

MATERNAL DIET AND NUTRITION PRACTICES AND THEIR DETERMINANTS

A report on formative research findings and recommendations for social and behavior change communication programming in the Amhara, Oromia, SNNP and Tigray regions of Ethiopia

April 2014



ENGINE: Empowering New Generations to Improve Nutrition and Economic opportunities
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Recommendations for Social and Behavior
Change Communication Programming in
Amhara, Oromia, SNNP, and Tigray Regions**

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USAID | ENGINE
P.O. Box 387
Addis Ababa, Ethiopia
Tel. +251-11-320 4283



Save the Children
2000 L Street, NW
Suite 500
Washington, D.C. 20036
Tel. (202) 640-6600



The Manoff Group, Inc.
4301 Connecticut Avenue, NW
Suite 454
Washington, DC 20008
Tel. (202) 364-9680

USAID/Empowering New Generations to Improve Nutrition and Economic opportunities (ENGINE) is a five-year integrated nutrition program whose goal is to improve the nutritional status of women, infants and young children through sustainable, comprehensive, coordinated, and evidence-based interventions, enabling them to lead healthier and more productive lives. In its support of the National Nutrition Program, ENGINE's mandate includes a robust learning agenda and innovations in implementation that contribute to large-scale, evidence-based social and behavior change communication (SBCC) for nutrition. ENGINE is implemented under the leadership of Save the Children, with cooperation from Tufts University, Land O'Lakes, Valid International, and The Manoff Group.

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Abbreviations

AEW	Agriculture Extension Workers
ANC	Antenatal Care
DHS	Demographic and Health Survey
ENGINE	Empowering New Generations to Improve Nutrition and Economic opportunities
HEW	Health Extension Worker
IFA	Iron and Folic Acid
SBCC	Social and Behavior Change Communication
SNNPR	Southern Nations, Nationalities, and Peoples' Region
USAID	United States Agency for International Development

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Glossary of Foods

Local Name	Description
Alicha (wot)	Usually made with turmeric, which gives the sauce (wot) a light yellow color
Ambasha	Round, white, wheat flour flat bread (about two inches thick). The top of the bread is decorated using a knife for easy portion control, similar to pizza slices. Originated in the Tigray region, where everyone eats ambasha for breakfast, usually with tea.
Areke	Local alcoholic beverage, clear white in color
Atmit	Thin gruel made of whole grain flour
Awaze	Red chili pepper powder mixed with water and areke or tej (honey wine), a condiment that accompanies meat and or injera
Bula	False banana bi-product A white flour cooked with milk or water; similar to thick semolina
Enset	False banana plant from which bula and kocho is made; builds the body
Fafa	Local baby food combining soy and whole grain flour; locally factory made baby food.
Firfir	Fried onions, oil/spiced butter, berbere (red chili pepper powder) and salt. Water is added to the thick sauce and simmered. Small, dry pieces of injera are combined with the sauce. Salt is added liberally to this spicy dish. It is popular because it is easy to make and requires few ingredients. Pregnant women perceive that it makes them thirsty: "It lets us drink lots of water." Considered a morning or breakfast food. Also perceived to increase breast milk production.
Fitfit	Similar to firfir , but made with sauce. A mild sauce is made with onions and either meat (if available) or potatoes and carrots. A lot of water is added to make a thin/watery sauce. Pieces of injera are soaked in the sauce and fed to children 6 months of age and older.
Gomen	Collard greens, a dark green leafy vegetable. Can be found in the "environment." Gomen is not allowed for pregnant women and babies in some places for 2 to 3 months. Some mention growing it in their backyard. Believed to contribute to health and contain vitamins, but also to cause cramps and diarrhea in breastfed infants, so traditionally avoided. Can be eaten during fasting. Considered food for poor people.
Injera	Thin teff flour pancake eaten with everything, often as a starch accompaniment to stew or other "wot"/sauce.
Keneto	Non-alcoholic barley beverage believed to help with breast milk production- same as keribo. Keneto is the Christian name of this beverage.
Keribo	A non-alcoholic barley beverage- same as keneto; helps with breast milk production. Keribo is the Muslim name of this beverage.
Kita	A dry flat bread with a chew consistency similar to a chewy pretzel (but without the salt topping). Sometimes mixed with sugar and fed to children; used to train children how to eat.

Kocho	A false banana derivative, cooked in a pan like flat bread. Has a rubbery consistency. Is traditionally eaten with collard greens, minced meat and dry cottage cheese. A staple food for SNNP region; mentioned as something that is easily acquired and available. Commonly eaten during fasting time. Babies should not eat it until they are more than 1 year old. Women generally harvest kocho.
Kolo	A whole barley grain, dry roasted in a pan, sometimes mixed with peanuts. A popular local snack, kolo is described as a food that upsets pregnant women's stomachs; also not something that babies can tolerate; associated with "poor" people; may also increase breast milk production.
Miten	A word used to describe a variety of different grains used to make the gruel flour; for example, miten flour or miten shiro.
Muk	A thin smooth gruel made with whole grain flour and water; also called atmit.
Nifro	Any boiled cereals and legumes.
Shiro	Chickpeas or dry peas with spices, a little red chili powder, and garlic ground into flour. Shiro flour is cooked with water, oil and onions into a wot (sauce) and eaten with injera as shiro wot. Can be cooked with oil, onion, etc. Some women describe it as unappealing during pregnancy. Can be suitable for babies. Described as an inexpensive food. May be a substitute for meat.
Teff	Teff flour is mixed with water, fermented for a few days, and cooked into a flat pancake known as injera, the staple food of Ethiopia. Prepared for consumption and sale. Perceived as helping with breast milk production. Besides use in injera, may be used to make gruel for a baby at least 6 - 7 months old.
Tella	Germinated barley brew with alcoholic content. Very commonly mentioned as something that can contribute to production of breast milk. Some say pregnant women should moderate their intake, others that they desire it. Some say it's not for babies; others that it is may be an early drink for babies.
Tella Kita	Tella kita consists of roughly ground corn, sorghum, teff, and barley, which is later baked, torn into pieces and mixed into the tella during the last stage of preparation to complete the fermentation. Kita made for tella is not eaten and different from the kita eaten as bread.
Tsewa	A local alcoholic beverage, tsewa is the Tigrigna name for tella, a religious name used by Orthodox Christians to describe the symbolic 'blood'/wine that Jesus gave to his disciples at the last supper. Since wine is expensive, a group of friends, neighbors or relatives traditionally meet once a month on a chosen feast day of an angel or St. Mary to eat/break bread together, pray, and drink 'tsewa' (usually tella). The name is understood to mean 'local brew' but has additional religious connotations.
Wot	A sauce. There are several different types of wot: shiro wot, meat wot, misir (lentil) wot, alicha wot, potato wot, doro (chicken) wot.

Executive Summary

Introduction

Improving the nutritional status of women and children in Ethiopia is the focus of ENGINE (Empowering New Generations to Improve Nutrition and Economic Opportunities), a five-year program funded by the United States Agency for International Development (USAID) and led by Save The Children International. ENGINE is implemented in four of Ethiopia's nine regions: Amhara, Oromia, Tigray and SNNP.

To support the design of an evidence-based Social and Behavior Change Communication (SBCC) strategy for improving maternal, adolescent, infant, and young child nutrition, ENGINE conducted formative research in all four regions to identify dietary practices and nutrition-related behaviors, as well as the motivators, facilitators and barriers relevant to sustaining or altering these practices.

This report on maternal diet and nutrition-related behavior focuses on findings and recommendations generated through the analysis of transcripts of 48 focus group discussions (FGDs) and 160 in-depth interviews (IDIs) conducted with pregnant and lactating women, their husbands, their mothers and mothers-in-law, HEWs, AEWs and community leaders.¹

Summary of Findings

1. General Diet Pattern, Quality and Quantity

- Pregnant and lactating women generally eat what is available in the household, i.e. the same foods/meals that other family members eat. Pregnant and lactating women generally eat meals only at the times that other family members eat, three meals a day (breakfast, lunch and dinner).
- Some women report supplementing the three meals with a snack, while other women report eating only two meals a day.
- Most pregnant women and lactating are not regularly consuming foods across the different food groups, but are instead eating different foods within a few food groups -- primarily legumes (including pulses) and cereals (breads, pastas, etc.), injera (made from teff) being the most common food / mainstay of their diets.
- Pregnant and lactating women rarely consume animal-source foods; eggs appear to be the most common animal-source foods, while meat and poultry are available mainly on holidays. The amount of vegetables and fruits in the diet fluctuates based on seasonal availability.
- Pregnant and lactating women reported that their typical breakfast is caffeinated beverages, generally coffee or tea, with injera (bread).

¹ Constraints to the data analysis process included a lack of information about the respondents' gestational stage, age of the respondent or number of live pregnancies. Due to the limitations in the coding system used during the data collection process, the analysis could also not confirm whether income or level of education played a role in the improved nutrition and dietary practices of these women.

Changes from pre-pregnancy diet during pregnancy and lactation:

- The content and quality of the foods women consume do not change substantively from before they are pregnant to when they are pregnant.
- Some women reported decreasing or avoiding consumption of fruits, which they believe will make their fetus “fatter.”
- During postpartum recuperation (the first 20-40 days after birth), the maternal diet does change, with increased consumption of animal-source foods and other foods and beverages believed to help new mothers regain their health and strength quickly.
- Following the recuperation period, lactating women do not significantly change their diets from the normal, with the exception of extra efforts to consume beverages that are believed to increase breast milk production and produce thicker, more nutritious breast milk.

Quantity of food consumed

- During pregnancy there is tendency for some women to decrease their food intake over pre-pregnancy intake for two reasons:
 - during their first trimester of pregnancy, they experience nausea and aversions to certain foods; and
 - during the later stages of pregnancy (late second trimester and the third trimester), some women deliberately decrease their food intake in an effort to have a smaller fetus and an easier delivery. Known in the nutrition literature as “eating down,” this practice has been reported previously in Ethiopia and other countries.
- A small sub-set of pregnant women report eating small portions of food somewhat more frequently. However, this occurs primarily during their first trimester when they are feeling nauseous, so it likely does not result in more total food being eaten.
- Lactating women report being hungrier than usual, and some believe that, as a result, they increase their food intake through more frequent “snacking.”
- Fasting can constrain women’s ability to achieve adequate dietary intake during pregnancy; however, the research had insufficient information to provide clear insights on fasting practices and on the influence of religion on fasting and maternal nutrition.

Frequency of meals

- Generally, women eat the same number of meals as their families eat. While some snacking was reported, all participant groups perceived the preparation of food for oneself and eating food alone as culturally inappropriate for women. Women’s selflessness obliges them to share the limited family food resources with everyone in the household.
- Meals must be eaten as a family, because this affirms family unity and cohesion, particularly for women. Within this cultural context, the research participants interpreted the nutrition recommendation to “eat an extra meal” to imply that pregnant or lactating women would need to cook an extra meal for themselves, and also to eat outside of normal family meals. Pregnant or lactating women did not consider these behaviors to be “doable.”

2. Women’s Knowledge and Perceptions about Diet Quantity and Quality during Pregnancy and Lactation

- Most pregnant and lactating women were aware of the nutritional benefits of eating different types of foods in order to have a “variety of foods,” but did not necessarily understand the value

of eating from different food groups². Most of the women reported trying to consume a variety of carbohydrates (grains and tubers e.g. bread, injera, potato, macaroni) each day.

- Pregnant and lactating women reported that their ideal diet would include meat and eggs, which some women referred to as being important for “balance” or for a “balanced” diet. Fruits and vegetables were less frequently mentioned as ideal foods.
- HEWs provide information on dietary diversity to pregnant and lactating women, including the value-added of different food groups. However, women’s understanding is that dietary diversity means to eating different foods. Many of the foods cited by the research participants to illustrate their efforts to eat a “diverse” or “balanced” diet were all staples (e.g. grains, legumes, pasta).
- Several women expressed frustration with the health education talks, which they feel are based on the assumption that women are ignorant or unaware of the importance of a diversified diet. Many women reported that they are aware of the importance of diverse foods, including meat, eggs, fruits and vegetables, but chose to remain silent during educational sessions and feign ignorance. They explained that their biggest constraint to dietary diversity is in fact not ignorance, but rather poverty and lack of access to diverse and quality foods.

3. How Women’s Own Cultural Perceptions Affects their Diets

- While being “selfless” may represent a barrier to women’s own health, nutrition and self-esteem, women did express the concept that is that being “selfless” also means that they will eat well and stay healthy for the sake of their unborn child.
- Some of women’s self-esteem and self-efficacy is drawn from their physical strength. Women, their husbands, and their mothers and mothers-in-law all expressed a desire for women to be physically strong and healthy so that they can provide for their families.
- A woman’s physical beauty was also mentioned by many family members, particularly by women, as a motivator for improved maternal nutrition practices. That is, if one is not well nourished, one is not beautiful.

4. Husbands’ Role in Maternal Nutrition and Perceptions of Maternal Nutritional Needs

- Husbands control their families’ financial resources and are expected to plan their household expenditures and provide for their families responsibly. Men also control access to and use of land for raising crops. Men are motivated to assure that their pregnant wives have good nutrition, and most husbands are aware of the importance of eating a variety of foods during pregnancy and lactation. However, like their wives, they lack sufficient information to guide them in their decision-making about what foods to raise and grow, what foods to reserve for family consumption, what foods to sell, what foods to buy, or how to counsel their wives.
- Husbands and fathers reported that, even if they encourage their wives to eat an extra meal, their wives resist due to the socio-cultural values of family meal times and food sharing and women’s selflessness. Women are expected to eat when the rest of the family eats, and to prioritize husbands and children over themselves when preparing and serving food.
- Men in particular are motivated to support improved maternal diet to have an intelligent baby, who will grow up to do well in school and in life.
- Although men in particular aspire to be more “modern,” all respondents reported their desire to embrace a more “modern” diet and way of living that can lead to better health and economic

² Most respondents in the ENGINE study do recognize the importance of oils and butters as essential to a good diet.

outcomes. Men and women look to urban life as ideal, and perceive urban areas as having more access to diverse and quality foods, as well as greater opportunities.

5. Grandmothers' Role in Maternal Nutrition and Perceptions of Maternal Nutritional Needs

- Grandmothers are often the primary caregivers of pregnant women. They advise their daughters/daughter-in-law on foods to eat to assure an easy delivery or to enhance the production of breast milk. They commonly assist pregnant women during childbirth, which primarily occurs at home.
- Several grandmothers in this study consider their roles as “traditional,” handed down from mother/mother-in-law to daughter/daughter-in-law. They are motivated by a sense of duty in playing the traditional role expected of them.
- Grandmothers also expressed love for their daughters and their grandchildren as an emotional motivation to support good maternal nutrition.
- Grandmothers are aware of the impact of poor maternal nutrition on the health and development of mothers, infants and children. Mothers of pregnant and lactating women, in particular, voiced concerns about their daughters' health and insufficient weight gain, especially after childbirth.
- In addition to understanding and being able to articulate the health benefits of a good maternal diet, many grandmothers were able to describe the harmful consequences of a poor diet on the mothers' and children's health, including production of breast milk and other breastfeeding issues.
- Although some grandmothers stated that their pregnant or lactating daughters/daughters-in-law try to eat a variety of foods that includes animal source foods, many acknowledged that their actual diets were poor or inadequate.
- Many grandmothers were worried about the impact of poor diet on the lactating women's health, while others were more concerned about the impact of their daughters or daughter-in-laws' poor diet on the quantity and quality of the breast milk and thus the health and well-being of their infant grandchildren. Grandmothers' specific concerns for the infants include: weak (“flimsy”) children, low weight, poor appearance and “suffering.”

6. Household Agriculture and the Maternal Diet

- While the majority of participants and their families engaged in subsistence farming, men tend to sell their agricultural produce rather than offer it for family consumption.
- Both men and women reported that agriculture is generally perceived more as a source of income, and less as a source of high-nutrient foods for pregnant and lactating women. Improving maternal diet is not a common consideration in decisions about agricultural production.
- All participant groups mentioned that farmers opt to sell their agricultural products to pay for priorities such as taxes, health care, school fees and certain household items such as kerosene or other cooking fuel.
- Barriers to families include the cost of seeds and fertilizer for vegetables and fruits, and start-up costs for small livestock and poultry projects.
- Men and women reported that access to a variety of foods is easier in urban areas than in rural areas.

7. Couple Communication and Marital Relationships

- While many men also provide their lactating wives with nutrition information, advice and support, some neglect their responsibilities and are disinterested in their wives' welfare and nutritional status.
- Lack of husband support and marital discord can result in inadequate diets for the pregnant or lactating women who are often dependent on their husbands to provide money to buy healthy food for themselves and their children.
- Interpersonal communication problems between lactating women and their husbands further exacerbate the existing gender disparities in workloads and access to/control of family resources, and are critical barriers to improved maternal diet practices. These include disagreements over how to manage household resources, men's selfishness, and a lack of sufficient support from husbands after the postpartum recuperation period is over.
- Men participants, meanwhile, sometimes complained that their wives are reluctant to follow their advice and encouragement to improve their nutrition. Men often cited the cultural value of women's selflessness as the major reason underlying their wives' reluctance to follow their husbands' advice and eat special foods, more foods, or outside of the family meal times. Another reason for this reluctance, however, could be that women are acutely aware of their families' limited resources and do not want to appear selfish.

8. Influence of Religion and Fasting

The dataset contained limited information on the influence of religion and fasting on maternal nutrition. If feasible, it would be useful to carry out additional discussions with key informants (i.e. religious leaders) and with the target audiences in order to develop tailored messages and materials for religious leaders to use with their respective communities and congregations.

Summary of Conclusions

1. Summary of barriers to improving maternal diets

- (a) Real or perceived financial constraints;
- (b) Socially prescribed gender roles;
- (c) Socio-cultural values around families eating the same food together;
- (d) Problems with couple/family interpersonal communication and marital discord;
- (e) Nausea and food aversions during the first and early second trimester of pregnancy;
- (f) Concerns about risks and complications during late pregnancy and delivery; and
- (g) Limited access to sufficiently clear information about dietary diversity.

