ADOLESCENT GIRLS’ DIET AND NUTRITION PRACTICES AND THEIR DETERMINANTS
A report on formative research findings and recommendations for Social and Behavior Change Communication Programming

Feed the Future Ethiopia Growth through Nutrition Activity

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ADOLESCENT GIRLS’ DIET AND NUTRITION PRACTICES AND THEIR DETERMINANTS:
A report on formative research findings and recommendations for Social and Behavior Change Communication Programming

Feed the Future Ethiopia Growth Through Nutrition 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, USAID/Growth Through Nutrition’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.

The Feed the Future Ethiopia Growth Through Nutrition Activity is implemented under the leadership of Save the Children, with cooperation from The Manoff Group, Tufts University, Land O’Lakes, Population Services International and World Vision.

March 2017.
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### Abbreviations

<table>
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<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>AEW</td>
<td>Agriculture Extension Workers</td>
</tr>
<tr>
<td>ANC</td>
<td>Antenatal Care</td>
</tr>
<tr>
<td>DHS</td>
<td>Demographic and Health Survey</td>
</tr>
<tr>
<td>GTN</td>
<td>Growth Through Nutrition project</td>
</tr>
<tr>
<td>ENGINE</td>
<td>Empowering New Generations to Improve Nutrition and Economic opportunities project</td>
</tr>
<tr>
<td>HEW</td>
<td>Health Extension Worker</td>
</tr>
<tr>
<td>SBCC</td>
<td>Social and Behavior Change Communication</td>
</tr>
<tr>
<td>SNNPR</td>
<td>Southern Nations, Nationalities, and Peoples' Region</td>
</tr>
<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
</tr>
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</table>
Acknowledgements

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Sart Consult: data collection, transcriptions and translations
The Manoff Group: data analysis and report-writing
Save The Children: review

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<table>
<thead>
<tr>
<th>Local Name</th>
<th>Description</th>
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<tbody>
<tr>
<td>Alichia (wot)</td>
<td>Usually made with turmeric, which gives the sauce (wot) a light yellow color</td>
</tr>
<tr>
<td>Ambasha</td>
<td>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</td>
</tr>
<tr>
<td>Areke</td>
<td>Local alcoholic beverage, clear white in color</td>
</tr>
<tr>
<td>Atmit</td>
<td>Thin gruel made of whole grain flour</td>
</tr>
<tr>
<td>Awaze</td>
<td>Red chili pepper powder mixed with water and areke or tej (honey wine), a condiment that accompanies meat and or injera</td>
</tr>
<tr>
<td>Bula</td>
<td>False banana bi-product</td>
</tr>
<tr>
<td></td>
<td>A white flour cooked with milk or water; similar to thick semolina</td>
</tr>
<tr>
<td>Enset</td>
<td>False banana plant from which bula and kocho is made; builds the body</td>
</tr>
<tr>
<td>Fafa</td>
<td>Local baby food combining soy and whole grain flour; locally factory made baby food</td>
</tr>
</tbody>
</table>
| 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."

<table>
<thead>
<tr>
<th>Local Name</th>
<th>Description</th>
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<tbody>
<tr>
<td>Gomen</td>
<td>Collard greens, a dark green leafy vegetable. Can be found in the &quot;environment.&quot; 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</td>
</tr>
<tr>
<td>Injera</td>
<td>Thin teff flour pancake eaten with everything, often as a starch accompaniment to stew or other &quot;wot&quot;/sauce</td>
</tr>
<tr>
<td>Keneto</td>
<td>Non-alcoholic barley beverage believed to help with breast milk production—same as keribo. Keneto is the Christian name of this beverage</td>
</tr>
<tr>
<td>Keribo</td>
<td>A non-alcoholic barley beverage—same as keneto; helps with breast milk production. Keribo is the Muslim name of this beverage</td>
</tr>
<tr>
<td>Kita</td>
<td>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</td>
</tr>
<tr>
<td>Word</td>
<td>Description</td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
</tr>
<tr>
<td><strong>Kocho</strong></td>
<td>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</td>
</tr>
<tr>
<td><strong>Kolo</strong></td>
<td>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</td>
</tr>
<tr>
<td><strong>Miten</strong></td>
<td>A word used to describe a variety of different grains used to make the gruel flour: for example, miten flour or miten shiro.</td>
</tr>
<tr>
<td><strong>Muk</strong></td>
<td>A thin smooth gruel made with whole grain flour and water; also called atmit.</td>
</tr>
<tr>
<td><strong>Nifro</strong></td>
<td>Any boiled cereals and legumes.</td>
</tr>
<tr>
<td><strong>Shiro</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Teff</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Tella</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Tella Kita</strong></td>
<td>Tella kita consists of roughly ground corn, sorghum, teff, and barley, which is later baked, torn into pieces and mixed into the bella during the last stage of preparation to complete the fermentation. Kita made for bella is not eaten and different from the kita eaten as bread.</td>
</tr>
<tr>
<td><strong>Tsewa</strong></td>
<td>A local alcoholic beverage, tsewa is the Tigrigna name for teffa, 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 teffa). The name is understood to mean ‘local brew’ but has additional religious connotations.</td>
</tr>
<tr>
<td><strong>Wot</strong></td>
<td>A sauce. There are several different types of wot: shiro wot, meat wot, misir (lentil) wot, alicha wot, potato wot, doro (chicken) wot.</td>
</tr>
</tbody>
</table>
Executive Summary

Background
Improving the nutritional status of women in their reproductive years and children under the age of two years old in Ethiopia is the focus of the Feed the Future Ethiopia Growth Through Nutrition Activity, a five-year program funded by the United States Agency for International Development (USAID) and led by Save The Children International. The program is implemented in four of Ethiopia’s nine regions: Amhara, Oromia, Tigray, and SNNP.

The USAID Empowering New Generations to Improve Nutrition and Economic Opportunities (USAID/ENGINE) project preceded the Feed the Future Ethiopia Growth Through Nutrition Activity and operated in the same four regions (Amhara, Oromia, Tigray, and SNNP) as its zone of intervention. USAID/ENGINE conducted formative research in households and communities across the four regions to identify the household determinants of dietary practices and nutrition-related behaviors related to maternal and child nutrition. The research was conducted among a variety of research respondents, including pregnant or lactating women, fathers and grandmothers of children under two years old, and adolescent girls. The research explored the motivators, facilitators and barriers relevant to sustaining or changing behaviors related to maternal, infant, young child nutrition (MIYCN) and adolescent nutrition. Reports on the analysis and findings of data from the interviews with mothers, fathers and grandmothers MIYCN research findings were compiled and disseminated, and the research recommendations were used to develop USAID/ENGINE’s MIYCN social and behavior change communication strategy and materials. The dataset specific to adolescent girls was not analyzed.

Adolescence is characterized by a growth spurt as young people transition from childhood to adulthood and a window of opportunity to improve nutritional status (Stang and Story, 2005; WHO, 1993). Adolescent girls have unique nutritional requirements depending on their age groups. Those who are between the ages of 9 and 13 years old have different requirements than those who are between the ages of 14 and 18 years old, while adolescent girls who are older than 18 years have other requirements as well.

Malnutrition is an important problem faced by adolescent girls in Ethiopia. The country has a higher rate of malnutrition than most sub-Saharan African countries. The percentage of women ages 15-49 with any anemia in Ethiopia is 24.8% in rural areas, and 16.4% in urban areas of Ethiopia (Ethiopia Demographic Health Survey, 2016). Improving the nutrition outcomes of adolescents in Ethiopia requires a good understanding of their nutrition practices and the factors that influence their ability to access and consume sufficient
quantities of nutrient-rich foods.

Stunting, early pregnancy and childbirth among adolescent girls also impact the nutrition outcomes of their children and contribute to a cycle of intergenerational undernutrition (Salam, Hooda, Das et al, 2016). In Ethiopia mothers’ education and wealth quintile are both inversely related to their children’s stunting levels (Ethiopia Demographic Health Survey, 2016). More than 4 in 10 (42%) children born to mothers with no education are stunted compared with 18 percent of children whose mothers have more than a secondary education. Similarly, stunting decreases from 42% among children in the lowest wealth quintile to 27 % of those in the highest wealth quintile.

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, and recently- adolescent girls. 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.

Analysis of the USAID/ENGINE adolescent nutrition formative research dataset
This report documents the findings and recommendations from the analysis of the transcripts of sixteen focus group discussions (FGDs) and thirty-two in-depth interviews (IDIs) with adolescent girls between the ages of 15 and 18 years. The dataset also includes observation checklists from the direct observations of the dietary practices of twenty-seven pregnant adolescent girls across the four regions (Amhara, Oromia, SNNP and Tigray). Adolescent girls participating in the research were asked questions about their diet, social networks and perceptions of their services providers.

This report presents the results of the analysis of this dataset, with the research findings on: 1) the foods adolescent girls consumed daily; 2) adolescent girls’ perceptions of foods and ideal diets; 3) adolescent girls’ comparisons of their diets to other members of their family; 4) adolescent girls’ desired changes in their diet and self-efficacy; and 5) barriers, facilitators and motivators to nutrition-related behavior change among the adolescent girls. This report also presents preliminary recommendations for SBCC programming to improve nutrition outcomes among adolescent girls 15 – 18 years old as well as recommendations for further formative research on the behavioral determinants of adolescent girls’ nutrition.

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.

FGD participants were selected using information from local informants such as teachers. IDI participants were selected using the same procedures. Households with adolescent girls were given priority, and these adolescents were selected for IDIs.

Overview of Findings

1. **Diets**
The typical diet for most adolescent girls consisted of a limited variety of staple foods (primarily cereal grains and pulses such as chick peas and lentils). Animal source foods (e.g. meat, eggs, milk products) were seldom mentioned. Most girls reported eating three meals a day and some girls also reported eating snacks in addition to these meals.

2. **General perceptions of diets, meals and certain foods**
Adolescent girls are dissatisfied with their diets and perceive them to be inadequate, unhealthy and unenjoyable. While adolescent girls had varying perceptions of the most important meal of the day, they were generally uniform in declaring that the meal that provides them with the strength and endurance they need to help them do their work and get through the day is the most important one.

The girls perceive ideal foods as animal source foods, fruits and vegetables. Many girls, however, believe that meat (most often meat that is raw, but sometimes even cooked meat) or milk are unhealthy and should not be consumed because they carry parasites.

Similar to the findings among other types of respondents who participated in research reported elsewhere (USAID/ENGINE 2014), adolescent girls consider pasta to be a desirable food, primarily because they associate it with being progressive and having a higher social status but also because they perceive it as being beneficial to one’s health and wellbeing.

3. **Religion and fasting**
The research did not sufficiently explore the influence of religion and fasting on adolescent girls’ nutrition-related practices. The limited findings generated in the analysis suggest that adolescent girls do not appear to perceive fasting to be an important barrier to improved nutrition practices and outcomes.

