

## REPORT ON LANDSCAPE ANALYSIS ON ADOLESCENT HEALTH AND NUTRITION IN ETHIOPIA

September 2017



Alive & Thrive (A&T) is an initiative to save lives, prevent illness, and ensure healthy growth and development. Good nutrition in the first 1,000 days, from conception to two years of age, is critical to enable all children to lead healthier and more productive lives. Alive & Thrive is scaling up improved infant and young child feeding (IYCF) and maternal nutrition through large-scale programs in several countries in Asia and Africa and through strategic technical support and the dissemination of innovations, tools, and lessons learned worldwide. Alive & Thrive is funded by the Bill & Melinda Gates Foundation (BMGF) and the governments of Canada and Ireland. The initiative is managed by FHI 360.

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## Abbreviations

ANC	Antenatal Care
BMI	Body Mass Index
CINuS	Comprehensive Integrated Nutrition Service
DHS	Demographic Health Survey
EU+	European Union and Member States
FHI360	Family Health International
GDP	Gross Domestic Product
GTN	Growth Through Nutrition
HIV	Human Immunodeficiency Virus
IFA	Iron Folic Acid
IUGR	Intra-Uterine Growth Retardation
LMIC	Low and Middle-Income Country
MMN	Multiple Micronutrient
MoANR	Ministry of Agriculture and Natural Resources
MoH	Ministry of Health
MoWCA	Ministry of Women and Child Affairs
MoE	Ministry of Education
NCD	Noncommunicable Diseases
NGO	Non-Governmental Organization
NNP	National Nutrition Program
RH	Reproductive Health
SBCC	Social Behavior Change Communication
UNICEF	United National Children's Fund
WASH	Water, Sanitation and Hygiene
WFP	World Food Program
WHO	World Health Organization

# 1 Definitions of adolescence

There is a global agreement on the definitions around children, adolescents, teenagers, and youth. Within research and programs of government and implementing partners, different age groups are used, as highlighted below.

**Child:** Defined by the Convention on the Rights of the Child (1989) as a person younger than 18 years, unless maturity (i.e., the legal threshold of adulthood) is attained at a younger age in a particular country (Office of the United Nations High Commissioner for Human Rights, 1989).

**Adolescence:** Historically defined by the WHO as the period of 10 to 19 years (WHO, 2001). It is derived from the Latin *adolescere*—the present participle *adolescens* means growing up, whereas the past participle *adultus* means grown up. Young or early adolescents are 10 to 14 years, while older or late adolescents are 15 to 19 years

**Teenager:** Refers to people aged 13 to 19 years. The term was first used in the United States in the 1920s and became widely used within popular culture after World War 2.

**Youth:** The UN defines youth as people aged 15 to 24 years, a definition created for the International Youth Year of 1985.

**Young person:** A less formally defined term that generally refers to people aged 10 to 24 years, as does the composite term adolescents and young adults.

**Adulthood:** The age that children and adolescents gain legal rights and accountabilities varies. 18 years is the legal age of majority in many countries, although not universally.

**Table 1: Ages (in years) covered by different definitions**

Type of young person	0-9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Child	█	█	█	█	█	█	█	█	█	█					
Adolescent		█	█	█	█	█	█	█	█	█	█				
Teenager					█	█	█	█	█	█	█				
Youth							█	█	█	█	█	█	█	█	█
Young adult												█	█	█	█
Young person		█	█	█	█	█	█	█	█	█	█	█	█	█	█
Adult										█	█	█	█	█	█

## 2 Summary

Adolescence is a period in which an individual undergoes major physical and psychological changes. It is a phase in which an individual is no longer a child, but not yet an adult. Adolescence is a crucial time in terms of nutrition; a time of increased nutritional needs when lifelong health and nutrition behaviors are formed. The cycle of undernutrition can span across generations, affecting all stages of the life cycle. Young girls who grow poorly become stunted women and are more likely to give birth to low-birth weight infants. If those infants are girls, they are likely to continue the cycle by being stunted in adulthood. Adolescent pregnancy heightens the risk of low birth weight and the difficulty of breaking the cycle (Ransom and Elder, 2011). Therefore, targeting women and girls only when they are pregnant is often too late to break the intergenerational cycle of malnutrition.

Addressing adolescent nutrition is of foremost importance considering:

- adolescent nutrition status reflects early childhood nutrition;
- adolescents are still growing and have increased nutritional requirements;
- adolescence can be a possible time for catch up growth;
- adolescents are important agents for change in their communities; improving adolescent nutrition could improve national economies; and
- adolescent pregnancy has implications for future generations.

The primary nutrition problems of adolescents are micronutrient deficiencies (in particular, iron deficiency anemia), and depending on the context, undernutrition or obesity and co-morbidities. At the same time, adolescents are better adapted immunologically to their environment than infants and young children, which means they are less susceptible to infectious diseases and diarrhea.

This landscape analysis was commissioned by Alive & Thrive (A&T), an initiative managed by FHI 360, to better understand the current state of evidence around adolescent health and nutrition in Ethiopia. It included research on adolescent nutrition, a desk review of policies and programs, and key informant interviews.

There is an abundance of policies and strategies in Ethiopia addressing adolescent nutrition, either directly or indirectly. In the health and education sector, programs such as the National Nutrition Program and the School Health and School Feeding Program have been put in place. In the country strategic plans of donors, adolescent nutrition is not widely mentioned; even if it is addressed, there is not much detail on what the activities would entail and how implementation would take place. In the interviews with key informants, most respondents stressed that adolescents are one of their target groups but are not targeted separately. They are either part of women of reproductive age or in some organizations, adolescents are a separate target group, but for (reproductive) health interventions, not for nutrition. There are few programs that target adolescents specifically for nutrition interventions. Most of them are related to reproductive health, school nutrition, or micronutrient supplements.

Overall among key informants, there seems to be a good understanding of what the main nutrition problems of adolescents are in Ethiopia and there was good awareness of the policy landscape. Most key informants stated that not considering adolescent nutrition has been a missed opportunity, and that lack of coordination, limited understanding of delivery platforms to reach adolescents, and lack of research were the main challenges to working on adolescent nutrition.

While adolescent nutrition is still a relatively new topic in Ethiopia, both the literature review as well as the stakeholder mapping revealed growing interest and awareness, as well as some evidence and experience available. Also, within the policy landscape, adolescent nutrition is well reflected, but as mentioned by several key informants, implementation is limited. With increasing interest and action in this field, coordination will be key to avoid duplication but also gaps. Some organizations focus entirely on one single intervention, which if in their field of expertise, is entirely appropriate, but to improve adolescent nutrition, a wide spectrum of interventions needs to be considered. Not every organization should address all interventions. Reproductive health is a good example; there are many experienced organizations in this field and nutrition should support these programs, not attempt to duplicate them.

Overall it seems evident that a model or implementation guide will be necessary to bring all stakeholders on the same page and ensure a coordinated approach. The same is true for research efforts. There are multiple studies on adolescent nutrition in Ethiopia, yet they appear to have been conducted in isolation from each other. There are many research gaps in Ethiopia that could be addressed if studies are conducted in a more coordinated, harmonized manner.

Monitoring and evaluation of the programmatic impact on adolescent nutrition is also limited. While there is some agreement on which indicators to use for adolescent nutrition, it was also raised by key informants that there might be a need to identify a different indicator that properly captures adolescent nutrition data and measures the impact of interventions on adolescents.

The overall recommendation from this landscape analysis is that adolescents should be recognized as a priority target group and their needs should be adequately addressed in national programs.

## **Recommendations**

### Policy recommendations:

- Advocate for the implementation of programs on adolescent nutrition
- Support the government to lead efforts, using existing coordination mechanisms
- Test different approaches through a variety of sectoral platforms

### Program recommendations:

- Develop an evidence-based implementation guide/model
- Target adolescents with tailored, age-specific strategies and ensure that activities reach out-of-school and urban adolescents Reach urban adolescents for prevention of obesity and chronic diseases, promotion of physical activity, and advocacy for regulations around the marketing and processing of unhealthy foods

- Integrate adolescent nutrition into other sectors since it is highly multi-sectoral and cannot be addressed with a single intervention. Adolescent nutrition should be mainstreamed in existing public health programs; new programs should take stock of experience from reproductive health programs without duplicating them; nutrition sensitive interventions in agriculture and WASH should also be explored
- Involve adolescents in program design, implementation, and evaluation. Make sure to connect with adolescents through different platforms to increase the reach and effectiveness of interventions. These could include religious institutions, mass media, and social media for programming and communication

Recommendations for monitoring, evaluation, and research:

- Ensure tight linkages between research and implementation to ensure learning from new programs and to avoid doing harm
- Ensure nutrition assessments are built into all nutritional interventions for adolescents
- Develop a database on the health and nutrition status of adolescents

## 3 Introduction

### 3.1 Alive and Thrive

Alive & Thrive (A&T) is an initiative to save lives, prevent illness, and ensure healthy growth and development through improved breastfeeding and complementary feeding practices. Good nutrition in the first 1,000 days, from conception to two years of age, is critical to enable all children to lead healthier and more productive lives. A&T is scaling up nutrition through large-scale programs in several countries in Asia and Africa and through strategic technical support and the dissemination of innovations, tools, and lessons worldwide. Alive & Thrive is funded by the Bill & Melinda Gates Foundation and the governments of Canada and Ireland. The initiative is managed by FHI 360. As part of its next generation program in Ethiopia, A&T is planning to support the Government of Ethiopia (GOE) with improving the status of women's nutrition which includes adolescent nutrition. Therefore, this landscape analysis was commissioned with the following objectives:

- Identify and describe the major gaps in program evidence and design of the current adolescent nutrition programs and policies around health and nutrition in the country
- Analyze the geographic scope of these programs and the service delivery approaches used for promotion and implementation of adolescent nutrition in schools, communities, and health centers
- Analyze the gaps in program design and implementation
- Review government and development partners' materials for technical content
- Develop plans and make recommendations that can strengthen current programs
- Describe the skills needed at the national, regional, and woreda levels to scale up adolescent nutrition programs in the country in improving adolescent nutrition, given the current design, targeting mechanisms, coverage, and scope of the ongoing programs.