2. Summary of motivators and facilitators to improving maternal diets

- (a) Safe delivery with no complications
- (b) Healthy, happy baby
- (c) Strong mother, strong baby
- (d) Intelligent baby
- (e) Willingness to "snack" under certain circumstances
- (f) Grandmothers' traditional roles as caregivers for their daughters
- (g) Men's positive gender roles: responsible providers, and in charge

(h) Selfless, strong and beautiful: women's positive gender roles

(i) Modernity and progressiveness

Summary of Recommendations for SBCC about the Maternal Diet

This research produced many recommendations for programming generally and in particular for strengthening SBCC activities within ENGINE. The recommendations fall into two categories:

- What can be done to develop or strengthen SBCC efforts to address maternal nutrition
- Need for additional study to understand how to orient certain critical concepts

1. Recommendations for SBCC addressed to improving maternal nutrition

Recommendation #1: Communication related to improved nutrition practices during **pregnancy** should focus on behavioral themes relevant to all stages of pregnancy, but segment, where appropriate, behavioral themes specific to a given trimester.

For all stages of pregnancy:

- Key recommendations include:
 - ▶ Initiate ANC in first trimester and make a minimum of four ANC visits.
 - ▶ Take iron and folate acid (IFA) as instructed, consume iron absorption enhancers, and avoid iron absorption inhibitors.
 - ▶ Increase food intake through eating additional food at each meal and/or through snacking (rather than "extra meal").
 - ▶ Increase dietary diversity by adding animal-source foods and key local vegetables and fruit to the normal diet.
- Offer clear examples of local, nutrient-rich foods, meals, snacks and daily menus for pregnant women. Consider adapting and developing skills-building menu-planning games to help women and their mothers/mothers-in-law identify high-nutrient foods and discuss realistic options for selecting foods and planning meals, snacks and menus.
- Consider branding locally available, nutrient-rich foods and recipes as special foods for pregnant women.

For early stages of pregnancy (first trimester and early second trimester):

- Promote early attendance at ANC; begin IFA
- Offer encouragement, strategies and advice for managing nausea and food aversions: nutrient-rich snacks, sour foods and eating smaller portions more frequently throughout the day.

For late stages of pregnancy (latter part of second trimester as well as the third trimester):

- Provide birth planning information, including suggestions on financial planning and budgeting for assisted deliveries by qualified health personnel, information on risk factors and danger signs, and explain the importance of care seeking from a qualified birth attendant.
- Constructively address the practice of "eating down" by providing information that low food intake leads to weakness and directly impacts a safe delivery. Women need to eat key foods to be strong during delivery.
- Promote timely ANC visits and continued use of IFA and foods that help mother and baby get strong and healthy for delivery.

Recommendation #2: Nutrition communication about women's diet during **lactation** should emphasize increasing food intake and quality to address hunger and help women recuperate from childbirth.

- Focus on foods that are easily stored and available to women. These suggestions for extra food should not be considered a meal or as anything that would detract from family food availability at mealtime.
- Emphasize foods that are “known” to enhance breast milk production as well as foods like collard greens and legumes that, although common, are not always well-valued.
- Offer clear examples of local, nutrient-rich foods, meals, snacks and daily menus for lactating women. Consider adapting and developing skills-building menu planning games to help lactating women and their mothers/mothers-in-law identify high-nutrient foods, and discuss realistic options for selecting foods and planning meals, snacks and menus.
- Consider branding locally available, nutrient-rich foods and recipes as special foods for pregnant and lactating women.

Recommendation #3: Reinforce the practice of women eating frequent “snacks” or foods designated for them as a way to increase their food intake (as opposed to recommending an extra meal).

- Consider enabling technologies to help women to identify, prepare and store nutritious snacks that they can eat outside of the family meal times--include recipes for nutritious snacks, and simple and safe methods to preserve or store foods (e.g. drying.).

Recommendation #4: In addition to women, the SBCC strategy, messaging, and materials should also address their husbands, and their mothers/mothers-in-law, utilizing the behavioral motivators and facilitators identified in the formative research.

Audience segment with key motivators for each		
<i>Women</i>	<i>Men--Partners</i>	<i>Mothers / Mothers-in-law</i>
--selflessness enhances their self-efficacy as capable and caring wives and mothers --keeping up physical strength and “beauty”	--responsible heads of household; --have healthy, intelligent children who will grow up to do well in school and in life --modern and progressive in their lifestyles	--caregivers for their daughters/daughters-in-law and grandchildren --fulfilling traditional role

Recommendation #5: Messages and materials should use positive role models and a positive encouraging tone.

- Ideally, use true stories and real people from each audience segment
- Show positive role models of knowledgeable HEWs and AEWs.

Recommendation #6: Infuse content on maternal nutrition throughout maternal *health* activities:

- Enhance current strategic partnerships with antenatal care services and postnatal care services delivered by HEWs, health facility nurses and other providers.
- Promote women’s access to and uptake of quality maternal health care services.
- Focus on access to IFA and continued supply and compliance.

Recommendation #7: Widely infuse content on maternal nutrition through the *agricultural* sector:

- Promote family farming and agriculture to men as a way to generate income and as a means to improve maternal nutrition:
 - ▶ Include communication focusing on doable “raising & growing” household actions to increase the availability of varied nutritious foods for maternal diets and doable “earning and buying” actions to assure that some of the income earned through agriculture is used to buy high-nutrient foods to improve maternal diets and the diet of the entire family.
- Develop SBCC materials on maternal nutrition for AEWs and farmer families. Provide:

- ▶ more specific information and motivation for increasing dietary diversity using vegetables and animal-source foods.
- ▶ a few realistic activities within women’s sphere of activities that would address issues of access to more diverse foods.

Recommendation #8: Infuse content on maternal nutrition through the *religion* sector:

- Conduct SBCC design workshops with religious leaders to support the development of acceptable and appropriate content (e.g. notes for sermons, reminder tools with key messages and religious references).
- Engage religious leaders in activities to promote improved maternal nutrition practices and enhanced gender roles.

2. Need for additional study

Recommendation #9: Clarify with men what they consider "doable" related to improved household nutrition, particularly for their wives. What can they do to:

- help reduce their wives’ workloads (household chores, farm chores, and childcare) beyond the postpartum recuperation period?
- allocate more of their household income to purchase high-nutrient foods for their pregnant and lactating wives? and
- more effectively encourage their wives to increase their intake of food, eat more high-nutrient foods
- include their wives more directly in dialogue and joint decision-making on the use of household resources to improve *nutrition*.

Recommendation #10: Clarify with women, and potentially with other household members, precisely what is “doable” to improve household nutrition, especially their own. For example:

- within the cultural context of family meals and their own need to be selfless, eat more frequent snacks
- promote different beverages currently consumed by lactating women as another form of “snack” appropriate for lactating women
- obtain “permission” to eat more and have “special care” status; for example, extend the concept of special nutrition and care for mothers from the first 15-40 days after birth to the first 1000 days (from child’s conception to age 24 months)
- prepare a food specifically for themselves: use smoking or solar drying of fruits or vegetables or other preservation technologies, recipes for quick snacks; innovative storage or carrying devices that make it easier for women to keep snacks with them.
- increase women’s access to animal-source foods, leafy green vegetables and fruits, for example: sack gardens for leafy green vegetables, which have the advantage of being low-input technologies. They do not require much land or space, they are easy to construct, they can be located right next to the house, they can be sheltered to avoid problems with drainage or flooding during rainy season, and they do not require much water or weeding.

Recommendation #11: Test or conduct Trials of Improved Practices (TIPS) with couples (pregnant or lactating women and their husbands) on the best ways for couples to improve their dialogue and joint decision-making practices, and other interpersonal communication skills that may enhance their relationships and lead to greater support from husbands for maternal nutrition. Research questions could include:

- What are "doable" interpersonal nutrition communication practices for men and women in the Ethiopian cultural context of gender roles as well as age differences (many husbands are significantly older than their wives)?

- How and when can men involve their wives more in dialogue and joint decision-making and control of household finances/resources?
- What self-efficacy skills or practices would help lactating women initiate and engage in more dialogue, joint decision-making and joint control of household finances/resources with their husbands?
- What skills and additional support would they need?

Recommendation #12: Understand the influence of religion and fasting practice on maternal diet. Conduct individual interviews with key informants (religious leaders of the major religions) and a limited number of focus groups (e.g. two per religion) with pregnant and lactating women, to gain understanding of formal religious doctrines related to fasting for pregnant and lactating women, and also to gain more insights on how these doctrines are being interpreted and practiced.

Chapter 1. Data Collection and Analysis

Background

Women of child-bearing age have unique nutritional requirements, especially during pregnancy and lactation. Similarly, infants and young children have special nutrient requirements because they are developing rapidly, mentally and physically.

Malnutrition is one of the main health problems faced by women and children in Ethiopia. The country has a higher rate of malnutrition than most sub-Saharan African countries. The percentage of women ages 15-49 with anemia is 17%, also one of the highest among sub-Saharan Africa countries. The percentage of under-five children stunted is 44%, the highest after Burundi and Malawi, and the percentage wasted is 10%.³

The government of Ethiopia has prioritized strengthening interventions to reduce malnutrition among the most vulnerable groups -- infants, children under five and pregnant and lactating women.⁴ In line with national policies and strategies of the Ministry of Health (MoH), different international organizations have joined efforts to change the nutritional status of the country.

Empowering New Generations to Improve Nutrition and Economic Opportunities (ENGINE) is one such initiative. ENGINE is a five-year (2011-2016), USAID-funded, integrated nutrition program led by Save the Children International. The program's overall objective is to improve the nutritional status of women and young children through sustainable, comprehensive, coordinated and evidence-based interventions, including social and behavior change communication (SBCC) programming.

Purpose and Objectives

ENGINE conducted formative research in four regions to develop an understanding current maternal, infant and young child nutrition behaviors and influences on these behaviors, at household and community levels, across four regions of Ethiopia. The analysis of the data from this research is intended to inform recommendations for SBCC programming to improve maternal, infant and young child nutrition behaviors, particularly among pregnant women and women with children under 2 years of age, husbands of pregnant women, and fathers and grandmothers of children under 2 years of age. The analysis is also intended to inform ways to enhance the role of agriculture at household level in improving maternal nutrition, and to guide effective program interventions that link maternal and child nutrition SBCC to the health and agriculture sectors

This report focuses on findings and recommendations related to maternal nutrition behaviors. These are based on an analysis of transcripts of 48 focus group discussions (FGDs) and 160 in-depth interviews (IDIs) conducted with pregnant and lactating women, their husbands, their mothers and their mothers-in-law, HEWs, AEWs and community leaders.

³ ICF International Inc. (2013) Trends in Demographic and Reproductive Health Indicators in Ethiopia

⁴ FDRE (2008) Program Implementation Manual of National Nutrition Program (NNP), Addis Ababa

Methods

Data Collection Methods

FGDs and IDIs were conducted by experienced facilitators using semi-structured guides. They underwent five days of training and then participated in a field test to allow them to practice with and pretest the research instruments.

While the interview guides and focus group discussion guides were modified for each respondent group, the research instruments all shared in common four main approaches to facilitate the discussions or interviews:

- **Storytelling and discussion.** This method included questions and probes about antenatal and maternal nutrition, and infant and young child feeding. The story provided a hypothetical scenario revolving around Selamawit, a pregnant woman, to which participants could respond. Participants were also given the opportunity to interject their own experiences into the discussions by facilitators. Selamawit's story was intended to assist in mapping the bigger picture, providing common ground for participants to discuss freely, and simplifying analysis through the use of uniform 3rd person responses.
- **Photo elicitation on micronutrient-rich foods.** Following the storytelling and discussion, facilitators showed the participants photos of foods and asked questions about them. This method simplified group discussion about micronutrients, saved time (as questions are asked after showing the pictures), and encouraged a discussion on participants' understanding about the nutritional value of the foods (micronutrients) as well as discussing the foods themselves in a more general way.
- **Discussions on fortified foods and supplements.** This section started with an explanation of what is meant by fortified foods and supplements. After ensuring that all participants had a common understanding, the topic was discussed.
- **Barrier and solution identification game.** Towards the end of the discussions or interviews, facilitators conducted a "Yes, but" and "Yes, and" game which began with reading advice on different issues of maternal, infant, and young child feeding behaviors. Barriers were then explained after "yes but" and motivators after "yes and." This was designed to capture reasons why individuals do or do not practice positive behaviors.

At the end of the FGDs or IDIs, participants were given the opportunity to ask questions on any topic of their choosing.

Participants and Sampling Methodology

Participants and Sample Size

This report presents findings and recommendations based on the analysis of data from 160 IDIs and 48 FGDs conducted across the regions of Amhara, Oromia, Southern Nations, Nationalities and People's Region (SNNP) and Tigray. IDIs were conducted with: 16 grandmothers, 16 fathers, 16 husbands, 32 pregnant women, 32 mothers of children under 2, 32 adolescent girls and 16 community leaders. FGDs comprised 12 groups of pregnant women, 12 groups of mothers of children under 2 and 12 groups of adolescent girls.

Table 1 below summarizes regional and group profiles for the IDIs and FGDs.

Table 1: Summary of IDI and FGD Datasets

METHODOLOGY	PARTICIPANT PROFILES	AMHARA	OROMIA	SNNP	TIGRAY	TOTAL
IDI	Pregnant Women	8	8	8	8	32
	Husbands of Pregnant Women	4	4	4	4	16
	Mothers of Children Under 2 years of Age	8	8	8	8	32
	Fathers of Children under 2 years of Age	4	4	4	4	16
	Grandmothers	4	4	4	4	16
	Community Leaders	4	4	4	4	16
	Health Extension Workers	4	4	4	4	16
	Agriculture Extension Workers	4	4	4	4	16
	TOTAL	40	40	40	40	160 individuals
	Pregnant Women	4	4	4	4	16
FGD	Mothers of Children Under 2 years of Age	4	4	4	4	16
	Grandmothers	4	4	4	4	16
	TOTAL	12	12	12	12	48 groups

Sampling and selection methodology

Study communities were purposively selected by choosing zones within each of the four regions and subsequently choosing *woredas*, or districts. Four *woredas* were selected in each region. Within each of the four regions, geographic location, crop type, agro-ecological zone and religion were considered during the selection of *woredas*, with the intention of maximizing variation among participants. *Kebeles* (communities), with the same characteristics of the *woredas*, were then chosen, although the selection of *kebeles* also included variables such as road conditions, market day and location of the marketplace within the community.

This maximum variation sampling method was also used for recruiting study participants. The variation attributes used were age, marital status and literacy level. The selection of participants was done purposively in collaboration with HEWs, teachers, community informants and local administrators. Lists of pregnant women and women with a child under 2 were obtained from the health centers and provided the basis for selection.

FGD participants were also selected from the list using the same attributes. Because of the difficulty in preparing a list and the absence of a ready-made list, information from local informants such as teachers was used for selecting adolescent females. Those who refused to participate were replaced by participants with similar attributes.

IDI participants were selected using the same procedures. Grandmothers were selected from the households of pregnant women and women with a child under 2. Husbands were selected from households with pregnant women, and fathers from households with children below the age of 2. Households with adolescent girls were given priority.

Ethical Considerations

Safeguarding study participants' privacy and ensuring their understanding of their participation and the study purpose were given due consideration. Institutional review board approval was obtained from the Johns Hopkins University Bloomberg School of Public Health and the respective regional health bureaus. Local authorities were informed about the study. Informed consent was obtained from each study participant. For adolescents, parental consent was obtained. Interviewers and moderators informed participants of the confidentiality of the process and that no personal identifiers would be recorded. Participants were clearly informed about their right to refuse to take part or even terminate the interview or discussion at any point. The interviews and discussions were conducted in settings that ensured privacy.

Data Management and Analysis

FGDs and IDIs were recorded in local languages and subsequently summarized into English. An independent group of verifiers reviewed one-third of the translations against the transcriptions and audio recordings for accuracy. During analysis, FGD data were managed and coded with *Atlas.ti 6.2*. FGD data coding was conducted using an open, iterative process that generated specific, abstract codes related to participants' experiences with pregnancy, maternity, food, agriculture, nutrition, health and information. Individual codes were later placed into one or more of these topics, or code families for review and thematization. Review of previously coded transcriptions with newly revised and refined codes was conducted once the number of new codes generated by the process declined to one or two per new transcription. This iterative process allows greater coherency across transcriptions and codes.

IDI data were managed and coded with *NVivo 9* qualitative management software. IDI coding was conducted after an initial review of *a priori* topics using grounded theory to explore emergent concepts, themes and patterns derived from the respondents' own terms and semantics. A preliminary list of broad thematic codes and more specific sub-categories was generated based on a subset of four transcripts. Five additional transcripts were subsequently coded using the preliminary

code book to further refine the themes and concepts identified as being most salient. The coding scheme was finalized when additional transcripts did not elicit new themes. All IDI transcripts were then coded based on the final codebook. Codes were entered into the qualitative data analysis software, *NVivo 9 2010* for systematic data management and analysis of the interview data.

Once code families were populated with associated codes, preliminary themes or conclusions were proposed and compared with the quotations within the code families.

Strengths and Limitations of the Data Set and Constraints in Data Analysis

Strengths

The research locations and participants were selected to be as representative of ENGINE's geographic coverage areas and beneficiary populations as possible. The research design included four *woredas* as study sites for each region, with significant efforts to diversify the geography, socio-economic status and religious profiles of the communities through a careful selection of kebeles. This sampling design increases the validity of the research findings drawn from this data, since the areas and individual participants are sufficiently diverse and representative of the four regions in which ENGINE operates. In addition, the large number of IDIs and FGDs helped to increase the reliability of the data, particularly given that participants' information was consistent and repeated with little significant variation within and across regions.