4. **Knowledge**
Adolescent girls’ knowledge of nutrient-rich foods and ideal dietary diversity varied and was often limited. They had little to no information about the special nutritional needs of adolescent girls.
5. **Motivators**

All of the adolescent girls in the study expressed a strong desire to improve their dietary diversity. An important motivator for greater dietary diversity is to overcome the boredom of eating a monotonous diet. Another important motivator for girls to increase their dietary diversity is their belief that consuming certain foods that they perceive to be nutritious will help them be healthy and strong, to grow and develop well, and to be successful. Adolescent girls also believe that consuming a diversity of foods and having “good nutrition” will help them have more energy, be more beautiful, and maintain a good weight (i.e. not too thin). Adolescent girls believe that “good nutrition” is important for energy, successful performance in school and in life, and for physical appearance.

6. **Facilitators**

**Education:** Adolescent girls perceive education as giving them valuable knowledge that enables them to influence hygiene and nutrition practices at home. Because of their education, the girls perceive themselves as being more knowledgeable than their family members and people in their communities, and thus able to assist in making decisions about what to eat or how to prepare food.

The data also suggest that a school education helps adolescent girls to visualize a better future for themselves. Adolescent girls aspire to making a positive difference in their families, communities, and country in the future.

Finally, education clearly emerged as a strong determinant of girls’ self-efficacy. Most of the girls expressed confidence in themselves and in their ability to influence their family’s nutrition-related practices because they are in school.

**Family support, especially from the parents:** Generally, adolescent girls said that their parents are sources of information and teaching. The girls often noted that their parents were often less educated than they are and therefore were often receptive to new information from the adolescent regarding nutrition (even if the information is objectively incorrect).

The most important and most trusted source of information about nutrition is the adolescent girl’s mother. Mothers are also the most commonly mentioned source of support for adolescent girls to make changes in their eating practices. Nevertheless, adolescent girls also view their fathers as important facilitators, especially because fathers often control the family expenditures and decisions on the management of other household resources.

Adolescent girls also perceive Health Extension Workers (HEWs) and teachers as trusted sources of nutrition information and support for changes in nutrition-related practices. In addition, radio and television—when accessible—appear to be trusted sources of information among adolescent girls.
The peers, friends and neighbors of adolescent girls appear to be less important than parents, HEWs and teachers in terms of being their sources of nutrition information or as facilitators of nutrition-related behavior change.

Interestingly, although not as frequently mentioned as the above facilitators, home gardens did occasionally surface in the interviews and focus group discussions as a facilitator for improved nutrition practices among adolescent girls.

7. Barriers to improved nutrition practices among adolescent girls
The analysis identified a number of barriers to the adoption of optimal nutrition practices by adolescent girls. These barriers include: a) poverty and limited resources including limited access to nutrient-rich foods; b) socio-cultural expectations around families' consumption of meals; c) nutritious foods are not prioritized for family consumption; d) low knowledge or awareness of the different dietary needs for adolescent girls; e) gender inequities and family dynamics preventing girls from consuming nutrient-rich foods; f) peers and neighbors gossiping or otherwise discouraging the girls from adopting improved nutrition practices; and g) interruption of schooling due to pregnancy.

8. Conclusions of the research
Adolescent girls are aware that their diets are inadequate and are motivated to improve their dietary diversity and nutrition-related practices and yet face important barriers that prevent them from doing so. There is insufficient information available for adolescent girls about dietary diversity, nutrient-rich foods and their special dietary needs.

8.3 Education is an important platform for SBCC programming for adolescent nutrition. Overall, the adolescent girls participating in the research believe that education has the potential to enable them to significantly improve their families’ situations, either through their influence on dietary practices at home, or by getting a good job and overcoming poverty.

8.4 Family relationships, especially interpersonal communication between adolescent girls and their parents about nutrition and nutrition-related practices, are important platforms to promote adolescent nutrition.

8.5 Health extension workers and teachers are other important sources of nutrition information.

8.6 Friends and peers did not emerge as significant influencers on girls’ nutrition-related practices; however, the research did not sufficiently explore the relationships between adolescent girls and their friends and peers.

8.7 While there were occasional mentions of religion or the influence of community or neighbors in the USAID/ENGINE dataset, these issues were not sufficiently explored through FGDs and IDIs.
9. **Recommendations**

This research generated recommendations that fall into two categories:

- Preliminary recommendations for SBCC programming to improve nutrition outcomes among adolescent girls 15-18 years old
- Recommendations for further formative research to gain insights into the behavioral determinants of improved adolescent nutrition practices

**Preliminary recommendations for SBCC programming to improve nutrition outcomes among adolescent girls 15 – 18 years old**

**Recommendation #1:** SBCC programming for adolescent nutrition should include basic information about dietary diversity and the special needs of adolescent girls during their “growth spurt”.

**Recommendation #2:** SBCC messages and materials should reinforce the self-esteem and self-efficacy that is already evident among adolescent girls who attend school, and present positive role models of adolescent girls who are using their education in school, their knowledge of nutrition, and their personal nutrition to help their families and to be successful in life.

**Recommendation #3:** SBCC programming should add value to existing nutrition education materials already developed and used in Ethiopia public schools by focusing on skills and practices related to improving dietary diversity and consuming more nutrient-rich foods.

**Recommendation #4:** SBCC programming should leverage the benefits of education and strategically use it in interventions and in messaging. SBCC platforms should include primary and secondary schools, curriculum and teachers. SBCC program interventions could include enhancing school girls’ role as the sources of nutrition information and advice.

**Recommendation #5:** Infuse content on nutrition through the education sector: Conduct SBCC design workshops with school leaders to support the development of acceptable and appropriate content. Engage school leadership in activities to promote improved nutrition practices and enhanced gender roles. Consider the ways in which peer groups could function to encourage better nutrition.

**Recommendation #6:** Develop take-home reminder materials for adolescent girls who are in school. The materials should:

- focus on dietary diversity and household planning to ensure that nutrient-rich foods are a daily part of the family’s diet;
- emphasize that, in addition to pregnant and lactating women and children 6-24 months of age, adolescent girls also need to eat nutrient-rich foods (e.g. “STAR foods”) every day;
- reinforce the positive image of adolescent girls who are in school as being credible sources of information about nutrition because of the education they are receiving in school; and
- facilitate child-to-parent communication about improving nutrition-related practices. Materials should be tailored to facilitate the girls’ communication with their mothers (e.g. communication about new recipes and improved nutrition-related practices around planning meals and preparing food) and with their fathers (e.g. communication about the nutritional needs of different family members, planning the household budget and the use of other household resources to help meet these nutritional needs).

**Recommendation #7:** Provided that additional formative research confirms that establishing/maintaining home gardens is a feasible practice for adolescent girls, SBCC programming should incorporate the support of Health Extension Workers and agriculture extension workers to assist adolescent girls and their families to grow nutrient-rich foods in home gardens for their consumption.

**Recommendations for further formative research**

**Recommendation #1:** The USAID/ENGINE research sample of respondents did not include adolescent girls younger than 15 years old. Further formative research should focus on adolescent girls in the younger age group (9 – 14), which represents the second window of opportunity for improved nutrition to have an impact on adolescent girls’ linear growth and on reducing intergenerational stunting.

**Recommendation #2:** The USAID/ENGINE research included very limited information about adolescent girls who are not in school, and also had little information about the lives of adolescent girls in and outside of their homes. Future research should seek to gain more insights about the lives of adolescent girls outside of school: at home; with their friends and peers outside of school; their religious lives and attendance at churches or mosques; the work they may do outside of their home chores, such as tending home gardens, other farming activities, or other livelihoods activities; what they do in their leisure time and for entertainment. In addition, given that menstruation can have some association with nutritional status, further research should also explore the onset of menses and menstruation and how local knowledge and perceptions about these may impact any nutrition-related practices among adolescent girls and their families.

**Recommendation #3:** Additional research on the actual eating practices of adolescent girls is needed. Methodologies may include a combination of 24-hour recalls and extended direct observations of adolescent girls to generate reliable information about the quantity, frequency and diversity of foods consumed by adolescent girls.

**Recommendation #4:** In addition to 24-hour recalls and direct observations, focus group discussions are a useful research methodology. Individual in-depth interviews (other than those used for the 24-hour recalls) appear to be a less effective research method with adolescent girls. Future research that does use IDIs should consider prioritizing trained data collectors who are young women (rather than adult men). Other innovative research methods that may yield more insights are Diagnostic Role Plays and Best Friend Interviews.
Recommendation #5: Formative research should seek to gain insights on family tasks where adolescent girls may have some agency to improve nutrition outcomes for their families. Examples of such tasks that could be the object of further formative research include:

- raising or growing food (crops, agriculture) for household consumption and/or for sale;
- planning and preparing meals for the family;
- purchasing food and other household necessities at the market;
- establishing or maintaining home gardens;
- building tippy taps and handwashing stations, and monitoring their use by family members; and
- food preservation.

Recommendation #6: Greater insights on the social networks and interpersonal communication and relationships in adolescent girls’ day-to-day lives at home, in school, and outside of home and school are important and an area that could be explored in further research.

Recommendation #7: Socio-cultural influences, especially the influence of religion (and fasting), social expectations on the roles of family members, and gender should be explored in future research.

Recommendation #8: Formative research should seek to gain insights that will support the development of strategic messaging and positioning in an adolescent nutrition SBCC program.
Chapter 1. Introduction

Background

Adolescence is characterized by a growth spurt as young people transition from childhood to adulthood and a window of opportunity to improve nutritional status (Stang and Story, 2005; WHO, 1993). Adolescent girls have unique nutritional requirements depending on their age groups. Those who are between the ages of 9 and 13 years old have different requirements than those who are between the ages of 14 and 18 years old, while adolescent girls who are older than 18 years have other requirements as well.

Malnutrition is an important problem faced by adolescent girls in Ethiopia. The country has a higher rate of malnutrition than most sub-Saharan African countries. The percentage of women ages 15-49 with any anemia in Ethiopia is 24.8% in rural areas, and 16.4% in urban areas of Ethiopia (Ethiopia Demographic Health Survey, 2016). Improving the nutrition outcomes of adolescents in Ethiopia requires a good understanding of their nutrition practices and the factors that influence their ability to access and consume sufficient quantities of nutrient-rich foods.

In a recent study in the SNNP region of Ethiopia among 822 adolescent school girls between the ages of 10 and 19 years old, basal metabolic rates (BMI) and height-for-age were used as proxy indicators of nutritional status. The three most significant behavioral predictors of adolescent girls’ BMI and height-for-age were the regularity of breakfast, having no episode of illness during the month prior to the interview, and hand-washing habit after toilet use. Other significant behavioral predictors of adolescent girls’ nutritional status included time spent on sedentary activities, consumption of sweet food items, and the consumption of cereal (Berheto, Astawesegn and Weji, 2017).

Stunting, early pregnancy and childbirth among adolescent girls also impact the nutrition outcomes of their children and contribute to a cycle of intergenerational undernutrition (Salam, Hooda, Das et al, 2016). In Ethiopia mothers’ education and wealth quintile are both inversely related to their children’s stunting levels (Ethiopia Demographic Health Survey, 2016). More than 4 in 10 (42%) children born to mothers with no education are stunted compared with 18 percent of children whose mothers have more than a secondary education. Similarly, stunting decreases from 42% among children in the lowest wealth quintile to 27 % of those in the highest wealth quintile.

