their eventual alcohol purchases. Women declared that they need to be very strong to control this type of expenditure as it could easily influence the welfare of their household. Woman's income (from egg or butter sale) does not need to be shared with a husband. A woman is free to decide how she wants to spend it. Needless to say, she often invests in coffee or condiments for the household.
Household nutrition	Woman	Woman is an absolute decision-maker when it comes to the quality and quantity of food prepared for her family. Women admitted that they would be happy to prepare different foods for their husbands, if that was requested, but they decide what and how much is served to children. If a husband is unhappy with a size of his meal, he cannot complain as it is him who provides for the household. In Dida and Tsata, indications that a husband would try to influence household nutrition were observed, as women admitted buying certain food items in secret.
Daily activities	Woman	Woman decides on the volume and nature of activities she carries out during a day. However, it needs to be acknowledged that often she may not have a choice but

		to do them, despite her fatigue and/or desire to pursue certain activities.
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Table 19: Overview of decision-making powers within a household

The findings of Risk Factor Survey revealed that 21.9% of women in Sekota woreda and 90% of women in Dehana woreda felt empowered to make a decision regarding their healthcare, 8.9% of women in Sekota and 54% of women in Dehana could make a decision on how the money earned by themselves should be used while 8% of women in Sekota and 60% of women in Dehana could make a decision on how the household agricultural production should be used.<sup>110</sup>

While it is evident that women in Sekota woreda may have more difficulties to partake in household decision-making, further analyses, taking into consideration anthropometric measurements of children in the household, revealed a statistical association between decision-making concerning caregiver's money and stunting, meaning that a restricted decision-making in this domain is one of key risk factors leading to undernutrition in the zone of study. In addition, restricted decision-making on food purchases or consumption of household productions is statistically linked with stunting in Sekota woreda.

Supporting these findings, parallel analyses revealed that a sex of head of household is another risk factor leading to stunting in the zone of study, meaning that children from households with a male head of household are more likely to be stunted than children in female-headed households. (Cf. *Community perceptions of causal mechanisms of undernutrition* and *Summary of findings and categorisation of risk factors*).

## F. UNDERNUTRITION

### ANTHROPOMETRIC DATA COLLECTION RESULTS

The anthropometric data collection findings revealed a prevalence of global acute malnutrition (GAM) combined on the basis of weight-for-height z-score at 8.7% for both Sekota and Dehana woredas. The prevalence of severe acute malnutrition (SAM), according to the same criterion, was estimated at 1.7% for both woredas.

	Criteria	Sekota + Dehana woredas (comb.) Prevalence (%)	Sekota woreda Prevalence (%)	Dehana woreda Prevalence (%)
Global acute malnutrition (GAM)	WHZ<-2.0 and/ or oedema	8.7 (6.1-11.2)	7.2 (3.7-10.7)	9.7 (6.1-13.2)
Moderate acute malnutrition (MAM)	WHZ<-3.0 ≤ WHZ < -2.0	6.9 (4.6-9.3)	5.8 (2.6-8.9)	7.7 (4.5-11.0)
Severe acute malnutrition (SAM)	WHZ<-3.0 and/ or oedema	1.7 (0.5-2.9)	1.4 (-0.2-3.1)	1.9 (0.3-3.6)
Stunting	HAZ<-2.0	53.3 (48.7-58.0)	55.8 (49.0-62.5)	47.5 (41.4-53.6)
Severe stunting	HAZ<-3.0	26.3 (22.3-30.4)	28.4 (22.2-34.5)	22.8 (17.7-27.9)
Underweight	WAZ<-2.0	31.1 (26.9-35.3)	31.7 (25.4-38.1)	30.1 (24.5-35.7)
Severe underweight	WAZ<-3.0	9.3 (6.6-11.9)	9.1 (5.2-13.0)	9.3 (5.7-12.8)

Table 20: Summary of Anthropometric data collection findings for Sekota and Dehana woredas, Wag Himra zone

<sup>110</sup> Risk Factor Survey prevalence estimates not statistically representative. Please refer to *Study limitations* for more details.



The prevalence of stunting was estimated 53.3%, which surpasses national and regional figures<sup>111</sup> of the latest Demographic and Health Survey (DHS) in 2016. When it comes to underweight children, the survey revealed 31.1% children affected and 9.3% children severely affected in both woredas.

Comparing findings from two woredas, wasting seems to be more prevalent in Dehana woreda while stunting is more common in Sekota.

	Criteria	Sekota + Dehana woredas (comb.) Boys (%)	Sekota + Dehana woredas (comb.) Girls (%)
Global acute malnutrition (GAM)	WHZ<-2.0 and/ or oedema	9.1 (5.3-12.9)	8.3 (4.8-11.7)
	MUAC<125 and/ or oedema	32.2 (21.7-42.2)	28.6 (19.2-37.8)
Moderate acute malnutrition (MAM)	WHZ-3.0 ≤ WHZ < -2.0	6.8 (3.5-10.2)	7.0 (3.8-10.2)
	MUAC 11.5 ≤ MUAC < 12.5	49.4 (38.6-60.4)	50.5 (39.8-61.3)
Severe acute malnutrition (SAM)	WHZ<-3.0 and/ or oedema	2.3 (0.3-4.3)	1.2 (-0.2-2.6)
	MUAC<11.5 and/ or oedema	18.4 (10.9-26.6)	20.9 (12.5-29.8)
Stunting	HAZ<-2.0	55.2 (48.5-61.9)	51.7 (45.3-58.1)
Severe stunting	HAZ<-3.0	24.1 (18.3-29.8)	29.7 (23.8-35.5)
Underweight	WAZ<-2.0	33.0 (26.8-39.2)	29.3 (23.6-35.1)
Severe underweight	WAZ<-3.0	11.3 (7.1-15.9)	7.4 (4.1-10.7)

Table 21: Prevalence of undernutrition by sex, Anthropometric data collection findings for Sekota and Dehana woredas, Wag Himra zone

#### Historical and seasonal trends of undernutrition

Due to the unavailability of reliable, disaggregated nutrition data, it was not possible to study the historical trends of undernutrition in Sekota and Dehana woredas with precision. However, based on available nutrition surveys, the *Figure 6* below outlines an approximate evolution of prevalence for acute and chronic malnutrition in Sekota woreda the last five years, i.e. from May 2013 till December 2017. While there has been a minimal development in GAM and SAM prevalence estimates over the mentioned period, a considerable drop in stunting can be noted in May 2014, followed by a consecutive and continuous increase since then, largely surpassing a critical WHO threshold of 40%.

<sup>111</sup> 39.9% and 46.3%, respectively.

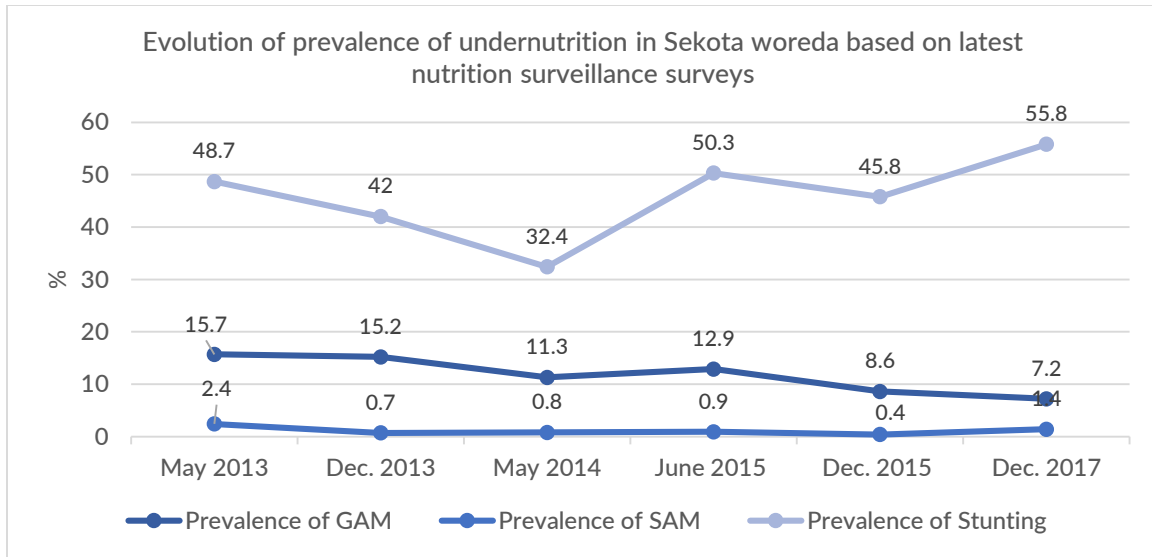


Figure 6: Evolution of prevalence of undernutrition in Sekota woreda from May 2013 till December 2017, based on available nutrition surveillance surveys.

Analysing a local seasonal calendar (Cf. *Table 6* and *Table 15*), acute malnutrition seems to be more most prevalent in April – June, that is during the onset of the rainy season. This peak season follows a peak in the prevalence of acute respiratory infections, which usually takes place in January through March. A prolonged or repetitive illness could thus weaken child’s organism and eventually lead to wasting. Considering that poor food hygiene and presence of animals in the compound were identified as two key risk factors leading to wasting in the zone of study, it would be worthwhile to investigate further whether and how household’s practices relative to these factors change during the first months of the year in comparison to the rest of the year.

## G. COMMUNITY PERCEPTIONS OF UNDERNUTRITION AND THERAPEUTIC ITINERARIES

### Community perception of undernutrition

Members of visited communities struggled with the recognition of undernutrition through presented photos or drawings. In a sorghum and goat livelihood zone, where sensitisation activities were deemed more frequent, focus group participants did not make a link between an image portrayal of undernutrition and its presence in the community. Some participants observed a weight loss but considered it a normal occurrence in their circumstances<sup>112</sup>. It was only at the view of a “big belly” that they classified a child as unhealthy and in need of a treatment at a health facility. Most commonly used expressions to describe malnourished children were “yakassa” or “yemenemen”, which describe an extreme thinness or emaciation. The difference between the two is the severity of thinness, “yemenemen” being more serious than “yakassa”. When asked what causes that illness, some did not know while others attributed it to an “evil eye”, disease or inadequate food intake. One participant said that a disease can be transmitted from a sick mother to a child when breastfeeding.

<sup>112</sup> A child showing ribs.

In mixed cereal livelihood zone community members recognized children on the photos and drawings as “yakassa”. According to them an illness appears due to an inadequate food intake or previous disease. The focus group participants did not confirm a presence of such children in their community but admitted seeing them elsewhere.

Certain community members used a term “tabeka”, meaning very skinny/bony, or “yabaka”, meaning extremely thin, close to death. While the first one is perceived as a loss of appetite when a child catches *mitch* (Cf. *Child illnesses*) and it needs to be treated at a health facility, *yabaka* is considered a chronic disease and, therefore, would not trigger a visit at a health centre. In this respect, community members clarified that they would seek a health centre treatment only in case of acute diseases while chronic diseases are treated in a traditional way. According to them, *yabaka* can be treated with linseed or minced root (“*mitatala*”), which can be found in a desert. Alternatively, holy water could be administered as a treatment.

In an Agonya-speaking community, participants referred to malnourished children as “*migebize koyeshu*”, meaning affected by a lack of food. The causes of malnutrition were largely unknown but thought to be linked with poor birth-spacing, premature weaning or a lack of complementary feeding.

*“People do not understand malnutrition, they bring their children to be treated for other symptoms or complications, not malnutrition.”*

Health professional

At the view of a kwashiorkor child, focus group participants could not really tell, which illness she is suffering from and what causes it. Some participants mentioned that she appeared to be blind because she had a swollen face on one of the photos. When asked whether they see linkages between a marasmus and kwashiorkor child, they stated that these appeared to be two different, unrelated illnesses.

At the view of a stunted child standing next to a healthy child, community members stated that both looked healthy, thinking that a smaller child was younger. When told that a smaller child was older, they contemplated that she must suffer from some stomach problem that prevents her from growing. They could not tell what could cause such an illness. They hypothesised that an illness could be caused by an inadequate diet (in terms of quantity), poor hygiene practices, poor birth-spacing or genetics.

Marasmus	
<i>beshita</i>	sick
<i>mekesat</i>	getting thin
<i>yakassa</i>	getting thin
<i>(ye)menemen</i>	getting extremely thin, emaciated
<i>yemigib etiret</i>	weight loss, disease of inadequate diet
<i>chamma</i>	skinny
<i>yabaka</i>	extremely thin, « close to death »
<i>tabeka</i>	very skinny, bony
<i>shiva</i>	extremely thin, disabled
<i>guzer (gutir)</i>	« big belly »
<i>buda</i>	« evil eye », « devil »
<i>migebize koyeshu</i>	affected by a lack of food

Table 22: List of expressions in a local language<sup>113</sup> used to describe malnutrition and/or other childhood diseases

When it comes to an adult malnutrition, especially in pregnant and lactating women, focus group participants in a mixed cereal livelihood zone recognized that their women could be malnourished during that delicate period. They associated it with a lack of money, which prevents them from providing women with a diversified diet, and a disease, such HIV, tuberculosis or gastro-intestinal diseases.

*“After childbirth, women lose a lot of blood, which needs to be replaced through an enriched diet. Unfortunately, we often do not have means to provide it to our women.”*

Focus group participants, Silda

On the other hand, focus group participants in the sorghum and goat livelihood zone did not recognize that adults can suffer from malnutrition. In their understanding, only small children can get this illness. They did, however, acknowledge that pregnant and breastfeeding women are very vulnerable and not having an access to a balanced diet their bodies may not be strong enough to keep them and their children in good health.

Community members agreed that malnutrition is more prevalent during a hunger gap in the months of April through July (Cf. *Seasonal calendar*).

#### Therapeutic itineraries of undernutrition

The exchanges with key informants confirmed that at a recognition of “*yakassa*” or “*yemenemen*”, communities seek a PlumpyNut® or PlumpySup® treatment at a health facility. There is no alternative treatment available in the community. When presented with a story of a mother who tried to treat her malnourished child with the holy water, focus group participants agreed that she did not make a good decision because the holy water cannot treat malnutrition as “*it is caused by the lack of food*”. They added that she should have taken her child to a health facility to receive PlumpyNut®, commonly known as *mita mita* in Amharic. In Dida, however, holy water appeared to be an option, if treatment at a health facility is not or cannot be sought for logistical or financial reasons. Overall, a therapeutic itinerary of undernutrition in Wag Himra zone appears to be far less complex than in other contexts, for example in Chad. Nevertheless, as previously stated, if parents fail to recognise their child as *yakassa* or *yemenemen*, this may imply alternative therapeutic itineraries, which may or may not entail a visit at a health facility.

#### Perception of OTP/SFP programmes

A couple of interviewed parents, whose children benefited from PlumpyNut® or PlumpySup® treatment, could not specify which illness their child is suffering from and what caused it. One interviewed mother said that her daughter used to have stomach problems so she asked health extension workers to check her weight during a PlumpySup® distribution on a market day. This aligns with a testimony from a health professional who said that parents coming for a treatment of their children’s diarrhoea ask for a weight check to see whether they are not eligible for an OTP/SFP admission. A sad twist to a story is that the mother is a 1:30 leader, generally responsible for spreading certain key messages among other women in her community. The fact that she did

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<sup>113</sup> All terms, except the last one, are in Amharic. *Migebize koyeshu* is a term in Agonya used by community members in Tsata.

not know what her child is suffering from and/or what caused it does not throw a positive light on their information-sharing capacities.



Photo 6: Distribution of PlumpySup® in Debere Saine, Dabil Maryam

The level of understanding of malnutrition is especially preoccupying in case of parents of malnourished children in the programme, be it OTP or SFP. However, during one such distribution the data collection team observed that its organisation does not really permit for any sensitisation messages to be properly diffused – not collectively and even less so in private, which would be more appropriate<sup>114</sup>.

As a natural consequence, the lack of understanding of malnutrition often leads to a false understanding of its treatment, which is usually considered as food, rather than medicine. This automatically entails its sharing within the household. The exchanges with certain key informants confirmed that the concerned staff consistently spread messages about not sharing the PlumpyNut®/PlumpySup® in the households. Despite the fact, people described it as fortified food for children. While parents did not admit eating it themselves because it contains “animal-based ingredients”, which are forbidden during a fasting season, they disclosed that they would share it with other children in the household if a sick child refused to eat it or a healthy sibling “made a scene.” For them, red or orange packets (not differentiating between the two) represent “*food rich in vitamins, which help their children to grow*”. However, few participants contested, saying that sharing of PlumpyNut® delays the treatment of a sick child.

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<sup>114</sup> The distribution took place in a public space under a tree, not properly isolated from curious passerbys. In addition, all interactions between caregivers and health staff were witnessed by all other caregivers waiting for their turn. There was no place for them to sit down and rest while waiting.

From among different treatments, PlumpyNut® or PlumpySup® are not the most favourite. Focus group participants declared to prefer a corn-soya blend (CSB), which even adults can benefit from, as it is added to a family food. They also added that this treatment is quicker/heals faster and should always be available. However, during exchanges it became apparent that they do not perceive the difference in severity of the illness and its associated treatment. Judging from their responses, an early screening could address their concern and treat the child before he gets severely malnourished. Having said that, the in-patient treatment thus finds itself on the other side of the scale as the least favourite treatment - primarily due to a prolonged stay at a health facility, which distances them from their other children.

According to key informants, most vulnerable children towards malnutrition are those from larger families, especially those with younger siblings as the care and attention of parents is often absorbed by the youngest ones. In practice, this includes children in 12-36 months of age span, depending on birth-spacing of children in respective households. In addition, a late initiation of complementary feeding of young children (at 12 months of age) could explain a higher prevalence of malnutrition at this age.

#### H. COMMUNITY PERCEPTIONS OF CAUSAL MECHANISMS OF UNDERNUTRITION

The qualitative inquiry of this Link NCA study included almost 100 independent exchanges with over 500 participants. Their detailed and complementary testimonies helped to define 2 key causal pathways of undernutrition in Sekota and Dehana woredas. While the first one is primarily set in the sector of food security and livelihoods – with important links with health, nutrition and care practices, the second one pertains mainly to water, hygiene and sanitation sector. Both have links with heavy workload of women and household size.