The research team sought to bolster data quality by using audio-recordings for IDIs and FGDs and by assuring that an independent review of randomly selected transcripts to verify the information. These efforts also supported both the validity of the findings.

Limitations

While the research had many strengths, there were nevertheless a few limitations and constraints in the design, data collection and analysis. First, the findings, conclusions and recommendations are based on qualitative research methods. As is the case with virtually all qualitative research protocols, this study was not designed to be analyzed using quantitative methods, and the findings are therefore not statistically significant in spite of the relatively large dataset. The diversity of geographic locations, and the careful selection of respondents who were representative of ENGINE's general beneficiaries, however, generated reliable findings in that they would be similar to those of other studies with similar populations. The length of the interviews and discussions (sometimes lasting more than four hours) led to occasional interviewer and respondent fatigue which in some instances caused incomplete questions or responses. The dataset, while rich, was also large and complex dataset, consisting of more than 3000 pages of text that were analyzed in a relatively short amount of time (4 weeks). Finally, the IDI and FGD transcripts did not include labels to identify the age, education, income or religion of the participants; nor was it possible for the analysis to identify the trimester of pregnancy for the pregnant women who participated in IDIs and FGDs.

In spite of the limitations and constraints encountered, the research design and data have yielded valid and reliable findings, and important recommendations for Maternal Nutrition social and

behavior change communication programming in Amhara, Oromia, SNNP and Tigray regions. These are reported in the following pages of this report.

Chapter 2. Maternal Diet during Pregnancy: Findings

2.1 Quantity and frequency of food intake

Changes in the quantity of food intake in pre-pregnancy and pregnancy diets vary among women. Most pregnant-women respondents said they had not changed the quantity of food they ate at all, but others reported increasing their food intake, and still others reported decreasing their food intake.

Women who said they were eating more during their pregnancies than they were before becoming pregnant did so because they believe that increasing the quantity of the food they eat is important for their unborn child and also for their own health and well-being.

But now I eat more, since the unborn child is growing and requiring more food. Unless the unborn child gets enough food, it may not [grow]... It will affect me; and will have also a negative effect on the fetus. (Pregnant woman, Oromia)

Many pregnant women were aware that they should eat more meals – and suggested four or even five meals a day as the ideal. Although they want to eat three times a day with a snack; however, depending on the phase of their pregnancy and the level of nausea, most women eat only two meals a day.

... Before we are pregnant we eat three meals a day. When we became pregnant, we eat four meals per day...I think this is preferable. (FGD, Ataye, Kore Meda, Amhara)

She [Selamawit] can [eat] four meals per day, which means different types [of food]. She will eat her breakfast with shiro in the morning, then if she can get, she will eat leafy vegetables. During snack time, she may use the leftovers or use whatever she finds. Again, she can eat her dinner by eating kik (split peas) wot, or foods that are available at her home. This is how we are [eating]. (FGD, Zenzelima, Bahir Dar, Amhara)

If she can, she has to eat five times per day...if she could afford five times. (FGD, Azernet Berbere, Anfar, SNNPR)

Because of the lack of food, she [Selamawit, the pregnant woman in the story] cannot have enough energy for proper delivery, and this can even cause death, different health problems or lead to disability to the baby. (FGD, Meka, Metema, Amhara)

Pregnant women repeatedly mentioned eating small, frequent meals while pregnant, and eating whenever they felt hungry. Some women mentioned that a HEW had given them this advice.

I have increased the meals. Previously, I did not eat anything until lunch time after my breakfast. I also did not eat anything until dinner, but now I eat a snack at around four in the afternoon. (Pregnant woman, Oromia)

Usually I eat four times and more sometimes. I eat in the morning, at mid-day... and in the evening. But I can say I eat whenever I feel hungry: (Pregnant woman, Amhara)

They also told me to eat small amounts of food at once, between two and three hours of difference, as it is a healthy way of eating, not to eat large amounts of food at once, as the baby pushes your stomach and it brings discomfort. (Pregnant woman, Amhara)

2.2 Perceptions of ideal foods and foods to avoid during pregnancy

With a few exceptions, women as well as men are aware that what women eat during pregnancy will have an impact on themselves and their babies.

What I eat has a benefit for the fetus. Isn't that enough? What can I say? (Pregnant woman, SNNPR)

If I eat bad foods it will hurt me and the child too. I should not take unnecessary foods because the child takes food from me. But if I eat good types of food, the child inside me will feel good and get developed. (Pregnant woman, Tigray)

It's obvious that eating quality food is important both for the child and mother. It is known that eating good food is useful and important for all people to become healthy and strong. (Grandmother, Oromia)

Most pregnant women were aware that the quantity and type of food should ideally be different from their diet prior to pregnancy. They identified a range of foods they believe are important for their diets, including animal source foods (meat, eggs, and milk), fruits (mango), vegetables (avocado and cabbage), fats (butter), grains (*teff*) and legumes (*shiro*). Some women reported having made a conscious shift in their diet to eat “good foods”, including meat, egg and some fruits.

Food that I eat now is different from food that I ate previously when I was not pregnant ...now I am interested in eating good foods. I like eating meat, I didn't frequently eat eggs or avocado previously, but now I eat them frequently. I also eat mangoes frequently now, which I did not do before. (Pregnant woman, Oromia)

...during the time I am not pregnant I do not care about my diet but now I eat properly. (Pregnant woman, SNNPR)

I have changed my eating habits to avoid problems related to malnutrition. Even when I don't have an appetite, I try my best to eat. (Pregnant woman, Tigray)

Some husbands and grandmothers acknowledged that pregnant women should have a good diet. Most, however, stated that “there is no difference” between pre-pregnancy and pregnancy diets, and that pregnant women are eating the same as before -- “*she is eating whatever we have*” or “*everyone eats the same.*” Similar to the pregnant women, grandmothers also described the bulk of the maternal diets to consist of *injera*, bread, *shiro* and *kocho*.

Although most women expressed the belief that their diets would impact their fetus' health, some pregnant women did express doubts about whether their nutritional status would have any impact on their babies. Their doubts seem to be based either on their own personal experiences during previous pregnancies, or on what they had observed among other pregnant women.

We do not know about that. We have not been harmed from the food we ate so far; it does not bring any harm till now. (Pregnant woman, Oromia)

If it is from his diet, we will know after it is born. How can we know when it is inside? Can it be known how much effect does my nutrition have on it? Can it be known? I don't know. (Pregnant woman, SNNPR)

I do not think it [my nutritional status] will affect me or the baby. I have four children. My pregnancy is always like this but it has never affected them. I never went to health centers in my previous pregnancies; I gave birth at home. Even people who eat as they want go through operations, so I do not think this will be a problem. Now I am following up at a health center, I will give birth there; because I am weak I cannot deliver it at home. (Pregnant woman, Amhara)

Many pregnant women mentioned meat and eggs in particular as ideal foods to eat during pregnancy. Some also mentioned fruits, vegetables and dairy (milk) as ideal foods for the maternal diet, although these foods were less frequently noted.

Because it is difficult to eat different foods at once, she has to eat five times per day, including different fruits such as papaya, mango and orange. (FGD, Meka, Metema, Amhara)

...what she needs to eat are papaya, spinach, cabbage, fish and egg and also meat.... (FGD, Tiso Sedecha, Gomma, Oromia)

I eat maize and I eat teff if I can get them. I also eat sorghum. We also eat kocho.... We are also producing and eating wheat. If we can get it, we eat stew, or if we can get it, we eat collard greens, and when we can get it, we eat meat. We eat what we can get. We drink milk abundantly. Most of the time I eat kocho, wheat and teff injera. (Pregnant woman, SNNPR)

Most men reported trying to provide a diet for their pregnant wives that included a diversity of food groups (fruits, vegetables, meats, dairy, grains, etc.), while grandmothers identified meat, milk (sometimes added to coffee), cheese, butter and vegetables as ideal foods for the maternal diet. Most of the food items identified by all respondents were commonly available in rural areas, although many men and women mentioned the importance of adding foods such as spaghetti, macaroni and pasta, which they perceived as having the desirable quality of being “modern” or “urban” foods. With the exception of fruit, the research data did not identify any specific food group that pregnant women routinely avoid. Some pregnant women reported that eating too much fruit can lead to a large fetus and a complicated delivery.

There are foods that have high protein content and that have no protein. Fruit is very good for a pregnant woman, but if she eats too much during her pregnancy period, the baby will get bigger and it will be difficult for her during her labor. (FGD, Woshasoyama, Wondo Genet, SNNPR)

...if she eats too much fruit during pregnancy, the fetus will enlarge inside her, and she will have a complicated delivery. She may even need an operation to give birth. (FGD, Doba Ashe, Munesa, Oromia)

2.3 Perceptions of dietary diversity: variety and “balance”

Women respondents reported that they receive their information about diet diversity from HEWs. The findings indicate that while HEWs do encourage women to eat a “variety of foods,” the information and education they are providing does not seem to contain sufficient detail about the

different *food groups* based on nutrient content and their value to the maternal diet. Pregnant women are applying the concept of dietary diversity to their usual diets, and as a result are trying to eat a greater variety of grains and legumes, along with trying to avoid eating the same food more than once in a day.

She [a HEW] also told me to serve different food throughout the day. She says; do not serve the same food again and again. If you serve kofeftenga, prepared from teff and maize in the form of bread in the morning, serve shiro wot with injera for lunch, and serve kik (split pea) wot with injera for dinner. (Pregnant woman, Amhara)

She [a HEW] told us to put different ingredients like maize, teff and sorghum into the food that we cook. Besides these she tells us to eat various types of food as much as possible ...No one teaches us about diet in detail; they gather us and teach us about the 16 health packages. (Pregnant woman, Oromia)

Nevertheless, several pregnant women did report having greater dietary diversity than others. These women mentioned eggs and vegetables—but not meat—as regular parts of their diets.

If I eat shiro in the morning, I will eat cabbage at lunch, and then I will eat misr (lentils) or potato. I do not repeat: I vary my food throughout the day, cabbage, eggs, carrot, keysir (beetroot), collard greens, potato and injera can give carbohydrate and energy; given especially in the form of porridge will help me. (Pregnant woman, Amhara)

For example, this morning I ate firfir, then I had gruel, after an hour bread with tea, fried egg, avocado and egg with bread, I ate these foods around 10 am. I eat egg, avocado, potato, and cabbage for lunch. For dinner I eat (injera) with any (wot). Most of the time I eat meat (wot) for lunch, cabbage, potatoes; my food contains these. (Pregnant woman, Oromia)

“Balanced” diets were also mentioned by many pregnant women, with varying interpretations of what this means. In some cases, women seemed to associate the concept of “balance” with eating meat and other animal source foods.

If she can eat a balanced diet such as eggs, meat, or other protein-containing foods, it will be good for both her and her baby. (FGD, Azernet Berbere, Anfar, SNNPR)

She [Selamawit] can improve her diet by eating meat. She can eat chicken, and if she has no hen in the home she can buy and get chicken meat that may increase her blood. In my opinion by doing these she can improve her diet. Her husband can help her, also money can help her. By having money she can help herself. If she cannot get these foods, she may face a problem during giving birth. (FGD, Tiso Sedecha, Gomma, Oromia)

2.4 Dietary supplements

The research did not cover behaviors and practices in depth related to prenatal dietary supplements. While nearly all respondents indicated some awareness of prenatal supplements, the analysis does not indicate that knowledge or adherence practices among pregnant women are sufficient. All FGD participants appeared to have heard about iron supplements and know they were for pregnant women as well as for children. The data suggest, however, that women are not aware of information

that would lead to ideal adherence practices, including when they should begin taking iron folic acid (IFA) supplements, how to take IFA supplements, how long to take IFA, how to manage possible side effects and the reasons for taking them.

2.5 Fasting during pregnancy

Seasonal fasting, willingly abstaining from consuming some or all foods and/or drinks, is an important cultural practice across many regions in Ethiopia. Most of the findings on fasting in this section are from spontaneous comments during some of the FGDs and from IDIs with community leaders. Women of various religions (Muslim, Orthodox Christian and Protestant) mentioned the nutritional challenges of being pregnant during the fasting season, and the potential effects on the unborn child.

Although they are generally aware of the potentially negative impact that fasting during pregnancy can have on their and their baby's health, some pregnant women do fast and/or change the foods they consume. Others either reduce the duration of their fasting period or forego fasting altogether, based on religious doctrine or their own personal views.

...the problem fasting causes is that she cannot get enough food and both her and her baby will get weak. They both will get hurt, she may even die. (Pregnant woman, Sire Morese, Hidabu Abote, Oromia - Muslim)

Normally pregnant women should eat additional foods, but during fasting she cannot do it. This will have an effect on the child. The child may not be strong and healthy, and I do not think the child will become normal. Both the mother and the child will be affected and she may not be able to deliver her baby and the mother may lose her life. (Pregnant Woman, Tiso Sedecha, Gomma, Oromia - Muslim)

If she keeps fasting when she is hungry, the fetus will be harmed. (Pregnant Woman, Zenzelima, Bahir Dar, Amhara – Orthodox Christian)

Muslim pregnant women in Azernet Berbere, Anfar, SNNPR were particularly aware of the risks they incurred while fasting:

During this fasting time she does not eat breakfast, and she may even not eat the whole day. She will be anemic and the baby becomes sick.

The baby becomes disabled, she will be stressed and she could not have energy during delivery. The baby would also be under weight.

In some cases, women reported that they may decide not to fast if they are pregnant during fasting season, while in other cases they reported that they are required to fast whether they are pregnant or not. The choice to fast during pregnancy can be complicated. Factors influencing the decision, besides religion, included the overall health of the mother, the strictness of their commitment to the practice and community norms.

Particularly Muslim pregnant women in Azernet Berbere, Anfar, SNNPR were aware of the risks they incurred while fasting. In Rawyan (Qfta Humera, Tigray), whose population is primarily Orthodox Christian, FGD participants believed that pregnant women should not be obligated to fast during pregnancy. Protestant women in Woshasoyama, Wondo Genet, SNNPR, reported that fasting

doesn't generally affect the diet during pregnancy, and that there are foods that are suitable for pregnant women during the fasting season. Some reported choosing not to fast while pregnant.

I don't fast when I'm pregnant because the fetus will not get the necessary nutrition that it should get. So I will eat what I get. (Pregnant woman, Woshasoyama, Wondo Genet, SNNPR - Protestant)

A pregnant woman should not fast. (Pregnant woman, Woshasoyama, Wondo Genet, SNNPR - Protestant)

There were differing opinions on the requirements for the fasting period. For example, a participant from Kore Meda (Ataye, Amhara - Orthodox), reported that Selamawit should fast until at least three months of pregnancy; others in the same group suggested that she should stop fasting after six months. From the same FGD, another participant reported:

It is better not to fast. She should never fast, for the sake of the baby. When I say "not fast," for example, on fasting of Christians, one cannot eat meat and other animal products. Leaving these, she can use the others like shiro and the like. In the fasting period, she can eat on time.

On the other hand, this Orthodox participant from Ataye (Kore Meda, Amhara) stated:

She must fast! She fasts until it is 6:00pm if her pregnancy is less than 6 months. Of course the fasting can hurt her. But it is our religion and taken as a culture to continue fasting unless the pregnancy is more than six months old. It is a must; we should fast!

Some women participants indicated that there are foods that can substitute for those avoided during the fasting season, and that they consequently did not face any particular challenges to their diets; others reported that it was difficult for them to find permitted foods during fasting. Participants from SNNP (Wondo Genet, Woshasoyama, Protestant) reported on various foods available to them during the fasting period, including injera with wot, collard greens, tomato, avocado, potato carrot and other fruits and vegetables. Some of the foods that Orthodox Christian women in Tigray eat to replace meat, eggs, and other animal source foods during the fasting period include porridge and *medida*.

She doesn't have to fast; but even if she does, she will use foods like porridge and medida [gruel]. If she acquires such foods that can "build her body," it will make her feel like she is not fasting.

People in this village do fasting so she has to do it also. For compensation she has to take foods and liquids like medida, soft drinks, lettuce and other seasonal fasting foods. After fasting, she will be allowed to eat meat and other non-fasting foods.

FGD data suggest that there may be opportunities to expand women's understanding of the impact of fasting on their fetus and the ways in which different religions allow exceptions to the practice for pregnant women. Follow-up research could include interviews with religious leaders and other community members to gather more detailed information on the religious practice in specific communities and the availability of specific fasting foods in each community.

2.6 Pregnancy, agriculture, and access to diverse and quality foods

ENGINE employs agriculture and livelihoods extension programs to support families to start kitchen gardens and to raise chickens, goats or cows. The research indicates that decisions to sell specific crops and animal-source foods—rather than keep them for consumption by pregnant and lactating women and their families—are common missed opportunities to potentially improve maternal nutrition. While the sale of agricultural produce could contribute to overall nutrition if the income were used to purchase a diversity of nutrient-rich foods, the research indicates that the income from these sales is being used in other ways.

Several women in FGDs associated rural agriculture with poverty and lack of resources. Women did not generally view their agricultural practices as being particularly useful in contributing to prenatal nutrition. While many women have access to a farm or agricultural land, no one reported using any of this land specifically for growing micronutrient-rich foods for the household. It is not possible to determine from the FGD transcripts if any of the farmers in the groups practice mixed cropping or intercropping.

Across all groups in the ENGINE study, participants mentioned that farmers who produce foods that are good for nutritional health opt to sell their agricultural products to pay for other expenses such as taxes, healthcare, school fees, and certain household items. One grandmother astutely noted that this is not necessarily because they are unaware of the nutritional value of the foods that they prefer to sell instead of consume; individuals know what they need to consume for a good diet and make calculated choices that some things are more important than good nutrition.

They know what is good and bad for themselves; they know what they can do with their daily income.
(Grandmother, Oromia)

One participant reported that her location in an agricultural region (Ataye, Kore Meda, Amhara) is a barrier to improving nutrition during pregnancy.