According to the 2016 Ethiopia Demographic Health Survey (DHS), thirteen percent of adolescent girls between the ages of 15 and 19 years old in have already begun
childbearing. The proportion of adolescent girls who have begun childbearing rises rapidly with age: while 2% percent of girls who are 15 years old have begun childbearing, 28% of girls who are 19 years old have done so. Childbearing is more common among adolescent girls who live rural areas than it is among those living in urban areas (15% versus 5%, respectively). Meanwhile, education is inversely related to childbearing among adolescent girls: nearly 3 in 10 (28%) of adolescent girls between the ages of 15 and 19 years old with no education have begun childbearing compared to 12% of their cohort who have attained primary education, and 4% of their cohort who have attained secondary education. Wealth is also inversely related to childbearing among adolescent girls: 22% percent of those in the lowest wealth quintile have begun childbearing compared to 5 percent of those in the highest quintile.

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, and recently-adolescent girls. 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.

The Feed the Future Ethiopia Growth through Nutrition Activity is a five-year (2016-2021), USAID-funded, integrated nutrition program led by Save the Children International. The program’s overall objective is to improve the nutritional status of pregnant or breastfeeding women, children under the age of two years old, and adolescent girls through comprehensive, coordinated and evidence-based interventions, including social and behavior change communication (SBCC) programming.

**Purpose and Objectives**

In 2013, the USAID/Empowering New Generations to Improve Nutrition and Economic Opportunities (USAID/ENGINE) project conducted formative research in Amhara, Oromia, SNNP and Tigray regions to develop an understanding of adolescent, maternal, infant and young child nutrition behaviors and influences on these behaviors, at household and community levels. The analysis of some of the data from this research informed the design of SBCC programming to achieve better nutrition outcomes for mothers and children through the adoption of improved nutrition practices in households.

This report focuses on findings and recommendations generated from the analysis of a subset of the broader dataset: the transcripts of 32 in-depth interviews (IDIs) and 16 focus group discussions (FGDs), along with data from 27 direct observations of food intake, among adolescent girls in the four regions.
Chapter 2. Data Collection and Analysis

Data Collection Methods

Focus Group Discussions (FGDs) and In-Depth Interviews (IDIs) with adolescent girls between the ages of 15 and 18 years old were conducted by experienced facilitators using semi-structured guides. Facilitators underwent five days of training and then participated in a field test to allow them to practice with and pretest the research instruments.

In addition to IDIs and FGDs, observations of adolescent girls’ WASH and nutrition practices were across all four regions. Observations provided some information about the frequency of certain practices and have been included in the analysis process.

Table 1 below summarizes regional and group profiles of the research respondents.

Table 1: Number of Adolescent Girls participating in IDIs, FGDs, and Observation research

<table>
<thead>
<tr>
<th>METHODOLOGY</th>
<th>AMHARA</th>
<th>OROMIA</th>
<th>SNNP</th>
<th>TIGRAY</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDI</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>32</td>
</tr>
<tr>
<td>FGD</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>16</td>
</tr>
<tr>
<td>OBSERVATION</td>
<td>6</td>
<td>1</td>
<td>12</td>
<td>8</td>
<td>27</td>
</tr>
</tbody>
</table>

All twenty-seven of the adolescent girls who were directly observed were either pregnant (11) or lactating (16).

The FGD and IDI instruments used four general approaches to elicit responses from the adolescent girls:

1. **Storytelling and discussion.** This method included questions and probes about nutrition, including current and ideal diet. The story provided a hypothetical scenario revolving around Hiwot, a fictional adolescent girl, to which participants could respond. Participants were also given the opportunity to interject their own experiences into the discussions by facilitators. Hiwot’s story was intended to assist in mapping the bigger picture by providing common ground for participants to discuss freely.

2. **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 discussion about participants’ understanding about the nutritional value of the foods (micronutrients) as well as discussing the foods themselves in a more general way.

(3) **Open-ended questions.** Interviewers asked questions designed to encourage a full, meaningful answer using the respondents’ own knowledge and/or feelings.

(4) **Probes.** Follow-on questions were used to explore initial responses and to attain clarification and additional information.

**Ethical Considerations**

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. Since the participants were adolescents, parental consent was also 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 audio-recorded in local languages using digital recorders 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, all FGD and IDI transcripts underwent an initial review with manual coding 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. The transcripts were subsequently managed and coded using Atlas.ti (Mac version 1.0.51). FGD and IDI data coding was conducted using an open, iterative process that generated specific, abstract codes related to participants’ experiences with nutrition, education, their families, food, agriculture, and self-efficacy. 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.

The coding scheme was finalized when additional transcripts did not elicit new themes.
Later, specific word searches were conducted to identify instances of responses related to key concepts such as nutrition, community, education, self-efficacy, aspirations, motivators and barriers.

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 Challenges of the Data Set and Constraints in Data Analysis**

**Strengths**

The research locations and participants were selected to be as representative of adolescent girls between the ages of 15 and 18 years old in 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, conducting the IDIs and FGDs in different regions 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 conducting an independent review of randomly selected transcripts to verify the information. These efforts also supported both the validity of the findings.

**Challenges and lessons learned to guide the design of future research with adolescent girls**

While the research design had many strengths, there were nevertheless a few challenges and constraints in the methodology. These experiences, listed below, should inform the design of future research.

1. **In-depth interviews do not appear to have been an ideal research methodology for adolescent girls as they did not elicit rich information.**

Although the research team was trained and experienced, they nonetheless appear to have had difficulty in getting substantive responses from the interviewees, in spite of efforts to probe for more robust information from the adolescent girls. The following excerpt of an in-depth interview in Amhara illustrates the typical transcripts, and shows the repeated efforts made by the research team facilitator (F) to probe for additional information from an adolescent girl interviewee (P) to understand her motivations to change her nutrition practices.
[F]: What else (would you eat)? What do you want to change from the food you eat? The food that you say "I want to change this".

[P]: Most of the time for example if we make Alcha, we don't put vegetables. Therefore, if we have, I would be happy to do that.

[F]: Is there anything else you want to add?

[P]: No.

[F]: Is it easy or difficult to make these changes? What you just said now, to eat bread with tea, and to eat a variety of foods, to add vegetables... Is it easy or difficult?

[P]: If I don’t have, it is difficult.

[F]: Is there anything that would make it easy?

[P]: No, there isn’t.

[F]: What would make it more difficult?

[P]: What would make it difficult is the fact that we don't have income.

[F]: Do you have any other reason?

[P]: No

[F]: What would motivate you to make this change? Instead of eating Injera to change it to bread and tea or to add vegetables, what motivated you?

[P]: There is nothing that motivates me.

[F]: What would encourage you to do that?

[P]: Only if we have.

Despite the researcher’s repeated efforts to probe and elicit more information, the adolescent girl interviewee gave short, succinct responses that were not rich in information. This example represents the general content of the 32 IDI transcripts. In the above example, the main finding appears to be that the girl perceives the lack of income in her household as the main barrier to her ability to change her diet.

FGDs contained richer details than the IDIs. Participants in FGDs were able to build on one another’s statements and generally appeared more talkative and confident in their responses to the facilitators’ questions.

2. The direct observation method did not yield rich data.

Checklists used to record observations on a small number of adolescents unfortunately did not yield useful data, and limited information was available to describe the observation methodology, including the length of time of the observations. Future research with adolescent girls should review whether observations are a preferred method, and if so, could design observation methodology to entail an extended period (e.g. 3-6 hour blocks, mealtimes, etc.) with detailed notes for recording information. Twenty-four hour recalls may also be a preferred research method, rather than observations, to gather information on what adolescent girls are eating.
3. **Small sample size.**
Since this study is a qualitative research design using a relatively small sample, the findings on adolescent girls’ nutrition and related practices are not statistically significant. The study design overcame this standard challenge by ensuring a diversity of geographic locations, and the careful selection of respondents who were representative of ENGINE’s general beneficiaries. Although the sample size was small, the fact that the study was carried out in different regions and communities increases the reliability of the findings—in other words, increases the likelihood that the findings from this research would be similar to the findings of other studies using a similar design.

4. **Lack of labels to identify the demographic characteristics of the adolescent girls.**
Finally, the IDI and FGD transcripts did not include labels to identify the age, education, income or religion of the participants. This was also not indicated in the observation data. Such demographic or characteristic data would be useful in understanding whether the experiences of the adolescent girls varies across these characteristics. As mentioned previously, all adolescents included in the observations were either pregnant or lactating however it is unknown whether adolescent girls participating in the IDIs or FGDs were pregnant or lactating.

Despite these few challenges encountered, the research design and data have yielded valid and reliable findings which support the development of recommendations for further research and for social and behavior change communication programming related to improving the nutrition-related practices of adolescent girls in Amhara, Oromia, SNNP and Tigray regions. These findings are reported in the following pages of this report.
Chapter 3. Findings

1. Adolescent girls’ diets
Adolescent girls generally eat what is available in the household, i.e. the same foods/meals that other family members eat, and at the same times that other family members eat. Adolescent girls have very limited dietary diversity. Injera (made from teff) and other grains and cereals (breads and pastas), legumes and pulses, grains and cereals (breads and pastas), are the most commonly reported foods consumed and the mainstay of their diets. Adolescent girls rarely consume animal source foods. Eggs were occasionally mentioned, and meat and poultry were mentioned as foods available on holidays. Vegetables and fruits are not common in their diets and fluctuate with the seasonal availability. Adolescent girls’ breakfast usually includes a caffeinated beverage, usually coffee and sometimes tea, with injera (teff bread). These findings indicate that the diet of adolescent girls is similar to the diets of breastfeeding and pregnant women reported elsewhere.

Common foods in the diet
The respondents were asked to draw pictures of what they typically ate every day and to discuss their typical diets. Most of the girls reported that they ate items such as kocho, bread, sugarcane, red teff, and injera.

*In the morning, if there is bread and sugar, it is bread with tea. And for lunch, it is injera with shiro wot. For snack, it could be nifro (boiled cereal) or kolo (roasted cereal). And in the evening, it is shiro wot with injera. (Adolescent girl, Oromiya).*

*I eat “Kita” with kale and potato, “Kocho” with “Key wet (stew made of pepper powder and lentil) also I eat ‘injera’ with “Key wet (stew made of pepper powder and lentil). I also sometimes eat bread with “ful”. It is prepared from potato. An onion will be cooked with “erid” and oil then it will be mixed up with potato then a red pepper will be added on it (Adolescent girl, SNNPR).*

*They eat shiro for breakfast and shiro for lunch, they also eat dinner shiro. This is not a balanced diet. It is unbalanced diet (Adolescent girl, Tigray).*

Other girls described their diets indirectly by discussing Hiwot (an adolescent girl who is a fictional character used in a story to elicit discussion) and what she usually eats. In response to the question “What does Hiwot eat”, in an FGD from Hidabu, Abote Sore Morese (Oromia) participants described Hiwot’s diet as follows:

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1. Mothers’ infant and young child feeding practices and their determinants in Amhara and Oromia regions: A report on formative research findings and recommendations for social and behavior change communication programming in Ethiopia. USAID/ENGINE project. April 2014.
[P1]: She eats ‘injera’ with chickpea sauce/stew
[P2]: She eats what is available/what they have in the house
[P3]: She eats ‘injera,’ injera made from sorghum mixed with ‘teff’
[P4]: She eats ‘injera’ prepared from wheat, barely mixed with sorghum
[P5]: She eats what she eats, the usual food

In an FGD in Munesa, Doba Ashe (Oromia), however, some respondents described Hiwot eating more nutrient-rich foods (i.e. foods in the typical diet of an adolescent girl):

[P1]: She eats fruits and vegetables. She can also eat other foods. She will eat whatever she can get in her area.