##### Household food security and nutrition causal pathway

The key trigger of the first causal mechanism is poor agricultural production, which is fuelled by multiple contributing factors, such as erratic rainfall, insufficient land size or low soil fertility. Considering that agricultural production is the main source of income and food for a majority of households in Sekota and Dehana woredas, low harvest has serious consequences on low household income as well as household's capacity to sustain itself until the next farming season. Other income-generating opportunities being limited, household's resilience capacities are substantially reduced and cannot be easily deployed at a time of shock. As a consequence, the household plunges in the liquidation of its assets, such as sale of crops previously set aside for farming or sale of the livestock. This leads to changes of its eating habits by limiting the quality as well as the quantity of consumed foods. The resulting inadequate food intake effects especially pregnant and lactating women as well as young children, especially in large households. In case of pregnant and lactating women, the inadequate food intake, coupled with dietary restrictions applicable during a fasting season, leads to a depletion of women's energy and nutrient sources, which then translates into their low nutritional status. As a result, women experience problems with breastmilk production, and thus are often unable to meet nutritional demands of infants that they are breastfeeding, leading to undernutrition. Alternatively, poor household nutrition reflects negatively on young children's complementary feeding practices. Due to the scarcity of income, women do not initiate complementary feeding until a child reaches one year of age nor they prepare him age-adequate meals. A child thus does not have access to a balanced diet, which would support his healthy growth and development.

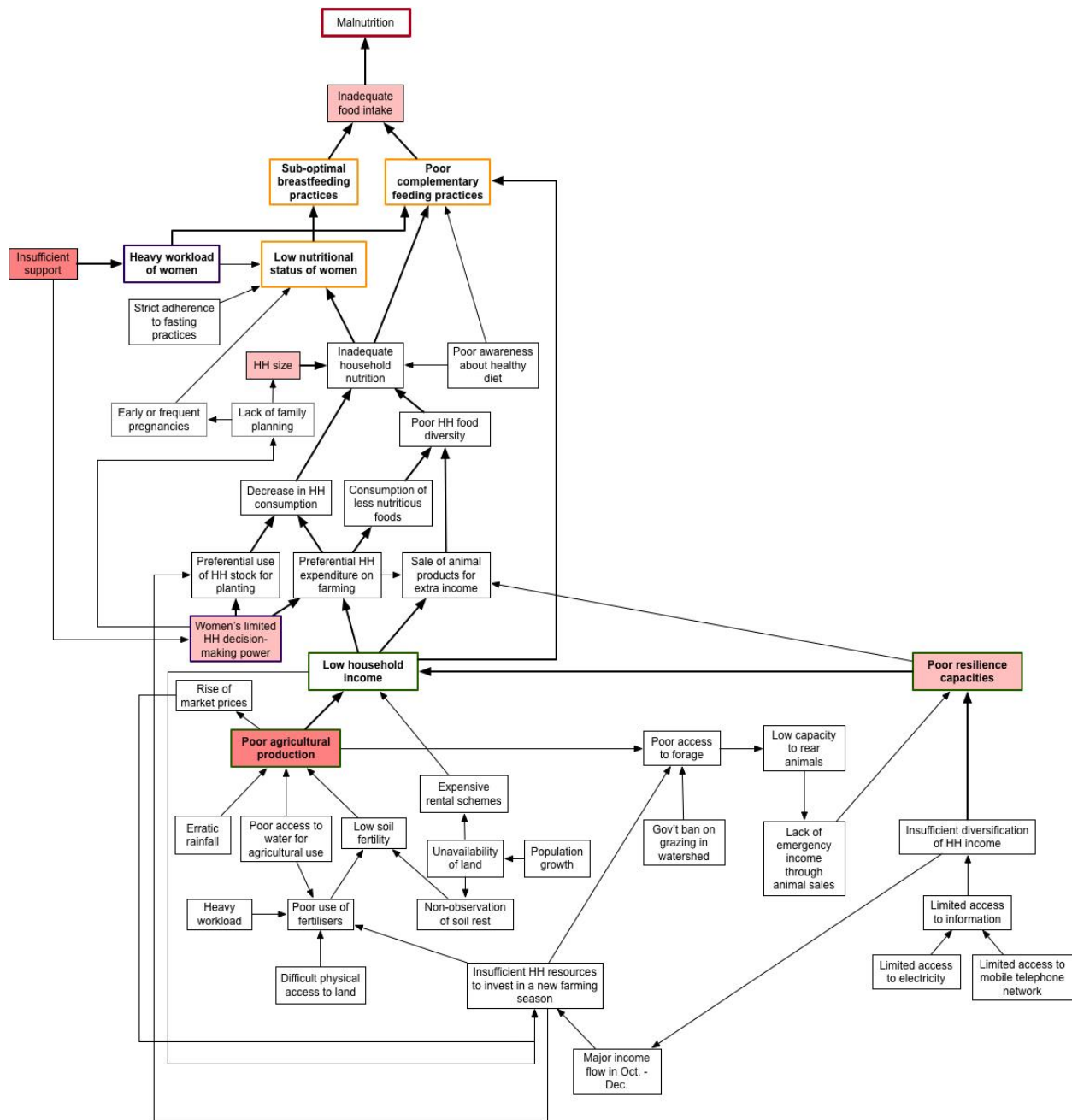


Figure 7: Causal pathway illustrating interconnections between household food security risk factors and nutritional status of women and infants in Sekota and Dehana woredas, Wag Himra zone<sup>115</sup>

<sup>115</sup> Cells highlighted in dark red colour signify risk factors with a significant link to wasting while cells highlighted in pink colour signify risk factors with a significant link to stunting, as per calculations of their p-value (Cf. Annex B). Cells in two colours, i.e. red/white or pink/white signify risk factors, which are applicable to one woreda only.

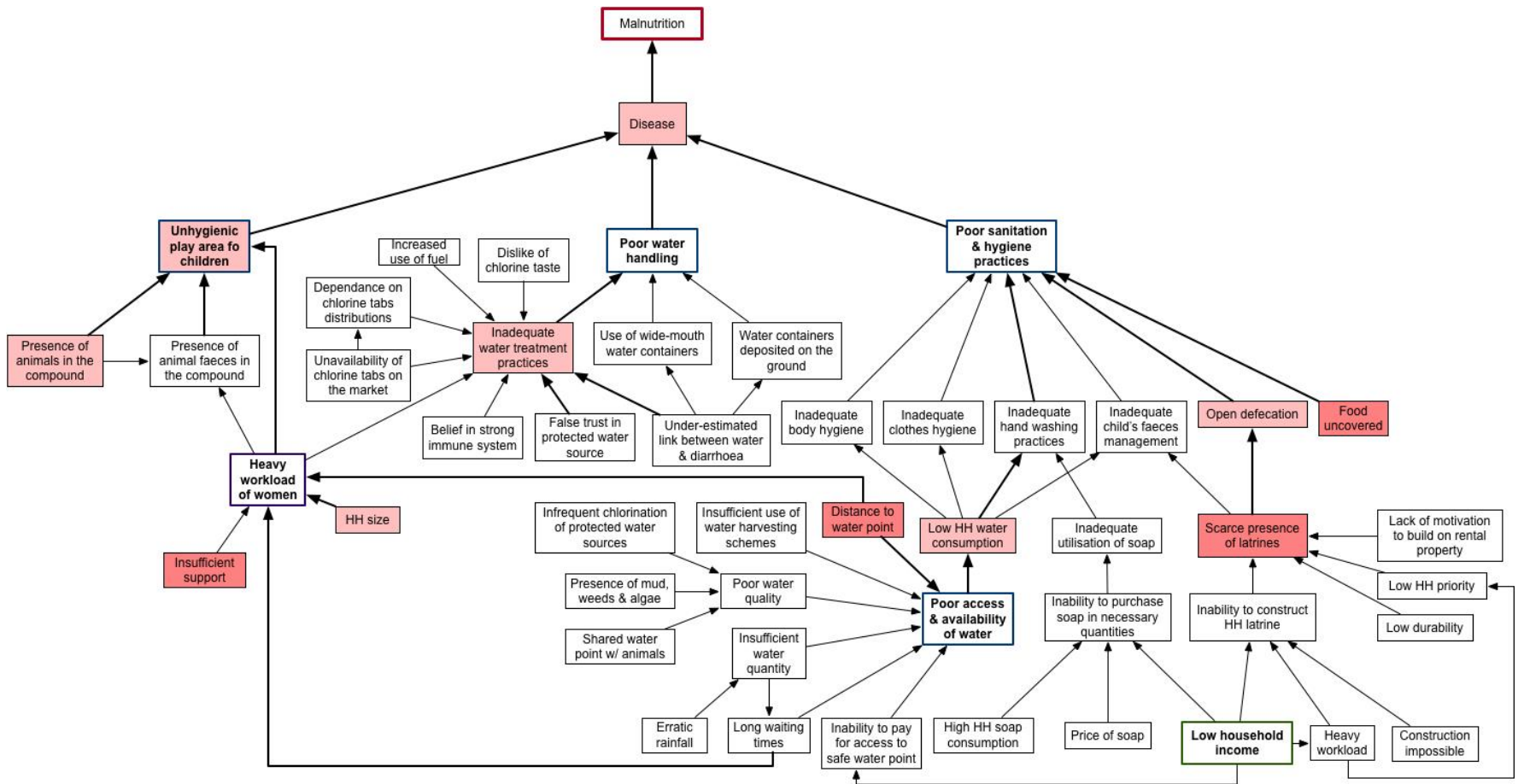


Figure 8: Causal pathway illustrating interconnections between water, hygiene and sanitation risk factors and nutritional status of infants and young children in Sekota and Dehana woredas, Wag Himra zone<sup>115</sup>



## Water, hygiene and sanitation causal pathway

The key trigger of the second causal mechanism is poor access to water. Considering that most households fetch water in springs, yield proportion are subject to seasonal variations and erratic rainfall. As a result, water is fetched in limited quantities, translating into low household consumption. Unavailability of water in the household leads to poor hygiene practices, such as infrequent bathing and clothes washing or inadequate handwashing practices, contributing to a heightened risk of contamination and spread of illnesses – the recurrences of which can lead to undernutrition. Alternatively, these can be triggered by a poor quality of fetched water, which disregarding the nature of the source, is not treated at the household level. While reasons for not practicing water treatment are numerous, key factors include deficient perception of water quality, belief in strong immune system, taste preference and underestimated link between water and diarrhoea. A connecting risk factor at the heart of poor water, hygiene and sanitation causal pathway is heavy workload of women, which is fuelled by their numerous household duties and which eventually reflects negatively on their capacity to practice adequate hygiene practices in line with sensitisation messages on the subject.

## I. MAPPING OF OPERATIONAL ACTORS AND PERCEPTIONS OF INTERVENTIONS

This section is based on the feedback from operational partners, implementing a multitude of projects in Sekota and Dehana woredas, RESET II being the most prominent at the moment, complemented by the feedback from respective communities. A detailed mapping of interventions, as reported by key non-governmental organisation active in the zone of study, is available in Annex E.

The online consultation about past or ongoing interventions in the zone revolved around themes of an evolution of programming and its impact on targeted communities, as well as volume, geographical coverage, length, timing, beneficiary targeting and cultural appropriation of these interventions.

### Evolution of programming from an operational actors' perspective

Operational partners in the zone highlighted a number of fundamental changes in their approach, including a shift from emergency to development programming. That reflects positively on the duration and scope of their activities, which were relatively short-term and sector-oriented in the past. Nowadays, projects are longer and transition into multi-sectoral interventions, which are deemed to have a longer-lasting impact on targeted communities. The organisations reported to work through local partners, while also shifting from distributions, where local communities are mere beneficiaries of aid, to partnerships, where community members become partners with rights as well as responsibilities during the implementation of activities. In addition, organisations noted to have moved towards a more evidence-based approach, building their programming on plausible studies, rather than random community wishes. That is not to say that organisations do not take the community feedback into consideration, they do so, however, by more systematic means.

All of these changes were motivated by growing, unaddressed needs, the importance of engaging with communities in all stages of the project cycle and a change in organisational ideology and principles, putting more focus on use of resources' optimisation. This has led to more methodical work processes, improving the general quality of interventions and meeting desired objectives. In addition, new interventions are believed to strengthen community capacities, enabling them to respond better to potential future shocks.

Nevertheless, the volume and geographical coverage of interventions is not considered sufficient due to a vastness of the zone of study and immense needs of concerned populations. When it comes to the length of interventions, organizations noted that the duration of activities depends heavily on the guidance from the government based on hot spot reports compiled at the national level on a quarterly basis. These tend to prioritize urgent humanitarian needs, addressing immediate needs rather than their root causes. For that reason, most interventions are limited to 6-9 months. While tangible proof of these interventions, such as hand-dug well may last, behavior change interventions do not bear fruits due to limited time of implementation, and hence an inadequate strategy.

According to respondents, organizations plan activities well, taking into consideration seasonal variations and changing community needs/availabilities at those times. However, numerous delays at the governmental/donor level have a tendency to alter the timing of interventions substantially. Even more so if their own administrative procedures do not allow for a prompt start of activities.

Past and present interventions are reported to respect cultural and religious identity of targeted communities. A failure to do so would prompt an unfavorable feedback from both the government and the community and would not be tolerated. Neither of the organization reported to have faced this issue nor observed any negative impact of their interventions on targeted communities.

The selection of beneficiaries is regulated by the type of intervention and respective criteria are defined in line with respective project objectives. A proposed set of targeting criteria is consulted with local authorities and concerned communities and is, therefore, considered just and transparent. Most recurrent targeting criteria include a prevalence of malnutrition, presence of vulnerable groups in the household, such as children and pregnant and lactating women, vulnerable households included in the Productive Safety Net Programme (PSNP) or those households who cannot be included in the program due to resource limitations.

#### Evolution of programming from a beneficiaries' perspective

Gathering community feedback on past or present interventions proved to be a real challenge during the qualitative data collection for two principal reasons: a) community members demonstrated a very short term memory of interventions and/or were not concerned by them, and b) they might have felt uncomfortable sharing their sincere opinion, fearing they might end up losing very much needed assistance, if their words fall into wrong hands. While their priorities were integrated into a community action plan presented in Annex D, this sub-section will prioritise highlighting key messages that came out of community consultations on the subject.

Focus group participants highlighted a general lack of community engagement in past or ongoing interventions. They stated that they are not systematically informed about projects' modalities and they do not know, whom they could request the respective information from. As an example, they mentioned a study on iron mining, regarded highly in the concerned community, which was done some years ago but they have not heard about the results, both positive and negative, of the study since. They also mentioned that organisations invite them to define their priorities but they are often disregarded later on the decision-making process.

*"We have been talking about a water point so much to no avail that we did not want to mention it again because our requests have never been listened to."*

Focus group participants, Silda

As a result, communities feel that “NGOs are working hard but the situation is not improving.” According to them, all interventions are based on good intentions but are very short and address their immediate needs, rather than deep problems, which are ravaging their communities. They said that provided assistance patches few superficial holes, while the “whole garment is torn apart”. In addition, communities believe that sensitisation activities have become inefficient, especially when organised by health extension workers. According to them, HEWs do not have required skills and knowledge to share important information and assist them on the path to behaviour change. They added that they do not appreciate the authoritarian tone of sensitisation sessions and would prefer to be informed comprehensively about issues of importance, on the basis of which they could take suitable decisions.

#### Feedback on Productive Safety Net Programme

Focus group participants in all selected communities referred at some point to Productive Safety Net Programme, highlighting its importance for most vulnerable households. Although they would appreciate that the program would be accessible to a greater number of households, they recognise its limitations. However, recent changes limiting a number of people in the household eligible to be in the programme (max. 5 persons) have not been met with the positive feedback; neither has been the ineligibility of landless youth, whose parents are part of the program<sup>116</sup>.

In a number of communities, focus group participants talked intensively about the program coinciding with the farming season<sup>117</sup>, resulting in the neglect of their fields. They stated that “working on PSNP in the mornings and our fields in the afternoons is extremely tiring.” As a result, they have a tendency to neglect their fields and eventually lose harvest at the end of the season. Alternatively, women need to replace them in the fields, adding thus more burden to their already heavy workload. However, after some more questioning it became apparent that PSNP engages them for only 2 days a week/8 days a month from January to September – an extension that has been successfully put into place after their previous feedback. Thus, what may be causing men’s detachment from farming activities is their adherence to orthodox religious practices, which may oblige them to respect as many as 19 days of holidays per calendar month. In other words, this leaves them with 11 potential working days, out of which 8 need to be dedicated to PSNP. In a separate discussion, a religious leader clarified that even though all holidays are prescribed in the holy scripts, there has been a gradual change in their observance. Nevertheless, 64 holidays<sup>118</sup>, such as Christmas and Easter, are still obligatory during the course of a calendar year and need to be religiously followed.

## J. SUMMARY OF FINDINGS AND CATEGORISATION OF RISK FACTORS

In order to understand how participating communities perceive the severity of risk factors to undernutrition, a prioritization exercise was conducted in each of four localities at the end of the qualitative data collection period. All risk factors identified by community members over the course of this study were presented back to them with the use of flashcards, portraying each discussed risk factor. After a recapitulation of survey findings by the qualitative data collection team, participants were invited to validate the interpretation of results and suggest modifications, if necessary. Subsequently, they were requested to divide risk factors into three categories (major, important, minor), depending on their impact on child undernutrition. The results of this exercise

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<sup>116</sup> The community might not understand sufficiently the “household criterion” of the program, meaning that only households, not individuals, can benefit from the support.

<sup>117</sup> Preparation/Planting.

<sup>118</sup> Excluding Sundays, which also fall under this category and need to be unquestionably respected.

are presented in the table below. Risk factors perceived as having a major impact on undernutrition are highlighted in red, important factors are marked in orange while risk factors with minor impact are colored green. White cells marked “N/A” signify that a respective community did not identify that risk factor as a cause of undernutrition in their milieu.

	Risk factors	Dabil Maryam	Silda	Dida	Tsata	Overall
A	Poor access, utilization, and quality of health services	+++	++	N/A	++	++
B	Poor birth spacing	N/A	N/A	N/A	+++	+
C	Low birth weight	N/A	N/A	N/A	N/A	N/A
D	Sub-optimal breastfeeding practices	++	+	+	+	+
E	Poor complementary feeding practices of children 6-23 months	++	++	++	+	++
F	Poor agricultural (crop and livestock) production	+++	+++	+++	+++	+++
G	Low household purchasing power	+	+	++	+	+
H	Poor physical access to markets	N/A	N/A	N/A	N/A	N/A
I	Poor resilience capacities	+++	+++	+++	+++	+++
J	Poor access and availability of water (quality and quantity)	+	+++	+++	+++	+++
K	Poor water handling leading to unsafe water	+++	+++	+	+	++
L	Poor sanitation and hygiene practices	+	+	+++	++	++
M	Unhygienic play area for children	+	++	++	+	+
N	High women workload	+++	+++	+++	+++	+++
O	Low women empowerment and low involvement of women in household decisions	N/A	N/A	+	++	+
P	Early marriage and pregnancies	N/A	N/A	N/A	N/A	N/A
Q	Low nutritional status of women including adolescents	++	++	++	++	++

Table 23: Summary of results of a community rating exercise

After the completion of both quantitative and qualitative data collection, Link NCA Analyst triangulated all available data sets, compared correlations for each risk factor and determined the strength of its association with undernutrition. The ratings for each hypothesized risk factor are summarized in the table below.