Our problem is, she cannot make it because of the locality's situation, because the locality is a place for farming. If she was living in urban areas, she could get fruits or juices by simply going to eat fruit. She cannot go to Ataye or to Wonchif only to buy such things. She cannot do it. Depending on the locality's situation, she uses whatever is available around her home.

Women noted that meat and poultry are more accessible for those who raise livestock and chickens, and that the vitamin A-rich foods are inexpensive and generally easy to buy, if a person has money.

Information from FGDs does not suggest specific ways in which pregnant women are using their own access to agricultural land or keeping livestock to improve their diet. If this is done, it was discussed in general terms as a typical part of agricultural practice. For example, a participant from Zenzelima (Bahir Dar, Amhara) reported that:

There is nothing challenging; everything is in the house. She can eat chicken, eggs, and milk. If we work hard there is nothing challenging; everything is on our hands.

The association between access to fruits and vegetables by government employees and health workers was expressed by several women, and implies a rural/urban divide. On a related note, another participant expressed the importance of the area's staple food in a pregnant woman's diet:

Since this is a country of farmers, most of the time they will eat injera with wot; vegetables and something else will not satisfy them. They are happy when they eat injera with wot, and most of the time government employees, health workers and others can get access to these [micronutrient-rich foods], and they like to go to market and buy vegetables, they need them, and they know vegetables and their advantages.

Although there is agreement across FGDs and IDIs that pregnant women should adjust their food intake, specific agricultural practices necessary to gain access to micronutrient-rich foods eaten as part of a varied diet were not explicitly discussed. Instead, discussions tended to focus on the challenges of gaining access to such foods and the ways in which Selamawit's diet should change, if it were possible to do so. One pregnant woman commented that even with their own gardens, families still faced the financial challenge of buying fertilizers and seeds.

It is even difficult to produce in our garden without money, because money is important to buy fertilizers, seed etc. So it will be good if the government can support us with this. (FGD, Pregnant woman, Azernet Berbere, Anfar, SNNPR)

For some, the solution was to rely on those foods produced "at home" on their own farmland, emphasizing the importance of supporting agricultural development to improve maternal and child health and diet.

If my husband has no work, it is difficult to purchase and eat some foods. But thanks to God, it is not difficult to consume foods like kocho because we have some kocho plants. It is not difficult to eat from home, but it is difficult to consume by purchasing. I can't buy and eat if my husband doesn't give me money. If he gives me money I can buy and eat. (Pregnant woman, SNNPR)

The food is available; I can bring from my backyard and eat as I am the wife of a farmer. In the rural kebele I can get it in my backyard. Foods that are not found in the backyard are available in the market. (Pregnant woman, SNNPR)

Women noted that the seasonal availability of certain foods also plays a factor in maternal diet.

In our area, the fruits and vegetables are cabbage, milk, sugarcane, avocado, mango; these cannot be found in this season. But things like fresh maize and green cabbage are ready from the farm. But if she gave birth before harvesting season, she cannot help it; she will miss all the foods she wanted to eat. But for those who are still pregnant, it is good for them because the crops I mentioned are ready to harvest from the farm. (FGD, Sire Morese, Hidabu Abote, Oromia)

2.7 Barriers to improved dietary practices during pregnancy

The findings reveal a number of barriers explaining the reason for the gap between pregnant women's awareness and practices related to their diet. These included:

- (h) Real or perceived financial constraints;
- (i) Socially prescribed gender roles;
- (j) Socio-cultural values around families eating the same food together;
- (k) Problems with couple/family interpersonal communication and marital discord;
- (l) Nausea and food aversions during the first and early second trimester of pregnancy;
- (m) Concerns about risks and complications during late pregnancy and delivery; and
- (n) Limited access to sufficiently clear information about dietary diversity.

2.7.1 Real or perceived financial constraints

The practice of eating an additional meal or snack during pregnancy was reported by some, but not all, respondents. Although they were aware of the ideal of increasing their intake or eating foods they believed were more nutritious, many noted that the economic challenges they face prevented them from adopting these ideal practices. Pregnant women, like most of the other study participants, reported that poverty, rural under-development and unemployment prevent them from accessing diverse and quality foods and attaining good maternal nutrition. In spite of their ability to grow crops or their status as commercial or semi-commercial farmers, many women reported that gaining access to nutritious foods was a challenge for those without adequate financial resources.

I know it is good to eat teff and dagussa, but it is expensive and it is impossible to buy. The health officers always tell us about the importance of these cereals as they think that we are illiterate, but the problem is that we can't afford them, and hence, we don't eat them. (Pregnant woman, Amhara)

We have shortages. It is expensive; for instance, if you want to slaughter a goat it is too expensive. Milk is available in the shop, but it is expensive and we are not using it. We can't buy it since we can't afford it. (Pregnant woman, Tigray)

You can find them (butter and milk) if you pay the rate of market charges. They are very expensive, especially butter -- it is unthinkable at this time. (Pregnant woman, Tigray)

Yes. They told us to eat what we can afford. As I said before, I am unable to vary my diet because I can't afford it. It's because of financial problems. (Pregnant woman, Oromia)

...but she cannot eat these foods because she can't afford them. If she cannot get these foods, she can use/eat what she has in the home...the problem is poverty. (Pregnant woman, Tiso Sedecha, Gomma, Oromia)

Although most pregnant women who participated in this study claimed financial constraints, there were nevertheless some who reported not having any difficulty purchasing healthy foods.

I have no money problems, and I do not even like to ask him [my husband] to buy for me; I just go and buy from the market and eat. I also like to eat oranges. Besides, I have eggs in my home; I prepare these without pepper and eat. (Pregnant woman, Amhara)

I have enough money to buy what I want to eat. I do not even ask him [my husband] to bring me what I want to eat. I, by myself, go to market and buy whatever I want to eat, either sugar or other food. I also make tella at home if the need arises to drink and make firfir with butter when I want to eat. No, it is not difficult because I have enough money to buy and eat what I want. (Pregnant woman, Amhara)

2.7.2 Socially prescribed gender roles

2.7.2.1 Men's control over household financial resources

Women and men alike consider husbands to be the heads of household, responsible for the household budget and the control of family finances. The role of husbands includes making a plan and allocating money to purchase food and other necessities for the family.

Regarding what she [Selamawit] needs to eat, the husband is the one who makes the decision by making a budget. Barley, bean butter... for all these things the husband has to make a plan and allocate a budget. (FGD, Pregnant Woman, Tiso Sedecha, Gomma, Oromia)

Also, I say the husband is responsible. He should anticipate any problem ahead and (is) expected to make a budget. (FGD, Pregnant Woman, Tiso Sedecha, Gomma, Oromia)

While their husbands can be an invaluable source of social and financial support for women, pregnant women's financial dependency represents a barrier to their ability to access nutritious foods if their husbands decide to use the family income in other ways or to abandon their wives. A pregnant woman in SNNPR explained that she hides money from her husband so that she can buy certain foods when she wants them.

When we go to the health center, they tell us to take much fluid and to eat different foods. But we eat what we are provided by our husband. Because if her husband cannot give her, how can she eat? (Pregnant woman, Meka, Metema, Amhara)

Those foods? How can I afford buying them every day? Now I save money in a hiding place and buy and eat the foods with that money when I have the desire to eat them. (Pregnant woman, SNNPR)

2.7.2.2 Women's "selflessness"

Although pregnant women expressed the opinion that their husbands should support them during pregnancy, for many the reality has been different. In IDIs, several men acknowledged the problem of gender inequality as a perennial barrier to improving nutritional health of women in Ethiopia.

In our area, wives give priority for their husbands over themselves. They will give milk to their husbands. But I don't like such kind of habits because I'm observing the reality that she is not getting the proper treatment. (Husband, SNNPR)

We men consider women as though were donkeys. [We give] far less than the scientific requirement for food for breastfeeding women...they have to eat four or five times a day with varieties of food. There is no time when they get [these amounts of] foods. This is true even among the educated segment of the community. We have only recently started to practice a little care for women. (Husband, Oromia)

Pregnant women made similar reports. For example, pregnant women in an FGD in Zenzelima (Bahir Dar, Amhara) stated:

He [the husband] consumes what is served for others to eat. They reject women's desire for more food. They say "what is it? Why don't you eat whatever you get?"

In rural areas, husbands say "eat whatever you get!" There is no other thing.

2.7.2.3 Women's limited personal autonomy and distance to markets

In addition to financial constraints, pregnant women identified distance to market and seasonal availability as barriers to accessing a nutritious diet. Moreover, travelling to a market can also be something that a pregnant woman (or any woman) may not be able to do alone. One woman felt

that the pregnant woman in the story (Selamawit) needed someone to accompany her to market, or to buy the foods for her.

Egg, fish, different types of foods and banana, oranges, papaya -- she may avoid eating these foods because of her economic capacity or absence of somebody with her to go and buy from the market. When the place to buy these food items is far, she may not get anybody to buy for her; then she can't eat. (FGD, Tiso Sedecha, Gomma)

When asked how Selamawit could improve her nutrition while pregnant, several participants stated that she needed access to financial resources to purchase the variety of foods she should try to eat while pregnant.

What she needs to improve is, she should eat injera with mixed cereal flour sauce/stew, avocado and other foods that she wants to eat. If she saved money ahead of time now, it would be easily for her to eat what she needs.

2.7.3 Socio-cultural values around families eating the same food together

Research participants pointed out that in order for a woman to eat an extra meal, or to eat foods that the family could not financially afford to give to everyone in the household, she would need to eat in isolation and during times that are outside of the normal family meal times. Men and women perceive such practices to be in conflict with the socio-cultural value of women's selflessness in that they are expected to not prioritize themselves over other family members, as well as the value placed on families eating together and sharing food. Many respondents also reported that their wives could not eat additional meals because they "*can't eat alone.*"

In all in-depth interviews, the preparation of food for oneself and eating alone were interpreted as culturally inappropriate. From the interviews with the grandmothers and other participants, there appears to be a cultural taboo for a woman to cook for herself and to "eat alone."

No, how can she do this; it is not possible.... so, she doesn't prepare special food for herself and also there is no additional food for her. She eats what her families eat and what they have. It is difficult and not possible. (Grandmother, Oromia)

She will not eat alone; she will eat together with others. (Grandmother, Tigray)

There is no such a thing. Isolation or preservation of food to be used for one's pregnant wife is not a tradition in Ethiopia...the reason is that it is not familiar in our culture. ...we have to eat by sharing what we have conserved together. But, she won't even support [eat] if I give her some things [to eat] in isolation. (Husband, Tigray)

They refuse to eat alone. They claim that they can't thrive by eating alone and convince us that we should consume it together and purchase when it is finished. Therefore, the entire family often eats together. (Father, Tigray)

Nevertheless, some pregnant women challenged the social expectations of wifely selflessness and said that their pregnancies justified their eating whenever they were hungry and not waiting for their husbands to get home for the meal.

We may suffer if we say we will wait until our husbands get home and eat together. We should eat frequently because the child also eats inside. (Pregnant woman, SNNPR)

2.7.4 Couple/Family interpersonal communication and marital discord

Marital discord can result in inadequate diets for the pregnant or lactating women who are often dependent on their husbands to provide money to buy healthy food for themselves and their children. Such was the case described by one grandmother who witnessed how her daughter's disagreements with her husband resulted in less access to quality food.

...difficult due to shortage of income and disagreement she has with her husband. There is no agreement between them so how can she get what she wants? Others may have agreement and peace with their family, and they eat what they want.... If there is agreement, anyone can feed their children. (Grandmother, Oromia)

For another grandmother, this discord resulted in divorce and her daughter's loss of her home and financial support.

She came here since she divorced with her husband. Now the amount of food she eats is not adequate. (Grandmother, SNNPR)

A pregnant woman in Oromia described the emotional and nutritional hardships she faces without her husband.

He got a job and left me. Loneliness left a bad impact on me. I do not have enough money to feed myself properly; my husband is not with me. He did not say, let me buy this thing for my wife, she is pregnant. He doesn't care. He never said let me give her money for shopping. No one helps me. Every responsibility is on me, which is why I feel weak and lonely. I do not have money.... If I want to eat egg for breakfast and meat for lunch, I do not have the money. I can't afford it, so I am eating injera that I have at home. If I do not have injera, I eat bread, if no bread I eat boiled beans. There is [no] variety of food to eat but I am eating the one [food] I have at home. (Pregnant woman, Oromia)

Pregnancy has discomfort and pain whenever we sleep on our bed. He doesn't ask what happened to me. There is no husband who is concerned and asks what happened to us. (FGD, pregnant women, Zenzelima, Bahir Dar, Amhara).

2.7.5 Nausea and food aversions

Feeling uncomfortable, vomiting and avoiding certain foods altogether were all challenges reported by pregnant women, particularly during their first trimester. While some pregnant women reported trying to eat three meals a day (breakfast, lunch and dinner) with a snack, most reported eating less, especially in the first trimester when many pregnant women said they experienced a poor appetite, nausea and vomiting. These symptoms are common side effects of pregnancy for many women (regardless of their access to information and dietary resources), making it difficult to increase their consumption of food.

I was suffering because I am not interested in eating much. It is not because I have economic problems, but it is only because I lose interest in preparing and eating food. (Pregnant woman, Tigray)

Vomiting by itself is a problem as it makes you feel discomfort; this is exactly what happens to me when I eat cabbage and porridge. If I did not vomit it out, I would be seriously worried. When I eat food after I become very hungry, I will vomit it out after a while. So I have to eat before I get very hungry, in the same fashion I should not eat before I get my stomach comfortable to eat. (Pregnant woman, Amhara)

I hate these foods in the beginning, and I know I am in the beginning stage when I hate food...It [makes me] vomit when I want to cook and eat. At this time- at my fourth month and when the fetus starts to move- I hate food. (Pregnant woman, SNNPR)

Pregnant women who reported having experienced nausea also reported aversions to various foods, including their staples such as injera and shiro.

The question you raised is good. We usually eat injera, right? As an example, I don't like injera at the onset of pregnancy until the third month. The foods that I crave are milk and market items like bananas, but I will lose interest in injera. (FGD, Tekle Haymanot, Endamahone, Tigray)

At the outset of her pregnancy, she may abhor the smell of shiro, coffee and other smells in the other households, right? (FGD, Tekle Haymanot, Endamehone, Tigray)

What I liked to eat was potato, carrot and beet root, but I now stopped even eating them since once I vomited, and this gave me discomfort in my stomach after eating them. I continue to avoid these foods because I am afraid to be sick again... (Pregnant woman, Amhara)

Many women reported that their nausea passed during their second and third trimesters, that they regained their appetites and were able to increase their food intake. For others, the nausea and loss of appetite continued.

I had a bad time before the fifth month, by then I was so sick I almost avoided everything, especially meat- I can't have it. Now I am getting better and eat anything. (Pregnant woman, Amhara)

I am now eating better in the eighth and ninth month of my pregnancy... I had a poor appetite before...In the first three months, I did not have a good appetite. (Pregnant woman, Tigray)

Women cope with nausea during pregnancy by decreasing the overall quantity of food they eat, by eating small amounts of food more frequently, or avoiding certain foods. Most of the pregnant women interviewed reported that they preferred to eat small but frequent amounts of food throughout the day. Some pregnant women reported that health workers or HEWs recommended increasing frequency of smaller amounts of food.

The amount decreases. When I say I am eating, I mean three or four bites at time. I do know why, I think it is the consequence of the pregnancy. Now I am better; at the beginning I could not eat, I just take something to survive. (Pregnant woman, Amhara)

Despite the fact that the pregnancy does not allow me to eat much, I am trying to be wise, and I take a bite whenever I feel hungry ...Of course, now I am being wise and push myself to eat not to be weak, (Pregnant woman, Amhara)

Previously I ate a large quantity. I ate till I got full. Now I feel hunger very frequent/y, but I don't eat much. I eat small and frequently, since there is baby in my abdomen. (Pregnant woman, Oromia)

At first I was eating alot but not now. I do not eat properly. I am not eating as I did previously. Now my interest in food is decreasing... when you are empty, you eat whatever you want, but when you are pregnant, you hate eating, you don't eat much. (Pregnant woman, Tigray)

2.7.6 Concerns about risks and complications during late pregnancy and delivery

2.7.6.1 Avoiding certain foods in preparation for delivery

During their last trimester of pregnancy, many women reported making choices about their food intake as part of their preparation for delivery. Although women described eating foods that they believe will make their labor and delivery easier, and avoiding foods that they believe will make childbirth more difficult, women did not consistently mention any particular foods. Some women mentioned foods that help reduce bleeding during delivery (e.g. oranges), while others spoke of foods (e.g. “dry” foods) that help women avoid having loose bowels and defecating during delivery. A few named specific foods (e.g. injera, bulla porridge) that should be avoided because they cause difficulties during delivery.

2.7.6.2 “Eating down” for a smaller fetus and easier delivery

Study participants revealed that some women in Ethiopia may intentionally reduce their caloric intake when they are pregnant so that their child will have a low birth weight and thus be easier to deliver. The practice of deliberately eating less during pregnancy in order to avoid problems during delivery from a large fetus has been commonly reported in Ethiopia and other countries, and is referred to in the academic literature as “eating down” (Bhat, Troy, Karim, & Levinson, 2002). The practice was reported by participants from all regions in this study.

As she said, if she eats too much food the baby will get fat but if she eats a little amount she will be healthy and her labor will be easy. (Husband, Woshasoyama, Wondo Genet, SNNPR)

Eating down was identified as a practice in FGDs with pregnant women in Rawyan (Qfta Humera, Tigray); Azernet Berbere (Anfar, SNNPR) and Awradageter (Decha, SNNPR), with SNNPR being the most prevalent (three of four FGDs raised eating down as a practice among pregnant women). This practice was also mentioned in some IDIs, including those with husbands of pregnant women:

My wife is refraining from eating more foods during her pregnancy. No one prevents her from eating, but she refrains from eating a lot of food or some types of foods she likes. She says that instead of the hardship she would face at times of delivery, she decided to reduce foods she eats.... To enhance production of breast milk for the newborn baby, she will eat more foods after delivery, but she is firmly restricting herself from eating adequate foods now. (Husband, Oromia)

While “eating down” was primarily about decreasing the quantity of food intake, some women reported being especially concerned about eating too much fruit, which they believe will cause the fetus to become “fat” and lead to a difficult delivery.