Meals and snacks
The adolescent girls interviewed in this study reported that they consumed, on average, three meals a day (breakfast, lunch and dinner) with a snack (which was not considered a “meal” on the part of the respondents). These reports appear to be mostly aspirational, however, many adolescent girls reported eating less than three meals a day (e.g. two meals a day). Those who eat three meals a day reported eating mostly staple foods with minimal vegetables, fruits or animal source foods. Some girls reported supplementing their meals with a snack.

Quantity and frequency of food intake
During the FGDs, adolescents discussing the third person character, Hiwot, almost always reported that she ate three times a day: breakfast, lunch, and dinner. Based on the results of IDIs, the idea that Hiwot eats three times a day is likely an ideal, rather than a reality for many of the participants. Participants usually reported that Hiwot eats a mixture of foods such as wot and injera. Vegetables and fruits were mentioned as being included in the diet if Hiwot had a backyard garden or a place at which her family could grow their own foods. However, these foods could also be used as cash crops that could be converted to other foods, which was mentioned by several participants.

From Decha Awradageter (SNNP):
If [Hiwot] is working hard and she plants maize and kale at the backyard, she can sell those and buy something else and make food.

When such foods are converted to cash, it seems to have a generally negative effect on dietary diversity, as the funds are usually used to buy staples such as oil, onions, or other commodities that are not grown on the family farm. The cash may also be used to purchase other supplies, such as gasoline. This was mentioned by an IDI participant from Tigray (Wolkayt, Blamba Michael):
[F]: You have “Teff” at your farm, right? Why don’t you use it for household consumption?

[P]: I don’t know. We immediately take it to the market after it is harvested in order to buy oil, gasoline and onions in change and the money get finished with this kind of trash things. We harvest it around September and then take it to the market place. If we eat the “Teff”, it would be so useful to our body.

The results of FGDs and IDIs suggest that the participants believe that eating at least three times per day is a good practice, at least in the case of Hiwot. However, they also note frequently that their own situation is quite different from Hiwot’s, who is usually spoken of as an ideal adolescent girl, rather than a representation of participants’ own situation.

2. Adolescent girls’ perceptions of their diets

Diets as unhealthy and inadequate
Most adolescent girls were aware that a diet consisting primarily of staple foods is not healthy and can undermine their overall well-being. In contrast to many of the pregnant or lactating women respondents who participated in FGDs and IDIs and who appeared to be resigned to their diets (see other research findings reported separately by USAID/ENGINE2), many of the adolescent girls expressed a strong dissatisfaction with their diets:

Ours (diet) is rubbish! Ours is nothing! It is for survival. (Adolescent girl, Amhara)

Many of the girls perceived their diets as both inadequate and unhealthy:

(Our diet is) not adequate for mind development and for the health of women and children. (Adolescent girl, Oromiya)

It’s not useful for us (their diet); there is no peace inside us. There may be health inside if we eat important things. (Adolescent girl, SNNPR)

There is no protein inside us, even if we eat them (kocho and kale specifically), it doesn’t give protein; it doesn’t have health for us. (Adolescent girl, SNNPR)

It is not healthy if it is the same type of food. Our body couldn’t prevent disease if it is the same type of food. (Adolescent girl, SNNPR)

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2 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; USAID/ENGINE 2014
Adolescent girls expressed a general lack of enthusiasm and indifference to the foods they consume; many attributed these feelings to the monotony of their diets. For some adolescent girls, the lack of dietary diversity can be both physically and emotionally unpleasant.

I get bored of the typical food since I use (eat) them at home most of the time. (Adolescent girl, SNNPR)

Eating the same thing over and over will cause aversion. If you are eating the same food all the time, then it is tasteless but if it is pleasing when you are eating by changing variety of foods. (Adolescent girl, Tigray)

Most important meal of the day
Adolescent girls’ perceptions of which meal is the most important of the day differed, and most could provide an explanation as to why a particular meal was the most important. Some considered breakfast to be the most important meal because it helps them accomplish their work and to get through the day:

...We work in the morning. We don’t work properly without eating but if we miss dinner we just sleep- it does not trouble use. (Adolescent girl, Oromiya)

...I can go anywhere if I eat well in the morning and I can walk long but if I leave out of home before I eat my breakfast I may fall sick and something bad can happen to me ...there is belief that it not good to leave out without tasting some piece of food [because] something evil may cause illness if we don’t eat. (Adolescent girl, Tigray)

Other adolescent girls considered lunch, rather than breakfast, to be the most important meal for the same reason: the need to function throughout the day:

It’s lunch. My reason is that I will be eating late. It supports me during the day. (Adolescent girl, Amhara)

... you cannot keep on working or even sit without eating during the day. (Adolescent girl, Oromiya)

Some adolescent girls felt that lunch was the most important meal because they considered it to be more filling or more satisfying than breakfast or dinner:

[Lunch is] bigger and eaten with sauce/stew but breakfast is without sauce/stew and just bread in tea to push a little bit for certain hours only; however, lunch is daily meal hour carefully prepared from different foods. That is why I choose lunch as my best daily meal. (Adolescent girl, Oromiya)
Finally, some adolescent girls perceived dinner to be the most important meal of the day because without it they would not be able to sleep through the night:

*Dinner is the most important meal...because I usually get starved during the nighttime since we sleep late then I feel hungry during the night.* (Adolescent girl, SNNPR)

*The night will be uncomfortable if we don’t eat at evening. We can spend the daytime while we are watching the sunlight or watching people who are walking. At night, it may prevent us...prevent us from sleep. Even if we can spend the day without eating it may not be possible at night, hence, it is important.* (Adolescent girl, SNNPR)

**Dietary diversity as an ideal**

Many of the adolescent girls expressed a desire to improve their diets by diversifying their food intake or adding additional meals. This emerged in discussions about Hiwot (an adolescent girl fictional character whose story is used during the FGDs as a discussion point). Knowledge about what constitutes a nutritious combination of foods, however, varied among the respondents.

Firstly, as I said, bread gives energy. It also builds body. Therefore, it is important for children and women. Secondly, why red teff is among the essential the foods I eat is that it is rich in iron. Iron is a mineral required for our blood. If you go to clinic, for instance, physicians order those individuals with Iron deficient to eat red teff if your blood is needed to be enhanced. That is why red teff injera is my choice in my foods. Sugarcane is also among the carbohydrate rich foods and I use it in my diet. Sugarcane is scientifically and locally known for its rich carbohydrate content and gives energy. That is why need to eat sugarcane. I think orange has vitamins A and C in it. Such vitamin rich foods help our body and nails from being scratched. So, I eat to protect my body from such diseases. In the same way banana is required as bodybuilder from among fruits because it helps in children’s, women specifically old-aged women and adolescent girls. (Adolescent girl, Oromiya)

Nonetheless, all of the adolescent girls indicated that consuming a diversity of foods daily is optimal for achieving the ideal diet. For some, dietary diversity has the added benefit of increasing a girl’s physical attractiveness.

*My appetite accepts when I eat variety of foods. It brings bacteria when we eat the same type of food. I eat variety foods and that is good for my health, my bones, and for my stomach. It gives beauty and it is good for growth. That is why I eat variety foods.* (Adolescent girl, SNNPR)
Ideal foods
FGD and IDI participants were asked to draw pictures of what would be their ideal meal. Their responses among participants were quite diverse. For example, some adolescents consider a diet with frequent consumption of (cooked) meat to be ideal. Others simply wanted to be able to eat more of the food they are currently eating. Others mentioned that they would like to eat more fruits and vegetables, although this response was less frequent than the previous two.

Some of the other foods the girls identified as part of their ideal diet are: chicken, fish, milk, honey, eggs, and bread.


There were, however, varying beliefs about which food items were the most important. For example, one adolescent girl emphasized the importance of fish, which is not available in all regions in Ethiopia.

*I wish to get fish as part of my diet because I know that it is very essential for children in mental development. (Adolescent girl, Oromiya)*

Another girl highlighted the specific nutritional benefits of vitamin-rich fruits and vegetables:

*The reason is that fruits and vegetables are rich in different vitamins and useful building body defense. They also build our body. They also used to enhance the fast growth of the children. (Adolescent girl, Oromiya)*

For another girl, eggs and butter were essential for beauty and a healthy body weight:

*Yes, I want to eat egg and butter always because egg is good for breakfast. It is good for my body and it is also a healthy food...Also butter is good for my bones and blood; it makes me grow and makes me to get weight [and] it makes me fat and gives me a good look than other children. (Adolescent girl, SNNPR)*

Some foods, especially pasta, are perceived as carrying a special status or as being better than other foods for health reasons. Many participants in FGDs and IDIs mentioned pasta as being something that they would buy for their families or themselves if they had the money to do so. Although pasta is not a nutritient-rich food, adolescent girls perceive it as an ideal food.

*[F]: What are the foods that Hiwot wants to eat but can’t get them?
They are pasta, macaroni, rice, fruits like mango, papaya, and avocado. She can’t get them even if she wishes to eat them because she doesn’t have money. (FGD, Zenzelma, Bahir Dar)

In this case, the participant includes macaroni in a list of foods that Hiwot would like to eat but cannot afford. This finding—that adolescent girls aspire to eat pasta because it is perceived as contributing to health or having energy—was frequently noted in the data across the regions, such as in this excerpt of this interview with an adolescent girl in SNNPR:

[F]: What foods do you like and what do you call important for your health and growth?
[P]: Something like pasta, I please if I eat pasta, macaroni, but I can’t get it always, I may get once in a week. I like them very much. I think it is very important.
[F]: Why are they important?
[P]: As to me it is important for health though I couldn’t get and eat it always. (IDI, Wondogenet, Woshasoyama, SNNPR)

Unhealthy foods
Milk (possibly unpasteurized) and raw meat were the foods that adolescent girls most commonly identified as foods to avoid, particularly in the Amhara region, where girls associated these foods with intestinal parasites.