### 3.2 Why focus on adolescent nutrition?

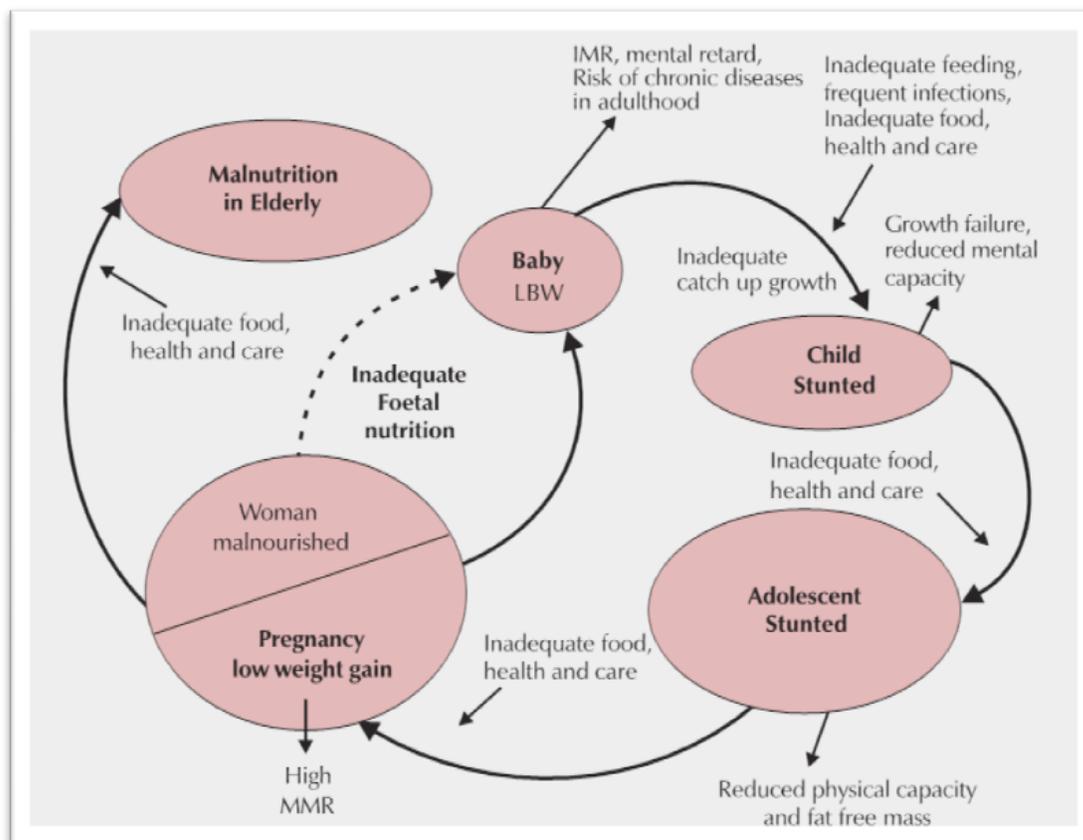
Adolescence is a period, in which an individual undergoes major physical and psychological changes. It is a phase, in which an individual is no longer a child but is not yet an adult. Adolescence is also a crucial time in terms of nutrition. It is a time of increased nutritional needs and when lifelong health and nutrition behaviors are formed, which can also affect future generations.

The cycle of undernutrition can span across generations (see Figure 1), affecting all stages of the life cycle. Young girls who grow poorly become stunted women and are more likely to give birth to low-birth weight infants. If those infants are girls, they are likely to continue the cycle by

being stunted in adulthood. Adolescent pregnancy heightens the risk of low birth weight and the difficulty of breaking the cycle (Ransom and Elder, 2011).

Adolescents account for nearly one fifth of the world’s population: There are 1.2 billion adolescents (aged 10 to 19 years) in the world; 90 percent live in low- and middle-income countries (LMICs), where they comprise 19 percent of the population; Sub-Saharan Africa is expected to have more adolescents than any other region by 2050 (UNICEF, 2012).

**Figure 1: Nutrition throughout the lifecycle (ACC/SCN, 2000)**



Over the last two decades, a lot of the focus in nutrition policies and programs has been on the first 1000 days, the period from conception to two years of age. The first two years of life are an important window of opportunity to prevent and reduce growth retardation (Shrimpton et al., 2001)., however adolescence is also a critical period for action:

**1. Adolescent nutrition reflects early childhood nutrition or malnutrition:**

Many children in low- and middle-income countries enter adolescence stunted and thin. Many are also anemic, and there is also a wide variety of other micronutrient deficiencies. The adolescent period offers an opportunity to address these nutritional problems that stem from

infancy and childhood and shape future behaviors. There is also evidence supporting the hypothesis of early programming on the development of chronic diseases. Intra-uterine growth retardation as a result of fetal malnutrition has been found to be associated with coronary heart disease, hypertension, and metabolic disease in various adult populations (Barker, 1994).

## 2. Adolescents are still growing and have increased nutritional requirements:

Adolescence is a period of very rapid physical growth, second only to the first year of life. Children gain up to 50 percent% of their adult weight and more than 15 percent of their adult height during adolescence (Spear, 2002). Due to this physical growth and development, adolescents have the greatest nutrient needs and are therefore highly susceptible to malnutrition and nutrient deficiencies, particularly iron deficiency anemia (Stang and Story, 2005). Iron requirements peak during adolescence due to rapid growth with sharp increases in lean body mass, blood volume, and red cell mass. This raises iron needs for myoglobin in muscles and hemoglobin in blood (Beard, 2000).

## 3. Adolescence could be a time of opportunity for catch-up growth:

There is some evidence suggesting that growth retardation suffered in early childhood can at least partially be compensated for in adolescence. Some spontaneous catch-up growth in adolescence may be possible in chronically malnourished children since the growing period is thereby extended, provided that a high-quality diet is sustained. Although there is no evidence of similar recovery of other deficits associated with stunting, such as cognitive deficits (Dewey and Begum, 2011; Georgiadis et al., 2017; Golden, 1994; Prentice et al., 2013).

## 4. Adolescents are important agents for change:

Through adolescents, younger siblings, families, and other community members may be reached. Adolescents can help inform and enhance health and nutrition knowledge and practice among peers, families, and communities (UNICEF, 2011).

## 5. Adolescent pregnancy has implications for future generations:

Early marriage can have long-term consequences on the growth and health of mothers and their infants, as many women have not achieved their full adult weight and height status at the time of the birth of their first child. Nearly one in every four adolescent girls aged 15 to19 in the developing world (excluding China) is currently married or in union. The South Asia and sub-Saharan Africa regions have the greatest proportion of girls aged 15 to19 married or in union (UNICEF, 2012). Nearly two thirds of women in sub-Saharan Africa and in several countries of South Asia have their first child before the age of 20 years. An estimated 16 million girls between 15 and 19 years old give birth each year. In the poorest regions of the world, birth rates for 15 to19 year old is still four times higher than in high-income regions (UNFPA, 2015).

The health and nutritional status of girls before, as well as during pregnancy, influences fetal growth and newborn health (Bhutta et al., 2017). Adolescent pregnancy is associated with higher risk of maternal mortality and morbidity, stillbirths, neonatal deaths, preterm births, complicated labor, and low birth weight (Nguyen et al., 2017; Scholl and Hediger, 1993). Therefore, targeting women and girls only when they are pregnant is often too late to break the intergenerational cycle of malnutrition.

## 6. Improving adolescent nutrition could improve national economies

If countries in demographic transition make the right investments and adopt policies that expand opportunities for young people, their combined demographic dividends could be enormous. In sub-Saharan Africa, for example, they would be at least US\$500 billion a year, equal to about one third of the region's current GDP, for as many as 30 years (UNFPA, 2014).

At the same time, the magnitude of the cost of non-investment is also known. Here are some examples:

- It is estimated that for every kilogram less of weight at birth, an American child will achieve 15 percent less in adult earnings over his/her lifetime (Johnson and Schoeni, 2011).
- In settings with high incidence of goiter, it is estimated that iodine deficiency disorders depress average intelligence by 13 IQ points (Andersson et al., 2012).
- Calculations for 10 developing countries suggest that the median value of annual physical productivity losses due to iron deficiency is around USD 2.32 per capita, or 0.57 percent of GDP (Horton and Ross, 2003).
- The lifetime opportunity cost of adolescent pregnancy in Uganda, for example, amounts to an estimated 30 percent of the country's annual GDP (Chaaban and Cunningham, 2011).

### **3.3 Global health and nutrition situation of adolescents**

The main nutritional problems of adolescents are micronutrient deficiencies (in particular, iron deficiency anemia) and depending on the context, undernutrition or obesity and co-morbidities. At the same time, adolescents are better adapted immunologically to their environment than infants and young children, which means they are less susceptible to infectious diseases and diarrhea.

Adolescent mortality rates declined between 2000 and 2012, with the number of global deaths falling from 1.5 million to 1.3 million. The World Health Organization reports that complications of pregnancy and childbirth are the leading cause of death in young women between 15 to 19 years (Patton et al., 2009). Of the 16 million adolescent girls who give birth every year, UNICEF estimates 50,000 die, almost all in low- and middle-income countries (UNICEF, 2012).

Iron deficiency anemia was ranked as the leading cause of adolescent disability adjusted life years (DALYs)<sup>1</sup> lost in 2015. Except in older male adolescents it was the leading cause of DALYs lost in both sexes and age groups. In 2015, the highest rates of adolescent DALYs lost due to iron deficiency anemia was experienced in Southeast Asia followed by African low- and middle-income countries (World Health Organization, 2017). In 21 countries assessed by UNICEF, more

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<sup>1</sup> One DALY can be thought of as one lost year of "healthy" life. The sum of these DALYs across the population, or the burden of disease, can be thought of as a measurement of the gap between current health status and an ideal health situation where the entire population lives to an advanced age, free of disease and disability.

than one-third of girls were reported anemic (UNICEF, 2012). Iron requirements for adolescents are particularly high in developing countries due to higher prevalence of parasitic infections and disease and low bio-availability of dietary iron (Brabin and Brabin, 1992). The risk of an infant being born with low birth weight is significantly greater with moderate preconception anemia on the part of the mother (Bhutta et al., 2013).

Other micronutrients that may be deficient in adolescents include vitamin A, zinc, folate, calcium, and vitamin C (Delisle et al., 2001; WHO, 2006). Dietary calcium has been identified as a nutrient of great potential concern for adolescents due to of the accelerated muscular, skeletal, and endocrine development. Calcium needs are greater during puberty and adolescence than in any other population age group-except pregnant women (Spear, 2002).

Iodine is important during adolescence for two reasons: high growth velocity of adolescents and the increased iodine requirements during pregnancy. As a large percentage of adolescent girls get married early and bear children during adolescence, their requirements for iodine increase to provide for their own growth as well as for the needs of the fetus.