The problem it brings on us is at the delivery. If we eat what we have available, like fruits, the unborn child may become fat. If we eat what we have over time, in appropriate amounts, it will help us. If we eat everything that we get in front of us, it may lead to a very big baby and make our delivery very difficult. (Pregnant Woman, Tiso Sedecha, Gomma, Oromia)

2.7.7 Limited access to clear and sufficient information on dietary diversity

Nutrition information and education offered to pregnant women and their families lack sufficient clarity about food groups and their value in the maternal diet. While some women make an effort to follow the nutrition advice of health workers and HEWs, the information they receive from these frontline workers is not helping them adopt doable behaviors to improve their maternal diets.

I am eating seven types of food in week. I need to eat twenty-one types [including] beetroot, cabbage and such... I can't mention all...I eat three categories of food: boiled beans in the morning; I need to eat tomato and other fried foods in the afternoon to be healthy. (Pregnant woman, Oromia)

Our food needs to be five types, as they told us; we need to eat bread in the morning, bread with coffee, injera in the afternoon, they also say feed your child egg, pasta and macaroni... [the stew] ...they told us to prepare food from five types of food stuff that is wheat, barley, beans and split pea, but I am not preparing according to their instruction. (Pregnant woman, Oromia)

2.8 Motivators and facilitators for improved dietary practices during pregnancy

While barriers to improved maternal diet practices during pregnancy are numerous and important, the research reveals that motivators and facilitators also exist.

2.8.1 Strong mother, strong baby for a safer delivery

A key finding from the interviews with the pregnant women is their belief that certain dietary practices may lessen problems during childbirth and lead to positive outcomes, both physical and mental, for their newborn.

If I have a balanced diet, it helps to keep both me and the baby healthy, and makes us strong. It also gives me strength during labor and delivery. (Pregnant woman, Amhara)

It is important to drink coffee with milk and add butter to foods I eat. If you do this, you get strength. It is helpful for labor, but injera is not helpful. We eat it just to fill our abdomen. (Pregnant woman, Oromia)

But if I eat more, I will be strong and it will help me during labor time. And the baby will push itself during my labor time...If I eat balanced diet I will be healthy and strong during my labor time and I think the child will be clean, healthy and happy. (Pregnant woman, Tigray)

I advise her that [if] pregnant women's appetites are good; they want to eat more, they become beautiful; they are healthy. (Husband, Amhara)

Similarly, pregnant women reported a number of cultural dietary beliefs about how certain foods strengthen the baby's body. In particular, coffee leaves, which are prepared like a tea, are thought to cleanse the baby's body while in utero.

Around this village there is saying, if you are pregnant do not take milk and any milk products, they say your child will be clean. I actually do not give attention to that. God is the one who makes the baby clean. If my appetite takes it, I will use it (milk). (Pregnant woman, Amhara)

... porridge is said to make the baby's head dirty... when he is born. In case of cabbage and sugarcane, the mother should ... eat them before her delivery time to avoid difficult labor. These women who gave birth to children also tell me not to eat pepper [chili] and not to drink much coffee as they make the baby's hair bald. So what they advised to drink is tella and beer if it is available because they are good to clean the body of the mother and the baby. (Pregnant woman, Amhara)

There is a food found in our locality known as boyina; it's made from cheese. If we eat this food during pregnancy, it will [help] our babies' bodies. Thus, it is usually eaten at the beginning of our early months of pregnancy. If you remember I told you that there is coffee leaf tea (kouti) [that] helps to wash [the] body of the baby in the stomach. When I consume liquid things mixed with water, it helps to clean the body of the baby in my stomach, although there will not be dust on the new born baby. This is what we got from our ancestors. This is what I can tell you about food and what treatments I had during childbirth in my home. (Pregnant woman, SNNPR)

2.8.2 Healthy, happy baby

Almost all of the pregnant women described their motivation to eat a healthy diet as doing all that they could to ensure that their children were happy and healthy.

I want my baby to be born full of health, I want to be happy when I see my baby being fat and healthy, he will be born clean because I consume clean and quality foods. (Pregnant woman, SNNPR)

She will give birth to a baby properly, will have healthy baby. If she doesn't have it [good nutrition], if she doesn't eat, the baby will not have appetite after it will be born. (Husband, Zenzelima, Bahir Dar, Amhara)

If she gets good food, she won't get hurt during delivery time. A healthy baby will be born. (Husband, Azernet Berbere, Anfar, SNNPR)

2.8.3 Intelligent baby

Some participants cited having an intelligent baby as a motivator for good nutrition; this motivator was more frequently identified by men than by women. Men in particular cited the intelligence, academic achievement, and future success of their children as their main motivators for the role in assuring good nutrition for their pregnant wives.

...just to have a healthy baby, if she mixes all... [healthy foods], she can bear a baby with a brilliant mind. (Husband, Zenzelima, Bahir Dar, Amhara)

2.8.4 Desire to be modern

Finally, emerging from these data was the theme of how practicing a “balanced” diet in Ethiopia was embracing a modern diet and lifestyle that can lead to better health and economic outcomes.

I want my family to have a modern way of eating. For example, we eat injera morning, during the day and in the evening. I want to change that. I want them to eat bread for breakfast, injera for lunch, grains or macaroni for afternoon snack – anything different from injera! This is because I don't think feeding them

one type of food will bring a change in their body. In the future, I want them to eat something different.
(Husband, Amhara)

2.8.5 Social support

Social support refers to assistance that a pregnant woman receives from her family, relatives, peers and other members of the community. It can also refer to governmental support; support from HEWs or AEWs, particularly around food production and nutrition. When asked, women in FGDs generally stated that husbands are, or should be, sources of support during pregnancy.

2.8.5.1 Spousal Support: Husbands' positive roles

Some pregnant women reported that their husbands support them during pregnancy by providing information, encouraging positive behaviors, and providing economic support for her diet. When discussing the story of Selamawit, several women described positive behaviors of Selamawit's husband that helped her:

...(he) will tell her to go to the health center. If she forgets the appointment date, he will remind her to go and take vaccination. When she will be giving birth to her baby he tells her to give birth at a health center. (Pregnant woman, Zenzelima, Bahir Dar, Amhara)

He has roles and influences her and supports her in all ways. Here every one of us is busy, so if he covers her work, she can go to the health center for follow up. (Pregnant woman, Azernet Berbere, Anfar, SNNPR)

He should also advise her to go to the health center which is very important for her and the baby. (Pregnant woman, Azernet Berbere, Anfar, SNNPR)

In Awradageter (Decha, SNNPR) pregnant women predicted that Selamawit's husband, as a farmer, would provide his wife and family with vegetables from the garden, or that he would go to the market for them and buy the food that he could not grow. These participants also believed that if he was too tired to go to the market himself, he would give Selamawit the money and tell her to buy food for herself. In Ataye (Kore Meda, Amhara) a woman reported:

...there are husbands who are educated and know lots of things, but most of our husbands are farmers and do not do this. Either they do not prevent her from eating, or do not tell her what to eat. He concludes she can eat whatever is available at home. It would have been good if he helped her to make wot, with charcoal, fetching water, if there is no water at home, or bringing fire wood. Washing clothes for example is a simple task; anyone can do that. If he supports her like this, it is great!

Although husbands play an important role in these issues, they are not often cited as the most trusted source of information. Most pregnant and lactating women reported that the health center or health care professionals were their most trusted source; only participants from Woshasoyama (Wondo Genet, SNNPR) responded with "her [Selamawit's] husband" as the most trusted source of information.

The personal consequences of malnutrition motivated some men to become more involved in their wives diet and nutrition.

You know what; there are still some mothers who lost their lives during child delivery due to malnourishment. If a pregnant mother has an insufficient diet, occurrence of birth-related complications is very much likely. I have learned a lesson from previous adversities that I should take care of my pregnant wife. Thus, this is the reason why I am involved in decisions about my wife's diet and nutrition now that she is pregnant. (Husband, Tigray)

The reason for my involvement in such decisions emanates from my intention that my wife should not be harmed and should not lose her life at delivery due to malnourishment and maltreatment. (Father, Tigray)

Our first child was born and brought up in deprivation...and she is very thin. Our last child, however, is now 14 months of age, and he is vigorous and physically strong that he wanders everywhere, while his age mates haven't even started walking. This is all the difference. (Father, Tigray)

2.8.5.2 Traditional caregiver roles of mothers and mothers-in-law

Several grandmothers described their caregiving roles in their families as a “tradition” that they learned by being recipients of the same care from their mothers or mother-in-laws when they themselves were young mothers. Grandmothers believe that the purpose of the care they provide their daughters/daughter-in-laws and grandchildren is to ensure that they eat good and nutritious foods to help the unborn child, and to enhance the production of breast milk.

This is how my mother-in-law took care [of me] and [helped] raised my kids. She used to feed them meat, bread, tela, injera when they went to her house. I learned from her...] to feed and take care of them [the children]. They all take care of their grandchildren; it's a custom. (Grandmother, Amhara).

I have seen from my mother-in-law previously what she did for me and for my child. (Grandmother, Oromia).

Most grandmothers expressed an understanding of what constitutes a healthy diet for a lactating woman. Most identified meat, milk (alone or added to coffee), cheese, butter and vegetables as the essential elements of a good diet for breastfeeding mothers. Nonetheless, the bulk of actual mothers' diets described by the grandmothers is primarily consists of *injera*, bread, *shiro*, and *kocho*. Although most of the food items identified by the grandmothers were foods commonly available in rural areas, many also mentioned the important of adding what are perceived as “modern” or “urban” foods such as spaghetti, macaroni and pasta.

2.8.5.3 Social Support from the Community

The data do not include substantive discussions of community involvement in support of pregnant women. Participants seemed to agree generally that social support could positively contribute to maternal nutrition and that their community should assist them, but it often does not.

Her family, husband and other people in the community should produce those foods or the government should help the society to produce different types of foods in the village. (Pregnant woman, Azernet Berbere, Anfar, SNNPR)

Chapter 3. Maternal Diet during Breastfeeding: Findings

3.1 What Breastfeeding Mothers Eat

Just as they did during their pregnancies, breastfeeding mothers are generally eating whatever is available in their households, eating what other family members eat and eating when other family members eat. Women's access to foods, and the availability of these foods, appears to be influenced by many more factors than their geographic locations. The study data do not allow a clear delineation of dietary differences among regions.

3.1.1 Content and diversity of food intake

The diets of most breastfeeding mothers in the four regions consist largely of grains boiled whole (*nifro*), ground into flour and made into bread (*injera*, *ambasha*, *kita*). *Injera* in particular was commonly reported across all regions as a main staple consumed daily by breastfeeding mothers.

Breastfeeding mothers also consume grains that are malted and brewed into beverages, and legumes (beans, chick peas and lentils) that are eaten with grains. *Shiro* is the most commonly consumed legume across the regions, typically served with *injera*.

The availability of seasonal vegetables and fruits fluctuates, while poor harvests often cause food shortages that contribute to under-nutrition. Collard greens, however, are normally available across regions. Among animal-source foods, milk, cottage cheese and eggs are rare but are still much more commonly consumed by breastfeeding mothers than are poultry, fish or red meats (beef, lamb, goat), which are mostly consumed during holidays, if at all.

Kocho and kolo! Kocho is our common food. If we get we also eat cottage cheese. Usually we eat nothing different. (Mother, SNNPR, Anfar Azernet Berber)

I eat anything I find in my house. It can be shiro, (pea sauce), bread with tea and tomato sauce. I will also eat meat if available in the house. I used to also drink milk before our cow stopped producing it. Sometimes I also eat macaroni.... When I eat alone I eat at a quarter to one full injera, but when I eat with my husband and my kids all together we mostly eat one injera, but if we are not full we will add more. I drink tella [an alcoholic drink traditionally brewed from barley] if I can find it or else I drink water. (Mother, Amhara Metema Kega)

I eat what I have. If I have bread, I eat it. When I get injera, I eat it. I eat what I have! (Mother, Oromia, Teso Sedecha Gomma)

I eat what I find depending on situations...just what is available in my house: foods such as collard greens with kita, kocho. I also prepare coffee sometimes. I also take avocado from the backyard when it grows. (Mother, SNNPR, Woshasoyama Wondogenet).

Well, I eat what I have in the house. I eat an egg, vegetables; and if we can get it, I eat meat, potatoes, cabbage. We eat what is available in the house. (Mother, Tigray Blamba Michael Welkayt)

Most of the food items identified by the mothers are foods commonly available in rural areas. Some foods, particularly spaghetti or macaroni, reportedly were found in nearby markets and may be imported. These pastas do not appear to be perceived as local, rural foods, but are instead viewed as “modern” foods or “urban” foods—attributes that many respondents consider to be positive and desirable.

3.1.2 Frequency of food intake

While many respondents reported that breastfeeding mothers usually eat three meals a day and a snack, some breastfeeding mothers, particularly those working outside the home, reported eating less (two meals or even only one meal a day).

I prepare and eat in the morning. I also eat in the evening, and I eat my lunch. Three times per day: dinner, breakfast, coffee with snack. (Mother, Tigray, Blamba Michael Welkayt)

Mostly we eat 2 times, in the morning and then in the evening if there is intensive work. If there is no work, we eat 4 times a day -- breakfast, lunch, snack and dinner. (Mother, Amhara Zenzelma Bahir dar 2)

My nourishment is very poor. How many times do breastfeeding mothers take food daily? She must take her breakfast, after four hours, she also takes something. Then lunch, then other things after some time, and her dinner. She also [should] take different liquids, porridge and sweet things. I know this in theory, but it is difficult for me to get a meal twice a day. (Mother, Oromia Teso Sedecha Gomma)

3.1.3 Diet quality differences between pregnant and breastfeeding women

With a few special exceptions, respondents—men and women alike—consistently reported that breastfeeding does not require special dietary consideration, and so there is little difference between women’s prenatal and postnatal diets in terms of the quality and content of their food intake.

There is no difference regarding diet. During breastfeeding I only occasionally eat meat, milk and eggs. I eat meat only on holidays. (Mother, Amhara)

There is nothing different, kocho (false banana bi-product) and ‘kolo’, (roasted whole grain barley)...Kocho is our common food; if we get we also eat cottage cheese. Usually we eat nothing different. There is no change (in the amount and type of foods I eat). (Mother, SNNPR)

There is nothing different provided for her, we just eat together. We don’t provide her with something special because she is breastfeeding. (Father, Amhara, Meka, Metema)

Many mothers and grandmothers reported that the greatest change in women’s pre- and postnatal diets is that breastfeeding mothers feel hungrier than they did during their pregnancies, which results in them eating more frequently and also increasing the quantity of their food intake.

... when we breastfeed we just get hungry now and then. If we get kolo we eat all day long in addition to eating four or three times a day. (Mother, Amhara)

I feel something when I am breastfeeding; I become hungry more frequently, but when I stop breastfeeding I become normal. (Mother, Oromia, Migna Kura Wayu Tuka)

When I compare my food intake from before and after I have started breastfeeding, there is a big difference. Before I was not eating well but now because I am breastfeeding I get hungry; therefore I eat more frequently and I eat more... what I am eating is not that much different from what I used to eat before, but the frequency and the amount is more. (Mother, Amhara)

3.1.4 Family perceptions of diets of breastfeeding mothers

While many men expressed concern that their breastfeeding wives' diets seemed insufficient, none of the men respondents mentioned noticing that their breastfeeding wives are hungrier than usual. In contrast, grandmothers do seem to notice the changes in their daughters' or daughters-in-laws' diets. They echoed the reports of the breastfeeding mothers, observing that women are hungrier, eating more and eating more frequently when they are breastfeeding.

Now she eats more; she eats frequently. She eats what she loves. They all eat the same but the amount and the type has increased now that they are breastfeeding. (Grandmother, Amhara).

Many grandmothers also expressed concerns that their breastfeeding daughters and daughters-in-law were nevertheless not getting enough to eat.

The food she eats is not adequate...it is less than what is required for a breastfeeding mother due to limitations of different things in life, like low production of crops, money, and also sometimes there is no time to prepare different foods as required. (Grandmother, Oromia)

...I do not know what happened to her; she's losing weight. This was not her body...as a whole her body is not the same as before. She lost weight after she gave birth. (Grandmother, Tigray).

3.1.5 Effects of postpartum recuperation and breastfeeding on women's diets

Many women change their dietary practices following child birth; these changes are deliberate and have special purposes. Respondents frequently reported that immediately after the birth of a child, the new mother is expected to take time to recuperate in order to regain her strength and good health. Respondents across the regions reported postpartum recuperation periods lasting two weeks to 40 days. New mothers may recuperate at their homes or at the homes of their mother or mother-in-law. During this period, new mothers are not supposed to engage in household work or farming activities and are expected to follow a special diet.

This recuperation period is the only time when breastfeeding women are perceived by their family members to require special treatment and special foods. Once women have finished their recuperation, they return to the common practice of eating what everyone else eats in their family, and eating together with other family members.

Most mothers identified gruel and porridge, particularly made from barley and teff flour, as essential components of their diets after childbirth. Respondents consistently reported that new mothers should eat these foods to regain their strength and health after delivery. Breastfeeding mothers also increase their intake of animal-source foods, particularly red meat, during the postpartum recuperation period.

Husbands of women who have just given birth consistently reported making an extra effort to provide nutritious foods for their wives during this special time. Sensitive to the fact that their wives have “lost a lot of blood,” men strive to provide special foods to help them regain their strength. They slaughter cows, goats, chicken or sheep so that their wives may eat meat, provide milk and eggs, and buy chickpeas, butter and other foods considered to be nutritious. They also take on extra work to assure that their wives will be able to rest during their recuperation.