[F]: Are there any foods Hiwot avoids?
[P1]: Foods that Hiwot doesn’t want to eat are milk and raw meat.
[F]: Why?
[P1]: Because drinking raw milk and eating raw meat cause intestinal parasites. Since she is educated and knows everything, she can boil the milk and drink it. (FGD, P1, DebraElias, Abesheb, Amhara)

[P]: Her family, for example, may influence her to eat raw meat. She may say that she wants to cook it but they may refuse. They say “you will be sick”. The teacher on other hand influences her not to eat raw meat. He tells her eating raw meat results in different diseases like tapeworm. So it is the instructor who has influence on her. (FGD, P2, Debre Elias, Abeshe, Amhara region)

3. Religion and Fasting
Although fasting is usually considered to have important effects on people’s nutrition practices, only nine of the 48 transcriptions in the data set included some discussion of what happens during fasting. During a fasting period, participants do not eat meat or eggs (or other animal protein); if they generally have meat in the household, they substitute shiro or split peas during the fasting period. There were few mentions of any negative aspects of
fasting, although one participant stated that it is impossible to remain fasting throughout the night (Endamahone Tekle Haymanot, Tigray). Participants reported that a girl can begin fasting when she is seven years old (Debre Elias, Abesheb, Amhara).

Fasting for adolescents does not seem to be a significant factor in their perception of barriers to better nutrition practices.

All of the adolescent girls wanted to improve their diets by consuming more varieties of food and more of the foods they perceive as ideal foods. School education, family members, health extension workers and teachers all exert a beneficial influence on adolescent girls’ improved nutrition practices.

Perceived benefits of good nutrition
Many adolescent girls noted that good nutrition would improve their physical appearance, especially strong bones, clear skin and a good body weight. Some girls also indicated that good nutrition would help them in their future roles as wives and mothers, and ensure healthy pregnancies.

They (nutritious foods) are good for my bones and skin also they are good for growth and getting weight. It’s also good for my blood. (Adolescent girl, SNNPR)

The person who always eats only shiro will not have good physical appearance and may lose weight. But the person who eats eggs and vegetables will have good appearance and becomes healthy. (Adolescent girl, Tigray)

Food that is important for adolescent is...she is going to be wife in the future and she will not face difficulties at that time if she is fed well now. (Adolescent girl, Oromiya)

I eat meat of fish, fruits and vegetables and other foods important for fast children growth. I need necessary supplementary foods. This is because such foods are very important for body building and strengthening. For instance, women who get adequate foods and who do not get at their pregnancy vary in many ways. This is because those women who have adequate foods can have children timely but those women with less diet can highly be affected. Therefore, I want to eat foods I prefer adequately like from fruits and vegetables in all my life. (Adolescent girl, Oromiya)

Some girls linked good nutrition to doing well in school and thus indirectly helping them to attain their goals for their future.

Foods she eats will greatly affect her future. If she does not get an adequate and
balanced diet, she will be weak and sick. Thus, she cannot go to class or follow her lectures properly...because of this, she will not be able to continue her education resulting in failure to achieve her goal. (FGD, Munesa Doba Ashe, Oromia)

The difference is food that I am eating is not delicious. I eat it repeatedly, I hate it, I do not think about education. All I am thinking is about having delicious food. But if I get food I attend my education in better way, this is the difference. (FGD participant, Hidabu, Abote Sire Morese (Oromia).

School education
Adolescent girls perceive education as giving them valuable knowledge that enables them to influence hygiene and nutrition practices at home. Because of their education, the girls perceive themselves as being more knowledgeable than their family members and people in their communities, and thus able to assist in making decisions about what to eat or how to prepare food.

[F]: Who decides what the family will eat?
[P1]: Hiwot decides what the family eats. Since she is educated and has knowledge on how to have a balanced diet, she will decide what the family eats. For example, she can feed the family with all the food groups available like, carbohydrates, fats and oils, vitamins, minerals and water. She will also eat these foods either by buying or by producing at home. (Munesa, Doba Ashe, Oromia region)

People in the community may not advise me as I may have better knowledge compared to them. I may advise them. They cannot tell me. ( Adolescent girl, FGD Bahir Dar, Zenzelma, Amhara region)

These and other examples in the data suggest that education is an important contributor to adolescent girls’ self-confidence in their nutrition knowledge, especially when they compare this knowledge to adults in their families and communities. They believe that their nutrition knowledge is generally better than that of the adults in her community.

The data also suggest that a school education helps adolescent girls to visualize a better future for themselves. Adolescent girls aspire to making a positive difference in their families, communities, and country in the future. Aspirations for their futures emerged as a theme during participants’ discussions about Hiwot. Many of the adolescent girls felt that Hiwot’s education helped her to fulfill her goals for the future. For example, an FGD participant from Wondogenet, Woshasoyama (SNNPR) explained:

[P]: Hiwot’s hope... in the future she works and changes her country to make it big and in the works she is given, whether it’s farming or agriculture, she needs to
Most of the adolescent girls participating in the research appeared to have a higher level of education than their parents and perceived themselves as consequently having more information about health and nutrition. Many girls reported that their families and communities have this same perception of them: that they are more knowledgeable. Some mentioned that because of their education, they would be able to provide information to their families related to good hygiene practices in food preparation. Many of the adolescent girls believed that continuing their education would help them escape poverty, have greater financial autonomy and control over their diets and the diet of their families, and attain better quality of life outcomes.

_When we become educated, we will change our behaviors. This means we change our families too. We learn different things at school, for example science. We learn about the hygiene of our family and personal hygiene. Hiwot just like us takes what she is taught at school. She tells to her parents to keep their hygiene and the societies’. Also, she advises her younger brothers to keep their hygiene and get education. And she learns from her big brother. She advises her parents to use toilet because it helps us to prevent communicable diseases like amoeba, typhoid and so on. By doing so she teaches her family, and parents and brothers so that they are healthy._ (FGD, P1, DebraElias, Abesheb, Amhara region)

_I think that I can get educated and bring change; that will make it easy. After I finish school, I want to change her (my mother’s) life. If I have the capacity to learn._ (Adolescent girl, Amhara)

_If I work hard and study then it will be easy to eradicate poverty._ (Adolescent girl, SNNPR)

_Poverty motivates me, when I see other people get rich and are having a better clothing, I get angry. This motivates me to finish my school and bring a change._ (Adolescent girl, Amhara)

_If I get job and have enough money, I can think of improving my eating practices...If I get some source of income, I can help my mother to buy the important food items so that I can choose what I can eat. If I get extra money than the money I give to my mother, I can decide up on it. So, I can decide to eat the type of food, which I like to eat with the money I have. However, if I don’t have my own money, I don’t want to create stress to my mother by ordering the types of food, which she doesn’t have._ (Adolescent girl, Tigray)
Education also influences who adolescents decide to trust. Greater education increases Hiwot self-esteem and her trust in her own ability to make decisions.

[F]: For example, if you were Hiwot, who you are going to trust more?
[P1]: She can trust her family. Yet, if she is educated, she can say to herself “I am educated and this and this are good for me” and she has to hinge on herself. She has to say this is appropriate for me and that one is not. Her parents also can give her advices and after all this, she can go on the way which she chooses. (FGD participant, Rawyan, Qfta Humera, Tigray)

Girls participating in in-depth interviews also reported that being educated makes a difference in their ability to influence their families’ diets. Participants generally believe that their parents will accept their advice because they are or have been in school, as in this example from an interviewee in Wayu, Tuka Migna Kura (Oromia):

[F]: Do you want to change the frequency [of your meals]?
[P]: Yes, I want to change it, breakfast in the morning, lunch in the afternoon around 2 pm and 5 pm snacks, I like to eat in this way.
[F]: Would it be easy or difficult?
[P]: It is difficult for me to bring this change, it may be easy if I have money, if I change our families diet no one is against that. I think if I discussed with my family about changing our food my family will accept me, because I am educated they accept me when I share with them what I learn in school because they are not educated. I am the first born...my family accepts what I tell them most of the time because I am educated.

In addition to impacting the ways in which adolescent girls influence their families, education also impacts an adolescent girl’s ability to change her own future. In the FGDs as well as the IDIs, the adolescent girls linked education to the ability to work abroad, find more productive or better paying work in Ethiopia, and help those around her.

[F]: What does she want to do?
[P1]: She wants to be educated and become professional, then to manage her [self].
[P2]: If she is educated, she would be able to educate her own people. (FGD, Blamba, Michael Welkayt, Tigray region)

Access to education strongly affects adolescent’s perceptions of themselves as capable of influencing change within their families and communities.

[P1]: She [Hiwat] wants her children to grow up in her environment amongst her own people. She wants them to go to school. She wants to fulfill whatever they want to eat,
their clothes, education, and she wants them to grow up healthy and strong. (FGD, Munesa, DobaAshe, Oromia region)

I think that I can get educated and bring change; that will make it easy. After I finish school, I want to change her [my grandmother’s] life, if I have the capacity to learn. (IDI, Metema Meka, Amhara region)

Adolescent girls’ self-efficacy in family and community roles
Although there may be challenges involved in convincing those around them to make changes in their dietary practices, many adolescent girls believe that they play an important role in their families’ nutrition. They mentioned that as the most well educated person in the family, they held considerable influence over dietary practices, hygiene, and other aspects of nutrition practice.

For example, some participants specifically mentioned that they would be the person to care for their family and ensure their health by making correct choices about food, as indicated below in an interview from Munesa, Doba Ashe (Oromia):

I can decide what my family eats. In case my family is very old and weak, I can decide for them what they have to eat for every meal. Depending on the knowledge I got from the school I will prepare foods for my family that can make them strong, healthy, and happy. I can vary their foods by feeding them from all the food groups available. This way I can take care of my family.

Many girls considered themselves more knowledgeable than others in their communities regarding diet, nutrition, and hygiene, by virtue of having been to school or having participated in some sort of formal education. Even so, adolescent girls did not mention that they would be able to use this knowledge to influence their neighbors or communities.

Family Support

Both Parents

Generally, adolescent girls said that their parents are sources of information and teaching. The girls often noted that their parents were often less educated than they are and therefore were often receptive to new information from the adolescent regarding nutrition (even if the information is objectively incorrect).

Yes. I consult my mother. I consult my father. I say we have to make this change and then we will change ourselves. I consult both of them as we have to avoid the foods that harm us. And as we have to get foods that give us heat and energy. I consult my mother and father like this. I want my mother and father for their support. I want
these. (Adolescent girl, SNNPR)

My parents; my mother and father [because] they advise me and I trust them.
(Adolescent girl, Amhara)

I discuss with my father and mother about changing food stuff, most with my mother
I can change with her she accept what I told her changing food stuff is important
because eating various food is important for body I want to eat like that. (Adolescent
girl, Oromiya)

Mothers of Adolescent Girls
The most important and most frequently mentioned trusted source of information about
nutrition for adolescent girls are their mothers. Mothers are the most commonly mentioned
source of support for changes in dietary practice reported by the adolescent girls in this study;
they are also the most frequently mentioned influencer in terms of changes to other practices.
However, because the adolescent girl often perceives herself to be better educated than her
mother, there was some conflict between what she respects are her mother’s traditional or
cultural knowledge and the practices that the girls has learned in school.

Adolescent girls perceive their mothers to be the person who is the most responsible for
supporting changes in their diets. For some adolescent girls, their mother is their main ally
for improved nutrition, especially when the father was perceived as not being supportive.
Mothers help their adolescent daughters improve their nutrition practices by providing food
and also be engaging in discussion with their daughter about household practices that
include nutrition as well as related practices, such as hygiene and food safety.