The requirements for vitamins are also increased during adolescence; more thiamine, riboflavin, and niacin are necessary for the release of energy from carbohydrates for meeting higher energy demands. Accelerated rates of growth and sexual maturation raise the demand for folic acid and vitamin B-12 (Spear, 2002).

Global data on the nutritional status of adolescents is limited. A study from the International Center for Research on Women in the early 90's, showed stunting rates ranging from 27 to 65 percent (Kurz and Johnson-Welch, 1994). Overweight and obesity has been rising in developing countries and obesity in children aged 2 to 19 years has increased from around 8 percent in 1980 to around 13% in 2013. The proportion of overweight girls between 15 and 19 years of age ranges from 21 to 36 percent in just 10 LMICs (UNICEF, 2014). Currently 42 million adolescents worldwide are affected by obesity. Overweight/obese adolescents are also more likely to become overweight/obese adults and are at increased risk of the poor health outcomes in adulthood. There is evidence that children and adolescents of urban families are more overweight than in the past, possibly because of decreased physical activity, sedentary lifestyle, altered eating patterns, and increased fat in the diet (World Health Organization, 2003).

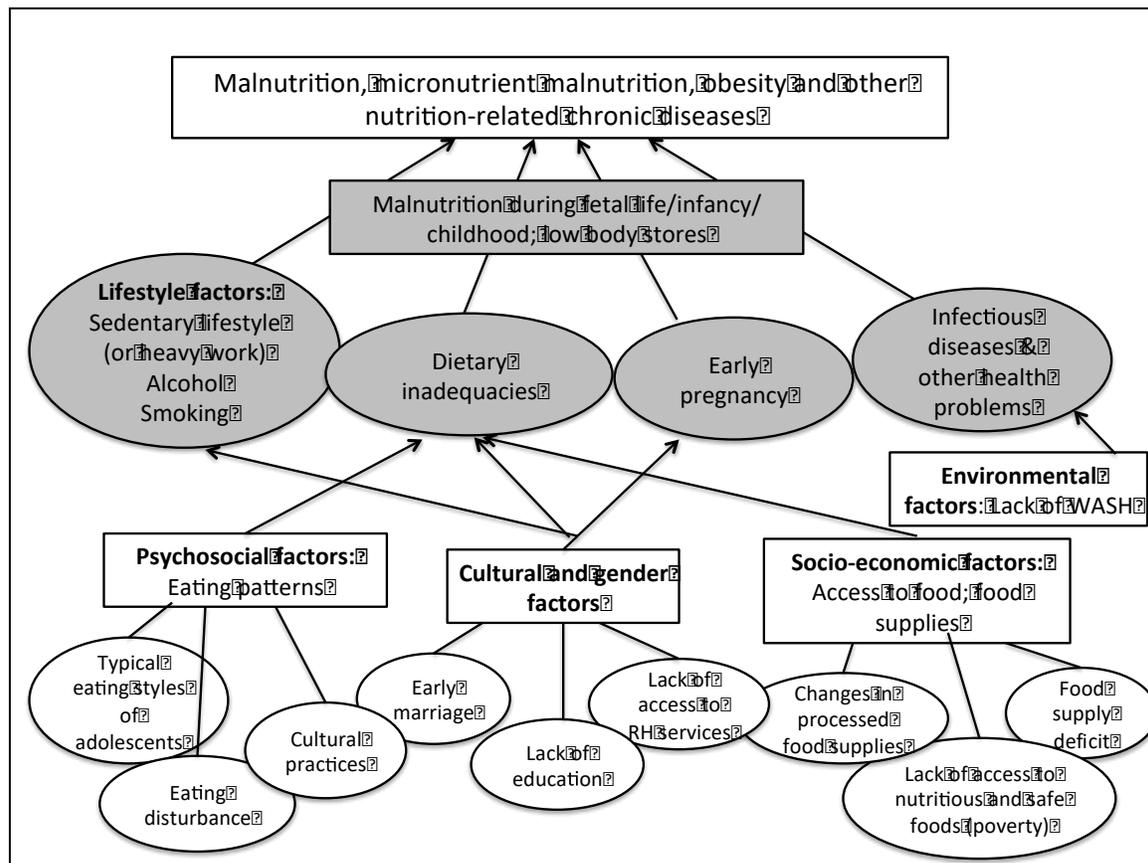
### **Causes of malnutrition in adolescents**

The causes of malnutrition in adolescents are multiple and related to livelihood factors, dietary inadequacies, early pregnancy, infectious diseases, other health problems, lack of sanitation and hygiene, education, as well as cultural and social norms (See Figure 2 below). The main factors can be summarized as:

1. **Lifestyle factors:** In affluent societies, adolescents often lead a sedentary lifestyle, which can contribute to overweight and obesity. In poorer societies of developing countries, adolescent boys and girls may be expected to engage in heavy physical work many hours a day. This has an impact on energy requirements and likely also on weight status. Furthermore, adolescents are at high risk of substance abuse, alcohol consumption, and smoking.

2. Psychosocial factors/eating patterns: The meal pattern of adolescents is often disorganized, and they tend to miss their meals at home as they get older, often skipping breakfast. Some dietary patterns like snacking, usually on energy dense foods, wide use of fast foods that are low in nutrients, low consumption of fruits and vegetables and faulty dieting are more common among the adolescents of industrialized countries (Dennison and Shepherd, 1995). In developing countries, particularly in cities, some of these patterns are also common, but very little has been documented.
3. Cultural and gender norms: In developing countries, adolescence is often a period in which girls get married and are likely to become pregnant. Adolescent girls are also more likely to be malnourished than other members of the household - gender inequality distorts the intra-household distribution of food with adolescent girls eating less and last (Akhter et al., 1998; Chen et al., 1981). Furthermore, cultural beliefs and food taboos can affect the quality of the diet. Girls also drop out of school at higher rates than boys. In sub-Saharan Africa, girls are less likely than boys to be enrolled at both levels of secondary education (UNICEF, 2012).
4. Socioeconomic factors: Access to food can be limited due to lack of availability of diverse foods at the household or market level as well as lack of financial means to access diverse and safe foods. Supply of processed foods is often more an issue in urban settings and can negatively affect diets of urban adolescents.
5. Environmental factors: Lack of clean water, sanitation, and hygiene is a major contributor to malnutrition. Fifty percent of undernutrition is associated with infections caused by unsafe water, poor sanitation and unhygienic practices, including not washing hands with soap and 88 percent of cases of diarrhea are caused by inadequate WASH (WHO, 2008a). It is an issue that has received little attention in the context of adolescence.

Figure 2: Conceptual framework of nutrition problems and causal factors in adolescence (adapted from Delisle et al., 2001)



### 3.4 Global action on adolescent nutrition

Given that globally, one in every six people is an adolescent, focus on adolescents has been limited in the past. However, increasing attention is given to adolescent health and nutrition. Adolescent health has now become a priority on the global agenda.

The 2013 *Lancet* maternal and child nutrition series was an important milestone, identifying adolescent health and nutrition before conception as well as maternal nutrition and nutrition promotion in schools among the “promising” nutrition interventions (Bhutta et al., 2013). *Every Woman Every Child Global Strategy for Women’s, Children’s, and Adolescents’ Health (2016-2030)*, launched at the Sustainable Development Summit in September 2015, added new focus on adolescents. Nutrition is mentioned as one of the components of intervention packages to improve adolescents’ health and development (WHO, 2015).

Two years later, the World Health Assembly 2017 launched the “Accelerated Action for the Health of Adolescents” (AA-HA!), an important report from all the key UN agencies on the need to act to improve adolescent health. The document suggests interventions to promote adolescents having healthy diets (World Health Organization, 2017).

These commitments are only slowly being translated to country action. A global review of SUN

countries revealed that of the SUN countries for which national plans were available (22), just fewer than half (10) include any detail on adolescent nutrition in their plans. Lack of guidance was mentioned as one of the reasons for the limited inclusion of adolescent nutrition in country plans and programs (Save the Children, 2016).

A recent review of national guidelines related to adolescent nutrition also found little guidance on this issue. In most guidelines adolescents were addressed within the age group of guidelines focused on either women or children. The guidelines that specifically focused on the adolescent age group are limited in their scope, focusing on only school feeding, dieting trends, obesity management, or some micronutrient supplementation. The available guidelines also provided little to no guidance on implementation strategies and delivery platforms (Lassi et al., 2017).

### **3.5 What works to improve adolescent nutrition?**

The complex interplay of determinants of malnutrition means that intervention strategies could include food and dietary intake approaches, infection control, sexual and reproductive health, education, improved agricultural and hygiene practices, and enhanced decision-making and control of personal and household resources. Evidence on interventions to improve adolescent nutrition is scattered and differs in scope. Below is an overview of relevant research findings and recommendations for adolescent nutrition interventions.

#### Micronutrient interventions

Recommended interventions are related to expanding access to micronutrient supplements and deworming:

- A recent literature search identified only a handful of single-nutrient supplementation interventions in adolescence and no comprehensive supplementation studies (Prentice et al., 2013)
- Studies on adolescents in Indonesia, Sri Lanka, and Nepal showed that a weekly iron supplement was as effective in improving iron status as a daily supplement. It was also shown that iron folic acid supplementation works when administered through schools but not through communities since only 30 percent of adolescents in Sub-Saharan Africa and Southeast Asia complete secondary school (Jayatissa and Piyasena, 1999; Shah and Gupta, 2002).
- Specific studies among adolescent women indicate that zinc supplementation among adolescents is associated with improvements in serum zinc and in hemoglobin concentration, and supplementation among pregnant adolescents significantly reduced preterm birth rates and low birth weight (Lassi et al., 2017).
- Adding folic acid supplements before and during pregnancy has been shown to reduce the risks of fetal malformations, and adequate provision of iron can contribute to reducing intra-uterine growth retardation (IUGR) in low and middle income countries (Lassi et al., 2017).
- Similarly, vitamin D supplementation in populations living in at-risk geographies with

reduced exposure to sunlight has led to improvements in population-level status of vitamin D and reduction in risk of rickets or osteomalacia in populations (Spiro and Buttriss, 2014).

#### Nutrition education/counseling

- To improve dietary intake, food-based and health approaches will often times need to be complemented by micronutrient supplementation using various channels (Delisle et al., 2001).
- Increasing the inclusion of married adolescent girls in care groups has shown to improve knowledge among married adolescent girls. Key recommendations from a USAID project include working with community and family stakeholders and creating adolescent-only care groups to improve participation and provide more tailored information (Perera, 2016).
- Preventative health care services should also include nutritional assessments of adolescents, including weight and height, to better tailor nutrition education (WHO, 2005).