... On the day of delivery, those who have better income provide meat by slaughtering either a sheep or goat. (Father, Amhara, Meka, Metema)

My responsibility is to give her the milk from the cows. I tell her to boil it and give it to the children. I also buy grains like peas, black bean, guaya and chickpeas and give that to her. I take care of the cows. I tell her to use the milk and butter.... I want her to rest the whole day.... I slaughtered a sheep for meat when she gave birth. After that she uses milk and eggs. (Father, Amhara, Efratana Gibrim, Kore Meda)

We eat together. No special foods for her during breastfeeding.... But the only time she eats some special foods is during delivery time....She eats more soft foods at that time. Except for that, after she starts breastfeeding, she eats the same foods that we eat.... She seriously suffers during childbirth. She is also short of necessary care. She lost a lot of blood. She is also breastfeeding. I think we husbands are responsible [and] we have to give necessary care as much as we can and as conditions allow us. I think breastfeeding woman deserves extra care because it is about health issue. (Father, Oromia, Doba Ashe Munessa)

She eats porridge until the seventh day after delivery. This is especially important for her at this time. After sometime, we slaughter a goat so that she eats meat that will strengthen her spine. After that, she will consume everything available, like vegetables, with us. (Father, Tigray, Blamba Michael Welkayt)

My role is supplying the food for her. After she gave birth to the baby if there is something at home I will supply it, if there is nothing, I will buy from the market and we will eat that. (Father, SNNPR, Awradageter Decha)

During the postpartum recovery period, some grandmothers help to prepare special dietary foods to stimulate breast milk production and help new mothers regain their strength.

After she gave birth she stayed with me for the whole month, and during that time my neighbors used to take care of her by fetching water and by preparing oily foods for her. We also give gruel and porridge. (Grandmother, Amhara)

Breastfeeding mothers consume boiled or toasted cereals throughout the time they breastfeed. The grains are prepared as nifro (a boiled cereal consisting of whole grain cereals or legumes) or kolo (toasted sorghum or barley). The same grains are also prepared as special traditional beverages, such as tella or tsewa (fermented beverages with some alcohol content) or bubugn (a traditional beverage without alcoholic content). Breastfeeding mothers also drink cow’s milk to increase their breast milk production and to make their breast milk thicker or creamier. If they have the food, mothers increase the amount and frequency of these foods in their maternal diets in an effort to increase the quantity of their breast milk.

I don't miss gruel every day...When there is a cow, every morning we eat porridge. At lunch time, we eat injera with wot. (Mother, Oromia Teso Sedecha gomma)

After the customary 40-day convalescence period, most new mothers resume their pre-pregnancy diets, although many will continue to eat the special gruels and tella to help with breast milk production.

The elders told us it (nifro) is good for flow of the milk from our breasts... We prepare it (tella) from germinated barley and kita [thinly baked bread especially for the preparation of tella]. If we drink it at night, it helps us to increase the quantity of milk of our breasts. (Mother, Blamba Michael Wilkayt, Tigray)

We eat everything that is available at home and we drink tella and eat kolo as these are believed to boost the production of breast milk. The amount of food, we eat four or three times a day, we eat potato wot, peas in the form of shiro wot and collard greens. (Mother, Amhara).

When I eat breakfast with coffee even if it is with roasted cereals (kolo) and drink water my breasts produces much milk. When I ignore food, my breasts do not give milk, but when I eat those foods my breasts become full of milk. (Mother, Oromia Doba Ashe Munessa)

I drink tella during breastfeeding because I believe that if I only drink water my breast milk loses its value and becomes full of water rather than milk, so it doesn't benefit the child. Whenever I drink tella the milk become thick and when I drink a lot of water it will be thin and change into the color of water. (Mother, Amhara).

3.2. Knowledge and Perceptions of Foods for the Maternal Diet

3.2.1 Awareness of the benefits of a good diet on maternal and child health

Breastfeeding mothers: Most breastfeeding mothers were aware that having a good diet would help them and their babies stay healthy. Women place a high level of importance on the benefits of a good diet for improved quality and increased quantity of their breast milk.

I have heard it is important for mothers to get additional diet for her and also for her child too. (Mother, Oromia Migna Kura Wayu Tuka)

Since it is balanced type of diet, it is good for the child...It protects him from different diseases. It protects him from hunger. He is well because of the milk from his mother and the additional food he eats. (Mother, Tigray Tekle Haymanot Endamehone)

... I don't have any problem since I gave birth. This is because of the foods I eat. We are not a rich family, our family is poor. But we consume what we own. We consume a good diet. We are not eating non-quality foods because we know the cost of treatment if someone gets sick. We don't have anything to save, however we have enough for direct consumption. (Mother, Tigray Rawyan Qfta Humera)

Although less common, some breastfeeding mothers believe that their diet helps their own health but not the health of their child.

It [my diet] has a positive impact on my health if I eat well...I think that if I eat well, I will be healthy. It has no impact on the health of the baby. (Mother, Amhara)

Husbands and Grandmothers: Husbands and grandmothers are also aware that eating well has a positive impact on the health of both mother and child. Like the breastfeeding mothers, these family members consider improved quality and quantity of breast milk as the greatest benefit of a good maternal diet.

When she is giving more milk, then I know that she is eating well, but when there is no milk, I know that she is not eating well. This is how I check. (Father, SNNPR, Woshasoyama Wondogenet)

It's obvious that taking quality food is important both for the child and mother. It is known that eating good food is useful and important for all people to become healthy and strong. (Grandmother, Oromia)

My daughter's diet is very important for her and her baby. If she eats well, it will pass on to her baby through her breast milk. Therefore her baby will be healthy. (Grandmother- Amhara)

3.2.2 Awareness of the detrimental effects of a poor diet

Breastfeeding mothers: Most mothers believe that eating the same, limited food items every day is a deficient diet; and they say this describes their diets. For many mothers, there are no alternative to eating what is readily available to them at home.

I have no additional food. I don't eat different food. I eat similar food...and the same amount. I don't think it is enough. I am thinking that an inadequate diet can affect me...my child will also be affected depending on my diet. (Mother, Oromia, Sire Morese Hidabu Abote)

No it is not enough. It was better at the time I gave birth to my elder children, but now since last year what we eat is only injera with salt...because of economic problems. Now things are expensive; I cannot afford [them], and I am not eating what I need to, as before. (Mother, Tigray Zeban Gedena Tahtay Adeyabo)

I only eat kocho and collard greens. I do not find any other food. (Mother, SNNPR)

Most mothers are aware that their poor diets had an impact of their health and the health of their child.

Yes, my diet affects me and my child. Failing to change what you ate yesterday has an influence... inadequate diet has also a negative influence. (Mother, Oromia)

Diet deficiency is a great problem for me and my child, since it exposes both of us to different diseases...but the child will be affected in her development and strength. (Mother, Oromia)

It has an impact on my health, since I don't get enough nutritious food.... I do not think that my diet is enough, and if I get sick it would be transmitted to my baby through breastfeeding. (Mother, Amhara)

Most mothers who felt that they had inadequate diets were particularly concerned that this would negatively impact their breast milk production.

Since I don't eat much, I don't produce so much milk; thus he doesn't get as [much as] he wants, and it has an impact because he will be hungry. And the thing is, if we don't eat nutritious food... the milk from our breast will not be enriched with different nutrition. (Mother, Amhara)

The fact that I eat the same type of foods all the time, with no variety, has an impact on my health, including weight loss... since I don't eat much, I can't produce so much milk; thus the baby doesn't get what he wants and he will be starved. (Mother, Amhara)

Grandmothers: Grandmothers are generally also aware that a poor maternal diet can have a negative impact on the health of the mother and child. Some reported that the diets of their lactating daughters or daughters-in-law were extremely poor and expressed concern about the impact of poor diet on their health.

There is no difference; she is eating the same as before. She doesn't have an appetite; she doesn't eat now or then – she is not healthy. (Grandmother, Amhara)

The amount she eats is not adequate for her health since the energy she is spending while breastfeeding is more than she eats. She will get hurt. (Grandmother, Amhara)

She loves her kids and takes care of them very much, but she has lost weight since she is breastfeeding. I don't think the amount she eats is adequate for her body. (Grandmother, Amhara)

Many grandmothers were concerned about the impact of their daughters' or daughters-in-law's poor diet on the quantity and quality of the breast milk given to their breastfeeding grandchildren. Their specific concerns for the infants include stunted growth, low weight and poor appearance.

If there is a reduction in food intake of the mother, it may affect the child and the mother also. If she feeds her child only her breast milk, without eating food for herself, the child will continuously suck the breasts and the mother will face different problems. She becomes underweight, she lacks good health and her breasts may become affected and irritated. (Grandmother, Oromia)

The fact that she doesn't eat concerns me. I am concerned about her health. She will get hurt when she is breastfeeding. It will affect the baby very much. Where will he get breast milk if she is not eating? (Grandmother, Amhara)

...If she doesn't get proper diet for herself and her baby's health will be jeopardized. (Grandmother, Amhara)

It (mother's poor nutrition) brings all kinds of problems. He (the breastfeeding child) lacks strength, he becomes weak, his physical appearance is thin and stunted...without food that gives us strength to work and make us beautiful.⁵ (Grandmother, Oromia)

⁵ Beauty was a common theme identified by other population groups in the ENGINE study as an index of good nutrition.

Husbands/Fathers: Many husbands said that their lactating wives diets' may be inadequate, and they are aware that a poor maternal diet can have a negative impact on the lactating woman and her child. Men nevertheless appeared to be more resigned to this situation than the grandmothers. In contrast to the grandmothers, who expressed worry and concern for lactating daughters and daughters-in-law with inadequate diets, men often explained that they were doing the best that they could within the family constraints, or that their wives didn't seem to mind or might even refuse to eat differently or better than other family members. Several men expressed the view that the availability or lack of availability of sufficient food, along with their wives' and entire family's nutrition, are dependent on God's will.

I don't think I can say it [my lactating wife's diet] is adequate; we live like our household allows us. It is difficult to say that it is adequate. Like I told you before, there is inflation and also capacity also limits [us]. It is difficult to say that it is adequate.... But, you know, like I said, we manage. (Husband, SNNPR, Woshasoyama Wondogenet)

3.2.3 Perceptions of ideal foods during lactation

Most respondents believe the ideal diet for most breastfeeding mothers should include animal-source foods such as meat and eggs. Respondents also identified milk (also added to coffee, porridge and gruel), cottage cheese, butter and vegetables as the essential elements of a good diet for breastfeeding mothers.

I think eating meat and eggs are important because it gives growth and keeps the child healthy. (Mother, Amhara).

Respondents described the foods that they believe helps with lactation (e.g. meat, eggs, milk, cottage cheese, butter, gruel, tella) as "good" and "healthy" because they help to "build up the body," increase the flow of breast milk, and help the mother and child to grow strong.

What is good is if you have good milk, good wheat, and good barley. If you have peas and the like in enough amounts you can eat whatever you want. Then you will be in good condition. (Mother, SNNPR Anfar Azernet Berbere)

I eat anything I believe is good for me and as long as it helps me make more milk. (Mother, Amhara)

Of course I eat what I think is good for my body. It is different from what I ate before giving birth.... I eat more fruit, as much as I can get, so not to harm my baby. (Mother, SNNPR, Kashubetriye Shewa Bench)

"Variety" and "balance" were frequently mentioned in all regions and respondent groups as qualities that characterized a good maternal diet during lactation. Many respondents were aware that it is important to eat a variety of foods and that not having enough variety in the diet can have a negative impact on the health of a lactating woman and her child.

The fact that I eat the same type of foods all the time with no variety has an impact on my health, including the loss of weight.... (Mother, Amhara).

They don't eat a variety of food. They eat kocho again and again. They eat kocho their lunch, and they repeat kocho with cabbage for dinner... We eat kolo during coffee in the morning; for lunch we eat injera, and at night we eat kocho with cottage cheese. (Mother, SNNPR)

The[y] do well to eat a variety of things... [such as] stews [from foods] they bring from AdiRemet [a city found near to the respondent's locality].... It is not a variety [what people eat here]; everybody is eating kik wot (split pea stew). (Mother, Tigray)

While most women said that it was important to attain a “variety” or balance” in their diets, this concept related more to the consumption of different food items (grains, pasta and breads) than to a nutritional balance of foods across major food groups.

I eat a balanced diet. I eat pasta, macaroni, rice, barley, porridge and gruel. There is always meat at home and I eat that too. We eat injera with wot and butter with food. (Mother, Amhara).

If I eat two breads with selsi [tomato sauce] at breakfast, I will eat half an injera with different types of wot at lunch. At dinner, it is almost similar. (Laughs) For a snack, I will eat kicha (unleavened bread), pie baked pastry or porridge. (Mother, Tigray, Zeban GedenaTahtay Adeyabo)

While some husbands and fathers identified a “balanced” diet as ideal, and indicated that “unbalanced” diets could have a negative health impact on their lactating wives and children, their descriptions of what constitutes a “balanced” diet were mostly vague or specified a very limited range of food groups.

If her diet was insufficient and unbalanced... she might acquire illnesses easily and the baby will also be deprived and suffer from sickness. And then, we will be obliged to spend more money for medical treatments from your [our] savings.... that might be even double what we were expected to spend for food. (Father, Tigray, Zeban Gedena, Tahtay Adeyabo)

She needs to eat a variety [of foods].... It is not the amount that matters. (Husband, Amhara, Efratana Gidim, Kore Meda)

Since she is breastfeeding, I offer her a variety of balanced foods from our own production and also purchased from the market.... Hence, I offer her with food items like papaya, orange, banana, potato, and other varieties. She will then feed herself in a good way and take care of the child properly. So, my role is to offer adequate provisions and also to provide her with sufficient care. (Father, Tigray, Tekle Haymanot Endamehone)

If she is eating well and it is good for her body, the baby will be ok. When she is breast feeding she should eat a variety of the things I told you earlier. When she wakes up in the morning she drinks milk and then she eats whatever is available in the house. If she eats shiro today, tomorrow lentils and day after tomorrow split peas. She eats lunch like this. We use injera for lunch, not bread.... (Father, Amhara, Zenzelma Bahir Dar)

Another common theme found across all groups is the perception that people who live in the “towns” or urban centers have better diets because of their access to diverse, good quality foods.

Though we are not eating a variety of foods like the town people, we eat what is available at home. So what we eat is not adequate. (Mother, Amhara)

I see children of my relatives who live in town, and I want to feed my child also as they do; but I don't have enough resources to feed them as I wish. (Mother, Oromia)

3.3. Barriers and motivators to improved dietary practices during breastfeeding

3.3.1 Socioeconomic barriers

Lactating women have limited access to a diversity of nutrient-dense foods that must be purchased, particularly animal-source foods. Holidays offer rare opportunities for them to increase their consumption of meat in particular.

By the time I gave birth, I used to eat only a piece of injera as I did not get the kind of food I wanted to have.... There was also a small [piece of] beef we ate at that time. If I could eat like my neighbors, I would have had proper body weight. If it was not for the economic problems, I would look better than my neighbors. (Mother, Tigray)

It is not sufficient what I am eating because it is determined by the standard of living. We wish to eat a variety of food but, our economic background doesn't allow us to buy variety of foods as we have low income. (Mother, Amhara)

...everything is available in the market. The only constraint is money. In this time there are no cheap goods.... (Mother, Amhara)

The reason is that all are poor. The rich have milk, eggs and meat. Those poor people cannot afford everything because they don't have jobs to earn [money].... ...if I had milk, eggs and chickens, I would eat such foods. Similarly, if I had money, I would buy spaghetti, macaroni, rice and eggs But now I am not able to do this because I can't afford all. (Grandmother, SNNPR)

Several mothers and grandmothers noted that the inability to change their economic situation makes women want to conceal the fact that they are actually aware and knowledgeable about good maternal nutrition.

But the problem is we don't have the capacity to access what we want. We know everything about what the mother and the baby should feed [eat] thanks to the time we spent in Sudan as refugees ...the problem is that we don't have them, and we keep silent as if we don't know. (Grandmother, Tigray)

For one grandmother, the loss of her daughter-in-law's income resulted in her diminished nutritional health.

She used to eat good foods before such as eggs, cottage cheese, and meat. She used to work; run here and there by herself, and she was able to buy meat, cheese, eggs, milk and other things she wanted. Now, she gave birth and is in the house to take care of her child, she can't run here and there, and I'm an old woman. (Grandmother, SNNPR)

3.3.2 Barriers related to socio-cultural influences, including gender

Gender disparities in eating: The findings indicate that the same socio-cultural influences on pregnant women's eating practices are also present for lactating women. There is a strong cultural value for lactating women to eat together with family members: lactating women, and their husbands and mothers/mothers-in-law, repeatedly emphasized the importance of women eating with the family rather than eating alone. This means that lactating women are generally eating the

same foods as the rest of the family, and are generally eating most of their food during the family meal times. (e.g. “*She is eating whatever we have*”; “*Everyone eats the same*”). Breastfeeding affords no special privileges for women, although, as noted earlier, there are some specific foods, such as gruels, porridges, as well as beverages, such as *tella*, that all family members consider to be important for lactating women to consume.

During IDIs, respondents were asked if breastfeeding mothers ate additional meals. Respondents frequently interpreted eating an extra meal to require cooking separately as well as eating a meal separately from the family. Lactating women, husbands and grandmothers alike consistently indicated that a woman preparing food for herself and “eating alone” is simply not done. Many respondents indicated that it is inappropriate for women to use for themselves the limited food resources that should be shared by everyone in the family.