	Risk factor	Prevalence from secondary data /literature review	Correlations from quantitative survey	Strength of association with under-nutrition from literature review	Seasonal and historical associations with under-nutrition	Findings from the qualitative survey	Community rating exercise	Interpretation/ Impact of risk factor
A	Poor access, utilization, and quality of health services	++	++	++	+	++	++	Important
B	Poor birth spacing	++	+++	++	++	+	+	Important
C	Low birth weight	+	N/A	++	+	-	-	Minor
D	Sub-optimal breastfeeding practices	+++	N/A	+++	+	++	+	Important
E	Poor complementary feeding practices of children 6-23 months	+++	+++	+++	+	+++	++	Major
F	Poor agricultural (crop and livestock) production	+++	++	++	++	+++	+++	Important

G	Low household purchasing power	++	+	++	+	+	+	Minor
H	Poor physical access to markets	+	N/A	+	+	-	-	Rejected
I	Poor resilience capacities	+++	++	++	++	+++	+++	Important
J	Poor access and availability of water (quality and quantity)	+++	+++	+++	++	+++	+++	Major
K	Poor water handling leading to unsafe water	+++	++	+++	+	+++	++	Important
L	Poor sanitation and hygiene practices	++	+++	+++	+	+++	++	Major
M	Unhygienic play area for children	+	+++	+++	+	+++	+	Major
N	High women workload	++	++	++	-	+++	+++	Important
O	Low women empowerment and low involvement of women in household decisions	+	+++	+	-	+	+	Important
P	Early marriage and pregnancies	+	+	++	+	+	-	Minor
Q	Low nutritional status of women including adolescents	+++	++	++	++	++	++	Important

Table 24: Summary of categorisation of risk factors

The impact of each factor was determined in line with the rating grid presented below.

Category	Criteria
Major risk factor	No contradictory information AND Strength of association from literature review is classified as [++] or [+++] AND Majority of [++] or [+++] for all other sources of information
Important risk factor	A minor amount of contradictory information exists AND Strength of association from literature review is classified as [++] or [+++] AND Majority of [++] or [+++] for all other sources of information
Minor risk factor	A moderate level of contradictory information is permitted AND Strength of association from literature review is classified as [+] or [++] AND Majority of [+] for all other sources of information
Rejected risk factor	No contradictory information AND Majority of [-] or [+] for all sources of information

Table 25: Rating grid for the categorisation of risk factors

At the same time, Link NCA Analyst revisited sectoral causal pathways of undernutrition, as developed with communities during the qualitative inquiry, and developed two simplified outlines, likely to explain most cases of wasting and stunting in Sekota and Dehana woredas. Most importantly, this exercise allowed to differentiate between diverse causal mechanisms for wasting and stunting, highlighting the relevance of adapting response strategies to respective type of undernutrition.

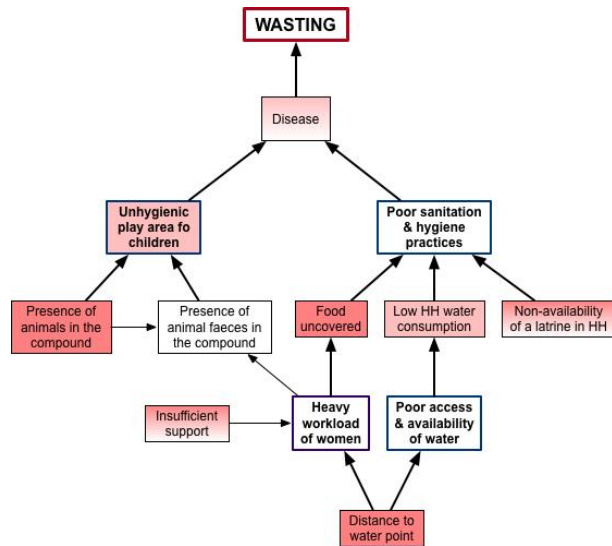


Figure 9: Simplified causal pathway likely to explain most cases of wasting in Sekota and Dehana woredas, Wag Himra zone<sup>115</sup>

As shown in the diagram to the left, a key trigger for wasting is distance to water point, which translates into a poor access to water and consequently into a low household consumption. Unavailability of water in the household leads to poor hygiene practices, such as inadequate food handling, contributing to a heightened risk of contamination and spread of illnesses – the recurrences of which can lead to wasting. The illnesses can also be brought about by inadequate defecation practices due to a lack of a household latrine. Alternatively, a heavy

workload of women, fuelled by their numerous duties in and out of the household, reflects negatively on women's capacity to maintain a clean play area or children. This increases a risk of contamination via animals or their faeces, leading to diseases, including diarrhoea, and potentially to wasting.

It is also important to note that analyses demonstrate a significant link between wasting and sex of a child, meaning that boys are more likely to be wasted than girls. This may be due to diverse, gender-determined care practices after childbirth.

A causal mechanism for stunting is a little bit more complex and extends beyond the sector of water, sanitation and hygiene. While a water, sanitation and hygiene mechanism remains largely applicable for stunting as well (with the exception of poor food handling replaced by inadequate water treatment practices), it acquires a new and important dimension linked to a household composition and decision-making powers. The findings indicate that a male head of household may tend to restrict decision-making powers of his spouse, particularly with regards to the use of her own income, food purchases and a consumption of household's own production. This not only limits woman's capacities to prepare adequate meals for the household, both in terms of quality and quantity, but it may also provoke negative coping strategies within the household, which a woman is not capable to control. The risk increases proportionately to a growing household size. As a result, children do not have access to adequate food intake and their growth may be delayed.

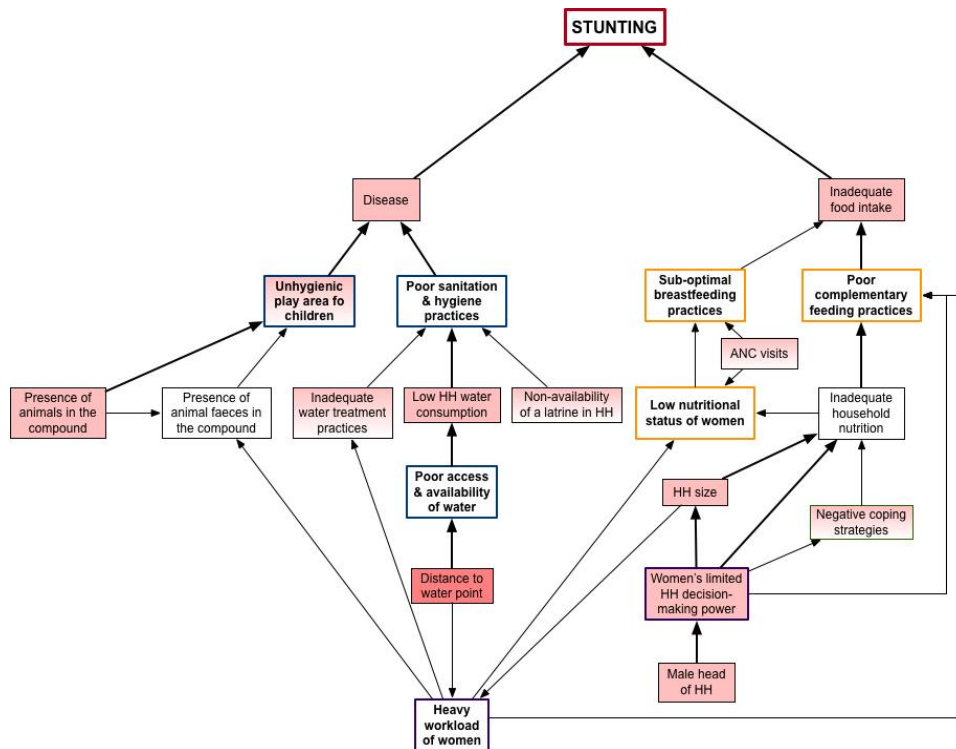


Figure 10: Simplified causal pathway likely to explain most cases of stunting in Sekota and Dehana woredas, Wag Himra zone<sup>115</sup>

## V. CONCLUSION AND RECOMMENDATIONS

Located in Northern Amhara, Wag Himra zone was the epicentre of the 1974 and 1985 famines and remains reliant on humanitarian assistance. Despite numerous governmental and non-governmental interventions, the prevalence of undernutrition (both wasting and stunting) remains rather high<sup>119</sup>. Understanding that various forms of undernutrition have serious implications for social development and economic growth in Ethiopia, the government issued the *Sekota declaration* to end child malnutrition by 2030. This bold commitment, aligned with Sustainable Development Goals, aspires to bring together all sectors of the Government of Ethiopia with the aim to end hunger and to achieve food security, paying particular attention to the importance of good nutrition during pregnancy and the first years of child's life.

A part of this initiative, the EU Resilience building programme in Ethiopia (RESET) strives to build the resilience and expand the coping capacities of the most vulnerable populations in selected areas of the country, including the drought-prone Wag Himra zone. During the first phase of the project, however, consortium partners recognised the unavailability of plausible analyses on the causes of undernutrition in Wag Himra zone and deemed it a key constraint for a tailored response addressing principal problems ravaging concerned communities.

The analyses undertaken during this Link NCA study allowed to identify 17 risk factors, believed to have an impact on the incidence of undernutrition in the zone of study. Following a triangulation

<sup>119</sup> The prevalence of stunting is estimated at around 40% while the prevalence of wasting oscillates around 9%, as per latest Demographic and Health Survey, 2016.

of data from diverse sources, four (4) risk factors were identified as having a major impact, nine (9) risk factors were classified as having an important impact and three (3) risk factors were judged to have a minor impact on the incidence of undernutrition in the zone of study. In addition, one (1) risk factor was interpreted as not having an influence on the incidence of undernutrition in the zone of study.

Among the major risk factors, three were identified in the sector of water, sanitation and hygiene, namely poor access to water, poor hygiene and sanitation practices and unhygienic play area for children, while the last major risk factor, poor complementary feeding practices of children 6-23 months, was identified in the sector of health and nutrition.

The calculation of statistical associations between individual risk factors and wasting/stunting allowed to differentiate between causal mechanisms of these two forms of undernutrition and to simplify rather complex pathways for operational purposes.

Based on the findings of this Link NCA study and considering that causes of undernutrition are multi-sectoral and necessitate longer-term interventions, RESET II project proves its significant value in the context of Wag Himra zone. However, there is a need and a room for improvement or reorientation of current interventions to act more effectively on community's needs and priorities.

The following adaptations, per thematic areas, are thus recommended to be considered for an incorporation into current/future interventions:

- Reinforce the community empowerment to detect problems and identify local solutions to address them by improving telephone network coverage facilitating the access to information;
- Expand mobile banking into rural areas to allow for a quicker access to financial resources;
- Conduct an additional study/survey with an objective to explore causal mechanisms relating to a nutritional status of women and a low birth weight in more details.

#### Health and Nutrition

- Improve the quality of care, especially through a continuous reinforcement of health personnel skills and capacities and a constant availability of medicinal products;
- Improve the access to health facilities, especially through innovative, low resource community approaches addressing geographical and financial barriers of access;
- Improve the health-seeking behaviour for child illnesses, including malnutrition, through revamped sensitisation sessions considering current community understanding of symptoms, causes and therapeutic itineraries of principal childhood illnesses;
- Improve access to acceptable contraception methods and re-design sensitisation strategies on the importance of birth-spacing and family planning considering current community understanding and identified barriers to change, paying particular attention to gate-keepers with influence to sway public opinion on the matter;
- Re-design sensitisation strategies on household nutrition considering community limitations of access to certain food groups, paying particular attention to nutrition of pregnant and lactating women and children under 5 years of age.



## Food Security and Livelihoods

- Support the establishment of farmer's associations to promote information sharing and effective agricultural techniques;
- Improve the diversification of income-generating activities through information sharing and training, e.g. poultry farming, brick-laying, masonry, sewing, wood work, metal work, bee-keeping, small-scale trade, etc.;
- Support home gardening initiatives to diversify household income-generating capacities and/or food diversity.

## Water, Sanitation and Hygiene

- Improve the community access to water, through a construction of new or a rehabilitation of existing water points and their regular chlorination;
- Re-design sensitisation strategies on hygiene and sanitation practices, especially on water treatment, handwashing and food handling, considering current community understanding and identified barriers to change;
- Improve the community access to latrines, via a personalised household support of the latrine construction.

## Gender

- Improve the community access to electricity/solar power, thus facilitating the use of alternative cooking devices to help reduce women's workload related to food preparation and firewood collection;
- Ensure the integration of sensible sensitisation messages on gender roles and decision-making within the household into existing or future interventions in other sectors;
- Consider the appointment of model fathers for the culturally-acceptable promotion of improved gender roles within the community.

## VI. ANNEXES

### A. DETAILED SAMPLING FOR ANTHROPOMETRIC DATA COLLECTION & RISK FACTOR SURVEY

#### Sekota woreda

Kebele No.	Kebele Name	Population size	No. of villages per kebele	Livelihood zone
1	Woleh	5014	22	MC
2	Tiya	4055	18	MC
3	Hamusit	6102	34	MC
4	Wal	3739	28	MC
5	Abiya	4474	24	MC
6	Rubaria	2839	18	MC
7	Dable	5009	31	SG
8	Shemedir	7331	17	MC
9	Bagmila	4221	19	MC
10	Jerba	4010	22	MC
11	Sawuna	3486	12	MC
12	Bara Eyesus	2934	7	MC
13	Birbir	3174	12	MC
14	Akimatselia	3512	12	MC
15	Ekmetseruwa	4385	12	MC
16	Mylomin	3691	16	MC
17	Eqelwa	4362	12	MC
18	Mygundo	2444	11	SG
19	Tsemera	6628	27	SG
20	Sereal	5305	18	SG
21	Zuna	4327	23	SG
22	Debreberhan	2517	10	SG
23	Qeba	4500	10	SG
24	Faya	4725	9	SG
25	Eteqenu	3503	7	SG
26	Mequen	4206	9	SG
27	Arisherwa	3783	8	SG
28	Zanzeba	3143	19	SG
29	Tsata	9435	17	MC
30	Cherey	3532	9	MC
31	Selangie	3260	8	MC
32	Shimila	4936	28	MC
33	Bad	2570	6	MC

34	Laysayida	0	10	MC
35	Beleqa	0	15	MC

#### Dehana worda

Kebele No.	Kebele Name	Population size	No. of villages per kebele	Livelihood zone
1	Amdework	6169	6	MC
2	Amdework Zuria	5543	22	MC
3	Mianshewa	6936	12	MC
4	Arbit	4960	18	MC
5	Aynemariyam	5067	25	MC
6	Tserwala	2743	14	SG
7	Tsamla	3621	12	SG
8	Siwera	4715	13	SG
9	Dura	5020	17	SG
10	Abame	3512	19	SG
11	Dida	4390	17	MC
12	Silda	5054	18	MC
13	Gologota	2872	12	SG
14	Guranba	6154	33	MC
15	Gaqewe	5642	27	MC
16	Guld	5577	14	MC
17	Cherguzie	3230	14	SG
18	Seramria	4116	26	SG
19	Gomengia	6474	37	MC
20	Azila	6369	33	MC
21	Birbera	4967	19	MC
22	Chila	8234	26	MC
23	Shemamdane	7477	20	MC
24	Quziba	3860	18	MC
25	Shemteteku	3071	12	MC
26	Shimela	5306	23	MC
27	Ykatit dewl	3570	12	MC
28	Tgel andnet	4292	18	SG

## B. CALCULATIONS OF STATISTICAL ASSOCIATIONS<sup>120</sup> BETWEEN HYPOTHESISED RISK FACTORS AND ANTHROPOMETRIC MEASUREMENTS OF CHILDREN IN RESPECTIVE HOUSEHOLDS

### Sekota woreda

Risk Factor	Stunting		Wasting	
	P-value	Odds Ratio	P-value	Odds Ratio
Sex of head of household	0.605		0.257	
Size of household	0.014	0.829	0.814	
HDDS	0.524		0.182	
MAHFP	0.683		0.088	
rCSI	0.599		0.164	
Ownership of ≥ 1 cow	0.09		0.36	
Caregiver workload	N/A		N/A	
Perceived social capital	0.20		0.06	
Caregiver's decision-making (food purchases)	0.08		0.62	
Caregiver's decision-making (HH expenditure)	0.97		0.97	
Caregiver's decision-making (own money)	0.65		0.18	
Caregiver's decision-making (health expenditure)	0.019		0.62	
Caregiver's decision-making (consumption of HH production)	0.04		0.62	
Marriage under 18	0.063		0.397	
First child under 18	0.782		0.983	
Distance to health facility >30 min (rainy season)	0.57		0.19	
Diarrhoea	0.0008		0.07	
Health-seeking behaviour <sup>121</sup>	N/A		N/A	
ANC visit	0.91		0.47	
≥ 4 ANC visits	0.07		0.94	
Help during delivery	0.35		0.97	
Delivery in health facility	0.22		0.61	
Low birth weight <sup>122</sup>				
Sex of child	0.236		0.423	
Exclusive breastfeeding <sup>102</sup>	N/A		N/A	
Continued breastfeeding <sup>102</sup>	N/A		N/A	
IDDS	0.122		0.934	
Introduction of solid foods <sup>102</sup>	N/A		N/A	
Meal frequency <sup>102</sup>	N/A		N/A	
Distance to water point >30 min (rainy season)	0.33		0.01	2.813
Water treatment	0.497		0.487	
Water consumption <sup>123</sup>	0.074		0.235	
Availability of a latrine in household	0.746		0.088	
Appropriate child faeces management	0.844		0.800	
Presence of faeces in the compound	0.734		0.563	
Unhygienic play area for children	0.643		0.129	

<sup>120</sup> Correlation is a statistical technique that shows whether and how strongly pairs of variables are related. A statistically significant correlation is indicated by a probability value (p-value) of less than 0.05.

<sup>121</sup> Insufficient simple size.

<sup>122</sup> Impossible to determine due to poor birth weight records and/or caregivers' awareness.

<sup>123</sup> Litre per day per person.