#### Prevention of overweight and obesity

- There should be combined behavioral and lifestyle interventions – for overweight and obese adolescents (Bhutta et al., 2013)
- The WHO guidelines on interventions on diet and physical activity recommend using many different approaches, such as policy and environment, mass media, community, and primary health care, to combat the rising epidemic of obesity (WHO, 2009).
- The importance of physical activity in controlling obesity should be highlighted through education and by getting children (and families) involved in sports and regular physical activity (Visram et al., 2016).
- Other obesity-prevention strategies should include laws and regulation and taxes and subsidies to create healthier environments through restricting marketing of unhealthy foods and beverages to adolescents (WHO, 2012).

#### Interventions addressing (reproductive) health services

Reproductive health and family planning interventions for adolescents can contribute to reducing unwanted pregnancies and increasing age at first pregnancy as well as birth intervals:

- There is a common but flawed assumption that adolescents will automatically be included in any maternal health program. Antenatal care therefore needs to ensure access to adolescent girls, given that adolescents are particularly at risk of complications. Furthermore, maternal interventions targeted at pregnant adolescents should include iron and folic acid supplementation, calcium supplementation, balanced energy protein supplementation, malaria prevention, maternal deworming, and obesity prevention (WHO, 2016).

- A study on Bhutanese refugees in Nepal found that a reduction in the number of teenage pregnancies along with nutritional inputs (provision of food and micronutrient supplements) contributed to a reduction in incidence of babies born with low birth weight (Shrimpton et al., 2009).
- Building the skills and changing the attitudes of health care providers at existing health facilities to make them more adolescent-friendly is more cost effective than building adolescent health corners which serve a few people and are also more expensive (African Union, 2017).

### School interventions

- There is consistent evidence showing that an increase in the number of years of schooling for girls is almost always associated with an increase in the age at marriage. Educated girls also tend to delay their first pregnancy (LeVine and LeVine, 1991).
- WHO's global school health initiative and the 'health promoting schools' program (WHO, 1996) provide an appropriate framework for enhancing nutrition among adolescents in school. School-based programs (school-feeding programs) may also encourage children and adolescents to remain in school. This is particularly important for girls (Delisle et al., 2001).
- School feeding programs have been studied more than other area in relation to adolescents and offers the opportunity to reach adolescents in the pre-pregnancy phase. Systematic reviews of the evidence, though not singling out the adolescent age groups, suggest that school feeding programs can improve weight and body mass index (BMI) to a small degree and— where iron-rich school meals were provided — iron status (Adelman et al., 2008; Kristjansson et al., 2007). However, effect on height has not been found (Save the Children, 2016).
- Depending on the context, the costs for school interventions may be substantial (e.g., in Zambia, the cost of school feeding is 50 percent of the annual per capita costs for primary education) (Save the Children, 2016).
- A recent WHO survey of 123 countries found that although most countries reported nutrition activities in primary and secondary schools, schools are not sufficiently used to deliver nutrition interventions (World Health Organization, 2017).

### Interventions for (economic) empowerment

- Promoting income-earning and time-saving opportunities for the parents, especially the mothers: When the parents are more productive and earn more, there is less need to have their children earn income, and the adolescents' time is freed to attend school (Kurz and Johnson-Welch, 1994).
- The contribution children could make is often underestimated by adults. Children are the real experts on their own lives and should be recognized as potential agents of change. Children should be encouraged to participate wherever possible and adults should learn about the importance of listening to and taking into account the views and

suggestions of girls and boys (Save the Children, 2016).

- Life skill training on personal competencies, problem solving and healthy lifestyle in Mexico did not only strengthen self-esteem, but helped youth re-enter school or join the work force (International Youth Foundation, 2006).
- Savings-led microfinance for adolescents and youth in Rwanda showed improved livelihoods through increased income (Mukankusi et al., 2009).

## 4 Methodology of the Landscape Analysis

As per the “Scope of Work” (see Annex 3) for this consultancy the purpose of this work was to conduct a landscape analysis on the current state of evidence around adolescent nutrition in Ethiopia. This included a review of existing policies and programs around adolescent health and nutrition, documentation of service delivery approaches used for the promotion of adolescent nutrition, a review of development partner materials for technical content, and analysis of the major gaps in program evidence, design, and implementation.

### 4.1 Review of policies and programs

Examples of the types of policy and program documents collected and reviewed:

- Ethiopian Government policies, strategies, guidelines, and programs
- Donor country strategies for Ethiopia
- Program documents from implementing partners in Ethiopia
- Global policy documents
- Global research related to adolescent health and nutrition

### 4.2 Literature review

National surveys reviewed:

- Ethiopian National Micronutrient survey 2016
- Ethiopian DHS 2000, 2005, 2011, 2014, 2016
- NNP I Endline survey 2015
- Ethiopian National food consumption survey 2013
- In-School Adolescent Girls’ Nutrition Knowledge, Attitude and Practice (KAP) Survey in Somali, Gambella, SNNP and Oromia Regions, Ethiopia, 2016

A literature review of research on adolescent nutrition from Ethiopia was also conducted. Reference databases (PubMed and Medline) as well as Google Scholar were systematically searched using a set of ‘key words’.<sup>2</sup>

Two hundred and sixty-five (265) abstracts were reviewed and 120 were selected based on a pre-determined set of criteria.<sup>3</sup> They were then categorized into:

1. Ethiopian studies on food security, diets, or nutritional status of adolescents (69)
2. Ethiopian studies on maternal nutrition, including adolescents as part of their sample (41)
3. Global studies on adolescent nutrition (10)

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<sup>2</sup> “Adolescent nutrition Ethiopia”; “Adolescent food security Ethiopia”; “Adolescent diet Ethiopia”

<sup>3</sup> Inclusion criteria: studies including any population between 10 and 19 years; studies assessing dietary intake, nutritional status or food security of adolescents from any geographical area in Ethiopia. Exclusion criteria: published in another language than English

In the first category, a total of 69 publications were reviewed. Twelve of the 69 studies looked at food security or food supply as part of home gardens and how this relates to adolescent nutrition, school absenteeism, and other aspects. A total of 16 out of 69 studies had adolescent girls as a focus in their studies.

Most studies (44) looked at nutritional status of adolescents and potential determinants; however not all studies reported nutritional status with all indicators for nutritional status:

- 29 studies reported stunting prevalence
- 25 studies reported either underweight, thinness, or wasting rates
- 18 studies reported rates of overweight/obesity

Seven studies had the diets of adolescents as the primary research focus; however, a total of 18 provided some sort of information on adolescents' diets (dietary diversity score or other consumption indicators).

A total of thirteen studies researched at least one micronutrient deficiency of adolescents:

- 8 papers on anemia
- 2 papers on iron deficiency anemia
- 2 papers on goiter rates
- 4 papers that also included other micronutrient deficiencies (magnesium, zinc, selenium, folate, vitamin A, vitamin D)

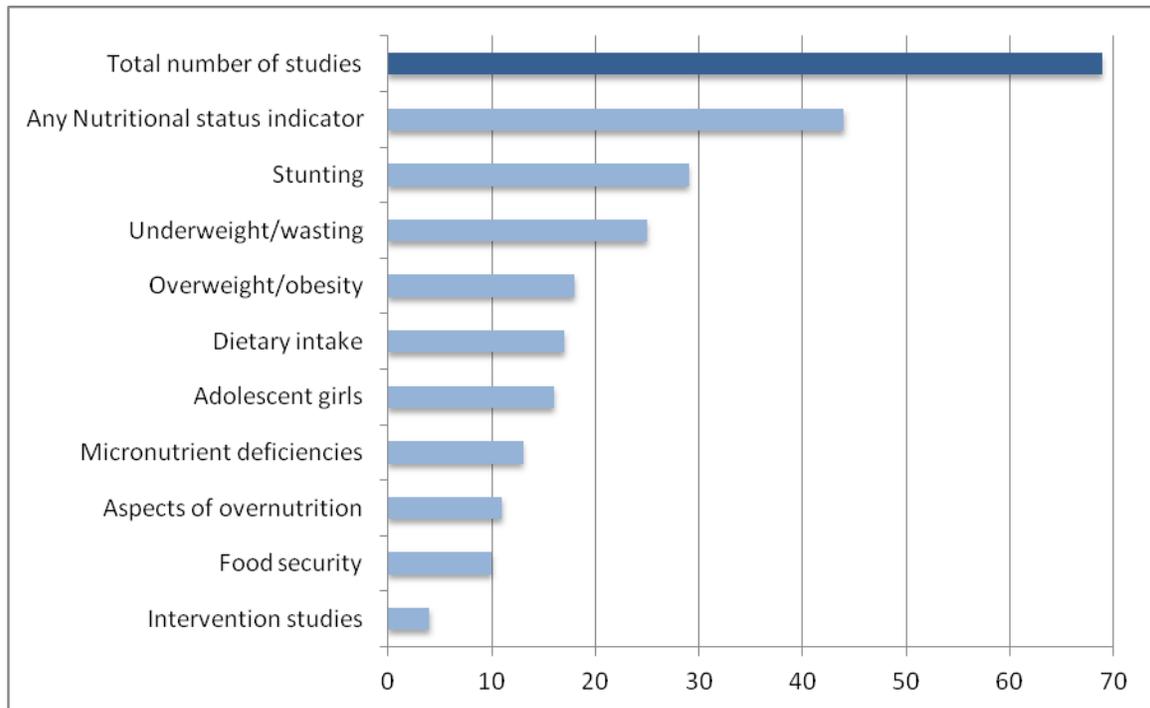
Nine studies had parasitic infections as part of their main research questions; however, a total of 13 studies described some rates of parasite infections in the study population.

A total of 11 studies looked at aspects related to overnutrition, such as chronic diseases, lifestyle factors, eating disorders, and nutrition transition in diets. Seven out of these studies reported data on physical activity.

Only four studies looked at the effectiveness of different nutrition interventions targeting adolescents.

All studies covered an age group that fell into the age range of 10 to 19 years (see Figure 4 below). Age groups of the study population ranged from 4 years to 27 years. Seventeen studies looked at exactly the age group 10 to 19 years.