Fathers of Adolescent Girls
Although adolescent girls mentioned their fathers less frequently than their mothers as
sources of support, they are very aware of the important role fathers play in providing for
their families’ nutrition. Fathers may, for example decide what the family will eat on a
particular day or period of the year. They may also be occupied with maintaining the family
farm, which in turn provides the family with staples. Nevertheless, many adolescent girls
identified their fathers as key to implementing changes in household nutrition because they
believe that fathers control the family’s financial resources, are more educated, and thus
understand the importance of diet and nutrition more than other family members. The girls
also perceive their fathers as being amenable in helping their daughters because they loved
them.

It (support for improved nutrition) is from father... from him but no one else.
(Adolescent girl, SNNPR)
Yes. I ask for support those individuals who are greater than me both in wealth and knowledge. I need their knowledge and experiences. I also need to support me in their resources. Still, those who are physically able may also help me. I need, for example from my home, my father to support me. (Adolescent girl, Oromiya)

My father’s support matters. Because he accepts my request. If I submitted the idea for change. He does what I asked him. He gives me money if I wanted to buy clothes or cosmetics. If I wanted something and if I told him, he gives me an idea and says you will buy next time. (Adolescent girl, SNNPR)

I trust more my father even more than my mother. I love him so much and I do everything he says. Yes. Because he makes me happy. Yes. When I ask him something, he do it without hesitation He buys me clothes, shoes and gives me money for my hair making. So this makes me so happy. On my behalf, I respect whatever he says. I don’t let his words fall. (Adolescent girl, Tigray)

The fact that fathers control family expenditures and resources is perhaps the most important reason why fathers should be engaged in improving maternal diet and nutrition. One girl aptly described the financial control that fathers and husbands have over the household diets.

They expect everything from the father if he says I don’t have they could even stay the night without eating but we don’t expect from my father. If my father says he doesn’t have any money we can prepare anything with the money we make at night and in the morning. If the husband is rich, they can even get more than we have but if he doesn’t have when she asks him for money he can say “let me go and borrow money from the shop”. So at this time the only choice they have will be sit and wait for their husbands; they might even stay the day without eating breakfast and other meals as well. But if they are working they could of buy what they want when their husband say he doesn’t have money. Actually, he will not say no while he has money but at this moment their choice will be staying bare stomach or go and eat from their neighbors. In this way we couldn’t be the same with the others. (Adolescent girl, Tigray)

Some, however, believed that because they are young (and perhaps female) that their suggestions and requests would be ignored.

I can consult both of them (her parents about healthy diets) but they don’t accept my advice. (Adolescent girl, SNNPR)
Other family members
Adolescent girls also occasionally mentioned their aunts and grandparents (most often, grandmothers) as other family members who may influence their nutrition practices. They rely on these female relatives as the family members who, in addition to their mothers, may offer them different or better foods. Adolescent girls also said that they were able to trust these female relatives to discuss their concerns with them.

Extended family
Extended family refers to aunts, uncles, cousins, and other individuals who the girls did not identify as parents, primary caregivers or siblings. Several participants reported that they received support from these individuals related to nutrition, such as cash to purchase food.

Aunts were mentioned by several participants as supports or facilitators of change. Aunts sometimes take the place of mothers in the event that an adolescent is living without her mother; they may also play a particular role in sharing information in outside the nuclear family in a way that is more open than a mother or father. This is not clear from the data, and additional research into the role of the aunt, either maternal or paternal, would be helpful in determining whether and how aunts could play a role in SBCC initiatives.

Peers and friends
Adolescent girls did not generally mention their friends and peers as trusted sources of information. Rather, friends and peers were mentioned as being supportive when it came to changing nutrition practices or other behaviors.

Neighbors
Neighbors were frequently mentioned as influencers, sometimes as positive sources of support, as is typified in this comment from an FGD participant:

Munesa, Doba Ashe (Oromia) – FGD:
[P]: Her neighbors, friends and relatives can be her role models in choosing what to eat and when to eat.

Nevertheless, many adolescent girls appeared to perceive themselves as being better informed than their neighbors and were thus skeptical of their advice. Indeed, adolescent girls often spoke of neighbors as untrusted sources of information.

[F]: Which of these people or other sources do you trust the least?
[P]: I do not trust the people in neighborhood. (Metema, Meka, Amhara region)

3.7. Health Extension Workers
Health Extension Workers (HEWs) were frequently mentioned as trusted sources of information. HEWs and other service providers were mentioned as examples of those who
provided education to members of the communities. Adolescent girls perceive HEWS as having education that equipped them to be able to inform community members about good practices in hygiene and nutrition, as indicated by this participant from Bahir Dar, Zenzelma (Amhara):

[F]: Which of these people or other sources do you trust the most?
[P]: Health extension workers.
[F]: Why?
[P]: They are well educated and are in a position to teach us. I may trust my brother. But usually, they (the health extension workers) are better. When we are sick, we go to them. They examine and give us injection. They give us because they know it.

The FGDs and IDIs included specific questions about adolescent girls’ perceptions of the role of HEWs in their communities, and although responses varied considerably, nearly all participants were aware that HEWs had a role in their communities. The primary role of HEWs in the lives of the communities was to teach about better hygiene, specifically the construction and use of latrines. Participants also mentioned that they taught about smokeless stoves, waste disposal, the use of supplements and, less frequently, about the role of nutrition in recovering from an illness or disease.

Teachers
Teachers were also often viewed as trusted sources of information by participants.

[F]: Which of these people or other sources do you trust the most?
[P]: Information from teacher following this health extension worker, then the one I get from peer.
[F]: Why?
[P]: Because the teacher knows. He teaches us from what he know, that is why I trust him. Health extension worker is knowledgeable that is why I trust her; my mother is not literate, [but] I take her information too.

Other people as trusted sources of nutrition information
Generally, when speaking about extra-family trusted sources, participants trust information that comes from someone they perceive as being educated. Thus, doctors in health centers, AEWs, and other individuals in adolescents’ communities who have education may be considered trusted sources who could be included in SBCC programming.

Radio and Television
Although they may not have access to them, participants generally view radio and television as trustworthy. Unfortunately, the reasons that they trust these media were not specifically explored in the discussions or interviews.
[F]: Which of these people or other sources do you trust the most?
[P]: I trust most information on TV, I hear from radio, the other information is information that I get from someone who heard it from another person, I trust most information that I hear myself.

One of the most significant challenges involved in using mass communication to reach adolescents is the limited reach of these media. Although some participants mention that they have access to these media, many such as this IDI participant from Efrata Ena Gidim, Kobo (Amhara), do not:

[F]: Have you ever seen a radio or a television?
[P]: I haven’t.
[F]: Have you ever read a newspaper?
[P]: No

While radio may have fairly broad reach across the country, access to television is extremely limited. It may be considered a trusted source, but is only available when someone travels to the city.

Home gardens
Several participants mentioned the usefulness of having a garden in which they could grow specialized foods such as vegetables. In focus group discussions, participants mentioned that the presence of a backyard garden would provide make it easy for Hiwot. These gardens could supply fruits or vegetables that are not typically grown on larger farms cultivated by the family. In some cases, farmers produce these foods for sale to others, as mentioned by this FGD participant from Rawyan, Qfta Humera (Tigray):

[P]: When we say foods to be purchased, it can be like potato and the ones that she has mentioned like “Molokia” or “Bamya”. Such items can be produced in the backyard, if it is in the rainy season. In the dry season however the items are bought from farmers having garden and “motors” [water pumps] far in the river side...[t]he vegetables like kale and “Molokia” however are produced in the summer on our own backyards and we use to eat them. But we couldn’t produce them in the dry season.

5. Barriers to improved nutrition practices
The analysis identified a number of barriers to the adoption of optimal nutrition practices by adolescent girls. These barriers include: 1) poverty and limited resources including limited access to nutrient-rich foods; 2) socio-cultural expectations around families’ consumption of meals; 3) nutritious foods are not prioritized for family consumption; 4) low knowledge or awareness of the different dietary needs for adolescent girls; 5) gender inequities and family dynamics preventing girls from consuming nutrient-rich foods; 6) peers and neighbors
gossiping or otherwise discouraging the girls from adopting improved nutrition practices; and 6) interruption of schooling due to pregnancy.

The research sought to identify barriers to being able to either eat or supply a variety of foods for adolescent girls. Participants were asked to respond with “Yes, but...” or “Yes, and...” to the statement “[when one is pregnant] eat a variety of foods”. Examples of their typical responses are:

Yes, but I do not have enough money. (Gomma Teso Sedecha)
Yes, but they are not available. (Decha Awradegeter)
Yes but we can’t get vegetables and fruits easily at our house. (Endamahone Tekle Haymanot)

Actual or perceived poverty and limited resources
Poverty or “lack of resources” was mentioned in nearly every FGD and IDI transcript as a reason for not improving their own diets or their family’s diet. Many girls explained that their diets were not by choice but by necessity due to limited financial resources.

Since the food is not comfortable we eat it due to problems (constraints). No one will eat (these foods) if there is money. There will not be anyone who will eat (these foods) frequently. They will try to consume different variety of food. (Adolescent girl, SNNPR)

When I compare, there are a number of adolescent girls who eat less than me. The reason is that the production in our area is somewhat expensive. There are also comparatively families with lower income and inadequate food production. Adolescent girls in such families are less likely to get adequate foods. (Adolescent girl, Oromiya)

Due to shortage (of money) [the] foods (diet) of adolescent girls in the community are different. (Adolescent girl, Oromiya)

Other girls associated financial constraints to limited job opportunities for young women in rural Ethiopia, and explained that adolescent girls are dependent on others to purchase foods are purchased for the home. These girls believed that if they were able to have jobs, they would buy additional healthy food items to improve their diets.

You know, here a woman can’t get enough money because there is no work for her. But in other places, women can work and get enough money to buy what they want to eat. Here, we are all dependent on our parents and siblings that we don’t have an alternative. We just eat what we get or just dream what we should have eaten. (Adolescent girl, Tigray)
Limited access to diverse foods

Some adolescent girls attributed the lack of dietary diversity to limited access to diverse foods.

*I eat kocho not because I like it, it’s a must. I eat always not because I like it rather it is because we don’t have other things to eat... It is because there is no other type of food.* (Adolescent girl, SNNPR)

Embedded within the adolescent girls’ discussion about the impact of poverty was their belief that people in urban areas have a better diet than those who live in rural areas.

*They (urban residents) are better than us. If they eat bread in the morning they may eat injera at noon. They may eat pasta (spaghetti), macaroni and rice but I may eat injera in the morning and eat again at noon, snack time and dinner. I did not actually see them but this is what I think.* (Adolescent girl, Amhara)

For many girls, the main reason for these differences was due to rural areas having limited access to good quality and diverse food products that are only sold in urban areas. The girls did not perceive the foods grown in their rural communities as being as nutritious or as diversified as the foods available in urban areas.