Cooking utensils on the ground	0.040	0.4639	0.867	
Food uncovered	0.606		0.595	
Presence of animals in the compound	0.800		0.334	
Presence of organic waste	0.379		0.477	

## Dehana worda

Risk Factor	Stunting		Wasting	
	P-value	Odds Ratio	P-value	Odds Ratio
Sex of head of household	0.045	1.924	0.441	
Size of household	0.113		0.176	
HDDS	0.912		0.520	
MAHFP	0.150		0.947	
rCSI	0.125		0.457	
Ownership of $\geq 1$ cow	0.53		0.32	
Caregiver workload	0.34		0.78	
Perceived social capital	0.11		0.64	
Caregiver's decision-making (food purchases)	0.88		0.14	
Caregiver's decision-making (HH expenditure)	0.95		0.59	
Caregiver's decision-making (own money)	0.06		0.52	
Caregiver's decision-making (health expenditure)	0.71		0.54	
Caregiver's decision-making (consumption of HH production)	0.67		0.41	
Marriage under 18	0.687		0.718	
First child under 18	0.379		0.336	
Distance to health facility >30 min (rainy season)	0.26		0.72	
Diarrhoea	0.37		0.30	
Health-seeking behaviour <sup>102</sup>	N/A		N/A	
ANC visit	0.37		0.14	
$\geq 4$ ANC visits	0.79		0.83	
Help during delivery	0.34		0.59	
Delivery in health facility	0.18		0.52	
Low birth weight <sup>103</sup>	N/A		N/A	
Sex of child	0.633		0.044	0.345
Exclusive breastfeeding <sup>102</sup>	N/A		N/A	
Continued breastfeeding <sup>102</sup>	N/A		N/A	
IDDS	0.049	1.471	0.652	
Introduction of solid foods <sup>102</sup>	N/A		N/A	
Meal frequency <sup>102</sup>	N/A		N/A	
Distance to water point >30 min (dry season)	0.17		0.32	
Distance to water point >30 min (rainy season)	0.277		0.522	
Water treatment	0.048	1.694	0.986	
Water consumption <sup>104</sup>	0.040	1.062	0.534	
Availability of a latrine in household	0.044	0.593	0.445	
Appropriate child faeces management	0.229		0.663	
Presence of faeces in the compound	0.975		0.289	
Unhygienic play area for children	0.205		0.458	
Cooking utensils on the ground	0.384		0.313	
Food uncovered	0.351		0.029	4.378
Presence of animals in the compound	0.204		0.075	
Presence of organic waste	0.920		0.559	

Sekota and Dehana woredas (combined)

Risk Factor	Stunting		Wasting	
	P-value	Odds Ratio	P-value	Odds Ratio
Woreda	0.07		0.16	
Sex of head of household	0.062		0.09	
Size of household	0.008	0.873	0.535	
HDDS	0.836		0.102	
MAHFP	0.441		0.091	
rCSI	0.054		0.855	
Ownership of ≥ 1 cow	0.47		0.13	
Caregiver workload	0.30		0.75	
Perceived social capital	0.11		0.96	
Caregiver's decision-making (food purchases)	0.24		0.21	
Caregiver's decision-making (HH expenditure)	0.19		0.83	
Caregiver's decision-making (own money)	0.001		0.58	
Caregiver's decision-making (health expenditure)	0.51		0.16	
Caregiver's decision-making (consumption of HH production)	0.24		0.43	
Marriage under 18	0.084		0.708	
First child under 18	0.708		0.606	
Distance to health facility >30 min (rainy season)	0.63		0.23	
Diarrhoea	0.01 <sup>124</sup>		0.77	
Health-seeking behaviour <sup>102</sup>	N/A		N/A	
ANC visit	0.86		0.085	
≥ 4 ANC visits	0.28		0.891	
Help during delivery	0.39		0.58	
Delivery in health facility	0.13		0.76	
Low birth weight <sup>103</sup>	N/A		N/A	
Sex of child	0.319		0.047	0.488
Exclusive breastfeeding <sup>102</sup>	N/A		N/A	
Continued breastfeeding <sup>102</sup>	N/A		N/A	
IDDS	0.049	1.471	0.713	
Introduction of solid foods <sup>102</sup>	N/A		N/A	
Meal frequency <sup>102</sup>	N/A		N/A	
Distance to water point >30 min (rainy season)	0.87		0.01	2.240
Water treatment	0.72		0.17	
Water consumption <sup>104</sup>	0.033	1.042	0.694	
Availability of a latrine in household	0.559		0.573	
Appropriate child faeces management	0.576		0.846	
Presence of faeces in the compound	0.751		0.128	
Unhygienic play area for children	0.695		0.736	
Cooking utensils on the ground	0.382		0.348	
Food uncovered	0.721		0.049	1.992
Presence of animals in the compound	0.865		0.521	
Presence of organic waste	0.34		0.33	

<sup>124</sup> Correlation between cow ownership and diarrhoea (0.01), cow ownership, diarrhoea and wasting (0.13), cow ownership, diarrhoea and stunting (0.009).

## C. QUALITATIVE SURVEY GUIDE

### Data collection tools

#### Information note<sup>125</sup>

Nutrition causal analysis Link NCA in Sekota and Dehana woredas of Wag Himra Zone, Amhara Regional State as a part of RESET II project (*Integrated multi-sectoral approach to improve the resilience of vulnerable communities of Wag Himra Zone, Amhara Region, Ethiopia*), implemented by a consortium composed of Action Against Hunger (ACF), Save the Children International (SCI) and Danish Church Aid (DCA).

Name of principal researcher: Lenka Blanárová

**INVITATION:** We would like you to participate in a study conducted by Action Against Hunger, a non-governmental organization, which fights against the causes and effects of hunger in almost 50 countries around the world, including Ethiopia. The organisation has expertise in the domain of health and nutrition, including mental health and care practices, water, sanitation and hygiene, as well as food security and livelihoods.

**STUDY OBJETIVES:** The objective of this study is to improve our understanding of causes of child undernutrition in Sekota and Dehana woredas of Wag Himra zone. We are hoping that this study will help us to identify risk factors triggering the undernutrition in your community so that together and with the involvement of local authorities and other partners we can reduce the malnutrition in the future. The study will take place from 16<sup>th</sup> March to 26<sup>th</sup> April 2018 across four communities Sekota and Dehana woredas.

**PROCEDURE:** In your community we would like to spend 6 consecutive days, starting today. We will share a detailed planning of our activities in order to facilitate the selection and mobilisation of participants for interviews and focus group discussions. The study will concern mainly parents of children under 5 years of age but other key informants may be solicited to contribute. Any person desiring to share his opinion outside of scheduled interviews and focus group discussions can approach the study team to do so. The study team would also like to conduct a number of observations and household visits in your community, if possible, in order for us to better understand your daily challenges. Focus groups discussions will be organised around themes, such as health, nutrition, care practices, water, hygiene and sanitation, food security and livelihoods, as well as gender. Each focus group discussion should be attended by 8-12 people, as outlined in the shared detailed planning. It should be noted that we will not be able to accommodate more people at the time. Participants are asked to come on time in order not to delay following focus group discussions. Do you agree to let us conduct this study in your community? Do you have any questions? If so, we will need you to appoint a community mobiliser. It needs to be someone that is known and respected by all members of your community. The role of this person will be to mobilise participants for semi-structured interviews and focus group discussions, as outlined in our detailed planning. Preferably, the selection of participants will be coordinated with you. Please note that it is preferable if selected participants attend only one focus group discussion. If they wish to contribute more than once, this is permitted only if it concerns different topics. However, we are interested in talking to as many community members possible and for this reason it would be better if more people in the village/cluster of villages were mobilised to participate. Please note

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<sup>125</sup> Used as an opening of each exchange with key informants, be it a semi-structure interview or a focus group discussion. Sentences in grey are relative only for an initial meeting with community leaders.

that the participation of a community mobiliser will not be remunerated and needs to be fully voluntary.

Please note that there is no good or bad response to our questions, no good or bad opinion, and no good or bad way of doing things. We are sincerely interested in immersing into your daily lives and learning about your beliefs and practices. If you agree to participate, we will ask for about one hour of your time.

**CONFIDENTIALITY:** We will not ask for your name and will not share the content of our discussion with other people in your community. Your name will not appear in our study and no one will be able to identify what you shared with us.

**RISKS:** Unfortunately, apart from our sincere appreciation, we cannot promise you anything in exchange for your participation in this study. The participation in this study does not guarantee your selection in future Action Against Hunger activities nor should it have a negative effect on your involvement in ongoing activities. However, during focus group discussions we will share some water and snacks with you, which you may choose to take home with you, if you wish.

**INFORMED CONSENT:** The participation in this study is your choice. You are free to stop the interview or leave the focus group discussion at any time. Your participation is fully voluntary. If you do not wish to answer a question, you may decline to do so and we will move onto a next question. If you have any questions about us or the work we do, you can ask us any time.

### SEASONAL CALENDAR<sup>126</sup>

A seasonal calendar is a diagram of changes over the seasons – usually over the period of 12 to months. Seasonal calendars are useful to identify seasonal patterns of change – for example, changing availability of resources, such as food or income, work and migration patterns; to explore relationships between different patterns of change – for example, the relationship between income levels and movements of key populations for work; to identify when people may be particularly vulnerable; to explore seasonal patterns of well-being and hardship and how different people are affected; or to identify when people are particularly vulnerable to infection.

During the qualitative survey, the study team will explore seasonal variations for each risk factor while the topic will be discussed. Respective risk factors will be listed on a printed template of a seasonal calendar, depicting twelve months of a universal year, aligned with 4 seasons of an Ethiopian year. During focus groups discussions, participants will be asked to define in what month each risk factor is most important and precise causes of these changes.

### HISTORICAL CALENDAR

A historical calendar is a diagram that shows change over a certain period of time. For the purposes of this study, a period of 10-15 years will be considered. However, if participants mention key events dating prior the 15-year period, these will equally be noted. A historical calendar is useful for exploring change over time in a particular situation, and the reasons for change. This may include changes in behavior, knowledge and attitudes in a community. It is also useful when

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<sup>126</sup> Participatory Learning and Action (PLA) tool no. 19 & 20 (<https://www.aidsalliance.org/>).



exploring the consequences of a particular event or assessing the effectiveness (impact) of a project or a community initiative.

During the qualitative survey, the study team will explore historical variations for each risk factor while the topic will be discussed. Respective risk factors will be listed on a hand-drawn template of a historical calendar (A2 format), depicting 15 universal years. During focus groups discussions, participants will be asked to define in what year each risk factor was most important and precise causes of these changes. All important events that marked the life in a community in a positive or negative way, be it political, socio-economic, environmental or other, will be noted as potential triggers. The aim will be to draw trends based on the community knowledge and potentially identify correlations between various risk factors.

### STORYTELLING<sup>127</sup>

Storytelling involves participants discussing 'typical' stories from their community. This approach helps to open discussions on sensitive subjects in a non-threatening way and to identify the real-life situations and issues that affect people in their community. It helps to explore how people feel about those situations and what action they would like to take.

During the qualitative survey, the study team will introduce pre-prepared real-life stories during focus group discussions to test participants' standpoint on subjects, which may be particularly sensitive, and/or test their responses given in a classic question-answer exchanges. The aim of this method will be to shift the attention from them (which may make them feel uncomfortable) and rather involve as observers and counselors to other people in situations, which reflect their daily reality.

### DAILY ACTIVITIES CHART

Daily activity charts show how people spend their time over the course of a day. They are useful to explore how men and women spend their day; to evaluate their workload and to discuss their different roles and responsibilities or to explore the factors that influence these differences.

During the qualitative survey, the study team will introduce printed images of daily activities in a given community and will asks participants of focus group discussions to place them on a timeline starting with the usual time when they get up and ending with the usual time when they go to bed. This will be done for men and women separately. Any other groups, such as children or elderly, or groups with different economic functions (farmers, herders or market sellers) may be introduced, if deemed relevant.

### MEAL COMPOSITION CHART

Meal composition charts show what people usually eat over the course of a day. They are useful to explore community's perception of good nutrition and how that reflects on their eating habits now and in situations when money would not be a barrier to a procurement of desired foods. For

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<sup>127</sup> Participatory Learning and Action (PLA) tool no. 58 (<https://www.aidsalliance.org/>).

the purpose of this study three scenarios will be considered: typical food intake during a fasting period, typical food intake during a non-fasting period and a typical food intake when money would not be a barrier.

During the qualitative survey, the study team will introduce a hand-drawn chart (A2 format), divided into three columns, representing each scenario. The participants of a focus group discussion will be asked to state how many meals a day they eat during each scenario and what actual meals they eat at those times of a day.

### HOUSEHOLD EXPENSES

Household expenses is a participatory exercise, the main objective of which is to show how household income is distributed to cover its expenses. It may reveal household's priorities in terms of spending, identify harmful behaviour or decision-making mechanisms within the household.

During the qualitative survey, the study team will introduce a printed set of images representing different types of regular expenses incurred by a household in a given community. These images will be placed in front of participants. The participants will also receive a set of pebbles representing money, which a household has available to cover these expenses. The role of participants will be to distribute the income among various expense group, just as they would in a real life.

### HEALTH JOURNEY / THERAPEUTIC ITINERARY<sup>128</sup>

This tool involves drawing the story of a person's health-seeking journey over a period of time. It involves tracing the development of person's health since falling ill, marking all different treatment options, which were explored in order to cure. The therapeutic itinerary is an engaging participatory exercise, which allows to open a discussion about traditional and non-traditional treatments in a non-threatening way. It also permits to explore people's understanding of current illnesses, which eventually trigger their choices. In addition, the tool allows to explore barriers of access to a biochemical treatment available in state-supported health facilities.

During the qualitative survey, the study team will introduce a blank sheet of paper (A2 format) and ask the participants to explain their typical health journey in case of current illnesses, which will be traced on a blank sheet of paper. The aim is to identify whether their knowledge of these illnesses triggers the same reaction and/or certain differences exist. A particular attention will be paid to an understanding and treatment of child undernutrition.

### GENDER BOXES<sup>129</sup>

This tool involves participants placing 'typical' women and men in 'gender boxes' and identifying the roles, qualities and behaviours expected of them. It involves exploring what happens if a woman or man breaks out of their box and does not do what is expected of them. The aim of this exercise is to explore, in a non-threatening way, where those roles, qualities and behaviours come

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<sup>128</sup> Participatory Learning and Action (PLA) tool no. 17 (<https://www.aidsalliance.org/>).

<sup>129</sup> Participatory Learning and Action (PLA) tool no. 25 (<https://www.aidsalliance.org/>).

from and the pressures that they bring. It also allows to identify what roles, qualities and behaviours need to be changed and how that can be done. Gender boxes are particularly useful for exploring issues related to gender vulnerability, power and cultural traditions.

During the qualitative survey, the study team will introduce a blank sheet of paper (A2 format) and ask the participants to trace two same-size boxes next to each other. One will represent a woman and one will represent a man. The participants will then be asked to place all qualities, roles or behaviours expected of them inside the box. Any qualities, roles or behaviours not aligned with societal expectations will need to be drawn outside of the box. Once completed, the participants will be requested to compare and discuss what gender boxes show.

### AGREE/DISAGREE GAME<sup>130</sup>

This tool involves participants to express their agreement or disagreement with different statements relating to studied risk factors in their community. Agree/disagree game is highly interactive and engaging. It can serve as an energiser and an opener of more structured exchanges, which will follow. It helps to provide a lively and non-threatening way for people to explore their attitudes about key issues in their community. The agree/disagree game is particularly useful for exploring attitudes about gender, cultural traditions and stigma. It can also provide an additional layer of understanding to a researcher in a community, which is reliant on humanitarian assistance and whose answers to different questions may be biased by expectations of a follow-up aid.

During the qualitative survey, the study team will place three printed signs with emoticons in front of focus group participants. Each sign will represent 'I agree' 😊, 'I disagree' ☹️ or 'I am not sure'. The study team will then read out pre-prepared statements relating to a discussed topic and ask the participants to stand next to a sign, which represents their opinion on the matter. The participants will be encouraged to explain why they are standing by different signs. They will also be encouraged to try to persuade each other and change their minds if they wish to. Once all statements will be used, participants will be encouraged to discuss what the game has shown.

### COURAGE TO CHANGE<sup>131</sup>

This tool involves participants standing at different points along a line to show how easy or hard it is to adopt certain behaviours or make changes relating to challenges experienced in their communities. Using courage to change helps to create a non-threatening environment, in which participants can express freely how they feel about certain sensitisation messages deemed to improve their quality of life. The exercise allows participants to identify barriers, which they face in relation to suggested behaviours, which will eventually lead to a deeper understanding of a gap between knowledge and practice. This may be particularly helpful to organisations implementing projects focusing on behaviour change.

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<sup>130</sup> Participatory Learning and Action (PLA) tool no. 36 (<https://www.aidsalliance.org/>).

<sup>131</sup> Participatory Learning and Action (PLA) tool no. 39 (<https://www.aidsalliance.org/>).

During the qualitative survey, the study team will draw a line on the ground. One end will represent “easy” while the other end will mean “difficult”. The study team will then introduce pre-prepared behaviours, which are expected to be adopted by the community. The participants will be asked to position themselves at that end of the line that represents their attitude towards the stated behavior, i.e. whether it is easy or difficult to adopt. Participants will be encouraged to explain why they feel that way about those behaviours and what makes it easy/difficult to adopt.

### RISK GAME<sup>132</sup>

This tool involves participants identifying a perceived risk relating to certain behaviours along a line showing a low to high risk. Using the risk game helps to explore people’s knowledge and attitudes about levels of risk related to their current behavior and/or suggested behavior through sensitization activities. In this respect, the tool may help to identify areas of risky behavior that might need to be prioritized for future action. A risk game is particularly useful for raising awareness about illness prevention among the general community, including breastfeeding, care and hygiene practices.

During the qualitative survey, the study team will draw a line on the ground. One end will represent “low risk” while the other end will mean “high risk”. The study team will then introduce pre-prepared behaviours, which are current in the community or expected to be adopted by the community. The participants will be asked to position a flashcard depicting the concerned behavior at that point of the line that represents their perception of risk related to the stated behavior, i.e. whether it is safe or dangerous practicing/not practicing certain behavior. Participants will be encouraged to explain why they feel that way about those behaviours.