**Figure 3: Number of studies reporting data on different components**



**Figure 4: Overview of age ranges (in years) in reviewed studies.**

Authors and dates	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+	21	22	23	24	25	26	27	
Abdi 2017																									
Alelign 2015																									
Awel 2016																									
Assefa 2013																									
Aurino 2017																									
Amare 2012																									
Amare 2013																									
Ayele 2013																									
Belachew 2008																									
Belachew 2011																									
Belachew 2011																									
Belachew 2013																									
Belete 2016																									
Berheto 2015																									
Desalegn 2014																									
Bitew 2016																									
Gebregyorgis 2016																									
Gebregyorgis 2014																									
Hall 2010																									
Herrador 2014																									
Herrador 2014																									
Herrador 2015																									
Jebena 2017																									
Kebede 1993																									
Kibatu 2014																									
Mahmud 2013																									
Mekonnen 2014																									
Melaku 2015																									
Mohammed 2015																									
Mulugeta 2009																									
Mulugeta 2015																									
Nguyen 2012																									
Roba 2015																									
Roba 2016																									
Tamiru 2016																									
Tamrat																									
Teji 2016																									
Tesfaye 2015																									
Teshome 2013																									
Wassie 2015																									
Weres 2015																									
Wolde 2014																									
Wolde 2015																									
Workie 2017																									
Worku 2017																									
Yirga 2016																									
Wakayo 2016																									
Wakayo 2015																									
Degarege 2013																									
Yetubie 2010																									
Berhe 2009																									
Mekasha 2009																									
Worku 2009																									
Mulugeta 2007																									
Zerfu 2006																									
Gali 2017																									
Hassen 2017																									
Tegegne 2016																									

### **4.3 Key informant interviews**

Global reports and reviews of adolescent nutrition programs and interventions were reviewed (Bhutta et al., 2017; Save the Children, 2016; WHO, 2005; WHO, 2017) for the development of the tools for the key informant interviews. Based on the primary recommendations from these reports, main themes and respective questions were selected for the tools. An outline of the tools was drafted in June 2017. The tool for government institutions was prepared first and shared with Alive & Thrive as well as Dr. Afework Mulugeta from Mekelle University for review. The tool was adjusted based on comments received and tools for other key informant groups were developed (donors, NGOs/UN, as well as universities).

The tools included questions on knowledge and perception related to adolescent nutrition and health, the policy framework around adolescent nutrition, as well as implemented and planned programs focusing on adolescent nutrition and health. Questions on research, monitoring and evaluation as well as challenges, opportunities, and lessons learned were also asked (see Annex 1 for all the tools).

A list of 25 key institutions including government, NGOs, UN, donors and universities was proposed. All stakeholders were contacted in the period of 3-14 July 2017 to arrange appointments. Interviews with 22 institutions were conducted between 17 July and 18 August 2017. Responses were recorded on the questionnaires and then evaluated by themes. To one of the two universities who participated, a questionnaire was sent by email.

## 5 Health and nutrition situation of adolescents in Ethiopia

### 5.1 General situation

#### 5.1.1 Mortality

According to the Demographic Health Surveys (DHS) conducted during the last few years, the overall mortality rates of any cause in the age groups 15 to 29 years have shown significant decline in the last decade. Specifically, the age-adjusted female mortality rate (15 to 19 years) has dropped by more than half (from about 4.89 in 2000 to 2.35 deaths per 1,000 populations in 2011) (Central Statistical Agency, 2012, 2005, 2000). The risk of mortality in females is known to increase as they enter the reproductive age because of pregnancy-related health problems. All previous DHS data show high maternal mortality rates among youth and relatively lower rates among adolescents. The contribution of maternal deaths to the overall deaths in the age group of 15 to 24 years ranges from 17 to 29 percent (Central Statistical Agency, 2017).

#### 5.1.2 Education

A significant proportion of Ethiopians have little or no education, with females being even less educated than males. About half of women (48 percent) and 28 percent of men age 15 to 49 have no formal education. There has been a marked improvement in the educational attainment of women. The percentage of women with no education has decreased over the last decade, from 66 percent in 2005 to 48 percent in 2016. The percentage of women with no education declines steadily by age group, from 79 percent among women age 45 to 49 to 14 percent among women age 15 to 19 (Central Statistical Agency, 2017).

Young people's educational participation seems to be increasing. However, young people, especially those in rural areas, start school extremely late. This is particularly true for rural boys whose mean age at school entry was over 10 years. Reasons for boys leaving school were mainly lack of financial support, and farming and herding duties; reasons given by girls were marriage (29 percent), followed by domestic duties (23 percent). One in six girls reported that they had missed school in the previous year due to menstruation (UNFPA, 2010).

#### 5.1.3 Child Marriage

Despite having laws against child marriage, the practice remains widespread in Ethiopia because of a deeply rooted tradition in many communities, lack of education, economic opportunities, and social customs. The median age at first marriage is 17.1 years among women age 25 to 49 and 23.8 years among men age 25 to 59. Fifty-eight percent of women and only 9 percent of men age 25 to 49 marry before their 18th birthday. The median age at first marriage among women age 25 to 49 has increased slightly since 2011, from 16.5 years to 17.1 years. During the same period, the percentage of women marrying before age 18 has declined from 63 to 58 percent. Eight percent of women married before their 15th birthday in 2011, as compared with 6 percent in 2016 (Central Statistical Agency, 2017).

#### 5.1.4 Reproductive health

**Childbearing:** In Ethiopia, teenage pregnancies are common, resultant to the high rates of early marriages and the subsequent family and societal pressure on girls to prove their fertility. Thirteen percent of women age 15 to19 years in Ethiopia have begun childbearing. As expected, the proportion of women age 15 to19 who have begun childbearing rises rapidly with age, from 2 percent among women aged 15, to 28 percent among those aged 19. Teenage childbearing is more common in rural than in urban areas (15 versus 5 percent, respectively) and among women in Afar (23 percent) and Somali regions (19 percent) compared with Addis Ababa (3 percent). The proportion of teenagers who have started childbearing decreases with increasing level of education: 28 percent of women age 15 to19 with no education have begun childbearing compared with 12 percent of teenagers who have attained primary education and 4 percent of those who have attained secondary education (Central Statistical Agency, 2017). Secondary data analysis from EDHS 2011 has shown that about 34 percent of childbirth among young women aged 15 to19 years was unintended, which was nearly two-fold higher than women in the age category of 20 to34 years (Tebekaw et al., 2014).

**Family planning:** High rates of unintended pregnancy are associated with the low utilization of contraceptives. Overall, 36 percent of currently married women are using any method of family planning: 35 percent are using a modern method, and 1 percent is using a traditional method.<sup>4</sup> Per the DHS 2016, the contraceptive prevalence rate among all female teenagers (15 to19 years) was 32 percent, which increased from 5.2 percent in 2011. A great disparity exists in contraceptive use by areas of residence. Nearly 52 percent of women 15 to29 years living in the urban areas were using any contraceptive methods, compared with 32.8 percent in rural areas. Contraceptive use also increases with women's education and household wealth. In the DHS 2016, the unmet need for family planning in the age group 15 to19 was 20.5 percent. This finding may be related to the low access to or low health seeking behavior for family planning in this age group due to the strong social norms around child-bearing soon after marriage.(Central Statistical Agency, 2017).

**Antenatal care:** The DHS 2016 shows that about 34 percent of mothers less than 20 years of age received no antenatal care (ANC) for their most recent birth during the three years preceding the survey. Less than four visits were offered in most cases without the recommended basic services such as blood pressure measurement, abdominal examination, and urine examination. Only 33 percent of adolescents' deliveries were assisted by skilled health personnel (Central Statistical Agency, 2017).

#### 5.1.5 Low birth weight

A recent study found 29.1 percent of Ethiopian babies were reported "small" at birth (Alemu and Umeta, 2016). The study also found that women who develop anemia and are not attending antenatal care during pregnancy had 15 percent and 41 percent more risk of giving birth to the

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<sup>4</sup> Contraceptive methods are classified as modern or traditional methods. Modern methods include female sterilisation, male sterilisation, the intrauterine contraceptive device (IUD), implants, injectables, the pill, male condoms, female condoms, emergency contraception, standard days method (SDM), and lactational amenorrhea method (LAM). Methods such as rhythm, withdrawal, and folk methods are grouped as traditional.

"small size" babies than their counterparts respectively. Maternal age at delivery, maternal literacy level, and paternal educational status were identified as predictors of low birth weight. Another study found a prevalence of low birth weight of 14.6 percent and associations with rural place of residence, preterm birth/gestational age less than 37 weeks, presence of any chronic medical illness, and maternal weight <50 kg (Gebremedhin et al., 2015).

### **5.1.6 Family and social networks of adolescents**

Significant proportions of adolescents are not living with either parent, even when they have living parents. This is especially true for girls. Among girls aged 12 to 17 years, 25 percent are living with neither parent. This could be related to greater levels of early marriage and migration among girls. Boys' social networks and participation were greater than girls. Whereas 9 percent of boys reported having no friends, 21 percent of girls reported no friends. Eight percent of boys had visited a youth center in the last year, compared to 4 percent of girls. Limited social connections could be due to greater regulation of girls. Nearly 90 percent of girls needed permission before leaving the house, compared to 77 percent of boys. Greater domestic work burdens may also result in girls' diminishing opportunities for social participation and access to programs (UNFPA, 2010).

Communications between parents and young people about sexual health is occurring rarely in families. Less than one third of adolescents reported having discussions with their parents about HIV and AIDS, sex, and marriage. In addition, only a small minority of mothers or fathers talked to their children about menstruation (UNFPA, 2010). Another survey also found only about a third of young people (32.5 percent) being engaged in conversation about sexual and reproductive health topics with their parents during the last six months (Tesso et al., 2012).

### **5.1.7 Substance use and traditional harmful practices**

The most common addictive substances used by adolescents and youth in Ethiopia are cigarettes, alcohol, and khat. As reported by the 2011 Ethiopia DHS, cigarette smoking is practiced by male adolescents and youth with the prevalence of 4.4 percent. The 2011 Ethiopia DHS also indicated that nearly half (45.6 percent) of Ethiopian adolescents and youth consume alcohol more than six times in a month (Central Statistical Agency, 2012).

In the 2016 Ethiopian DHS, the prevalence of Female Genital Mutilation in girls and women (15 to 49 years) was 65 percent. This represented a decline from 79.9 percent in the 2000 Ethiopian DHS (Central Statistical Agency, 2017).

## **5.2 Food and nutrition situation of adolescents in Ethiopia**

### **5.2.1 Nutritional status**

Malnutrition affects a large portion of the adolescent and youth population in Ethiopia. The EDHS 2011 revealed that the proportion of non-pregnant adolescent girls aged 15 to 19 years with acute malnutrition/thinness (BMI <18.5) was 36 percent and boys with the same age was 66 percent. Adolescents (age 15 to 19) are more likely to be thin (36 percent) than older women (21 to 29 percent in 20 to 49 year-olds). At the same time, 2.4 percent of the girls and 0.4 percent of the boys in this age group were reported to be overweight or obese. Younger women are less

likely than older women to be overweight or obese. For example, 2 percent of women age 15 to 19 are overweight or obese compared with 9 percent of women age 40 to 49 (Central Statistical Agency, 2012).