Closer examination of the data, however, reveals that there are some gender disparities underlying the cultural value of eating together. While many respondents reported that lactating women feel ashamed or guilty about eating alone, men can and do eat extra meals outside of the home. A wife may wait for her husband to come home so that she may share a meal with him; her husband, meanwhile, may decide to eat a meal somewhere else. Men do eat most meals with their wives and other family members. However, they do not appear to experience the same feelings of shame or guilt about eating outside of the home, or eating extra food, and they consider this privilege as appropriate and normal because they do not spend as much time at home as their wives do.

Women don't eat as much as men because men eat additional foods as we spend most of our time outside the home... They should get additional, special foods as they are mothers and the foods they eat may not be enough. (Father, Amhara, Meka, Metema)

My wife is breastfeeding now. Concerns about what she has to eat, or in what way the child can get adequate breast milk, is not the father's. We do not care for her. We even do not remember whether she eats or not.... Women spend their days without food, feeding other family members. We are simply 'wadala harree' meaning 'male donkeys' who never care for our breastfeeding women. No one is thinking... what a breastfeeding woman is eating. We have not respected their rights. We have rather abused them. (Husband/community leader, Oromia, Sre Morose Hidabu Abote)

Women’s workloads and limited time to rest and eat: Lactating women are busy with their daily childcare, household and farming chores. Many lactating women, as well as their mothers or mothers-in-law, pointed out that after childbirth lactating women usually have even less time available to rest and eat than when they were pregnant.

...It was better during the previous time because at that time I was free and I could work more and I could get more food. But now it is difficult to perform different jobs that help me to get additional income since I spend more time on childcare and have a problem getting enough food for myself and also for my child. I am always at home and preparing what I have to at home, as well as breastfeeding to stop him from crying, but there is not enough milk. (Mother, Oromia)

Mostly I do have a workload and spend most of my time working rather than thinking (about eating) for myself. (Mother, Amhara).

... washing children and other household chores is only done by me. So I don't have time to care for myself. (Mother, Oromia Teso Sedecha Gomma)

A lactating mother should take what she can get and have even (kolo) and tella to increase her breast milk for her child. But [I] didn't see this at times, and she doesn't take enough food. She wakes up and continues her daily work. (Grandmother, Oromia)

Fasting: Because attitudes and practices regarding fasting by pregnant women, described in section 6.5, are the same as those for breastfeeding mothers, they will be described only briefly here. In general, respondents recognize the potential harm of fasting by pregnant and breastfeeding women, but family's actual practices vary. Fasting can mean skipping one or more meals, avoiding certain foods, or seeking certain foods considered appropriate for the season or the mother and/or baby's health.

When it is fasting period we don't eat anything until midday. Currently it is not a fasting period; therefore I eat three times a day: breakfast, lunch and dinner. (Mother, Amhara, Bahir Dar Zenzelma)

Fasting is honored in our culture. During fasting a mother who is breastfeeding has a meal composed of injera, and tella [traditional alcohol drink]. No milk in the fasting period; she doesn't eat foods like meat, egg etc. God has forbidden this. This time though she is breastfeeding. ... If it [breastfeeding] happened during fasting time [subae], St. Mary will lessen the blame by virtue of her holy legacy. (Community leader, Amhara Debre Elias Abshem)

Another community leader from the same region (Amhara, BahirDar Zenzelema)—but possibly from a different religion—declared that mothers of newborns do not usually fast. And in Oromia and SNNPR, two Muslim community leaders reported that during the fasting period, breastfeeding mothers of their faith are not expected to fast.

Several lactating women mentioned cabbage specifically as a food eaten more frequently during fasting periods, including Lent. Others noted that red meat, chicken, eggs and milk are avoided during fasting times, while still others reported that fasting did not impact the quantity, frequency or quality of the foods they usually consume.

3.3.3 Problems with couple communication and marital relationships: Many breastfeeding mothers reported problems in their relationships with their husbands that negatively impact their nutrition. Women, particularly in IDIs, described their husbands as not being supportive enough, being selfish in their allocation of family food, or seeming uninterested in their wives' nutrition. For example, some women reported that their husbands will go to restaurants to eat meat or other foods if there is not enough food in the house for all family members to share. Grandmothers also provided many examples of problems in the marriages of their daughters and daughters-in-law, and a few male respondents agreed that some men are selfish and neglect their wives, making it difficult for lactating women to have an adequate diet.

We men consider women as though they were 'donkeys'. Nevertheless, we properly feed barley to our donkeys for their labor, so to be frank, we consider women to be far less than donkeys—[providing

them with] far less than the scientific requirement of food for breastfeeding women; they have to eat four or five times a day with varieties of foods.... This [men's treatment of women] is true including among the educated segment of the community. We have only recently started to practice only a little care for women. (Father, Oromia, Teso Sedecha Gomma)

By the time I gave birth, I used to eat only a piece of injera, as I did not get the kind of food I wanted to have. I didn't drink siwa [traditional local alcoholic drink], which is recommended to a lactating mother. There was also a little beef we ate at that time.... The husband continues to waste his salary out. He is not ready to see our problems and help us. We just sleep in a closed home without alternatives. No clothes, no shoes to change... There is disagreement between me and my husband. (Mother, Tigray, Zeban Gedena Tahtay Adeyabo)

...A lactating mother requires her husband's support. It is believed that through breast milk the child gets what the mother eats, so that when husbands buy different foods and feed their wives, this could in turn help the baby. In my case all things are difficult since he never thinks about me and his child.... Sometimes he sells something [food products from his farm], and he puts the money in his pocket and he eats in restaurants. He cares neither for me nor for the child. During my pregnancy I was craving meat [all the time] but until today I didn't [get to] eat [any]. Other mothers [like me] in this area don't have problems that I face. (Mother, Oromia, Teso Sedecha Gomma)

Some husbands, meanwhile, complained that their wives don't listen to their advice and refuse to eat differently from other family members even when their husbands urge them to do so. Men frequently attributed their wives' reluctance to improve their eating practices to the cultural values tied to women's selflessness. Men indicated that they feel unable to convince their wives to overcome their embarrassment and to eat more and better foods.

Even if we advise her to eat this and that during breastfeeding, she never eats alone. Wives here don't want to eat additional or special foods alone just whatever the case is.... They should get additional, special foods as they are mothers and the foods they eat may not be enough. What I am saying is they don't eat special foods alone like we men do. What we can do is provide. We can't do anything if they don't eat. (Father, Amhara, Meka, Metema)

Marital discord can result in inadequate diets for the lactating women who are often dependent on their husbands to provide money to buy health food for themselves and children. Discord can also result in divorce or abandonment, leaving women without the financial support they need to provide for their own nutrition, as well as for that of their breastfeeding children.

I seek advice from other people, but not my husband since he does not understand it.... Given the fact that we are always clashing, I do not understand what he means even if he advises me. He does not also understand my advice. We're always fighting... What can I say? If love existed, we could have managed to eat good food today considering the bad food we ate yesterday. But since there is always a fight between us, we do not advise each other. (Mother, SNNPR, Awradageter Decha)

... there was a disagreement between us -- with my husband. We were arguing since the birth of our son... now I've come back to my home after three months. As you know, agreement in the family is important for children's care and good growth, but we failed, and I left my home on the 40th day after my child's birth. When I gave birth I got no care from anybody; traditionally a mother is provided with porridge, but I didn't get any special treatment as a lactating mother, and I had a shortage of food. (Mother, Oromia- Teso Sedecha Gomma)

...difficult due to shortage of income and disagreement she has with her husband. There is no agreement between them so how can she get what she wants? Others may have agreement and peace with their family, and they eat what they want, but this is difficult for her...this is due to lack of income and agreement. Yes, this is more due to disagreement. If there is agreement anyone can feed their children. (Grandmother, Oromia)

3.3.4 Other priorities: As is the case with pregnant women, breastfeeding mothers' diet may be affected by the family's (usually the husband's) decisions on selling foods that have high nutritional value instead of consuming them, in order to use the income to pay for other household necessities such as, taxes, health care expenditures, school fees, seeds and fertilizers. Respondents indicated that when people sell their crops, or buy items other than food, it is not necessarily because they are unaware of the nutritional value of these foods.

3.4 Behavioral motivators

3.4.1 Healthy, happy child who grows big and strong

The biggest motivation for breastfeeding mothers to improve their diets is connected directly to their desire to ensure the physical development, health and wellbeing, of their children. Mothers want to see their children happy, healthy, gaining weight and growing big and strong. Grandmothers share a similar motivation, and do what they can to assist their daughters and daughters-in-law to eat well so that their grandchildren will gain weight and be healthy.

I give him all of these because I want him to grow up big and strong. (Mother, Amhara)

I witness others make [food] for their children that makes their bodies grow fast, but my child is very thin and small; these and other factors make me think about changing his diet. (Mother, Oromia)

What prompts me to make these changes is that I want my baby to gain weight and also to be strong. Also, I want him to start walking. (Mother, Amhara)

To have a child who is stronger, happier and healthier. (Mother, Oromia)

Well, [I] use anything I can find so that he won't lose weight or get physically hurt. (Grandmother, SNNPR)

Mothers, grandmothers and fathers also cited having intelligent children who have good academic performance and successful lives as motivators for assuring that breastfeeding women have a good diet. Some tied the success of the child to the welfare of the entire family.

Besides this, he will be also good on his academic performance. (Mother, Oromia)

So that she [my granddaughter] could have a good standard of living and benefit her parents. (Grandmother, SNNPR)

3.4.2 Husband support

Both husbands and wives view the husband's role as the provider who should do what he can to support his wife's diet during lactation. Some husbands of lactating wives reported trying to provide

a balanced diet that included a diversity of food groups (fruits, vegetables, meats, dairy, grains, etc.) to their pregnant or lactating wives. These men feel responsible for the health and welfare of their wives and children, and want to see their children grow up strong and successful. A few men spoke of the love and trust they have for their wives.

I get her anything I think she lacks. When I ask her what's not here and what she wants.... I will try to provide her with that... [I do this] out of love and so she won't get sick. (Father, SNNPR, Kashubetriye Shewa Bench)

Husbands of lactating women said that they learn about maternal nutrition primarily from their wives, who tell them what they hear from HEWs and at the health center. Many lactating women indicated that they rely on their husbands for advice and information about their diet and nutrition.

My husband... told me about how I feed the child and to follow the child in ways of feeding. And above all, I myself do that [get nutrition information]. (Mother, Tigray, Tekle Haymanot, Endamehone)

I give her advice because she is like a child.... We are far away from our family, from her mother and her father. I tend to be like a father. I am also older than her. Because she is young, I give her advice. ...from what they usually eat, it is different to eat for her and for the baby.... (Father, SNNPR, Woshasoyama Wondogenet)

3.4.3 Mother/Mother-in-Law support

Lactating women often reported that their first source of nutrition information and advice is their mothers, followed by their husbands. Grandmothers' reports confirmed that some of these older women are attentive to the diets and eating habits of their daughters and daughters-in-law. Grandmothers advise their daughters/daughters-in-law and grandchildren with the goal of helping them to regain their strength and gain weight.

Since a good mother-in-law raised me, when she [my daughter-in-law] comes to drink coffee with me, I will give her injera with butter, red pepper with salt and coffee snacks like teff bread. (Grandmother, Amhara)

When comparing the amount of food my daughter eats now and before she gave birth, she couldn't eat much but now she eats well. She was unable to gain weight but she was healthy. Since she gave birth she wants food frequently. I prepare her meals and she eats more than she used to; she has more appetite. (Grandmother, Amhara).

Isn't she my daughter? I want my grandchild to be healthy, and I don't like to see my daughter suffer. I give her what I have, if not what can I do? (Grandmother, Tigray)

A woman who gives birth eats differently.... So I assist to feed her alone. (Grandmother, SNNPR)

Chapter 4. Conclusions and Recommendations

This chapter provides general conclusions and recommendations for social and behavior change communication (SBCC) aimed to improve maternal diets. There are specific recommendations for SBCC strategies for pregnant women and their families, specific recommendations for SBCC strategies for lactating women and their influential family members, and recommendations that are appropriate throughout the continuum from pre-pregnancy, to pregnancy, to postpartum recuperation period, and lactation. These recommendations are primarily for the USAID/ENGINE program, but may also be relevant for other stakeholders implementing maternal nutrition SBCC programming in Ethiopia.

4.1 Conclusions and recommendations for SBCC to improve pregnant women's diets

There are a few important issues related to the maternal diet during pregnancy that would be best addressed through segmentation of mothers based on their trimester. These issues pertain especially to early pregnancy, when many women feel nauseous and have an aversion to various foods, and late pregnancy when women may adopt special risk-reduction strategies in an effort to have safer and easier deliveries.

***RECOMMENDATION #1:** Content, messaging, and materials covering nutrition during pregnancy should, where practical and appropriate, focus on issues relevant to all stages of pregnancy, as well as on issues specific to a given trimester.*

For all stages of pregnancy:

- Include information on:
 - Timely initiation of ANC and a minimum of four ANC visits
 - IFA adherence and related behaviors, including consumption of iron-absorption enhancers and avoidance of iron-absorption inhibitors
 - Increasing food intake through snacking (rather than eating an “extra meal”)
 - Increasing dietary diversity across five food groups, specific foods, recipes for nutritious snacks that won't spoil (e.g. fresh or dried fruits, dried/smoked meats...), and the concept of “eating for two”
- Design and develop SBCC materials on prenatal nutrition that address the above topics, and that are specifically tailored to pregnant women segmented by trimester, their husbands, and their mothers/mothers-in-law.

For early stages of pregnancy (first and early second trimester):

- Provide women with encouragement, strategies and advice for managing nausea and food aversions, including suggestions for nutrient-rich snacks and eating smaller portions more frequently throughout the day.

For late stages of pregnancy (latter part of second trimester as well as the third trimester):

- Provide nutrition information and advice that helps women prepare for labor and delivery and that addresses women and their families' special concerns about having a safer delivery. This means that content should constructively address the practice of “eating down” by

providing alternatives for mothers to have an easier delivery. This content should also include:

- Nutrition advice for continued use of IFA and foods that help mother and baby get stronger for delivery
- Birth planning information (including content and materials that support men's financial planning to allow their wives to have assisted deliveries by qualified health personnel)
- Information on risk factors and danger signs
- Encouragement for families to discuss, plan and take steps for pregnant women to be attended by a qualified birth attendant.

Cost-efficiency and the complexity of information should be considered during the decision-making about how and when to further segment the audience of mothers based on the trimester of their pregnancy.

4.2 Conclusions and recommendations for SBCC to improve breastfeeding mothers' diets

Lactating women are particularly motivated to regain their strength and health quickly after delivery, and to produce enough high quality (thick, nutritious) breast milk for their breastfeeding children.

RECOMMENDATION #2: Nutrition communication about women's diet during lactation should emphasize the positive attributes of foods and beverages that are valued by lactating women and the need for women to eat more of these foods.

Lactating women in particular value foods and beverages that help women to (a) regain their strength, health, and beauty during their postpartum recuperation; (b) stay strong and healthy while breastfeeding; and (c) produce enough high-quality (thick, creamy) breast milk to help their children to gain weight, stay healthy, avoid illnesses, and be happier and more intelligent.

Communication should include the value of foods like collard greens and legumes that, although common, do not always seem to be well-valued.

4.3. Conclusions and recommendations for SBCC to improve pregnant and breastfeeding women's diets

The research findings indicate that pregnant and lactating women, their husbands, their mothers/mothers-in-law, and religious leaders are all important target audiences for SBCC on maternal nutrition.

Key objectives and motivators that cut across the target audiences include eating to help both the mother and child to be stronger and healthier. Additional motivators for improved nutrition

practices and related supportive behaviors are tied to the desire to see children gain weight⁶ and grow healthy, happy and intelligent.

***RECOMMENDATION #3:** SBCC messaging, materials and strategies should target each of the main audiences (pregnant or lactating women and their husbands and mothers/mothers-in-law) utilizing the behavioral motivators and facilitators identified in the formative research.*

Many of the above recommendations can be implemented through the SBCC strategy, which should include key ENGINE program activities, including Enhanced Community Conversations conducted with peer groups of lactating/pregnant women, husbands/fathers, and grandmothers. These groups should participate in separate discussion and skills-building sessions designed to make their relevant actions more supportive of better maternal nutrition by addressing their specific interests, perspectives, motivations and barriers.

We note that all audiences admire the urban lifestyle, which they perceive as modern and progressive. While strategic communication can also focus on positioning good nutrition and high-nutrient foods as part of a modern, progressive lifestyle, this positioning should not work to undermine the self-efficacy and self-esteem of rural women, whose hard-work, physical strength, and dedication to their children and families can also be reaffirmed through positive messaging and images. Positive affirmation of rural women includes enhancing grandmothers' traditional roles as nutrition advisors and supporters of lactating women through strategies that mobilize grandmothers and provide clear nutrition information and skills.

***RECOMMENDATION #4:** Messages and materials should use positive role models (ideally true stories and real people from each audience segment, as well as positive role models of knowledgeable HEWs and AEWs).*

***RECOMMENDATION #5:** Messages and materials should also use a positive, encouraging tone that constructively emphasizes pregnant women's selflessness and enhances their self-efficacy as strong, capable and beautiful women, husbands/fathers' gender roles as responsible heads of household, and grandmothers' traditional roles as caregivers for their daughters/daughters-in-law and grandchildren.*

***RECOMMENDATION #6:** Maternal nutrition communication materials targeting all main audiences should continue to reinforce the practice of mothers eating frequent snacks as a strategy to increase their food intake:*

- Counseling materials and enabling technologies should be developed to help women to identify, prepare and store nutritious snacks that they can eat throughout the day, outside of the family meal times.
- Enabling technologies should include recipes for nutritious snacks, and simple and safe methods to preserve or store foods (e.g. drying, smoking).

⁶ While target audiences desire to see their children/grandchildren gain weight after birth, many pregnant women deliberately reduce their food intake, or avoid certain foods, in an effort to have a low birth-weight baby which they believe will facilitate an easier delivery.

- Examples of skills-building materials and approaches for prenatal nutrition communication could include photo-novellas, personal testimonies on radio or DVD, live or filmed demonstrations, and home visits.