### INTERVIEW GUIDE: HEALTH

1. How would you describe a healthy child? Are children on these images healthy? (Cf. [Child illness flashcards](#))
2. Are these illnesses present in your community? Which ones are the most widespread? (PROBE: diarrhoea/cholera, fever, acute respiratory infections, scabies, malaria)
3. Do they differ by season? (Cf. [Seasonal calendar](#))
4. How have they changed over the past 10-15 years? (Cf. [Historical calendar](#))
5. What are the causes of these illnesses? (PROBE: diarrhoea/cholera, fever, acute respiratory infections, scabies, malaria)
6. How are these illnesses treated? (Cf. [Health journey/Therapeutic itinerary](#)) (NB: Trace for each cause independently. Inquire about differences during dry/rainy season)
7. Have the treatment options changed in the past 10-15 years? (Cf. [Historical calendar](#))
8. How do you decide which treatment to choose? Who gives you advice?
9. What traditional treatments exist in and around your community? Which ones do you use? (NB: If not mentioned, ask specifically about the holy water.)
10. How do you care for a sick child? (PROBE: Do you breastfeed a sick child? Why/Why not? Do you feed him/her less/more? What types of food cannot be fed to a sick child? Why?)
11. Are some children in your community sicker than others? Do you know why? How would you describe them?
12. What do you do to keep your child healthy? How much effort does it take to do it every day?

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<sup>132</sup> Participatory Learning and Action (PLA) tool no. 55 (<https://www.aidsalliance.org/>).

13. Where is the nearest health post/health centre/hospital? How long does it take you to get there? Does your access change by season? (Cf. [Seasonal calendar](#))
14. How much does it cost to get there? How much does the treatment cost? Are medicines readily available?
15. What are health post's opening hours? Is the staff available when there is an emergency? How do you contact them?
16. What kind of services are available in the nearest health post? Which ones do you use? Why?
17. Does the staff know how to treat illnesses, which are frequent in your community? Do they speak your language? Are they kind?
18. What motivates you to seek treatment in the health post? What discourages you to do so? (PROBE: quality of health care, staff absence, lack of drugs, decision-making power, workload, distance to the health facility, etc.)

#### *Perceptions of interventions*

19. Have you tried to address these problems individually/collectively on a community level? If so, how?
20. Have there been any projects that attempt/attempted to address problems related to health/access to health facilities?
21. What do you think about them? Have you benefitted from them the way you wished? Why/Why not?
22. How do you think they could be improved? (SOLUTIONS)
23. Are there any obstacles to make it happen? (OBSTACLES)
24. What could be done on your side? (LOCAL CAPACITIES)
25. What do you need to make it happen? (NEEDS)
26. Which solution should have the greatest priority? What is the most important action to be taken? (PRIORITISATION)
27. Who should be targeted by this action in priority? Why?

#### INTERVIEW GUIDE: MALNUTRITION

1. What do you think of children on these photos? Are children on these images healthy? Why/Why not? (Cf. [Photos of wasted children \(Marasmus/Kwashiorkor\) + stunted children](#))
2. Which illness are they suffering from? What words do you use to describe such children in your community? Are certain words more sensitive than others? Why?
3. What are the causes of this illness? What are the reasons a child would become like this?
4. What do you think of this illness? (PROBE: Is it similar to/different from other child illnesses? If so, how?)
5. Do you have children like this in your community? If yes, which type is most common?
6. Are there any households in your community, which are more affected? If yes, what do they have in common? (PROBE: Are children of certain age group more affected? Why?)
7. Do you think your child can become like this? Why/Why not? (PROBE: What behaviours/practices can induce/prevent this condition?)
8. Do you think you can become like this? Why/Why not?
9. Do you know any women in your community who are like this? If so, why do you think they are like this?
10. During which season/month do you observe more children to be like this? (Cf. [Seasonal calendar](#))
11. Since when have children in your community been suffering from this illness? (Cf. [Historical calendar](#))

12. How do you treat this illness in your community? (Cf. [Health journey/Therapeutic itinerary](#)) (PROBE: What is the most common treatment? Why?)
13. What do you do to keep your child healthy?
14. What challenges do you face to keep your child healthy? During which seasons/months, does it become more difficult?
15. **Storytelling:** *XX has a daughter that was born two years ago. She was breastfeeding her during the first year and then started to give her food, which she prepared for the rest of the family. During the fasting period, she would not give her daughter to eat during the day because all people in the household need to fast together. Her daughter started to lose weight and was no longer interested to play with other children. XX decided to take her to a religious leader to cure her daughter with the holy water. However, her daughter was not getting any better.*  
What do you think of this story? Did XX make good decisions? Why/why not? What would you do differently? What would you suggest XX does next?
16. **Storytelling:** *XX has a little boy. She was breastfeeding him for a few months but then she became pregnant again when he was only 5 months old. After that she stopped breastfeeding and started to give him food that she prepared for the rest of the family. XX's husband migrated to the city for a few months and she did not seem to have enough food for all her children. XX heard that the health centre distributes food in little packets to children if their arms are small enough. One day, when going to the market, she decided to try her luck. The little packets would allow her to feed her children before her husband comes back.*  
What do you think of this story? What do you think about XX's situation? Do women in your community face same difficulties? Why/why not? What would you do differently?

*Perceptions of interventions*

17. Have there been any projects that attempt/attempted to address problems related to malnutrition?
18. What do you think about them? Have you benefitted from them the way you wished? Why/Why not?
19. How do you think they could be improved? (SOLUTIONS)
20. Are there any obstacles to make it happen? (OBSTACLES)
21. What could be done on your side? (LOCAL CAPACITIES)
22. What do you need to make it happen? (NEEDS)
23. Which solution should have the greatest priority? What is the most important action to be taken? (PRIORITISATION)
24. Who should be targeted by this action in priority? Why?

## INTERVIEW GUIDE: NUTRITION

1. What is a staple food in your community (what do you eat most?) How many times a day do you eat?
  2. Have there been any changes to your eating habits in the past 10-15 years? (Cf. [Historical calendar](#))
  3. Are there any changes to your eating habits throughout the year? (Cf. [Seasonal calendar](#))
  4. What do you normally eat throughout a day during a fasting period? (Cf. [Meal composition chart](#))
  5. What do you normally eat throughout a day during a non-fasting period? (Cf. [Meal composition chart](#))
  6. Would you like to eat differently? If so, how? Why/Why not? (Cf. [Meal composition chart](#))
  7. Who decides what you eat?
  8. Are eating habits the same for children/pregnant and lactating women? Why/Why not?
  9. What foods cannot be eaten by children/pregnant and lactating women? Why/Why not?
  10. What foods cannot be eaten by girls/boys? Why/why not?
  11. **Storytelling:** *XX is 19 years old. She married about three years ago. She is now pregnant with her second child. It is now the fasting period and she respects the custom together with her husband. However, she noticed she has been feeling weaker and feels sometimes sick throughout the day. She went to the health centre and the staff encourages her to eat to help the baby to grow. When she told her husband that she needs to eat to stay healthy, he refused.*  
What do you think of this story? What do you think about XX's situation? Do women in your community face same difficulties? Why/why not? What would you do differently? Is it the situation applicable to lactating women as well?
  12. What foods do you consider healthy? Why?
  13. Do you have access to this food in your community? Where do you access it? (PROBE: food aid/own production/purchase)
  14. Does the access change throughout the year? (Cf. [Seasonal calendar](#))
  15. Has the access changed in the last 10-15 years? (Cf. [Historical calendar](#))
  16. Do you have enough food to feed your household throughout the year?
  17. Has this changed in the last 10-15 years? (Cf. [Historical calendar](#))
  18. What do you think about meals of two children on the picture? (Cf. [Images of balanced/unbalanced meal](#))
  19. What do you think about meals of two children on the second picture? (Cf. [Images of meal portions](#))
  20. How would you divide this food among your family? Does the family eat together or in a specific order?
  21. **Storytelling:** *XX has a husband and 5 children. Parents of her husband will with them. Her husband gave her 10 birr to prepare an evening meal. XX bought some teff but it will not be enough for the whole family. During the dinner time, she set aside a plate for her husband and his parents. She gave the rest of the meal to her eldest children, two boys. XX and her three little girls went to bed hungry.*  
What do you think of this story? What do you think about XX's situation? Do women in your community face same difficulties? Why/why not? What would you do differently?
- Perceptions of interventions*
22. Have there been any projects that attempt/attempted to address problems related to nutrition?
  23. What do you think about them? Have you benefitted from them the way you wished? Why/Why not?
  24. How do you think they could be improved? (SOLUTIONS)

25. Are there any obstacles to make it happen? (OBSTACLES)
26. What could be done on your side? (LOCAL CAPACITIES)
27. What do you need to make it happen? (NEEDS)
28. Which solution should have the greatest priority? What is the most important action to be taken? (PRIORITISATION)
29. Who should be targeted by this action in priority? Why?

## INTERVIEW GUIDE: BREASTFEEDING & COMPLEMENTARY FEEDING

1. How does your daily routine with a baby look like? (Cf. [IYCF & Care practices flashcards](#))
2. Does your routine change throughout the week? If so, how?
3. Does your routine change throughout the year? If so, how? (Cf. [Seasonal calendar](#))
4. Has the daily routine changed in the past 10-15 years? Do you do things differently than your parents/grandparents? Explain. (Cf. [Historical calendar](#))
5. Would you like the daily routine to change? If so, how? Why?
6. Does someone help you with child caring? If so, when (daily/weekly/sporadically)?
7. How are fathers involved in child caring activities? How do you feel about their involvement? (sufficient/not sufficient?) Why?
8. What challenges do you face when caring for your children? (PROBE: lack of knowledge/resources/time/other)
9. **Storytelling:** *XX is 25 years old. She has four children. The last one was born three months ago. She is breastfeeding him when she is at home in the mornings and in the evenings. In between she has lots of activities in the village (fetching water, collecting firewood, going to the market, working in the field) and she does not bring her baby with her. She leaves the baby with her mother-in-law. Few weeks ago she went to the health centre and the staff told her to breastfeed her baby on demand in order for the baby to grow well. She is afraid that the baby will grow fat and somebody will give it a bad eye. She prefers her baby to stay the way he is. In addition, she has so many things to do! She can't possibly carry the child around the whole day!*  
What do you think of this story? What do you think about XX's situation? Do women in your community face same difficulties? Why/why not? What would you do differently?

### Agree/disagree game (+DEBRIEFING)

10. When my baby is born, the first thing I give him to drink is the holy water.
11. When my baby is born, I wash him up and put him to sleep.
12. When my baby is born, I breastfeed him immediately.
13. When my baby is born, the first milk in my breasts is not good. I throw it away.
14. When my baby is born, I take him to a religious leader for a blessing.
15. When I breastfeed, I also give my baby some water because it is very hot and the baby is thirsty!
16. When I breastfeed, I also give my baby some cow/goat milk.
17. When I breastfeed, I do not have enough milk to keep my baby happy.
18. Breastfeeding is time-consuming.
19. When I breastfeed, I feel weak.
20. When I breastfeed, my breasts hurt.
21. When I breastfeed, I eat more.
22. When I breastfeed, I do not fast.
23. When I get pregnant, I stop breastfeeding.
24. When I work, my milk is hot and I cannot breastfeed my baby.
25. I start giving some food to my baby when he is 4 months old.
26. I start giving some food to my baby when he is 8 months old.



27. If I start giving food to the baby too soon, he will be less resistant later.
28. I cook special meals for my baby.
29. I feed my baby the food I prepared for the whole family.
30. During meals, I help my baby to eat.
31. During meals, it is older children who help my baby to eat.
32. When my baby does not want to eat, I do not force him.
33. When my baby cries, I take him into my arms to calm him down.
34. When my baby cries, I give him something to eat.
35. When my baby cries, I give him something to drink.
36. When my baby cries, I leave him to calm down by himself.

**Risk game (+DEBRIEFING)**

37. Breastfeeding on demand.
38. Breastfeeding when a woman is pregnant.
39. Breastfeeding when a woman is hot or ill.
40. Eating little during breastfeeding.
41. Fasting during breastfeeding.
42. Giving holy water to the baby before he is 6 months old.
43. Giving water to the baby before he is 6 months old.
44. Giving tea to the baby before he is 6 months old.
45. Giving family food to the baby.
46. Giving food to my baby during the fasting period.
47. Leaving a baby with older siblings.
48. Leaving a baby with his grandmother/grandfather.
49. Raising a voice or slapping a baby when he does something wrong.

**Courage to change (+DEBRIEFING)**

50. Early initiation of breastfeeding.
51. Exclusive breastfeeding till 6 months of age.
52. Breastfeeding on demand.
53. Feeding baby during a fasting period.
54. Preparing special meals for babies.
55. Non-fasting during breastfeeding.
56. Non-fasting for children under 5 years of age.
57. What do you normally feed your baby throughout a day during a fasting period? (Cf. [Meal composition chart](#))
58. What do you normally feed your baby throughout a day during a non-fasting period? (Cf. [Meal composition chart](#))
59. Would you like to give him something else? If so, how? Why/Why not? (Cf. [Meal composition chart](#))
60. Have the eating habits for children changed in the past 10-15 years? Do you do things differently than your parents/grandparents? Explain. (Cf. [Historical calendar](#))
61. **Storytelling:** *XX has a little boy. He is very active. He likes to play. He likes to run. Sometimes he is really naughty. As XX's husband migrates to find work, XX stays alone with her little boy. She is now pregnant with her second child. This morning the little boy woke up very energetic. He sings and jumps around. XX has just returned from the water source and put a jerry can next to the door. As the little boy was running around, he knocked the jerry can over and spilled the water. XX was really upset and slapped him for being naughty.*

What do you think of this story? What do you think about XX's situation? Do women in your community face same difficulties? Why/why not? What would you do differently?

*Perceptions of interventions*

62. Have there been any projects that attempt/attempted to address problems related to breastfeeding and complementary feeding?
63. What do you think about them? Have you benefitted from them the way you wished? Why/Why not?
64. How do you think they could be improved? (SOLUTIONS)
65. Are there any obstacles to make it happen? (OBSTACLES)
66. What could be done on your side? (LOCAL CAPACITIES)
67. What do you need to make it happen? (NEEDS)
68. Which solution should have the greatest priority? What is the most important action to be taken? (PRIORITISATION)
69. Who should be targeted by this action in priority? Why?

## INTERVIEW GUIDE: MARRIAGE, PREGNANCY & BIRTH SPACING

1. At what age do young men marry in your community? What is the usual age of women they are marrying? Do you consider it problematic? Why/Why not? What are the reasons for marrying at that age?
2. *Storytelling: XX is 15 years old. She has 7 other siblings and she is the oldest one. There has not been enough rain in the past year where she lives. The harvest is very low, it barely lasted one month. XX's parents sold two oxen, which they had, to sustain their family for some time. They think XX should marry so they have less stomachs to feed. Plus, the dowry could help the rest of the family to survive before the next harvest season.*  
What do you think of this story? What do you think about XX's situation? Do women in your community face same difficulties? Why/why not? If you were XX's parents, what would you do differently?
3. Are there other reasons for early marriage in your community?
4. *Storytelling: XX is 16 years old. She is beautiful and kind and many boys are interested in marrying her. She has an eye on a young man that does not live too far from her house. They have known each other since they were little children. One day, when XX's parents go to the field, XX stays at home looking after her little siblings. A young man comes for a visit and they display the affection for each other for the first time. Two months later, XX realises that she is pregnant.*  
What do you think of this story? Does this happen in your community? Why do you think it happens? How does the community perceive sexual relations outside the wedlock (before marriage/during marriage? What would you do if you were XX? What would you do if you were XX's parents?
5. When do you think a girl is ready to be a mother (physically and emotionally?)
6. Who advises women, and especially adolescent girls, during pregnancy?
7. Do couples in your community have disagreements during the marriage? Are they frequent? How are they handled? What is the cause of these disagreements?
8. How many children do people in your community usually have? Why?
9. *Storytelling: XX is 28 years old. She married her husband 12 years ago. Since then, she gave birth to a child almost every year. Out of 10 children, 3 died rather young. XX's husband wants to replace them so that they have enough people to work in the fields. XX does not want any more children, she is tired of successive pregnancies. She is afraid to tell her husband that she does not want any more children because he says they are a gift from God.*  
What do you think of this story? Can this happen in your community? Why do you think it happens? What do people think about birth spacing? Is a woman involved in a decision on a number of children? Why/why not? What would you do if you were XX?

10. What is a usual birth gap in your community? How do you feel about it? (Short/adequate/long)  
Why?

Agree/disagree game (+DEBRIEFING)

11. When I am pregnant I go to a health centre for a check-up.
12. When I am pregnant I go to a religious leader for a blessing.
13. When I am pregnant I go to a traditional healer to make sure my baby develops well.
14. When I am pregnant I do not go to a health centre because it is too far.
15. When I am pregnant I do not go to a health centre because the staff is seldom there.
16. When I am pregnant I do not go to a health centre because I am afraid they will make my baby to grow big.
17. When I am pregnant I do not go to a health centre because they give me advice I cannot follow.
18. When I am pregnant I do not go to a health centre because I do not have money.
19. When I am pregnant I do not go to a health centre because I do not have time.
20. When I am pregnant I eat more so that my baby can grow.
21. When I am pregnant I eat less because I do not feel well.
22. When I am pregnant I eat less because I am afraid my baby will grow big.
23. When I am pregnant I fast.
24. When I am pregnant I work as usual.
25. When I am pregnant I work less.
26. I prefer to give birth at home.
27. I prefer to give birth at a health centre.
28. After birth I rest for at least 6 weeks.
29. After birth I resume my activities after a few days.
30. If I wanted to space births, I would be perceived badly in my community.
31. If I wanted to use family planning, I would not receive a blessing at church.
32. If I used family planning, I would bleed more and then I would not be able to have more children.

Risk game (+DEBRIEFING)

33. Young woman having a baby at 15 or 16 years of age.
34. Woman having a baby at 30 years of age.
35. Woman having a baby every twelve months.
36. Woman getting pregnant when breastfeeding a baby.
37. Woman not attending prenatal care services at a health centre.
38. Woman fasting when pregnant.
39. Woman working during pregnancy.
40. Woman giving birth at home.
41. Woman working after giving birth.

Courage to change (+DEBRIEFING)

42. Having a first child at 18 years of age.
43. Having children about two years apart.
44. Having less children.
45. Use different contraception means.
46. Attending prenatal care at health centre.
47. Not fasting during pregnancy.
48. Not working during pregnancy.
49. Not fasting during breastfeeding.

*Perceptions of interventions*

50. Have there been any projects that attempt/attempted to address problems related to birth-spacing?

51. What do you think about them? Have you benefitted from them the way you wished? Why/Why not?
52. How do you think they could be improved? (SOLUTIONS)
53. Are there any obstacles to make it happen? (OBSTACLES)
54. What could be done on your side? (LOCAL CAPACITIES)
55. What do you need to make it happen? (NEEDS)
56. Which solution should have the greatest priority? What is the most important action to be taken? (PRIORITISATION)
57. Who should be targeted by this action in priority? Why?