*As we live in a village, we can’t get what we want to eat. We just depend on the farm products of our parents or siblings. So, when they go and get farmland, they rent and plough it. If they don’t get farmland, they just go somewhere else to search work and get something to buy and bring something for us to eat. And this is usually shiro, vegetable sauce or lentils.* (Adolescent girl, Tigray)

*The difference is they (urban residents) eat varieties of food as I told you. They eat various fruits; those fruits contain vitamins, which is good for the body and for health but our food is all the same— the kind of food that rural people eat is not good for health. You got tired of eating the same food every time.* (Adolescent girl, Oromiya)

A few participants explained that securing meat, milk, and other animal products was difficult due to the distance to the market (Endamahone, TekleHaymonot, Tigray):
For instance, I like milk, meat and the like most of all, but I can’t get them.

All these differences have come to exist because we are living in the countryside. It is impossible to get them due to the long distance. The other reason is that we mainly depend on what we produce in our farmland as we are rural dwellers. (FGD, Tigray region)

For some girls, the barrier to improving dietary diversity is also because farmers in rural communities, unlike urban residents, are accustomed to buying a limited type of food.

Because people from urban areas know different types of foods but not people from rural areas even when they go to the market they buy 5 or 6 different types of foods but we, even if we are called farmers, we do not buy different kinds of foods from the market after selling what we produce. What we buy is potato, lentil, kik, pepper and tomato. (Adolescent girl, Amhara)

Some girls also attributed the lack of dietary diversity to convenience. Certain foods, such as shiro, are quick and easy to prepare, and thus become a frequent food in a household’s typical diet.

It is so simple to prepare shiro. They just put it in quantity on the stove and it will be boiled. Once they take it out of the stove, they have nothing to do and just sleep the whole day. (Adolescent girl, Tigray)

Socio-cultural expectations for families to eat the same food together
Generally, most participants reported that they eat the same food as their siblings, unless they had a very young sibling who required special nutritional consideration. Occasionally, participants mentioned that there was a difference in the way food was served in the household, with male members of the household receiving food first and separately from others. This does not seem to be a significant barrier to good nutrition, and, given the importance of education discussed by participants, is likely to continue to fade as time goes on.

The analysis reveals that the practice of eating differently than others, and especially eating alone, is perceived as inappropriate. There is a strong socio-cultural expectation for adolescent girls to eat the same foods their family eats and to eat together with their family.

How could we eat different food being in one home? If we have one type of food we all eat that. (Adolescent girl, Tigray)

We do not eat separately. Family members in our household eat together. Father and mother as well as children in the family do not eat individually in our family. They all
Some participants described the social expectation around eating together as an actual imperative:

They just say we have to face everything together, whether we have enough to eat or get starved. Thus, you can’t do anything based on your own self-determination when you live together and so you can’t even agree, unless you are independent and live alone. Even if you wanted to eat on your own, they will get annoyed about it…When I want to eat something and take steps towards that, they will grab my hand. And then, I will give it up feeling annoyed, or I will do something else…When I was living there [unspecified place]; they don’t even allow me to eat the food of my interest; they will just “grab my hands”. They will do and eat all their interest and they will give me all their leftovers… [here] nobody is concerned about me or says “this is good for my daughter, she has to eat this, and she could have a desire for this” and tries to improve my way of eating. (Adolescent girl, Tigray)

Parents

Parents can sometimes be barriers to girls adopting improved nutrition practices. For example, this interviewee from Wayu Tuka, Migna Kura (Oromia) noted:

My father and my mother will not accept me if I said I don’t want food that we are regular eating, let us eat this new food. They do not say ok. They would consider my saying this to be something worthless.

Nutrition is not prioritized in the management of household resources

Some of the adolescent girls perceive that poor nutrition is due to household resources being used for things other than nutrition. One girl argued that for some families, the nutritional health of their children is secondary to other goals.

There are families, for example, who do not want their children to eat adequately. This is because such families prefer money than the adequate diet for their children. Such individuals supply their agricultural produce to market while their children are malnourished. They are money hunters. (Adolescent girl, Oromiya)

There is nobody in this village who [sic] desires to eat. They don’t care about themselves and about what they eat. They do ruin their lives and also evade yours. Around here, there are eagles and they always take the chicks sometime after they
get produced and hence it’s just a wastage. You are not allowed to eat the eggs and when the eggs turned themselves into chicks they are taken by the eagles. Neither you fill your stomach nor you own your chickens, you will just fall in bankrupt. (Adolescent girl, Tigray)

Another girl explained that farming families produce nutritious foods for sale rather than for family consumption.

*We immediately take it to the market after it is harvested in order to buy oil, gasoline and onions in change and the money get finished with this kind of trash things. We harvest it around September and then take it to the market place. If we eat the “Teff”, it would be so useful to our body.* (Adolescent girl, Tigray)

**Low knowledge or awareness of nutrient-rich foods and the dietary needs of adolescent girls.**

Despite the importance of and generally high levels of participation in education, nutrition information and education offered to adolescents lack sufficient clarity about food groups and their value in the adolescent diet. The perceptions of adolescents reported in the data regarding dietary diversity are generally uncomplicated and usually related to increasing strength and preventing disease. While this isn’t necessarily mistaken information, the lack of consistent mentions of the role of dietary diversity in the development of adolescents suggests an area SBCC programmers could address.

One participant in Amhara mentioned that HEWs have a role in providing information about diversifying food (Bahir Dar, Zenzelma)

[F]: How about health extension worker?
[P]: Health extension workers can advise. For instance, if I go to the health center when I am sick, they may me tell me.

[F]: Have you had the experience?
[P]: Yes. For instance they told me to diversify my food.

[F]: What did they tell you?
[P]: Do not eat only Injera, diversify your food.

This participant’s experiences with receiving this information from HEWs is encouraging and suggests a channel through which this information may be provided. Of note is that the participant did not mention a reason for this diversification, only that she had been so counseled by the HEW. It would be in the interest of SBCC programmers to find ways to ensure that the reasons for this diversification are known among adolescents.

Many adolescent girls demonstrated a lack of adequate knowledge about nutrient-rich food,
and virtually none appeared to be aware that adolescent girls have dietary needs that are different from other family members. Adolescent girls are perceived to be similar to adult women and less vulnerable to sickness and disease than young children, and therefore not in need of additional dietary support.

*It (the diet of adolescent girls) is not different with the adult; it is only different when compared with the children. It (my diet) is the same with my father and mother but for the children, different foods are prepared...it is because they need care and so that they do not fall ill.* (Adolescent girl, Amhara)

*It is not different compared with the adult. It is only different when compared with the children. It is the same with my father and mother. But for the children, different foods are prepared. It is because they need care. And so they do not fall ill.* (Adolescent girl, Amhara)

*There are times when we don’t have enough money to buy but there also times when we don’t have enough knowledge about what we should eat...sometimes we don’t know what is best for us.* (Adolescent girl, Tigray)

**Gender and family dynamics as household-level behavioral barriers**

In some families, the male head of the household is served first, followed by older male siblings. Adolescent girls may be served after the males in the household have eaten, which may affect the amount and type of food they are offered.

Fathers may sometimes exert a negative influence on adolescent girls’ nutrition by enforcing certain traditions.

*Her father is the one who influences her. For example, there are some fathers who do not allow cleaning a house in holidays. There are also others who do not use the clean utensils properly. So her father may influence her.* (FGD in Metama, Meka Amhara region)

*My mother is nice but, I feel apprehensive (nervous) to ask her for anything because she is always afraid if anything is finished my father will say something. I feel apprehended (nervous) even to drink this coffee with sugar. If we get a good meal, we eat together; if not we just keep quit and sit.* (Adolescent girl, Tigray)

**Neighbors**

Some adolescent girls described the negative influences neighbors can have on their nutrition practices. Some of the participants reported that their neighbors would gossip about them if they were perceived to be eating differently than others in their...
communities. For example, an interviewee from Metema Meka (Amhara) described how her neighbor has an unfavorable perception of her food choices:

[F]: Are there people who act as a barrier on you?
[P]: Yes. There are some people who act as a barrier.
[F]: For example?
[P]: There is a woman in my neighbor. When she looks at us when we eat, she says “don’t eat this because this is not your standard”. You better grow up by eating this and this.
[F]: What is it that she calls “this and this”?
[P]: Injera is what they told us to eat. When we prepare spaghetti and macaroni sometimes, they say it is not your standard...

Other adolescent girls described neighbors’ gossip about someone who changed their diet as a barrier to positive changes in their nutrition, as in the example below from Wolkayt, Blamba Michael (Tigray):

[F]: Are there any people among this community who become obstacle/barrier on your way of eating?
[P]: No. They just make a gossip about it when they are sitting together for three or four. But, they don’t explicitly say something on way of eating.
[F]: What do they say?
[P]: They just don’t really know what they are talking about and even what is going inside the house of the one who is the center of the gossip. They say “She eats in this way... she is becoming so rich” and things like that even if they don’t exactly know about it. They just make chitchat as they don’t have any staff to do. This is all the nature of this locale. It is absurd.

These examples suggest that adolescents are potentially influenced by those immediately around them and that there are individuals within communities who are willing to challenge ideas about food.

4.9. Peers
Several participants also mentioned that their peers could be barriers to change, so it is not immediately clear how peer groups could function to support dietary changes.

4.10 Interruption of school education due to pregnancy
When adolescent girls mentioned the impact of a pregnancy for Hiwot, it was often accompanied by mention of her having to leave school and get married. FGD participants generally agreed that early marriage would prevent Hiwot from completing her education, which in turn would prevent her from having knowledge and the ability to influence nutrition practices for herself and her family.
Summary of barriers, motivators and facilitators for improved dietary diversity and nutrition practices among adolescent girls (15-18 years old)

<table>
<thead>
<tr>
<th>Barriers</th>
<th>Motivators and Facilitators</th>
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<tr>
<td>1. Actual or perceived poverty and limited resources</td>
<td>1. Perceived benefits of good nutrition</td>
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<td>2. Limited access to diverse foods</td>
<td>2. School education</td>
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<td>3. Socio-cultural expectations for families to eat the same food together</td>
<td>3. Adolescent girls’ self-efficacy in family and community roles</td>
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<td>4. Parents</td>
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<td>5. Nutrition is not prioritized in the management of household resources</td>
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<td>6. Low knowledge or awareness of nutrient-rich foods and the dietary needs of adolescent girls.</td>
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<td>7. Gender constraints in households</td>
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<td>9. Peers</td>
<td>9. Other people who are trusted sources of nutrition information</td>
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</table>

Barriers to improving adolescent diets
The most frequently mentioned barrier to improving an individual’s or family’s dietary practices was a lack of resources, generally financial, to purchase the food that the adolescent girl believes will improve her situation. Family members can also prevent adolescent girls from improving their dietary diversity and nutrition practices. Family members, especially parents, may lack education or adhere to traditional practices that make them reluctant to change their household’s nutrition practices and accept the information or advice that the girls may bring home from school. For example, adolescent girls often noted that the reasons they were unable to change their diet was a spoken or unspoken requirement that all members of the family should eat the same food. Adolescent girls also spoke of negative social pressure from neighbors, mainly in the form of gossip about anyone who eats differently from others in the community, as another barrier to change.