Research studies found rates of acute malnutrition in adolescents ranging from 8.9 percent (Amare et al., 2013) up to 34.8 percent (Worku et al., 2009). Chronic malnutrition rates ranged from 7 percent (Gebreyohannes et al., 2014) to 32.8 percent (Mekasha and Zerfu, 2009). Overweight and obesity rates in the research studies ranged from 1.7 percent (Jebena et al., 2017) to up to 15.6 percent (Teshome et al., 2013).

Studies found many different factors associated with malnutrition in adolescents. However most frequently found associations with thinness were dietary factors such as meal frequency, meal skipping, and poor dietary diversity (Mohammed and Tefera, 2015; Roba et al., 2015; Tegegne et al., 2016; Wolde et al., 2014). Factors most frequently mentioned in association with stunting were lack of handwashing, latrines, and poor sources of drinking water (Alelign et al., 2015; Awel et al., 2016; Mulugeta et al., 2009). Living in rural areas, poor education of parents, food insecurity, big family size, and poverty were associated with both stunting and thinness (Assefa et al., 2013; Awel et al., 2016; Damie et al., 2015; Melaku et al., 2015; Tegegne et al., 2016; Teji et al., 2016; Wassie et al., 2015).

With regard to overweight and obesity, studies found associations with physical activity, wealth, consumption frequency of meat and fast food, as well as time watching TV or using a computer (Gali et al., 2017; Hassen et al., 2017; Teshome et al., 2013)(Wakayo et al., 2016).

### **5.2.2 Micronutrient deficiencies**

About one-fourth of women age 15 to 49 (23 percent) are anemic. The majority are mildly anemic (17 percent), 5 percent are moderately anemic, and less than 1 percent are severely anemic. The proportion of women with any anemia is notably higher in rural than in urban areas (25 percent versus 16 percent). Anemia prevalence among women ranges from 16 percent in Amhara and Addis Ababa to 59 percent in Somali. In girls 15 to 19 years, anemia rates were 13.4 percent, and in boys of the same age, 17.8 percent (Central Statistical Agency, 2012).

The Ethiopian micronutrient survey reported that more than one in four (25.8 percent) school children (5 to 14 years) and 11.8 percent of girls 15 to 19 years were anemic. As per the WHO classifications in Ethiopia, anemia was a moderate public health problem in children 5 to 14 years of age, whereas a mild problem in women of reproductive age (17.7 percent) (Ethiopian Public Health Institute, 2016).

In research studies, anemia rates in adolescents ranged from 5.8 (Mekasha and Zerfu, 2009) to 43.7 percent (Desalegn et al., 2014). Intestinal parasitic infections, poor hygiene, and low BMI have been reported as the main predictors of anemia (Alelign et al., 2015; Desalegn et al., 2014; Mahmud et al., 2013; Tesfaye et al., 2015).

Prevalence of iron deficiency, using sTfR, was reported to be higher in children 12 to 14 years (19.5 percent) than girls 15 to 19 years (16.2%) (Ethiopian Public Health Institute, 2016). A study found rates of 37.4 percent iron deficiency anemia in children 6 to 15 years old (Desalegn et al., 2014).

Nationally 47.5 percent of school children (5- to 14 years) had urinary iodine levels less than 100 µg/L. As per the WHO recommendation, therefore about half of the children had insufficient intake of iodine. Among the girls 15 to 19 years, 52.4 percent had urinary iodine levels less than 100 µg/L (Ethiopian Public Health Institute, 2016). Studies reported goiter prevalence as high as 39.5 percent (Kibatu et al., 2014) and 48.9 percent (Workie et al., 2017) in children and adolescents in Mekele, Wolaita, and Dawro zones, which is an indication of severe iodine deficiency in these areas.

One of the reviewed studies examined means of reaching adolescent girls for iron supplementation in Northern Ethiopia and found that low community awareness, perceiving iron tablets as contraceptive, religious and cultural influences, and lack of confidence in the supplementation value of iron tablets were some of the potential barriers. As for delivery platforms, schools (45 percent), health centers and posts (27 percent and 26 percent respectively) were the preferred facilities for provision of iron supplements to student adolescent girls whereas for girls not attending schools, health centers and posts (47 percent and 41 percent respectively) were the preferred settings (Mulugeta et al., 2015).

### **5.2.3 Dietary intake and knowledge**

Dietary intake can be measured with different methods. One of them is assessing dietary diversity, for which there are different methodologies. Most of them ask for consumption of a list of food groups (usually 7, 10 or 12) in the past 24 hours (FAO, 2012; FAO and FANTA, 2016; WHO, 2008b).

In the reviewed studies, dietary diversity scores ranged from 3 (Herrador et al., 2014) to 7 (Gali et al., 2017). Mean dietary diversity scores of all studies were 4.5. The cut-offs for minimum or adequate dietary diversity were set differently in the studies: at either a minimum of 4 or 5 food groups. Minimum/adequate dietary diversity rates ranged from 5 (Herrador et al., 2014) to 88 percent (Gali et al., 2017). On average 48 percent of adolescents consumed more than 4 or 5 food groups.

Dietary diversity of adolescents was shown to be associated with gender (Belachew et al., 2008; Roba et al., 2015; Tamiru et al., 2016b). Compared to girls, boys consumed more diversified foods, which could be due to cultural influences and having less opportunity to get food outside of the home, as the girls mostly stay at home. High income was associated with higher dietary diversity and intake of animal source foods was associated with the highest level of education achieved by the household and was also higher in urban areas (Belachew et al., 2008; Herrador et al., 2014; Worku et al., 2017).

A study comparing rural and urban diets of adolescents found that legumes and milk was consumed more frequently in rural adolescents and fruits were consumed more frequently in urban adolescents (Berheto et al., 2015).

With regard to unhealthy foods, a study showed an increase of 35 percent in sugar consumption over a period of 8 years (Aurino et al., 2016). Consumption of sugary soft drinks was reported by 22.7 percent of adolescents 13 to 17 years (Belachew et al., 2013).

A survey looking at knowledge, attitudes, and practices of adolescent girls 10 to 19 years of age, found that about 28 percent of adolescent girls consumed less than three meals in the previous day and nearly 10 percent didn't consume any meal at all. Variation was observed between regions regarding food consumption frequency by adolescent girls. In Somali region for example, 88 percent had three meals in the previous day, whereas only 40 percent had the same in Gambella region. The food item most commonly consumed by adolescent girls is cereal. Meat and fish consumption was reported low in all regions. On average, fish and organ meat were consumed by only 25 percent of adolescents each. The findings vary between regions: for example in Somali region, meat was consumed by 62 percent of respondents but in Oromia only 14 percent consumed meat (FMoH and UNICEF, 2016).

The survey also provided information on intra-household distribution of food: only 6.3 percent of respondents said adolescent girls were given priority during mealtime. Most of the time priority was given to fathers/heads of household (65 percent), under-five children (59.8 percent), mothers (25.4 percent), and lactating mothers (17 percent). In addition, 60 percent reported that food distribution among household members differs based on gender (male over female). Moreover, the amount of food served depends on age and gender of the family member (FMoH and UNICEF, 2016).

Nearly 17 percent of adolescent girls reported that some food items like alcohol and raw meat are not allowed for adolescent girls, which are obviously good practices. However, in some communities' in Somali and Oromia regions, adolescent girls are not allowed to eat chili/green pepper, peanuts, milk, or lamb if they are not married. One of the reasons given is that these foods are supposed to increase sexual desire.

An intervention study assessed changes in dietary diversity of school adolescents with education programs supported with backyard gardening, and found an increase in dietary diversity and intake of animal source foods in the intervention group (Tamiru et al., 2016b, 2016a).

Only two third of adolescents claimed that they heard about balanced diets. In Somali region, 85 percent had not heard about balanced diets, which could be explained by the absence of nutrition education in Somali region. Less than 10 percent mentioned all essential nutrients (on average 2 nutrients were mentioned). Moreover, adolescent girls displayed poor levels of knowledge about micronutrient deficiencies. Only, two third and half of adolescent girls had heard about anemia and goiter respectively. But nearly 70 percent adolescent girls correctly mentioned at least one iron and vitamin A-rich food. Most, 96.5 percent agreed with a statement that one diversified meal has to be consumed on a daily basis to keep healthy (FMoH and UNICEF, 2016).

#### **5.2.4 Food security**

Food insecurity was shown to have a negative impact on optimal dietary intake of adolescents, in terms of dietary diversity, animal source food consumption, (Belachew et al., 2013) and mental health of adolescents (Jebena et al., 2017). Food insecurity in girls also had an impact on menarche by delaying it for up to a year compared to food secure peers, reflecting the consequences of chronic food insecurity on the development and well-being of girls (Belachew et al., 2011b). Studies looking at school absenteeism, found that significantly more food

insecure adolescents were absent from school compared with their food secure peers, which also led to a lower educational attainment (Belachew et al., 2011a)(Tamiru et al., 2016a).

## 6 Policies and programs related to adolescent nutrition in Ethiopia

### 6.1 National policies and programs

There is an abundance of policies and strategies in Ethiopia, addressing adolescent nutrition, either directly or indirectly. There also is also legislation in place that prohibits marriage before the age of 18 as well as traditional harmful practices, but differences in enforcement are seen across the regions. In the education and health sector, programs such as the National Nutrition Program and the School Health and School Feeding Program have been put in place. Below is an overview of the policy landscape in Ethiopia.

Food and nutrition security policy (Draft 2016): The policy direction 3 aims to “Improve nutritional status of adolescents” and suggests strategies through which the Government aims to achieve this:

- Ensure provision of nutritional assessments and counseling services for adolescents at all contacts with health care providers.
- Ensure adolescents’ access to micronutrient services especially for girls.
- Conduct social and behavioral change communication to prevent harmful traditional practices related to nutrition with especial attention for adolescent girls.
- Ensure access to reproductive health information and services for boys and girls.
- Address the needs of adolescent girls in special situations (HIV/AIDS, emergency, obesity and eating disorders).