## INTERVIEW GUIDE: WOMEN'S WORKLOAD & SOCIAL STATUS

1. How does your daily routine look like? (Cf. [Daily activities chart](#))
2. Does your routine change throughout the year? If so, how? (Cf. [Seasonal calendar](#))
3. How do you perceive your workload? How does it make you feel?
4. When do you feel most busy or tired? What do you do when you feel that way? Do you have someone to help you?
5. Has the daily routine changed in the past 10-15 years? Do you do things differently than your parents/grandparents? Explain. ? (Cf. [Historical calendar](#))
6. Are there differences in daily routines among different households? If so, what differences? What characterises these households?
7. How does your daily routine vary from that of men?
8. Did you attend school when you were younger? What are the reasons why girls do not go to school in your community? What are the reasons why they drop out from school?
9. Can women in your community make decisions on their own? If so, what can you decide on your own? (PROBE: schooling, marriage, HH expenses, meal composition, daily activities, workload, rest after childbirth, health treatment in case of illness, family planning?)
10. Does your decision-making power change when your husbands migrate? Who takes decisions in his absence?

(or alternatively for 9 & 10) Agree/disagree game (+DEBRIEFING)

11. I could make decisions on whether or not I go to school.
12. I can make decisions on whether or not my children go to school.
13. I decided when I wanted to get married.
14. I decided whom I wanted to get married to.
15. I can decide on when my daughter will get married.
16. I can decide on whom my daughter marries.
17. My daughter will decide herself when she gets married.
18. My daughter will decide herself whom she will marry.
19. My husband decides how I spend money.
20. I decide what I cook.
21. My husband tells me how much I can spend on food.
22. I only prepare food that my husband likes.
23. I cannot decide how much I work, I need to do everything that women are supposed to do.
24. My husband has less responsibilities than I.
25. After birth, I can rest for 6 weeks.
26. When I am sick, I can decide whom to see to treat my illness.
27. When my children are sick, I need to ask my husband whom to see to treat my illness.
28. I can tell my husband I do not want any more children.
29. I can decide on all household matters when my husband is not at home.

30. Have you been in a situation where you were not satisfied with the decision that was made in relation to you? Explain. How did you feel?
31. If you have a problem, who do you go to help you? What was the most recent situation when you needed someone's help? Explain.
32. What possibilities do women in your community have? (PROBE: What roles can young women aspire to play in their community when they grow up?)
33. How do you feel about those possibilities – are they sufficient? If not, what is lacking? What would you like to change/do differently? What is preventing you from doing so?
34. Do you feel safe in your community? Has there been any change in community relations in the past 10-15 years? (Cf. [Historical calendar](#))
35. What activities do you usually engage in with other community members? Are there any occasions that you celebrate together? (Cf. [Seasonal calendar](#))

#### *Perceptions of interventions*

36. Have there been any projects that attempt/attempted to address problems related to your workload or decision-making?
37. What do you think about them? Have you benefitted from them the way you wished? Why/Why not?
38. How do you think they could be improved? (SOLUTIONS)
39. Are there any obstacles to make it happen? (OBSTACLES)
40. What could be done on your side? (LOCAL CAPACITIES)
41. What do you need to make it happen? (NEEDS)
42. Which solution should have the greatest priority? What is the most important action to be taken? (PRIORITISATION)
43. Who should be targeted by this action in priority? Why?

#### INTERVIEW GUIDE: MEN'S WORKLOAD & SOCIAL STATUS

1. How does your daily routine look like? (Cf. [Daily activities chart](#))
2. Does your routine change throughout the year? If so, how? (Cf. [Seasonal calendar](#))
3. How do you perceive your workload? How does it make you feel?
4. When do you feel most busy or tired? What do you do when you feel that way? Do you have someone to help you?
5. Has the daily routine changed in the past 10-15 years? Do you do things differently than your parents/grandparents? Explain. ? (Cf. [Historical calendar](#))
6. Are there differences in daily routines among different households? If so, what differences? What characterises these households?
7. How does your daily routine vary from that of women?
8. Did you attend school when you were younger? What are the reasons why boys do not go to school in your community? What are the reasons why they drop out from school?
9. Can women in your community make decisions on their own? If so, what can they decide on their own? (PROBE: schooling, marriage, HH expenses, meal composition, daily activities, workload, rest after childbirth, health treatment in case of illness, family planning?)
10. Does their decision-making power change when their husbands migrate? Who takes decisions in their absence?
11. Have you been in a situation where a woman was not satisfied with the decision that was made in relation to her? Explain.
12. What possibilities do men in your community have? (PROBE: What roles can young men aspire to play in their community when they grow up?)

13. How do you feel about those possibilities – are they sufficient? If not, what is lacking? What would you like to change/do differently? What is preventing you from doing so?
14. Do you feel safe in your community? Has there been any change in community relations in the past 10-15 years? (Cf. [Historical calendar](#))
15. What activities do you usually engage in with other community members? Are there any occasions that you celebrate together? (Cf. [Seasonal calendar](#))
16. If you have a problem, who do you go to help you? What was the most recent situation when you needed someone's help? Explain.

*Perceptions of interventions*

17. Have there been any projects that attempt/attempted to address problems related to your workload or social status?
18. What do you think about them? Have you benefitted from them the way you wished? Why/Why not?
19. How do you think they could be improved? (SOLUTIONS)
20. Are there any obstacles to make it happen? (OBSTACLES)
21. What could be done on your side? (LOCAL CAPACITIES)
22. What do you need to make it happen? (NEEDS)
23. Which solution should have the greatest priority? What is the most important action to be taken? (PRIORITISATION)
24. Who should be targeted by this action in priority? Why?

## INTERVIEW GUIDE: AGRICULTURAL PRODUCTION & INCOME

1. What are main sources of income in your community (M/W separately)?
2. Do they vary throughout the year? (Cf. [Seasonal calendar](#))
3. Have they changed in the last 10-15 years? (Cf. [Historical calendar](#))
4. What has caused the change?
5. What challenges do you experience in relation to farming? (PROBE: access to water/land, soil degradation, unavailability of seeds/tools/know-how/labour, labour cost, plant diseases, market access for sale, price fluctuations seeding period vs. harvest period, demand fluctuations, quality requirements)
6. Do these challenges vary throughout the year? (Cf. [Seasonal calendar](#))
7. Have they changed in the last 10-15 years? (Cf. [Historical calendar](#))
8. What has caused the change?
9. What consequences do they have on your household income?
10. What coping strategies do you deploy to compensate for eventual losses?

*Perceptions of interventions*

9. Have there been any projects that attempt/attempted to address problems related to farming?
10. What do you think about them? Have you benefitted from them the way you wished? Why/Why not?
11. How do you think they could be improved? (SOLUTIONS)
12. Are there any obstacles to make it happen? (OBSTACLES)
13. What could be done on your side? (LOCAL CAPACITIES)
14. What do you need to make it happen? (NEEDS)
15. Which solution should have the greatest priority? What is the most important action to be taken? (PRIORITISATION)
16. Who should be targeted by this action in priority? Why?

17. What challenges do you experience in relation to husbandry? (PROBE: access to water/pasture/vaccination, animal diseases, unavailability of know-how, access to markets for sale, price fluctuations, demand fluctuations, quality requirements)
18. Do these challenges vary throughout the year? (Cf. [Seasonal calendar](#))
19. Have they changed in the last 10-15 years? (Cf. [Historical calendar](#))
20. What has caused the change?
21. What consequences do they have on your household income?
22. What coping strategies do you deploy to compensate for eventual losses?
- Perceptions of interventions*
23. Have there been any projects that attempt/attempted to address problems related to farming?
24. What do you think about them? Have you benefitted from them the way you wished? Why/Why not?
25. How do you think they could be improved? (SOLUTIONS)
26. Are there any obstacles to make it happen? (OBSTACLES)
27. What could be done on your side? (LOCAL CAPACITIES)
28. What do you need to make it happen? (NEEDS)
29. Which solution should have the greatest priority? What is the most important action to be taken? (PRIORITISATION)
30. Who should be targeted by this action in priority? Why?

#### INTERVIEW GUIDE: MARKET ACCESS, USE OF RESOURCES AND COPING STRATEGIES

1. What markets are you normally using? How long does it take you to get there?
2. Does your access vary throughout the year? (Cf. [Seasonal calendar](#))
3. Has your access changed in the last 10-15 years? (Cf. [Historical calendar](#))
4. What has caused the change? What consequences does it have on your household?
5. Are products available throughout the year? If not, what and when is not available? Why? (Cf. [Seasonal calendar](#))
6. Has the product availability changed in the last 10-15 years? (Cf. [Historical calendar](#))
7. Are product prices stable throughout the year? If not, what product prices fluctuate? When? Why? (Cf. [Seasonal calendar](#))
8. Have product prices changed in the last 10-15 years?
9. How do you spend your household income? (Cf. [Household expenses](#))
10. Who makes decision regarding household expenses? (PROBE: purchases (various categories) vs. sale of agricultural production)
11. Does a decision-making process change in husband's absence (e.g. migration)?
12. Do women receive a weekly allowance? If so, how much and what for? Is it sufficient? Why/why not?
13. Do men and women spend money differently? If so, how? Why?
14. Where do you usually get your food? (PROBE: own production, purchase, food aid, barter, forest harvest)
15. Does this vary throughout the year? (Cf. [Seasonal calendar](#))
16. Has this changed over the last 10-15 years? (Cf. [Historical calendar](#))
17. How do you ensure that you have enough food for your household throughout the year?
18. What do you do when you do not have enough money to provide food for your household? (PROBE: destocking, selling productive assets, sale, use of excessive debt, the reduction in daily food intake and the number of daily meals, migration for labour, etc.)
19. Are certain households in your community more vulnerable to food insecurity? Why?

### Perceptions of interventions

18. Have there been any projects that attempt/attempted to address problems related to food security?
19. What do you think about them? Have you benefitted from them the way you wished? Why/Why not?
20. How do you think they could be improved? (SOLUTIONS)
21. Are there any obstacles to make it happen? (OBSTACLES)
22. What could be done on your side? (LOCAL CAPACITIES)
23. What do you need to make it happen? (NEEDS)
24. Which solution should have the greatest priority? What is the most important action to be taken? (PRIORITISATION)
25. Who should be targeted by this action in priority? Why?

### INTERVIEW GUIDE: LAND ACCESS, MIGRATION, COMMUNITY SOLIDARITY & FOOD AID

1. How would you describe land access in your community? (PROBE: source (inheritance/purchase/lease/other), ownership (M/F), size, distance, geographical & seasonal accessibility, quality, water access/irrigation, taxes/fees).
2. Has the land access changed in the last 10-15 years? (Cf. [Historical calendar](#))
3. What consequences does land access have on your agricultural production? (PROBE: crop selection, crop rotation, use of natural/chemical fertilisers)
4. How do you address these challenges?
5. Do people in your community have a tendency to form groups/associations/community-based organisations? If so, for what purpose? (PROBE: membership (M/F), fees, activities, benefits, external support (gov't, NGOs))
6. Do people in your community tend to save money/resources? If so, for what purpose? What do they save? How much?
7. Do people in your community have access to credit? If so, how does it work? (PROBE: who can access it (M/F), provider, amount, interest)
8. Do people in your community tend to have debts? Why? How much? What do they do when they can't repay them?
9. Do people in your community tend to migrate to earn money? If so, who migrates? Where? When? For how long? Why? (Cf. [Seasonal calendar](#))
10. Have migration patterns in your community changed over the last 10-15 years? (Cf. [Historical calendar](#))
11. What consequences does the migration or changed migration patterns have on members of a household who stay behind? (PROBE: income, workload, decision-making, nutrition, health, hygiene & child caring practices)
12. Apart from migration for economic reasons, do people in your community tend to leave the village for prolonged periods of time (weeks/months)? If so, who leaves? Where? When? For how long? Why? (Cf. [Seasonal calendar](#))
13. Do they travel with children? If so, what consequences does this travel have on them? (health, hygiene & child caring practices)
14. *Storytelling: XX and XX have been married for some seven years. They have 5 children. They have a little field that XX inherited from his father. Even during a good year, the field would not yield enough crops to sustain his family for a year. XX thus has to leave the village for three to four months to work as a daily labourer. Unfortunately, that is the period where he would need to work on his own field. XX thus does not have a choice and has to work alone. It's extremely tiring and she needs to stay away from her children almost all day. Sometimes, it is her eldest daughter, who is only 6,*



*that cares for other children. Sometimes, her mother or mother-in-law help out. However, it is very tough without her husband not being there! From time to time, XX receives a food ration from a non-governmental organisation to help her transition tough times before the next harvest. She uses a portion to feed her children, a portion to help her mother and the rest she sells to repay her debts. After a few days, there is nothing left and she is concerned what they will do before her husband comes back.*

What do you think of this story? What do you think about XX's situation? Do women in your community face same difficulties? Why/why not? What would you do differently?

15. What challenges do you face in relation to food aid? (PROBE: beneficiary selection, quantity, quality, timing)

#### *Perceptions of interventions*

26. Have there been any projects that attempt/attempted to address problems related to subject, which we have just discussed?
27. What do you think about them? Have you benefitted from them the way you wished? Why/Why not?
28. How do you think they could be improved? (SOLUTIONS)
29. Are there any obstacles to make it happen? (OBSTACLES)
30. What could be done on your side? (LOCAL CAPACITIES)
31. What do you need to make it happen? (NEEDS)
32. Which solution should have the greatest priority? What is the most important action to be taken? (PRIORITISATION)
33. Who should be targeted by this action in priority? Why?

## INTERVIEW GUIDE: WATER, HYGIENE AND SANITATION

1. Where do you get water for your household? Do you use a different source for drinking/cooking/bathing/animal consumption/agriculture?
2. Does your source change in different seasons? (Cf. [Seasonal calendar](#))
3. Has your source changed in the last 10-15 years? (Cf. [Historical calendar](#))
4. Does someone manage this water source? Are there any conditions of use?
5. Do you have enough water for your needs throughout the year? If not, when? (Cf. [Seasonal calendar](#))
6. Has the access to water changed in the last 10-15 years? (Cf. [Historical calendar](#))
7. Do all the people in the community have the same access to water? If not, why? Who are they?
8. Who is responsible for fetching water for the household?
9. How long does it take to get water? (NB: time to water point, queuing, time back from water point). Does it change throughout the year? (Cf. [Seasonal calendar](#))
10. How much water do you collect in a day? Does it change throughout the year? (Cf. [Seasonal calendar](#))
11. Has this changed over the last 10-15 years? (Cf. [Historical calendar](#)) How? Why? What are the consequences of these changes?

#### [Agree/disagree game \(+DEBRIEFING\)](#)

12. The water in my community is good for drinking.
13. The water in my community gives us stomach problems.
14. The water in my community makes children sick.
15. The water in my community is clear.
16. I wash my hands and my body in the morning.
17. I wash my hands when I go to toilet.
18. I wash my hands before cooking.

19. I wash my hands before eating.
20. I do not wash my hands often because there is not enough water in my community.
21. I do not wash my hands often because I need to preserve it for other use.
22. I do not think I need to wash my hands often, we have always lived this way.
23. I buy soap every time I go to the market.
24. The soap is very cheap.
25. I do not like latrines.
26. I do not need a latrine at home. I spend a lot of time working away from my house.
27. I do not need a latrine at home. It is more natural to do our needs in the field.
28. I wash my baby every time it gets dirty.
29. I let my baby play outside the house.
30. There are animals wandering around my house.
31. There are animals wandering inside my house.

*Risk game (+DEBRIEFING)*

32. Drinking water at the source.
33. Drinking water from the water stream.
34. Drinking rain water.
35. Leaving water containers open.
36. Letting flies sit on a plate of food.
37. Eating without washing hands.
38. Cooking without washing hands.
39. Not washing hands after defecating.
40. Defecating around the house.
41. Cleaning a latrine.
42. Baby playing in the dirt.
43. Baby in contact with household animals.
44. Animals wandering around the house.

*Courage to change (+DEBRIEFING)*

45. Fetching water
46. Water treatment
47. Handwashing
48. Bathing
49. Open defecation
50. Using a latrine
51. Cleaning a latrine
52. Buying a soap
53. Cleaning a house
54. Cleaning a courtyard
55. Washing clothes
56. Covering food
57. Storing food

*Perceptions of interventions*

58. Have there been any projects that attempt/attempted to address problems related to water, sanitation and hygiene?
59. What do you think about them? Have you benefitted from them the way you wished? Why/Why not?
60. How do you think they could be improved? (SOLUTIONS)
61. Are there any obstacles to make it happen? (OBSTACLES)
62. What could be done on your side? (LOCAL CAPACITIES)

63. What do you need to make it happen? (NEEDS)
64. Which solution should have the greatest priority? What is the most important action to be taken? (PRIORITISATION)
65. Who should be targeted by this action in priority? Why?

## INTERVIEW GUIDE: COMMUNITY BELIEFS & SENSITISATION ACTIVITIES

1. How would you describe an ideal baby? How does it look like? (size/characteristic features/behaviour)
2. What can you do to have such a baby before/after he is born?
3. Has the image of an ideal baby changed in the last 10-15 years? Why?
4. Do you feel a pressure from your family/neighbours/community to have an ideal baby? If yes, what do they say/do?
5. What happens if somebody's baby does not fit this criteria? Which consequences does it have on household's reputation in the community?
6. Have you observed that certain mothers/fathers care for children differently? How? How do you feel about it?
7. Have you observed that certain mothers/fathers neglect their children? What do they do or not do? Why/why not? What consequences does it have on the growth and development of these children?
8. What do you consider very important for the good development of children? Do all parents do it? Why/why not?
9. What do you think about vaccination? (PROBE: access, availability, cultural acceptability, etc.)
10. Do you participate in sensitisation sessions organised by health workers or community development officers of different NGOs? Why/why not?
11. Who is invited to those sensitisation sessions? Are there any other people who should be included? Why?
12. What do you think about different subjects that they talk about? Have you found them useful/relevant/easily applicable? Why/why not? (
13. Which behaviours did you particularly struggled with? Why? (Advantages/Disadvantages)
14. Are there people in your community who are not endorsing certain messages/behaviours? Who & why? (APPROVAL)
15. What should be improved? (SOLUTIONS)
16. Are there any obstacles to make it happen? (OBSTACLES)
17. What could be done on your side? (LOCAL CAPACITIES)
18. What do you need to make it happen? (NEEDS)
19. Which solution should have the greatest priority? What is the most important action to be taken? (PRIORITISATION)
20. Who should be targeted by this action in priority? Why?