RECOMMENDATION #7: *Test the potential of recommending frequent “snacks” rather than “extra meals,” and continue to promote snacking as a positive prenatal nutrition behavior.*

All study participant groups perceived preparing food for oneself and eating food alone as culturally inappropriate for women. The research findings suggest that women’s selflessness obliges them to prioritize their husbands and others, and to share the limited family food resources with everyone in the household. Meals must be shared and eaten together, because this affirms family unity and cohesion, particularly for women. Within this cultural context, the research participants interpreted the nutrition recommendation to “eat an extra meal” to imply that pregnant or lactating women would need to cook an extra meal for themselves, and also to eat outside of normal family meals. These behaviors are not considered “doable” by pregnant or lactating women.

Nevertheless, pregnant women in particular do try to eat smaller quantities of food more frequently (i.e. “snacks”), especially during their first trimester when they are feeling nauseous, while lactating women report that they try to increase their food intake through more frequent eating because they feel hungrier. In light of these findings, we recommend:

RECOMMENDATION #7 (a): *Should time and resources be available, consider conducting trials of improved practices (TIPs) on snacking to confirm “doable” maternal nutrition practices that increase the quantity, frequency and quality of women’s food intake.*

Assure that the local language translations of “snacks” and “meals” are carefully tested with target audiences to assure these words are used appropriately in the messaging and materials.

Men have Influential, socio-cultural roles that can be enhanced through effective SBCC

Men and women respondents frequently raised socio-economic constraints as a barrier to improved nutrition. Men, in particular, typically referred to these socio-economic constraints as a “lack of capacity.” Women and men alike expect men to play the role of head of households, provider and decision-maker. Both lactating women and their husbands report that men are expected to produce or to buy nutritious foods for their lactating wives.

In many cases financial constraints for women are linked to their not having control over the household finances or decisions about what foods their families will sell, what foods they will buy, and what foods they will keep and eat. Men control their families’ financial resources, planning their household budgets and authorizing expenditures. Men also control access to land and make decisions about what foods to sell, what foods to keep for consumption, and what foods to buy.

While many men also provide their lactating wives with nutrition information, advice and support, some neglect their responsibilities and are disinterested in their wives’ welfare and nutritional status. Marital discord and interpersonal communication problems between lactating women and their husbands further exacerbate the existing gender disparities in workloads and access to/control of family resources, and are critical barriers to improved maternal diet practices. IDIs with pregnant

and lactating women offer many stories about marital problems, particularly with couple communication, disagreements over how to manage household resources, men's selfishness, and a lack of sufficient support from husbands after the postpartum recuperation period is over.

Men, on the other hand, sometimes complain that their wives are reluctant to follow their advice and encouragement to improve their nutrition. They often cite the cultural value of women's selflessness as the major reason underlying their wives' reluctance to eat special foods, more foods, or outside of the family meal times. Another reason for this reluctance, however, could be that women are acutely aware of their families' limited resources and do not want to appear selfish.

RECOMMENDATION #8: *Target men as a top-priority audience for the maternal nutrition SBCC strategy and materials, using motivators and barriers identified through the research findings.*

The SBCC strategy for maternal nutrition should place husbands and fathers as a priority audience. Research findings from husbands of pregnant women suggest that motivators for men to adopt more supportive behaviors to help improve their lactating wives' diets and nutritional status pivot around their desire to have healthy, intelligent children who will grow up to do well in school and in life. Men are also motivated by their aspirations to have a modern, progressive lifestyle. While the research suggests that many men are currently not very responsible husbands and fathers, the ideal of being a responsible head of household who provides for his family does resonate with most men.

RECOMMENDATION #9: *Should time and resources be available, consider conducting Trials of Improved Practices (TIPs) with husbands of pregnant and lactating women.*

TIPs research can help ENGINE learn what specific behaviors can be negotiated with men that they will consider "doable" in their roles as husbands, fathers and heads of household. The TIPs research would also support the development of nutrition messages and communications materials/strategies that target men and promote these doable behaviors. Priority practices to test with men include: (a) specific actions that reduce their wives' workloads (household chores, farm chores, and childcare) beyond the postpartum recuperation period; (b) allocating more of their income to purchase high-nutrient foods for their lactating wives; (c) improved communication skills to motivate their wives to increase their intake of food and eat more high-nutrient foods; and (d) include their wives more directly in dialogue and joint decision-making on using household resources to improve maternal nutrition.

Pregnant and lactating women are already motivated to do what they can to improve their maternal diets but face numerous barriers to improve their nutrition.

Socio-economic constraints, compounded by gender disparities, limit women's access to and control of household income and agricultural produce; heavy workloads limit their time to rest and eat nutritious foods; socio-cultural values make pregnant and lactating women reluctant and ashamed to prepare and eat food outside of the family meals; and they-- along with their influential family members- have insufficient information about dietary diversity.

Pregnant and lactating women need practical support that reduces their workloads and affords them more time to rest, eat, and breastfeed. Such support includes enabling technologies for improved

food preparation strategies (e.g. recipes, ideas for healthy snacks), preserving and storing foods, especially “excess” crops that are sold rather than consumed to prevent waste due to rotting or spoiling; and labor/time-saving technologies for women’s household chores, including gathering and carrying water or firewood, cooking, and washing clothes and utensils. Community mobilization strategies, such as crèches and other organized childcare activities within families, neighbors or communities, should also be explored as strategies that help women have more time to rest, eat, and breastfeed.

RECOMMENDATION #10: *Identify and promote enabling technologies that make it easier for women to overcome the socio-cultural taboo regarding cooking food separately for themselves. Examples of enabling technologies include solar drying of fruits or vegetables or other preservation technologies; recipes for quick snacks or light meals that do not require much work, time or cooking fuel to prepare; and innovative storage or carrying devices that make it easier for women to keep snacks with them or have them more readily available.*

Women also need support with enabling technologies to increase their access to animal source foods, leafy green vegetables and fruits. ENGINE is already supporting small animal husbandry and poultry-raising -- which could be more focused on prioritizing pregnant and lactating women and women's collectives. In addition, ENGINE should consider enabling technologies, such as:

- Sack gardens for leafy green vegetables, which have the advantage of being low-input technologies: they do not require much land or space, are easy to construct, can be located right next to the house, can be sheltered to avoid problems with drainage or flooding during rainy season, and do not require much water or weeding.
- Smoking or solar drying meats, vegetables and fruits to preserve these foods so that they can be available throughout the year as nutrient-rich snacks for pregnant/lactating women and young children.

RECOMMENDATION #11: *Should time and resources be available, consider conducting Trials of Improved Practices (TIPs) with pregnant and lactating women.*

The findings indicate that ENGINE will need to assess the pregnant and lactating women’s willingness and ability to “eat an extra meal” and add an increased intake of iron-rich foods, leafy green vegetables, and fruits to their usual diets.

Research questions for this research could include:

- Within the cultural context of family’s eating together and women's selflessness, would preparing and eating more nutritious and more frequent snacks (e.g. *tehamot*) be more doable for women than eating an extra meal?
- If so, what foods would be feasible to include as nutritious snacks in women's daily diets?
- How many of these nutritious snacks would it be feasible for women to eat each day?
- What beverages do lactating women currently consume- their nutritional value, how they are perceived, and could any of them be promoted as another form of “snack” appropriate for lactating women?

- Would enabling technologies to help women prepare, preserve or store food as strategies to have food available for them to eat outside of the family meal times?
- Are there other practices that could help women eat an extra meal?

RECOMMENDATION #12: *Should time and resources be available, consider conducting Trials of Improved Practices (TIPS) with couples (pregnant or lactating women and their husbands).*

The findings indicate that ENGINE should support improving couples' skills to discuss, make joint decisions, and other practices that may enhance their relationships and lead to greater support from husbands for maternal nutrition.

Research questions for this research could include:

- What are "doable" interpersonal nutrition communication practices for men and women in the cultural context of gender roles as well as age differences (many husbands are significantly older than their wives)?
- Are men willing and able to increase their wives' involvement in dialogue and joint decision-making and control of household finances/resources?
- What self-efficacy skills or practices would lactating women need to be able to engage in more dialogue, joint decision-making and joint control of household finances/resources with their husbands?
- What skills and additional support would they need?

Mothers and mothers-in-law of pregnant and lactating women play influential roles in advising on pregnancy, delivery, young children's health and nutrition, and maternal nutrition.

Ninety percent of women in Ethiopia deliver at home. In the four regions, relatives assist at least half of these deliveries, with 52% of births in Oromia region assisted by relatives, 59.5% in Amhara, 72.5% in SNNP and 74.15% in Tigray⁷. In most cases, the mothers or mothers-in-law of pregnant women are those who are providing assistance. These older women also commonly provide the women's pre- and postnatal care and are involved in the general care and feeding of their grandchildren.

The ENGINE study suggests that grandmothers are ideal family resources to help promote maternal nutrition. They are attentive to the feeding habits of their lactating daughters/daughter-in-laws, particularly during the postpartum recuperation period. They are highly motivated -- by love and dedication to their traditional caretaking roles -- to assure that their daughters/daughters-in-law eat nutritious foods.

RECOMMENDATION #13: *Communication materials should target grandmothers as a primary audience for maternal nutrition, while community-based strategies should mobilize grandmothers' support.*

⁷ Ethiopia Demographic Health Survey. 2011.

Where appropriate, grandmothers can receive targeted messages and materials tailored to their roles as the (1) mothers of pregnant or lactating women, (2) mothers-in-law of pregnant or lactating women, or (3) mothers of husbands and fathers.

Special assemblies, events, and days could be organized to enable and motivate grandmothers to promote specific pro-nutrition behaviors. Pro-nutrition behaviors for grandmothers enhance their traditional roles of providing assistance and advice to new mothers by preparing special foods and encouraging them to eat well. As noted earlier, the “grandmother” audience can be further segmented, as and when appropriate, into peer group gatherings of mothers or mothers-in-law of pregnant/lactating women, or mothers of husbands/fathers.

The postpartum recuperation period is the only time that most women receive special nutrition-related privileges and support from their family members.

Across all four regions, respondents consistently reported that most new mothers enjoy special privileges for a period of time following their deliveries. Participants reported postpartum recuperation periods lasting between two weeks and 40 days. New mothers, their husbands, and their mothers and mothers-in-law share similar expectations that during this special time, the maternal diet should include animal source foods, dairy, and nutrient-dense gruels, porridges and beverages. During this period, husbands make an extra effort to provide these foods for their wives, and mothers and mothers-in-law provide advice, help prepare special meals, and encourage new mothers to eat more. Family members also try to alleviate the workload of the new mother by taking over most of her chores and work, so that she may rest and eat.

RECOMMENDATION #14: *Creative concept and message testing should explore ways to expand the importance attached to the postpartum recuperation period to cover the full first 1000 days, from the child’s conception up to the age of 24 months.*

Pregnancy is not perceived to be a period requiring any special nutrition or consideration, and once the new mother passes the allocated number of days of postpartum recuperation, the special privileges are removed and women return to their usual diets and routines. While lactating women and their families do make an effort to assure that the women continue to eat foods that will enhance the quality and quantity of their breast milk, the focus is ultimately on the welfare of the child rather than on the mother: everyone in the family wants to see the breastfeeding child gain weight, grow well, and be strong, healthy and happy.

Focusing on the first 1000 days may therefore be appropriate if it is positioned within the context of special nutrition and care *for both the mother and the child* from the child’s conception up to 24 months of age. The 1000-day concept as a special time for both mother and child should be explored during the testing of creative concepts, and pretested in messages and materials.

All audiences have insufficient understanding about dietary diversity and the value of diverse and quality foods to the maternal diet.

Pregnant and lactating women, their husbands and their mothers/mothers-in-law all value the concept of “variety” and “balance” in the maternal diet during lactation. Nevertheless, the findings indicate that these audiences need a better understanding of “variety” and “balance” in different

food categories and their value to the maternal diet. For example, many women believe they have attained good "diet diversity" because they have eaten macaroni, injera, and bread and are eating variety and balance across one or two food groups.

RECOMMENDATION #15: *Design SBCC materials that provide clear examples of local nutrient-rich foods, meals, snacks and daily menus for pregnant and lactating women. Consider adapting and developing skills-building menu-planning games to help lactating women and their mothers/mothers-in-law identify high-nutrient foods and discuss realistic options for selecting foods and planning meals, snacks and menus.*

RECOMMENDATION #16: *Design SBCC materials that provide clear examples of local nutrient-rich foods for pregnant and lactating women, and their husbands, to raise, grow and buy. Consider developing interactive skills-building games that help men and women discuss and plan budgets for food purchases and to make informed purchasing choices at market places.*

RECOMMENDATION #17: *Consider branding locally available, nutrient-rich foods and recipes as special foods for pregnant and lactating women.*

Pregnant and lactating women respect and appreciate the work and nutrition information provided by HEWs, even when this information is insufficient and sometimes unclear. Maternal health care services, including antenatal care, assisted deliveries, and postnatal care, as well as family planning, offer important opportunities for pregnant and lactating women to access maternal nutrition information and counseling.

The Ethiopian government's Health Extension Program helps to increase women's access to maternal care services. Nevertheless, according to the 2011 Ethiopia Demographic Health Survey (EDHS):

- Only one woman in every five (19 percent) in Ethiopia made four or more antenatal care visits during the course of her pregnancy.
- The median duration of pregnancy at the time of the first antenatal visit is 5.2 months.
- Only 10 percent of births in the past five years were delivered by a skilled provider.
- 90% of Ethiopian women deliver at home.
- More than six women in every ten (61 percent) stated that a health facility delivery was not necessary, and three in every ten (30 percent) stated that it was not customary.
- Just 7 percent of women received postnatal care in the first two days after their last delivery in the two years before the survey.
- The most important barrier to access to health services that women mention is taking transport to a facility (71 percent), followed by lack of money (68 percent) and distance to a health facility (66 percent).

RECOMMENDATION #18: *ENGINE should continue -- and where appropriate, enhance -- its current strategic partnerships and alliances with antenatal care services and postnatal care services delivered by HEWs and health facility nurses and providers, to integrate maternal nutrition SBCC within broader maternal health care efforts.*

RECOMMENDATION #19: *Maternal nutrition SBCC should include promoting women's timely access to and uptake of at least 4 ANC visits and an early postpartum visit.*

***RECOMMENDATION #20:** Nutrition communication for pregnant and lactating women should include supporting IFA adherence.*

Obtaining and taking IFA as directed were not explored in this study. In addition, related practices, such as taking IFA along with iron absorption enhancers (such as vitamin C-rich foods), avoiding iron absorption inhibitors (such as caffeinated beverages and starches), and reducing side effects of nausea by taking IFA tablets in the evening just before bedtime, and with a small snack were also not explored.

The 2011 EDHS indicates that 22% of pregnant women are anemic, compared to 19% of women who are breastfeeding and 15% of women who are neither pregnant nor breastfeeding. The EDHS provides data on the percentage of women with a live birth in the past five years who reported taking iron tablets: 33.6% of women in Tigray, 19% in Amhara, 11.8% in Oromia, and 15% in SNNP. This information does not, however, provide sufficient details on IFA adherence among pregnant women, including when IFA tablets were taken, the total number of tablets taken, and the quality of the adherence (e.g. consecutive days, avoidance of iron inhibitors, etc.).

Nevertheless, the data available from the 2011 EDHS and other sources indicate that nutrition communication during pregnancy should include a focus on increasing uptake of ANC services, and increasing and improving IFA adherence. ENGINE's formative research indicates that pregnant as well as lactating women are consuming caffeinated beverages regularly (primarily coffee, but tea also), especially in the morning, but also in the late afternoon and evening. Nutrition communication should therefore include advice on avoiding the consumption of coffee, tea or other caffeinated beverages before and shortly after taking IFA -- with specific guidance regarding the ideal amount of time before or after taking IFA.

ENGINE's agriculture and livelihoods activities, implemented in collaboration with the government's Agriculture Extension Program and AEWs, offer important opportunities for husbands of pregnant and lactating women to access prenatal nutrition information and counseling. While women interact with AEWs only infrequently, their husbands do so more frequently. Meanwhile, while acknowledging and sometimes appreciating work of AEWs, men feel that the AEWs could be doing more to help farming families, particularly by linking agricultural practices to improved maternal diets.

Fasting can constrain women's access to increased quantity, frequency and quality of food intake during pregnancy and lactation; however, the research dataset had insufficient information to provide clear insights on fasting practices, and on the influence of religion on fasting and maternal nutrition. There is a need for further research and discussions with key informants (i.e. religious leaders) and with the target audiences in order to develop tailored messages and materials for religious leaders to use within their respective communities and congregations.

***RECOMMENDATION #24:** Design and conduct a rapid qualitative inquiry to understand the influence of religion and fasting practice on maternal diet. We recommend conducting individual interviews with key informants (leaders of the major religions in Ethiopia) and a limited number of focus groups (e.g. two per religion) with pregnant and lactating women, to gain more information about the formal religious doctrines related to fasting for pregnant and lactating*

women, and to also gain more insights on how these doctrines are being interpreted and practiced.

RECOMMENDATION #25: *Conduct workshops with religious leaders to design SBCC messages and acceptable and appropriate materials (e.g. notes for sermons, reminder tools with key messages and religious references, etc.) for religious leaders to use to promote improved maternal nutrition practices when they interact with their respective congregations and communities.*

RECOMMENDATION #26: *Engage religious leaders in SBCC and community mobilization activities, including community campaigns, to promote improved maternal nutrition practices and enhanced gender roles for pregnant and lactating women, their husbands, and their mothers/mother-in-laws.*

Contact information:

Dr. Habtamu Fekadu
Chief of Party, ENGINE
habtamu.fekadu@savethechildren.org

Old Airport, next to Bisrate Gabriel
P.O. Box 387
Addis Ababa,
Ethiopia

Tel: 0113728045
Fax: 0113728445

ethiopia.savethechildren.net