Motivators and facilitators to improving adolescent diets
One important motivator for improving diets among adolescent seems to be the linkage between good nutrition and better outcomes in health or education, that would subsequently lead to a better future. Nutrition was mentioned as a necessary component of education, in that it helps the adolescent concentrate in school. Eating food such as vegetables was also mentioned as contributing to building strength and health.
9 Conclusions

9.1 Adolescent girls are aware that their diets are inadequate and are motivated to improve their dietary diversity and nutrition-related practices and yet face important barriers that prevent them from doing so

Adolescent girls are very dissatisfied with their diets and are bored by the monotony of the foods they eat. They are motivated to improve their dietary diversity and to eat foods that they believe to be nutritious because they believe doing so will help them to be healthier, stronger, more energetic, more successful in school and in life, and more physically attractive. Nevertheless, real or perceived poverty combined with limited access to diverse nutrient-rich foods are important barriers to girls’ ability to adopt improved nutrition practices. Other barriers to change include gender roles and family relationships at the household level: fathers in particular may take the priority in the household when it comes to the consumption of food, and fathers as well as mothers may be reluctant to change household nutrition-related practices that are perceived as a break from tradition or what they perceive to be “normal” practices.

9.2 Insufficient information on dietary diversity, nutrient-rich foods and the special dietary needs of adolescent girls

The data suggest that little dietary information about the importance of good nutrition and diet for adolescent girls is available to girls and their families in the communities of the four regions. Most of the girls have some knowledge of general nutrition information and nutrition information for mothers and young children; this knowledge is not extensive and is sometimes incorrect.

2.3 Education is an important platform for SBCC programming for adolescent nutrition

The evidence from the DHS and other quantitative research indicates that staying in school and delaying childbearing enhance the nutrition outcomes of adolescent girls and help interrupt the intergenerational cycle of stunting. Adolescent girls and their families perceive education as important: girls in school appear to derive self-esteem from their education and to have greater credibility in their families because they are in school.

School education was mentioned in nearly every discussion as a facilitator of better nutrition-related behaviors and something that was provided by schools, HEWs, and parents or extended family. Adolescent girls’ experiences in school were frequently mentioned as having important positive effects on the family’s dietary practices. The girls believe that the knowledge they gain in school can help them to improve their family’s hygiene, access to food, or use of supplements. Education also helps girls aspire to better futures for themselves. Girls also value education as one of the keys to improving their own lives and the lives of those around them.
Overall, the adolescent girls participating in the research believe that education has the potential to enable them to significantly improve their families’ situations, either through their influence on dietary practices at home, or by getting a good job and overcoming poverty. The girls believe that success in education requires hard work, avoiding early marriage, and having a supportive family.

2.4 Family relationships, especially interpersonal communication between adolescent girls and their parents about nutrition and nutrition-related practices, are important platforms to promote adolescent nutrition
Adolescent girls reported receiving information from many sources; however, they usually identified one or two as trusted. Family members, especially girls’ mothers, were the most frequently mentioned as sources of information about how to improve one’s diet. Adolescent girls perceive their mothers, as well as their fathers, as important facilitators for improved nutrition and nutrition-related practices in the household.

2.5 Health extension workers and teachers are other important sources of nutrition information
Adolescent girls identified two types of frontline workers as important sources of nutrition information: (1) HEWs, who generally visit families and communities to specifically discuss health related issues such as sanitation and nutrition, and (2) teachers who are with adolescent girls in the classrooms every day.

2.6 Friends and peers did not emerge as significant influencers on girls’ nutrition-related practices; however, the research did not sufficiently explore the relationships between adolescent girls and their friends and peers
While some of the USAID/ENGINE research data referred to interactions between adolescent girls and their neighbors and community members, the research did not yield robust information on how the friends and peers of adolescent girls may influence their nutrition and diets.

2.7 Religion and fasting
While there were occasional mentions of religion or the influence of community or neighbors in the USAID/ENGINE dataset, these issues were not sufficiently explored through FGDs and IDIs.
Chapter 5. Recommendations

This research generated recommendations that fall into two categories:

- Preliminary recommendations for SBCC programming to improve nutrition outcomes among adolescent girls 15-18 years old
- Recommendations for further formative research to gain insights into the behavioral determinants of improved adolescent nutrition practices

5.1 Preliminary recommendations for SBCC programming to improve nutrition outcomes among adolescent girls 15 – 18 years old

Recommendation #1: SBCC programming for adolescent nutrition should include basic information about dietary diversity and the special needs of adolescent girls during their “growth spurt”.

Recommendation #2: SBCC messages and materials should reinforce the self-esteem and self-efficacy that is already evident among adolescent girls who attend school. SBCC programming should present positive role models of adolescent girls who are using their education in school, their knowledge of nutrition, and their personal nutrition to help their families and to be successful in life. “Success” for adolescent girls includes finding employment that gives them a good income, making a positive difference in their families’ lives, and eventually becoming the mothers of healthy, bright and successful children.

Recommendation #3: SBCC programming should add value to existing nutrition education materials already developed and used in Ethiopia public schools by focusing on skills and practices related to improving dietary diversity and consuming more nutrient-rich foods.

For example, existing materials already developed by the USAID/ENGINE project can be introduced into the classroom to reinforce the knowledge-based “food pyramid” that is currently part of schools’ nutrition education curriculum. The USAID/ENGINE project’s “STAR foods” creative concepts, menu planning game and “earn & buy” game may be effective in helping adolescent girls learn skills and practices (such as planning nutritious daily menus for their households or helping their mothers decide what foods to purchase at the market). As the USAID/ENGINE project’s SBCC materials were designed for mothers, grandmothers and fathers, they should be first pretested with adolescent girls, adapted as appropriate before scaling them up for use in classrooms.
Recommendation #4: SBCC programming should leverage the benefits of education and strategically use it in interventions and in messaging. SBCC platforms should include primary and secondary schools, curriculum and teachers. SBCC program interventions could include enhancing school girls’ role as the sources of nutrition information and advice. SBCC messaging could help position adolescent girls who stay in school as positive role models who link optimal nutrition practices to success in school and in life. Examples of SBCC activities in line with this recommendation include:

- As noted in the previous recommendation, adding value to existing school-based nutrition curriculum through SBCC materials for teachers and students;
- Designing SBCC take-home reminder materials that adolescent girls can share with their families and neighbors;
- Establishing new/or reinforcing existing school-based girls’ clubs with peer educator training in nutrition as well as interpersonal communication skills to strengthen child-to-parent nutrition SBCC activities; and
- Promoting positive role models of adolescent girls in school as helping their families and themselves adopt improved nutrition practices and increased dietary diversity.

Recommendation #5: Infuse content on nutrition through the education sector: Conduct SBCC design workshops with school leaders to support the development of acceptable and appropriate content. Engage school leadership in activities to promote improved nutrition practices and enhanced gender roles. Consider the ways in which peer groups could function to encourage better nutrition.

Recommendation #6: Develop take-home reminder materials for adolescent girls who are in school. The materials should:

- focus on dietary diversity and household planning to ensure that nutrient-rich foods are a daily part of the family’s diet;
- emphasize that, in addition to pregnant and lactating women and children 6-24 months of age, adolescent girls also need to eat nutrient-rich foods (e.g. “STAR foods”) every day;
- reinforce the positive image of adolescent girls who are in school as being credible sources of information about nutrition because of the education they are receiving in school; and
- facilitate child-to-parent communication about improving nutrition-related practices. Materials should be tailored to facilitate the girls’ communication with their mothers (e.g. communication about new recipes and improved nutrition-related practices around planning meals and preparing food) and with their fathers (e.g. communication about the nutritional needs of different family members, planning the household budget and the use of other household resources to help meet these nutritional needs).
**Recommendation #7:** Provided that additional formative research confirms that establishing/maintaining home gardens is a feasible practice for adolescent girls, SBCC programming should incorporate the support of Health Extension Workers and agriculture extension workers to assist adolescent girls and their families to grow nutrient-rich foods in home gardens for their consumption.

**5.2 Recommendations for further formative research**

**Recommendation #1:** The USAID/ENGINE research sample of respondents did not include adolescent girls younger than 15 years old. Further formative research should focus on adolescent girls in the younger age group (9 – 14), which represents the second window of opportunity for improved nutrition to have an impact on adolescent girls’ linear growth and on reducing intergenerational stunting.

**Recommendation #2:** The USAID/ENGINE research included very limited information about adolescent girls who are not in school, and also had little information about the lives of adolescent girls in and outside of their homes. Future research should seek to gain more insights about the lives of adolescent girls outside of school: at home; with their friends and peers outside of school; their religious lives and attendance at churches or mosques; the work they may do outside of their home chores, such as tending home gardens, other farming activities, or other livelihoods activities; what they do in their leisure time and for entertainment. Another important part of an adolescent girl’s life is the onset of menses. Given that menstruation can have some association with nutritional status, further research should also explore the onset of menses and menstruation and how local knowledge and perceptions about these may impact any nutrition-related practices among adolescent girls and their families.

**Recommendation #3:** Additional research on the actual eating practices of adolescent girls is needed. Methodologies may include a combination of 24-hour recalls and extended direct observations of adolescent girls to generate reliable information about the quantity, frequency and diversity of foods consumed by adolescent girls.

**Recommendation #4:** In addition to 24-hour recalls and direct observations, focus group discussions are a useful research methodology. Individual in-depth interviews (other than those used for the 24-hour recalls) appear to be a less effective research method with adolescent girls. Future research that does use IDIs should consider prioritizing trained data collectors who are young women (rather than adult men). Other innovative research methods that may yield more insights are Diagnostic Role Plays (in which girls are asked to demonstrate situations, interpersonal relationships or nutrition-relevant practices through role plays with others during a small group session facilitated by a trained researcher) and Best Friend Interviews (in which adolescent girls are interviewed in pairs—each adolescent girl is interviewed with her best friend).
Recommendation #5: Formative research should seek to gain insights on family tasks where adolescent girls may have some agency to improve nutrition outcomes for their families. Examples of such tasks that could be the object of further formative research include:

- raising or growing food (crops, agriculture) for household consumption and/or for sale;
- planning and preparing meals for the family;
- purchasing food and other household necessities at the market;
- establishing or maintaining home gardens;
- building tippy taps and handwashing stations, and monitoring their use by family members; and
- food preservation.

Recommendation #6: Greater insights on the social networks and interpersonal communication and relationships in adolescent girls’ day-to-day lives at home, in school, and outside of home and school are important and an area that could be explored in further research.

Recommendation #7: Socio-cultural influences, especially the influence of religion (and fasting), social expectations on the roles of family members, and gender should be explored in future research.

Recommendation #8: Formative research should seek to gain insights that will support the development of strategic messaging and positioning in an adolescent nutrition SBCC program. For example, one option for SBCC messaging might be to focus on promoting the special dietary needs of adolescent girls and the age of 9 – 13 years old as the “window of opportunity” to help girls “catch up” on their growth. Another option might be to focus on a “whole family” concept promoting improved dietary diversity and nutrition practices for all family members. The intrahousehold dynamics of power, age, family role and gender will need to be explored to gain more insights around these and other options for positioning adolescent nutrition.