## INTERVIEW GUIDE: HEALTH & NUTRITION (HEALTH FACILITY PERSONNEL)

1. What is your role in the health facility? How long have you been working here? Have you worked in a similar position elsewhere? If so, where and for how long?
  2. How do you feel about your position? (PROBE: training, supervision, workload, availability of materials/medicine, location, salary)
  3. What types of services do you offer? What fees do you charge? (PROBE: antenatal care, childbirth, postnatal care, vaccination)
  4. What are your working hours/opening hours? Are you available in the cases of emergency? How can people reach you?
  5. What is your daily routine? Does it change throughout the week/month? Does it change throughout the year? If so, how? Why?
  6. What challenges do you face in relation to your daily routine?
  7. How does the community perceive services at this health facility? What services do they tend to use the most? Why?
  8. Are there any services that they do not use at all? Why?
  9. Are you aware of any barriers, which may be preventing them from using services at this health facility? If so, what are they?
  10. What childhood diseases are most current in this community? What are their principal causes in this community?
  11. In which months are they most frequent? (Cf. [Seasonal calendar](#))
  12. Has there been a change in the prevalence of these diseases in the past 10-15 years? (Cf. [Historical calendar](#))
  13. What is their preferred treatment option and/or classic therapeutic itinerary in case of current childhood diseases? (PROBE: diarrhoea/cholera, fever, acute respiratory infections, scabies, malaria, malnutrition)
  14. Does it change throughout the year? (Cf. [Seasonal calendar](#)) Has it changed over the past 10-15 years? (Cf. [Historical calendar](#))
  15. Do you offer services related to the treatment of malnutrition? If so, can you explain how it is organised? Are there specific days when the service is available?
  16. What challenges do you face in relation to CMAM programme? (PROBE: case load/workload, screening, stock-outs, community perception, etc.)
  17. What is the community perception of malnutrition? What are its principal causes in this community? Does the community understand its causes differently? If so, how? Why?
  18. Is malnutrition stigmatised in this community? If so, how?
  19. What categories of children are most vulnerable to malnutrition? Why?
  20. Are there children in these categories who are not malnourished? If so, why? What do their parents do differently?
  21. What main challenges do parents face to keep their children healthy? (Cf. [Hypotheses flashcards](#))<sup>133</sup> How do you think it is linked with malnutrition?
- Perceptions of interventions*
22. Have there been any projects that attempt/attempted to address problems related to health/access to health facilities?
  23. What do you think about them?
  24. How do you think they could be improved? (SOLUTIONS)
  25. Are there any obstacles to make it happen? (OBSTACLES)
  26. What could be done on your side/community side? (LOCAL CAPACITIES)

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<sup>133</sup> Use for probing depending on feedback.

27. What do you need to make it happen? (NEEDS)
28. Which solution should have the greatest priority? What is the most important action to be taken? (PRIORITISATION)
29. Who should be targeted by this action in priority? Why?

#### INTERVIEW GUIDE: HEALTH & NUTRITION (TRADITIONAL HEALER/BIRTH ATTENDANT)

1. What is your role in the community? How long have you been living here? Have you also lived elsewhere? If so, where, when & why?
2. What types of services do you offer? How can people reach you?
3. What main challenges do people in this community face?
4. What consequences do these challenges have on their health? Why?
5. What do you think of children on these photos? Are children on these images healthy? Why/Why not? (Cf. [Photos of wasted children \(Marasmus/Kwashiorkor\) + stunted children](#))
6. Which illness are they suffering from? What words do you use to describe such children in your community? Are certain words more sensitive than others? Why?
7. What are the causes of this illness? What are the reasons a child would become like this?
8. What do you think of this illness? (PROBE: Is it similar to/different from other child illnesses? If so, how?)
9. Do you have children like this in your community? If yes, which type is most common?
10. Are there any households in your community, which are more affected? If yes, what do they have in common? (PROBE: Are children of certain age group more affected? Why?)
11. How do you treat this illness in your community? (Cf. [Health journey/Therapeutic itinerary](#)) (PROBE: What is the most common treatment? Why?)
12. What main challenges do parents face to keep their children healthy? (Cf. [Hypotheses flashcards](#))<sup>134</sup> Do you think that they are linked with malnutrition<sup>135</sup>? If so, how & why?
13. Are there citations from holy scripts/local beliefs that may be linked with these challenges? If so, which? What do you think about them? Do they need to be strictly followed? Why/why not?
30. If not mentioned, ask specifically about the use of holy water during the first 6 months of child's life, fasting of children, fasting of pregnant & lactating women, birth spacing. Have they been followed in the same manner in the past 10-15 years? If not, what has changed? Why? (Cf. [Historical calendar](#))
14. If shown that these practices have life-endangering consequences, what can you/church/community can do?
15. Have you heard any stories in the past when certain local beliefs had to be reconsidered? If so, what beliefs did it concern? How was it handled? Do you think that it can be replicated? Why/why not?

#### INTERVIEW GUIDE: HEALTH & NUTRITION (RELIGIOUS LEADERS)

1. What is your role in the community? How long have you been living here? Have you also lived elsewhere? If so, where, when & why?
2. What types of services do you offer? How can people reach you?
3. What is your daily routine? Does it change throughout the week/month? Does it change throughout the year? If so, how? Why?

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<sup>134</sup> Use for probing depending on feedback.

<sup>135</sup> If not recognised, point to the children on photos.

4. What main challenges do people in this community face?
5. What consequences do these challenges have on their health? Why?
6. What do you think of children on these photos? Are children on these images healthy? Why/Why not? (Cf. [Photos of wasted children \(Marasmus/Kwashiorkor\) + stunted children](#))
7. Which illness are they suffering from? What words do you use to describe such children in your community? Are certain words more sensitive than others? Why?
8. What are the causes of this illness? What are the reasons a child would become like this?
9. What do you think of this illness? (PROBE: Is it similar to/different from other child illnesses? If so, how?)
10. Do you have children like this in your community? If yes, which type is most common?
11. Are there any households in your community, which are more affected? If yes, what do they have in common? (PROBE: Are children of certain age group more affected? Why?)
12. How do you treat this illness in your community? (Cf. [Health journey/Therapeutic itinerary](#)) (PROBE: What is the most common treatment? Why?)
13. What main challenges do parents face to keep their children healthy? (Cf. [Hypotheses flashcards](#))<sup>136</sup> Do you think that they are linked with malnutrition<sup>137</sup>? If so, how & why?
14. Are there citations from holy scripts/local beliefs that may be linked with these challenges? If so, which? What do you think about them? Do they need to be strictly followed? Why/why not?
15. If not mentioned, ask specifically about the use of holy water during the first 6 months of child's life, fasting of children, fasting of pregnant & lactating women, birth spacing. Have they been followed in the same manner in the past 10-15 years? If not, what has changed? Why? (Cf. [Historical calendar](#))
16. If shown that these practices have life-endangering consequences, what can you/church/community can do?
17. Have you heard any stories in the past when certain local beliefs had to be reconsidered? If so, what beliefs did it concern? How was it handled? Do you think that it can be replicated? Why/why not?

## INTERVIEW GUIDE: DO-ERS

### FOCUS ON:

- a) birth-spacing;
  - b) exclusive breastfeeding till 6 months of age,
  - c) complementary feeding 6-23 months of age (initiation, meal frequency & composition, fasting),
  - d) non-observation of fasting during pregnancy/breastfeeding<sup>138</sup>
1. What illnesses can you/your child suffer from if you DO NOT DO THE BEHAVIOUR?
  2. What do you think of [DISEASE mentioned by mother]? Is it dangerous?
  3. When a person (DOES THE BEHAVIOR), does that (LEAD TO THE INTENDED EFFECT)? (E.g. "When a person exclusively breastfeeds a child for the first six months of life, does that help to avoid [DISEASE mentioned by mother]?")
  4. To what degree does (THE BEHAVIOR) help prevent the (DISEASE)?
  5. Who (individuals or groups) do you think object or disapprove if you (DO THE BEHAVIOR)?

<sup>136</sup> Use for probing depending on feedback.

<sup>137</sup> If not recognised, point to the children on photos.

<sup>138</sup> Prioritised behaviours, as per validated hypotheses.

6. Who (individual or groups) do you think approve if you (DO THE BEHAVIOR)?
7. Which of these individuals or groups in either of the two questions above is most important to you?
8. Is it easy for you to (DO THE BEHAVIOR)?
9. Is it easy to remember to (DO THE BEHAVIOR) every time that you need to do?
10. Is it sometimes God's will that people/children get (DISEASE)?
11. Why do some people get (DISEASE) and some people do not?
12. Do people sometimes get (DISEASE) because of curses or other spiritual or supernatural causes?
13. What do you see as the advantages or good things that happen if you (DO THE BEHAVIOR)?  
What are the things you like about (DOING THE BEHAVIOR)?
14. What do you see as the disadvantages or bad things that happen if you (DO THE BEHAVIOR)?  
What are the things that you don't like about (DOING THE BEHAVIOR)?

### INTERVIEW GUIDE: NON DO-ERS

#### FOCUS ON:

- e) birth-spacing;
- f) exclusive breastfeeding till 6 months of age,
- g) complementary feeding 6-23 months of age (initiation, meal frequency & composition, fasting),
- h) non-observation of fasting during pregnancy/breastfeeding<sup>139</sup>

1. What illnesses can you/your child suffer from if you DO THE BEHAVIOUR?
2. What do you think of [DISEASE mentioned by mother]? Is it dangerous?
3. When a person (DOES NOT THE BEHAVIOR), does that (LEAD TO THE INTENDED EFFECT)? (E.g. "When a person does not exclusively breastfeed a child for the first six months of life, does that help to avoid [DISEASE mentioned by mother]?")
4. To what degree does (NOT DOING THE BEHAVIOR) help prevent the (DISEASE)?
5. Who (individuals or groups) do you think would object or disapprove if you (DID THE BEHAVIOR)?
6. Who (individual or groups) do you think would approve if you (DID THE BEHAVIOR)?
7. Which of these individuals or groups in either of the two questions above is most important to you?
8. Would it be easy for you to (DO THE BEHAVIOR)?
9. What would make it difficult or impossible for you to (DO THE BEHAVIOR)?
10. What would make it easier for you to (DO THE BEHAVIOR)?
11. Would it be easy to remember to (DO THE BEHAVIOR) every time that you decided to do that?
12. Is it sometimes God's will that people/children get (DISEASE)?
13. Why do some people get (DISEASE) and some people do not?
14. Do people sometimes get (DISEASE) because of curses or other spiritual or supernatural causes?
15. What do you see as the advantages or good things that would happen if you (DID THE BEHAVIOR)? What are the things you would like about (DOING THE BEHAVIOR)?
16. What do you see as the disadvantages or bad things that would happen if you (DID THE BEHAVIOR)? What are the things that you would not like about (DOING THE BEHAVIOR)?

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<sup>139</sup> Prioritised behaviours, as per validated hypotheses.

## SUMMARY OF FINDINGS, CATEGORISATION OF RISK FACTORS & FINAL RECOMMENDATIONS

The purpose of this exercise is to involve community members in the categorisation of risk factors with regards to their impact on the occurrence of malnutrition in their community. In other words, community members will be encouraged to rank identified risk factors from most problematic to less problematic in relation to their link with malnutrition. In addition, they will be encouraged to identify risk factors, which they believe are likely to change first, if properly addressed/supported.

Before the actual ranking exercise will be conducted, the study team will summarise their findings, which they collected during the first 5 days in the community with the use of pre-prepared flashcards. After the presentation of all identified risk factors, community members will be asked to validate the findings and the team's interpretation of community's main challenges in relation to malnutrition. If certain elements are deemed not representative of the community, the study team will modify the interpretation, as necessary.

Afterwards, the participants will be invited to rank identified risk factors from most problematic to least problematic in relation to their link with undernutrition. With the help of pebbles, they will be asked to give three pebbles to factors, which have a major impact on child undernutrition, two pebbles to factors, which have an important impact on child undernutrition and one pebble to factors, which have a minor impact on child undernutrition in their community. They will be visually aided by photos of undernourished children, which were previously used during focus group discussions, in order to keep the focus on this health issue rather than other main challenges that they face in their community.

All exchanges among participants with relation to this rating exercise and/or their justification of their rating will be duly noted. All participants will be encouraged to contribute and any disagreements will be rightfully addressed. The aim of this exercise will be to categorise risk factors into three groups, which all participants will agree with.

Once this stage is completed, the participants will be asked to pick few risk factors, which they think explain most cases of undernutrition in their community, and create a main pathway.

Alternatively, if a consensus on three categories of risks proves difficult, the study team will give three pebbles to each participant and will ask them to assign a pebble to each risk, which they consider the most important in relation to undernutrition in their community. Once all pebbles are counted, risk factors will be divided into three categories. The study team will ask participants to validate them and reach a consensus on 4-5 factors, which have a major impact on undernutrition in their community.

After the categorisation of risk factors, the study team will present solutions, which the community identified during focus group discussions to address these challenges. A validation, followed by a prioritisation of activities, will be sought.



## D. COMMUNITY ACTION PLAN

Risk factor	Solutions	Obstacles	Local capacities	Needs	Prioritisation
Poor access, utilisation and quality of health services	<ul style="list-style-type: none"> <li>▪ Set-up community credit schemes to facilitate the access to a short-term credit for health expenses.</li> <li>▪ Build health posts w/in 5 km radius from a village to improve the access of populations to a health facility.</li> <li>▪ Reinforce the network of health extension workers, incl. nurses (certified personnel), to ensure their regular village presence.</li> <li>▪ Reinforce the ambulance service to facilitate the access to a health facility in the time of need.</li> <li>▪ Set-up a mule ambulance service to facilitate the access of populations to a health facility (applicable only for locations with relatively good roads, i.e. main roads, not suitable for shortcuts).</li> <li>▪ Improve the quality of available health services, incl. maternity facilities, to stimulate the utilisation of services.</li> </ul>	<p>Unavailability of local know-how to manage the service.</p> <p>Gov't reduced capacity in terms of financial and human resources to respond to further demand of network expansion.</p> <p>Reduced availability of community-based organisations who could manage the service.</p> <p>Gov't reduced capacity in terms of financial and human resources to respond to demand.</p>	<p>Human resources &amp; interest to set-up the service Availability to repay w/in short periods of time.</p> <p>N/A</p> <p>Human resources &amp; interest to form a community-based organisation for the management of the service.</p> <p>N/A</p>	<p>Training in credit scheme management</p> <p>N/A</p> <p>Training in CBO management Mule Materials for the construction of a cart</p> <p>N/A</p>	<ul style="list-style-type: none"> <li>▪ Community credit scheme</li> <li>▪ Reinforced network of health extension workers</li> <li>▪ Mule ambulance service</li> </ul>
Poor access and availability of water (quality & quantity)	<ul style="list-style-type: none"> <li>▪ Construction of water points, where currently unavailable.</li> <li>▪ Construction of a water distribution network throughout a village (secondary water points closer to houses).</li> </ul>	<p>Gov't reduced capacity in terms of financial and human resources to respond to further demand of network expansion.</p>	<p>Human resources Desire to work on Co4W principle<sup>140</sup></p>	<p>Technical knowledge Technical supervision</p>	<ul style="list-style-type: none"> <li>▪ Construction of water points, where currently unavailable.</li> </ul>

<sup>140</sup> Commodity for work (forage to enable animal fattening).

Risk factor	Solutions	Obstacles	Local capacities	Needs	Prioritisation
	<ul style="list-style-type: none"> <li>Ensure a continued chlorination of new and existing water points.</li> <li>Distribution of aqua tabs for HH water treatment.</li> <li>Set-up at least one chlorine production point in each woreda.</li> </ul>	Not possible to dig a well on a rock.	Interest in setting up a local chlorine production point to diversify income-generating capacities	Materials for the construction of water points Materials for the chlorine production	<ul style="list-style-type: none"> <li>Set up of chlorine production points.</li> </ul>
Heavy workload of women	<ul style="list-style-type: none"> <li>Improve HH access to a mill for grinding cereal grains.</li> <li>Improve HH access to electricity/solar power in order to use alternative cooking devices to help reduce food preparation time (incl. time dedicated for firewood collection).</li> <li>Improve HH access to water (for more details see above.)</li> <li>Adjust family planning interventions to women's needs (provision of less inconvenient 3-year plans and/or reinforce the provision of shorter term solutions).</li> <li>Improve HH access to ecological weeding products (if available) to decrease women's workload during the weeding period.</li> </ul>	<p>Mill not available and/or located at great distance Unavailability of financial resources to pay for the service and/or a prioritisation of other HH expenses</p> <p>Electricity network not available in villages. Solar panels too expensive.</p> <p>N/A</p> <p>Financial cost</p> <p>N/A</p>	<p>Awareness that manual grinding is time-consuming and contributes substantially to a heavy workload of women</p> <p>Awareness that firewood collection is time-consuming and detrimental to environment.</p> <p>Awareness about benefits of family planning.</p> <p>N/A</p>	<p>Construction of mills w/in 5 km radius from a village Reinforcement of HH income-generating activities &amp; optimal decision-making</p> <p>Distribution of multi-purpose solar panels Information sharing about alternative cookers/stoves and their construction</p> <p>New long-lasting but less painful family planning methods</p> <p>Affordable ecological weeding products or information how to produce them from</p>	<ul style="list-style-type: none"> <li>Reinforcement of HH income-generating activities &amp; optimal decision-making</li> <li>Improve HH access to alternative cookers/stoves</li> <li>Improve HH access to water</li> </ul>

Risk factor	Solutions	Obstacles	Local capacities	Needs	Prioritisation
	<ul style="list-style-type: none"> <li>▪ Appoint model fathers for the culturally-acceptable promotion of improved gender roles.</li> <li>▪ Men responsible for water treatment (e.g. water boiling)</li> </ul>		<p>Human resources</p> <p>Human resources Local knowledge Time</p>	<p>locally-available resources</p> <p>N/A</p> <p>Sensitisation about HH responsibility sharing &amp; importance of safe drinking water</p>	
Low agricultural (crop & livestock) production	<ul style="list-style-type: none"> <li>▪ Reinforce the community empowerment to detect problems and identify local solutions to address them.</li> <li>▪ Improve the utilisation of compost through awareness sessions on its correct production and use (e.g. on family-owned fields rather than in HH compounds to improve the land fertility.</li> <li>▪ Construction of irrigation canals, where water points available.</li> <li>▪ Improve access to forage to improve animal fattening and thus animal's market value in case of sale.</li> </ul>	<p>High dependence on exterior actors, incl. the government to improve living conditions.</p> <p>Poor access to water.</p> <p>Financial cost</p> <p>Financial cost</p>	<p>Human resources Local knowledge Time</p> <p>Human resources Agricultural extension workers Local knowledge Time</p> <p>Human resources &amp; interest to form a community-based organisation for the management of the service Desire to work on Co4W principle<sup>1</sup></p> <p>Desire to work on Co4W principle<sup>127</sup></p>	<p>Community facilitation Information sharing</p> <p>No support needed Improved access to water, wherever possible</p> <p>Training in CBO management Technical knowledge Materials Tools Generator</p> <p>Forage</p>	<ul style="list-style-type: none"> <li>▪ Community empowerment</li> <li>▪ Establishment of farmers' associations</li> <li>▪ Improved access to forage</li> </ul>