The National Nutrition Program (NNP) is the overarching nutrition program in Ethiopia, bringing together multiple sectors. The first program (2013–2015) addressed adolescents only related to preventing low birth weight and micronutrient deficiencies. In the second National Nutrition Program (NNP II) (2016-2020), adolescents are given a lot more focus and are addressed as part of a separate Strategic Objective 1 (“Improve the nutritional status of women (15-43y) and adolescent girls (10-19)”), the NNP’s interventions address the nutritional problems of adolescent girls and women of reproductive age, including pregnant and lactating women, recognizing that adolescent nutrition is important to the health of girls and is relevant to maternal nutrition. Targets in the NNP II aim to:

- Reduce the prevalence of anemia in adolescent girls from 30 to 15 percent.
- Reduce the prevalence of anemia among women of reproductive age (15- to 49 years) from 19.3 to 12 percent.
- Reduce the prevalence of anemia among pregnant women from 22 to 14 percent.
- Reduce the proportion of women of reproductive age with BMI <18.5 percent from 27 to 16 percent.
- Reduce the proportion of newborns with low birth weight (less than 2.5kg at birth) from 11 to 5 percent.

Related “initiatives” in the NNP II include:

- Provide nutritional assessments and counseling services for adolescents at all contacts with health care providers.
- Ensure adolescents’ access to micronutrient services through schools as well as health facilities
- Conduct social and behavioral change communication to prevent harmful traditional practices related to nutrition addressing early marriage, food taboos, dietary diversity, girls’ education, life skills, and personal hygiene issues.
- Ensure access to reproductive health information and services for boys and girls to promote adolescent-friendly reproductive health services addressing early pregnancies and nutrition counseling.
- Address the needs of adolescent girls in special situations (HIV/AIDS, emergency, obesity, and eating disturbances).

Indicators for the SO1 in NNPII are mostly related to anemia, deworming, IFA supplementation and early pregnancies. There are no indicators included related to nutritional status or dietary diversity specifically for adolescents, only for women of reproductive age.,

The Sekota Declaration mentions adolescents not specifically but aims to strengthen education by increasing efforts to educate women and girls, especially rural girls to help prevent the intergenerational transmission of poverty through:

- Increasing primary school enrollment with an emphasis on girls
- Continuing to improve quality of education
- More work on improving secondary school enrolment of girls as well as life skills and adult education
- Implementing the school health and nutrition strategy and school feeding initiatives, deworming and nutrition education

Another goal of the Sekota Declaration aims to put in place reproductive services friendly to women and adolescent girls.

The National Adolescent and Youth Health Strategic Plan for 2016-2020 sets out the priority health needs and challenges faced by adolescents and youth in the country. The strategy addresses nutrition and physical activity as well as reproductive health, HIV, substance use, mental health, NCDs, injuries, Gender-Based Violence and harmful traditional practices.

Indicators are only referring to iron deficiency anemia and physical activity. Activities are focused around improving dietary diversity, anemia prevention, and treatment, deworming, nutrition counseling and screening.

Interventions include:

- Knowledge, attitudes, behavior, and practice building on adolescent nutrition
- Prevention and management of malnutrition
- Prevention and management of iron deficiency anemia

The School Health and Nutrition Strategy was launched in August 2012 and targets adolescents from 10 to 24 years of age. With the strategy, a National School Health and Nutrition Technical committee was put in place, which is co-chaired by the Ministry of Education and Ministry of Health and other line ministries and international development partners and NGOs are members.

Focus areas of the strategy are to:

- Control of intestinal worms and other parasitic diseases
- Nutrition, school canteen, and food policy:
  - o Linkages shall be created and promoted between regular health and nutrition services and school activities, including regular monitoring of nutritional status of children
  - o Referral services shall be arranged for malnourished children
  - o Schools shall have gardens for demonstration purposes and to serve as resource centers for learning
  - o Standards and regulations shall be developed by the relevant ministries for controlling food handlers and school feeding programs that cover storage, preparation and quality of food served to students, those dealing with food handling in and around schools shall be properly trained in hygienic food preparation
- Water, sanitation and hygiene
  - o Provide adequate safe and potable drinking water and handwashing facilities
  - o Separate latrines for boys and girls
  - o Standards for toilets shall be regularly checked
  - o Hygiene promotion is to be child/student centered

School Feeding Strategy 2017 was prepared by the Ministry of Education with support of other ministries, UN, NGOs. The National School Feeding Strategy was developed to guide the implementation of Ethiopia's school meal initiatives at all levels. The strategy provides a good framework for the planning and implementation of School Feeding Programs in Ethiopia. It highlights a set of programs to address key concerns in education, including: education in emergency, disparities in enrolment, retention and transition rates emanating from food insecurity, children's nutrition status, and poor health and hygiene practices. It recognizes how school feeding programs can generate a structured and predictable demand for food products that can benefit farmers by building the market and enabling systems surrounding it. The school meal program is targeting all school age children who are enrolled in government/public pre-primary and primary schools ("O' classes and Grade 1- 8) in all regions.

Strategic objectives of the strategy are:

- To improve enrolment, retention, completion, and learning achievement of pre-primary and primary school age children through provision of equitable access to school meals
- To improve health and nutrition status of school age children, to alleviate short hunger at school and contribute to break the intergenerational cycle of hunger and poverty.
- To provide a stable and predictable market/demand to local farmers as an incentive to increase diversified agricultural production/productivity and creating employment opportunities for women and youth, thereby sustainably increasing their income
- To improve social and gender equality and equity through providing school meals

Multisectoral school feeding committees are planned at national, regional and woreda as well as school/community level.

The National Children's Policy 2017 was prepared under the leadership of the Ministry of Women, Children and Youth. It prioritizes youth and considers nutritional issues.

The implementation strategy is to enhance children's participation:

- Devise and implement a strategy that enhance children's participation
- Support and motivate uniquely talented children to develop their skills
- Support meaningful children's participation on matters that affect them at family, community and government levels
- Support the establishment of children's structures at all levels and strengthen the existing ones
- Expand and strengthen cultural and recreational centers so that children can participate in art, sports and recreational programs

#### Health Sector Transformation Plan (HSTP) 2015/16-2019/20

The HSTP addresses adolescents as part of reproductive, maternal, neonatal, child, adolescent and youth health. Adolescents 15 to 19 years are addressed with this plan by providing adolescent and youth friendly reproductive health services. The plan also aims to improve access to adolescent nutrition services. The goal related to adolescents in this plan is to reduce adolescent/teenage pregnancy rates.

#### Comprehensive Integrated Nutrition Services CINuS (MoH)

This package was developed in 2016 with the intention of bringing the different nutrition interventions together. The Ministry of Health is currently further developing the concept of CINuS together with UNICEF. The objective of CINuS is to improve nutritional status of adolescent, pregnant and lactating women, and children with the provision of a comprehensive, integrated and inter-linked package of nutrition services at every delivery platform of the Health Tiers System. Packages of CINuS will be adapted to the different platforms: e.g. in hospitals the focus should be on hospital-based nutrition and at Health posts focus would be on Community based Nutrition.

CINuS uses a lifecycle approach, addressing different age groups with proven interventions. Interventions targeted at adolescent girls 10 to 19 include:

- Nutrition assessment
- Nutrition counseling
- Deworming
- Weekly iron-folate supplementation
- Management of acute malnutrition

School health program 2017 (MoE): The new Comprehensive School Health Program aims to bring together ten school health service packages for children 6 to 14 years old: i.e. Social and Behavioral Change Communication; Life skills training to promote healthy lifestyles; Nutritional status assessment, Counseling and Support; Water Sanitation and Hygiene (WASH); Management of common diseases and disorders; Routine and catch up vaccination program; Sexual and reproductive health services; HIV/STI prevention and control services; Mental, neurological and substance use disorders prevention and management and school health

preparedness, response and recovery during education in emergency. The overall objective of the program is to improve health and well-being of students and enable them to be health change agents in their communities. The program also aims to improve student retention. The school nutrition services will include school feeding, school gardening, micronutrient supplementation, nutritional status assessment, counseling, support and referral.

Adolescent Health Program (MoWCA): is a reproductive health program targeting 10 to18 year-olds and includes trainings on HIV/AIDS, family planning, prevention from harmful traditional practices as well as promoting girls' education.

Homegrown School Feeding Program (MoE/MoANR): The program is implemented in SNNPR, but with a plan to scale up and is targeted at 6 to14 year-olds. The Ministry of Education together with the Ministry of Agriculture developed a Homegrown School Feeding Program Implementation Manual.

Safe space program (MoH) is teaching girls to improve their nutritional status. One of the pilots implemented in schools focuses on girls 10 to14 years, which are split into two cohorts: 11 to12 years and 13 to14 years. It is implemented in Amhara and Oromiya, targeting 2000 girls.

First Lady's school meal initiative is benefiting over 20,135 children in 207 schools out of 220 public schools in Addis Ababa. The program is implementing through the Yenat weg association and funded by the private sector, and communities' contributions.

#### Agriculture sector strategies and programs

In strategies and programs of the agriculture sector (NSA strategy, AGP, and PSNP), there is no specific focus on adolescents, only on youth, which is considered the age group starting from 18 years. Actions address landless youth, job creation, livelihood support, agriculture services, investments and technologies for youth, cash transfers, and income generation activities.

## **6.2 National guidelines**

### National guidelines on adolescent, maternal, infant, and young child nutrition 2016

The guidelines define the problems and needs of adolescents in Ethiopia. It also describes dietary behaviors of adolescents and related barriers as well as indicators to measure adolescent nutrition outcomes. The guidelines recommend that interventions for adolescent nutrition include the following:

- provide accurate knowledge through SBCC;
- build skills;
- provide counseling;
- improve access to health and nutrition services; and
- Create safe and supportive environments.

It is recommended to use a mix of delivery channels/platforms-schools, community and health facility—to provide different nutrition services:

- School based interventions should include nutrition screening, life skills, nutrition education and SBCC, counseling, school gardens, deworming, promotion of girls' education and prevention of early marriage.
- Community-based interventions should include advocacy, life skills and nutrition education for out-of-school adolescents, peer-to-peer discussions, IEC and SBCC, economic empowerment, parental training, and income generation activities such as vegetable gardens.
- Health sector interventions should include SBCC and nutrition education on optimal nutrition, prevention of overweight and obesity, early marriage, food taboos, promotion of girls' education, life skills, access to micronutrient services, nutritional assessments, reproductive health services, economic empowerment, care for infections, and management of acute malnutrition.

The guidelines also address adolescents with special health needs, HIV/AIDS, eating disorders, and emergency situations.