Risk factor	Solutions	Obstacles	Local capacities	Needs	Prioritisation
	<ul style="list-style-type: none"> <li>Support the establishment of farmer's associations to promote information-sharing and effective agricultural techniques.</li> </ul>	N/A	Human resources	Training in CBO management Technical knowledge Fortified seeds	
Poor resilience capacities	<ul style="list-style-type: none"> <li>Improve HH income-generating diversification through information sharing &amp; training (e.g. poultry farming, brick-laying, masonry, sewing, wood work, metal work, bee-keeping, small business/small-scale trade)</li> <li>Support home gardening to diversify HH income-generating capacities and/or HH food diversity for consumptions.</li> <li>Improve telephone network coverage in order to promote community empowerment through access to information.</li> <li>Increase opportunities for daily labour through public works' programme or set-up of production/food transformation plants.</li> <li>Expand mobile banking into rural areas to allow for a quicker access to financial resources</li> </ul>	<p>Scale Assurance of income-generating diversification within a village/kebele</p> <p>N/A</p> <p>Gov't reduced capacity in terms of financial and human resources to respond to further demand of network expansion.</p> <p>Gov't reduced capacity in terms of financial and human resources to respond to further demand of network expansion.</p> <p>Gov't reduced capacity in terms of financial and human resources to respond to further demand of network expansion.</p>	<p>Human resources &amp; desire to learn a new profession</p> <p>Human resources Local knowledge Time</p> <p>N/A</p> <p>Human resources</p> <p>N/A</p>	<p>Comprehensive, tailor-made trainings on subjects of interest</p> <p>Seeds Tools Refresher trainings</p> <p>N/A</p> <p>N/A</p> <p>N/A</p>	<ul style="list-style-type: none"> <li>Telephone network</li> <li>Trainings &amp; information sharing sessions</li> </ul>
Poor birth-spacing	<ul style="list-style-type: none"> <li>Reinforce the involvement of women in the decision-making process related to birth-spacing/family planning</li> </ul>	Attitude of certain men towards family planning	Human resources Knowledge	No support needed	

## E. MAPPING OF INTERVENTIONS

### Health and Nutrition

Partner	Woreda	Kebele	Activities	Duration / Dates
Action Against Hunger	ABR <sup>141</sup> DHA <sup>142</sup> GG <sup>143</sup> SEH <sup>144</sup> SEK <sup>145</sup> ZIQ <sup>146</sup>	All All All All All 7	<ul style="list-style-type: none"> <li>▪ Community Management of Acute Malnutrition (CMAM) and TSFP in SEK</li> <li>▪ Improving access to utilization and quality of basic services in SEK (supply of medicinal products, medical/non-medical equipment, health post rehabilitation) and DHA (health management information system (HMIS) and Integrated Pharmaceuticals Logistics System (IPLS))</li> <li>▪ Health system strengthening in all health centres of DHA &amp; SEH</li> </ul>	<ul style="list-style-type: none"> <li>▪ RESET II, 09/2016 - 02/2020</li> <li>▪ ECHO, 02/2017 - 06/2018</li> <li>▪ UNICEF, 10/2016 - 08/2018</li> </ul>
Organization for Rehabilitation and Development in Amhara	DHA SEK	All All	<ul style="list-style-type: none"> <li>▪ Training of HEW supervisors, HEWs, teachers, traditional/religious leaders, community facilitators, village economic and social association (VESA) facilitators on: adolescent, maternal, infant and young child nutrition (AMIYCN), GSD+ Nutrition, birth-spacing &amp; family planning, diversified diet, improved service delivery (for HDAs), etc.</li> <li>▪ Community cooking demonstrations</li> <li>▪ Awareness-raising on nutrition in schools through posters/leaflets</li> </ul>	The duration varies depending on project's length. Most projects span from 3 to 5 years.
Plan International	DHA SEH	All	<ul style="list-style-type: none"> <li>▪ Community Management of Acute Malnutrition (CMAM) and TSFP</li> <li>▪ Community sensitisation (CMAM, IYCF and Hygiene sanitation related topics)</li> </ul>	
Save the Children International	SEK	8 <sup>147</sup>	<ul style="list-style-type: none"> <li>▪ Support group activities targeting caregivers of malnourished children (M/F), pregnant and lactating women and key community members</li> <li>▪ Capacity building on care practices, infant and young child feeding, counselling skills and referral linkages for key persons within health services, community and/or households</li> <li>▪ Mass awareness activities (health &amp; nutrition education) via HDA &amp; HEW</li> <li>▪ Provision of medical supplies and computers to health facilities (HMIS)</li> </ul>	<ul style="list-style-type: none"> <li>▪ RESET II, 09/2016 - 02/2020</li> </ul>

<sup>141</sup> Abergele.

<sup>142</sup> Dehana.

<sup>143</sup> Gaz Gibla.

<sup>144</sup> Sehal.

<sup>145</sup> Sekota.

<sup>146</sup> Ziquala.

<sup>147</sup> Rubarya, Ekiwa, Maygundo, Sirel, Zuna, Cherey, Selamge, Shimila.

			<ul style="list-style-type: none"> <li>▪ Support rehabilitation or extension of health education/waiting rooms in health facilities</li> <li>▪ Procurement and distribution of CMAM / HMIS &amp; Surveillance tools</li> </ul>	
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### Food Security & Livelihoods

Partner	Woreda	Kebele	Activities	Duration / Dates
Action Against Hunger	ABR SEK ZIQ	5 <sup>148</sup> 5 <sup>149</sup> 2 <sup>150</sup>	<ul style="list-style-type: none"> <li>▪ Distribution of livestock (sheep, goats and farm oxen)</li> <li>▪ Distribution of dairy goats to families of children suffering from SAM/MAM</li> <li>▪ Distribution of fortified seeds</li> <li>▪ Establishment of income generation and self-help groups, accompanied by training and cash injections as a start-up capital</li> <li>▪ Youth employment</li> <li>▪ Cash for work</li> </ul>	<ul style="list-style-type: none"> <li>▪ RESET II, 09/2016 - 02/2020</li> <li>▪ ECHO, 02/2017 - 06/2018</li> </ul>
Danish Church Aid	DHA SEH	9 <sup>151</sup> 3 <sup>152</sup>	<ul style="list-style-type: none"> <li>▪ Quinoa</li> <li>▪ Apiculture</li> <li>▪ Livestock/poultry rearing</li> <li>▪ Fishery</li> <li>▪ Youth training</li> <li>▪ Petty trade</li> <li>▪ NRM and DRR</li> </ul>	RESET II, 09/2016 - 02/2020
Organization for Rehabilitation and Development in Amhara	DHA SEK	All All	<ul style="list-style-type: none"> <li>▪ Distribution of poultry</li> <li>▪ Facilitation of input credit models</li> <li>▪ Wage employment</li> <li>▪ Livelihood Transfer</li> <li>▪ VESA training on selection &amp; management of IGAs</li> </ul>	The duration varies depending on project's length. Most projects span from 3 to 5 years.
Save the Children International	SEK	6 <sup>153</sup>	<ul style="list-style-type: none"> <li>▪ Establishment and capacity building of IGA groups; identification of viable IGA activities</li> <li>▪ Provision of grants and/or linking with financial institutions</li> <li>▪ Distribution of vegetable and early maturing and drought resistant cereals seeds</li> <li>▪ Distribution of shoats</li> <li>▪ Promotion of soil conservation techniques (bench terrace, soil &amp; stone, trenches, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>▪ 10/2017 - 04/2018</li> <li>▪ 09/2017, 04 - 05/2018</li> <li>▪ 07/2017</li> <li>▪ 07/2017 - 01/2018</li> <li>▪ 06/2017</li> </ul>

<sup>148</sup> Debrebirhan, Mearnat, Tselari Jergeb, Ambadago, Workadivnu.

<sup>149</sup> Laysayda, Hamusit, Jerba, Bagmila, Tsata.

<sup>150</sup> Debrehiwot, Tsetseka.

<sup>151</sup> Silda, Dida, Guramba, Gakiw, Birbira, Chila, Shimamdan, Gomnege, Azila.

<sup>152</sup> Dildiy, Silazgi, Akign.

<sup>153</sup> Ekiwa, Maygundo, Sirel, Zuna, Selamge, Shimila.

			<ul style="list-style-type: none"> <li>Strengthening of community-based EW/DRR systems &amp; structures through capacity training (incl. HVCA practical work) and material provision</li> </ul>	
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### Water, Sanitation & Hygiene

Partner	Woreda	Kebele	Activities	Duration / Dates
Action Against Hunger	ABR SEK ZIQ	5 <sup>154</sup> 5 <sup>155</sup> 2 <sup>156</sup>	<ul style="list-style-type: none"> <li>Construction of water points (hand dug wells, spring protection, rain water harvesting, river intake)</li> <li>Community-lead total hygiene and sanitation hygiene (CLTHS)</li> <li>Distribution of POUWTC, water containers</li> <li>School WASH</li> </ul>	<ul style="list-style-type: none"> <li>RESET II, 09/2016 - 02/2020</li> <li>ECHO, 02/2017 - 06/2018</li> </ul>
Danish Church Aid	DHA SEH	9 <sup>157</sup> 3 <sup>158</sup>	<ul style="list-style-type: none"> <li>Construction of water points (hand dug wells, rain water harvesting)</li> <li>Hygiene and sanitation</li> </ul>	RESET II, 09/2016 - 02/2020
Organization for Rehabilitation and Development in Amhara	DHA SEK	All All	<ul style="list-style-type: none"> <li>Construction of new or rehabilitation of existing water points (hand-dug wells, spring protection)</li> <li>Training of existing water and sanitation committees on organizational management &amp; maintenance</li> <li>Promotion of hygiene &amp; sanitation practices through Designing for Behaviour Change approach</li> <li>Community-lead total hygiene and sanitation hygiene (CLTHS)</li> <li>Construction of latrines, dry waste disposal pits and hand washing facilities</li> </ul>	The duration varies depending on project's length. Most projects span from 3 to 5 years.
Save The Children International	SEK	8 <sup>159</sup>	<ul style="list-style-type: none"> <li>Construction of water points (hand dug wells, spring protection)</li> <li>Establishment and training of water committees</li> <li>Establishment of spare part supply shop</li> <li>Establish school WASH clubs</li> <li>Institutional community by law</li> </ul>	<ul style="list-style-type: none"> <li>09/2017 - 02/2020</li> </ul>

### Maternal Health & Care Practices

Partner	Woreda	Kebele	Activities	Duration / Dates
Action Against Hunger	ABR SEK ZIQ	All All 7 <sup>160</sup>	<ul style="list-style-type: none"> <li>Barrier analysis followed by a design of mother to mother support groups in an attempt to motivate a behaviour change in relation to exclusive breastfeeding and complementary feeding</li> </ul>	<ul style="list-style-type: none"> <li>RESET II, 09/2016 - 02/2020</li> <li>ECHO, 02/2017 - 06/2018</li> <li>UNICEF, 10/2016 - 08/2018</li> </ul>

<sup>154</sup> Debrebirhan, Mearnat, Tselari Jergeb, Ambadago, Workadivnu.

<sup>155</sup> Laysayda, Hamusit, Jerba, Bagmila, Tsata.

<sup>156</sup> Debrehiwot, Tsetseka.

<sup>157</sup> Silda, Dida, Guramba, Gakiw, Birbira, Chila, Shimamdan, Gommege, Azila.

<sup>158</sup> Dildiy, Silazgi, Akign.

<sup>159</sup> Rubarya, Ekiwa, Maygundo, Sirel, Zuna, Cherey, Selamge, Shimila.

<sup>160</sup> XX.

			<ul style="list-style-type: none"> <li>Capacity building of health extension workers (HEW), health workers, health development army, creating nutrition link with productive safety net program</li> </ul>	
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All activities, Sekota woreda

<ul style="list-style-type: none"> <li><b>HEALTH &amp; NUTRITION</b></li> <li>AAH Community Management of Acute Malnutrition (CMAM) and TSFP</li> <li>AAH Improving access to utilization and quality of basic services (supply of medicinal products, medical/non-medical equipment, health post rehabilitation)</li> <li>SCI Provision of medical supplies and computers to health facilities (HMIS)</li> <li>SCI Procurement and distribution of CMAM / HMIS &amp; Surveillance tools</li> <li>SCI Support rehabilitation or extension of health education/waiting rooms in health facilities</li> <li>ORDA Training of HEW supervisors, HEWs, teachers, traditional/religious leaders, community facilitators, village economic and social association (VESA) facilitators on: adolescent, maternal, infant and young child nutrition (AMIYCN), GSD+ Nutrition, birth-spacing &amp; family planning, diversified diet, improved service delivery (for HDAs), etc.</li> <li>SCI Capacity building on care practices, infant and young child feeding, counselling skills and referral linkages for key persons within health services, community and/or households</li> <li>ORDA Awareness-raising on nutrition in schools through posters/leaflets</li> <li>SCI Support group activities targeting caregivers of malnourished children (M/F), pregnant and lactating women and key community members</li> <li>SCI Mass awareness activities (health &amp; nutrition education) via HDA &amp; HEW</li> <li>ORDA Community cooking demonstrations</li> </ul>	<ul style="list-style-type: none"> <li><b>FOOD SECURITY &amp; LIVELIHOODS</b></li> <li>ORDA Distribution of poultry</li> <li>AAH / SCI Distribution of livestock (sheep, goats and farm oxen)</li> <li>AAH Distribution of dairy goats to families of children suffering from SAM/MAM</li> <li>AAH / SCI Distribution of fortified seeds</li> <li>AAH Establishment of income generation and self-help groups, accompanied by training and cash injections as a start-up capital</li> <li>AAH Youth employment</li> <li>AAH / ORDA Cash for work</li> <li>ORDA Facilitation of input credit models / SCI Provision of grants and/or linking with financial institutions</li> <li>ORDA Livelihood Transfer</li> <li>ORDA VESA training on selection &amp; management of IGAs</li> <li>SCI Establishment and capacity building of IGA groups; identification of viable IGA activities</li> <li>SCI Promotion of soil conservation techniques (bench terrace, soil &amp; stone, trenches, etc.)</li> <li>SCI Strengthening of community-based EW/DRR systems &amp; structures through capacity training (incl. HVCA practical work) and material provision</li> </ul>
<ul style="list-style-type: none"> <li><b>MATERNAL HEALTH &amp; CARE PRACTICES</b></li> <li>AAH Barrier analysis followed by a design of mother to mother support groups in an attempt to motivate a behaviour change in relation to exclusive breastfeeding and complementary feeding</li> <li>AAH Capacity building of health extension workers (HEW), health workers, health development army, creating nutrition link with productive safety net program</li> </ul>	<ul style="list-style-type: none"> <li><b>WATER, SANITATION &amp; HYGIENE</b></li> <li>AAH / ORDA / SCI Construction of water points (hand dug wells, spring protection, rain water harvesting, river intake)</li> <li>ORDA / SCI Training of existing water and sanitation committees on organizational management &amp; maintenance</li> <li>SCI Establishment of spare part supply shop</li> <li>AAH / ORDA Community-lead total hygiene and sanitation hygiene (CLTHS)</li> <li>ORDA Promotion of hygiene &amp; sanitation practices through Designing for Behaviour Change approach</li> <li>AAH Distribution of POUWTC, water containers</li> <li>AAH / SCI School WASH</li> <li>ORDA Construction of latrines, dry waste disposal pits and hand washing facilities</li> <li>SCI Institutional community by law</li> </ul>



All activities, Dehana woreda

<ul style="list-style-type: none"> <li>▪ <b>HEALTH &amp; NUTRITION</b></li> <li>▪ PI Community Management of Acute Malnutrition (CMAM) and TSFP</li> <li>▪ AAH Improving access to utilization and quality of basic services (health management information system (HMIS) and Integrated Pharmaceuticals Logistics System (IPLS))</li> <li>▪ AAH Health system strengthening</li> <li>▪ ORDA Training of HEW supervisors, HEWs, teachers, traditional/religious leaders, community facilitators, village economic and social association (VESA) facilitators on: adolescent, maternal, infant and young child nutrition (AMIYCN), GSD+ Nutrition, birth-spacing &amp; family planning, diversified diet, improved service delivery (for HDAs), etc.</li> <li>▪ ORDA Awareness-raising on nutrition at schools through posters/leaflets</li> <li>▪ PI Community sensitisation</li> <li>▪ PI SC</li> <li>▪ PI IYCF</li> <li>▪ ORDA Community cooking demonstrations</li> </ul>	<ul style="list-style-type: none"> <li>▪ <b>FOOD SECURITY &amp; LIVELIHOODS</b></li> <li>▪ DCA Quinoa</li> <li>▪ DCA Apiculture</li> <li>▪ DCA / ORDA Livestock/poultry rearing</li> <li>▪ DCA Fishery</li> <li>▪ ORDA VESA training on selection &amp; management of IGAs</li> <li>▪ DCA Youth training</li> <li>▪ ORDA Livelihood Transfer</li> <li>▪ DCA Petty trade</li> <li>▪ DCA NRM and DRR</li> <li>▪ ORDA Facilitation of input credit models</li> <li>▪ ORDA Wage employment</li> </ul>
<ul style="list-style-type: none"> <li>▪ <b>MATERNAL HEALTH &amp; CARE PRACTICES</b></li> <li>N/A</li> </ul>	<ul style="list-style-type: none"> <li>▪ <b>WATER, SANITATION &amp; HYGIENE</b></li> <li>▪ DCA / ORDA Construction of water points (hand dug wells, rain water harvesting)</li> <li>▪ ORDA Promotion of hygiene &amp; sanitation practices through Designing for Behaviour Change approach</li> <li>▪ ORDA Community-lead total hygiene and sanitation hygiene (CLTHS)</li> <li>▪ DCA Hygiene and sanitation</li> <li>▪ ORDA Training of existing water and sanitation committees on organizational management &amp; maintenance</li> <li>▪ ORDA Construction of latrines, dry waste disposal pits and hand washing facilities</li> </ul>