#### Guidelines for prevention and control of micronutrient deficiencies in Ethiopia 2016

The guidelines include recommendations for weekly iron and folate supplementation for adolescents (10 to 19 years). The guidelines recommend that the supplementation of IFA for adolescent girls should be coordinated in collaboration with MOE and MOH, as a package of the National School Health and Nutrition Strategy. To reach non-school attending adolescent girls, targeted social mobilization through the Health Extension Program is recommended. The guidelines also stress the need to promote adolescent nutrition through SBCC.

#### National Nutrition Program - multisectoral implementation guide 2016

The guide recommends the following activities to ensure implementation of the NNP II strategic objective to promote optimal adolescent, maternal, infant and young child nutrition:

- Provide training for staff of MoWCA and staff of gender directorates from all NNP-implementing sectors on optimal Adolescent Maternal Infant and Young Child (AMIYC) nutrition at federal level
- Provide training for members of regional, zonal and woreda MoWCA offices on optimal AMIYC nutrition
- Provide training for members of women-based structures and associations at all levels on optimal AMIYC feeding practices

Education of adolescent girls is suggested as indicator for nutrition-sensitive programs.

### **6.3 Strategies and programs of development partners**

Adolescent nutrition is mentioned rarely in the country strategies of donors and even if it is addressed, there is not much detail on what the activities would entail and how implementation would take place. In the interviews, most respondents stressed that adolescents are one of their target groups but are not targeted separately. They are either part of women of reproductive age or in some organizations, adolescents are a separate target group, but for (reproductive) health interventions, not for nutrition.

EU and EU Member States (EU+): The EU+ Joint Strategy on Nutrition is a commitment that all EU Member States aim towards. The strategy proposes two activities related to adolescent health and nutrition:

- Address adolescent malnutrition: Ensure adolescents' access to micronutrients, provide comprehensive and routine nutritional assessment and counseling services for adolescents at community, school and health facility level
- Improving female adolescent access to education up to secondary level.

The Nutrition Development Partner Forum (NDPF), which consists of relevant donors and UN agencies in Ethiopia has put a focus on adolescent nutrition in the workplan for 2017: "Advocacy/sensitization for new higher officials and parliament members' via the first lady's office and other potential champions to advocate specifically for adolescent nutrition".

Bill and Melinda Gates Foundation (BMGF): To date the foundation's Ethiopia investments have had limited focus on adolescent nutrition. However, going forward, the technical scope of the A&T initiative will be increased to also address adolescents. Given the limited knowledge on appropriate platforms and interventions to reach adolescent girls, this activity will include a strong learning component. The foundation will support the government to strengthen delivery of nutrition services for women and girls within health services and potentially schools, youth centers, and micro-savings groups. In addition, the foundation has an investment with CARE "Addressing Structural Determinants to Improve Adolescent Reproductive Health and Nutrition" in West Hararghe zone of the Oromia region. The objective of the study is to test various structural interventions to empower girls through improved reproductive health, nutrition, and education and establish a cost-effective model that assesses combined versus individual structural determinants of adolescent girls' empowerment.

DFID-supported a multi-sectoral program ("Accelerating reductions in undernutrition in Ethiopia 2013/14-2016/17), which aimed to adjust and revise existing plans over a range of sectors to improve nutrition of adolescent girls, women and children. The program supported the increased availability and consumption of nutrient-dense foods and prevention of early marriage and pregnancy by keeping girls in school through the secondary level among other activities.

Irish Aid: The country strategy paper 2014-2018 has five outputs of which output five is "Improved feeding practices and consumption of a better quality diet by under 5 children, adolescent girls, and women". Furthermore, adolescent girls and women of child bearing age are a prioritized target group for all nutrition-related activities delivered across outputs, for instance through preventing early pregnancies and increasing use of improved maternal health care services by poor adolescent girls and women.

Canada: The Government of Canada made a global commitment to promote Sexual and Reproductive Health with 650 million USD for the next three years, which is on top of the commitment towards maternal, infant and young child nutrition. There is also a new "Feminist

international Assistance policy<sup>5</sup> targeting the empowerment of women and adolescent girls. This policy will be implemented in Ethiopia through a comprehensive program.

The Canadian embassy is also planning a program from end 2017, which will target adolescents 11-19 years and include interventions on gender-based violence, early marriage prevention as well as sexual and reproductive health, nutrition and menstrual hygiene.

USAID: The USAID Country Development Cooperation Strategy 2011 – 2016 (extended until 2017) does not mention adolescents, but has a focus on youth in three main areas:

- Sexual and reproductive health, early marriage and traditional harmful practices
- Employment opportunities: address skills training for out-of-school youth is urgent, to improve workforce preparedness, particularly for out-of-school youth.
- Increase achievements in basic education, considering needs of women and girls

UNICEF has an adolescent girl's strategy, which includes education, child protection, nutrition, health and WASH. Adolescent nutrition is included in the country program of the organization's nutrition section 2016-2020.

The Netherlands Embassy is supporting several projects focusing on adolescents with sexual and reproductive health interventions:

- Increase access to sexual and reproductive health services through social marketing of contraceptives, safe abortion care, strengthening of private service providers, sexual and reproductive health workplace programs and increased access for youth
- Sexual education: assesses mechanisms to upscale comprehensive sexuality education to reach more youth with accurate information
- Activities to advocate for girls' rights, to avoid early child marriage, eliminate harmful traditional practices with a focus on early marriage

## 6.4 Programs of implementing partners

There are few programs that target adolescents specifically for nutrition interventions. Below is an overview of past, ongoing and planned programs that have a direct or indirect focus on adolescent nutrition:

### Past programs

Adolescent nutrition support program (ANSP) 2012-2015 (UNICEF, DSW) was a nutrition-focused behavior change communication (SBCC) intervention targeting adolescents 10 to 19 years. The ANSP promoted change champions and change agents among adolescents both from in and out of school. The program had five main means of SBCC: peer-led group discussion, youth dialogue, mini media event, and community conversation and mass entertainment.

Accelerated Nutrition Improvement (ANI) 2013-2016 (WHO), a program supported by WHO, which was implemented in ten woredas in Amhara, SNNPR and Oromiya, targeting 14 to 19 year-

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<sup>5</sup> [http://international.gc.ca/world-monde/issues\\_development-enjeux\\_developpement/priorities-priorites/policy-politique.aspx?lang=eng](http://international.gc.ca/world-monde/issues_development-enjeux_developpement/priorities-priorites/policy-politique.aspx?lang=eng)

old adolescents. The program focused on micronutrient deficiencies of adolescent girls, working through school clubs and health centers.

### **Ongoing and planned programs**

Growth through nutrition 2016-2021 (Save the Children) is a USAID funded project, implemented by a consortium of partners. It is a multi-sector nutrition activity, which will build on the accomplishments of USAID's Empowering New Generations to Improve Nutrition and Economic Opportunities activity (ENGINE). The Growth Through Nutrition (GTN) activity supports Ethiopia's efforts to improve the nutritional status of women and young children in four regions (Amhara, Oromia, SNNP and Tigray) focusing on the first 1,000 days. With the support of international universities, GTN aims to look at barriers around adolescent nutrition and design appropriate responses.

Right start 2016-2020 (Nutrition International) is a project funded by the Canadian government and includes three main components:

1. WIFAS: weekly iron and folate supplementation as well as nutrition education for in and out of school adolescent girls (10 to 14 years). There will be a demonstration project in Wolaita as well as in a pastoral community in Afar with the aim to identify the best delivery modality. The project is implemented in collaboration with Addis Ababa university.
2. Maternal and newborn nutrition: Iron and folate supplementation, Antenatal care, newborn care, exclusive breastfeeding, quality of care; infant and young child nutrition package including Micronutrient powders for woredas with high food security.
3. Food fortification targeting also adolescents and women with blanket approach

Development Food Aid Program (DFSA) 2016-2021 (CRS): This program is similar to the former Development Food Aid Program (DFAP) 2011-2016, a USAID supported initiative with the objective of sustaining and building upon food security improvements achieved under the Government of Ethiopia, Productive Safety Net Program (PSNP). Through the DFAP, CRS Ethiopia addressed the underlying causes of chronic food insecurity through community asset building, health, nutrition and water, sanitation, and hygiene (WASH) interventions and through cross-cutting initiatives including gender, capacity building and disability inclusion. The current DFSA project is working under the PSNP IV and aims to look at gaps around adolescent nutrition (10 to 19 years) and plans to develop a specific tool on adolescent nutrition.

Improving Adolescent Reproductive Health and Nutrition through Structural Solutions (ABDIBORU) PROJECT until 2020 (CARE): The aim of the project is to tackle the major structural determinants that hinder girls' empowerment and to reduce the vulnerability of girls, ensure their empowerment, and improve their health and development outcomes. The project uses different approaches like community dialogue on social norms affecting an adolescent girl's life using Social Analysis and Action (SAA) tools to assess the quality and appropriateness with which service rendered to adolescent girls and Village saving and Loan associations (VSLA) which provides adolescent girls opportunities for financial education and a safe space to talk.

Adolescent Deworming program since 2015 (UNICEF): UNICEF has been supporting the Ministry of Health on aligning adolescent deworming in the national school-based deworming campaign through provision of drugs for 15 to 19 year-old adolescents, technical support, development of

deworming campaign guide, nutrition and WASH education materials. Out-of-school adolescents are included through community mobilizations, but the main platform is the school.

Promoting young women's livelihood and nutrition (Concern) is a project currently planned with World Bank support. It will be a community mobilization intervention for adolescents 10 to 24 years old in Tigray. Planned activities include supporting iron-folate supplementation, life skill trainings, income generation activities, school nutrition, and prevention of early pregnancies as well as a livelihood component with seed and small livestock provision and trainings.

Ethiopian School Meal Initiative (ESMI) since 2014 supports over 6,500 students in five regions with the goal to improve the nutritional status of children in Ethiopia. The initiative aims to set up sustainable school meal programs in selected government schools and create a system where sustainable school meal systems can be scaled up.

Home grown school meal program (HGSF) (WFP) since 2012 in partnership with SNNPR BoE, with the aim of linking the school feeding program with local agricultural production through providing locally produced and purchased foods from small holder farmers and at the same time provide cost effective and fresh meals in schools. The HGSF program is implemented in the 107 schools in two regions and is primarily intended to build the capacity of regional BoE to manage the school feeding program.

The Child Fund is supporting school feeding programs including life skill trainings for 6 to 14 year-olds. For the older age group of 15 to 24 year-olds, interventions focus on employment opportunities and vocational skill training.

### **Strategic objectives related to adolescent nutrition**

Some organizations have adolescents addressed in an objective for women of reproductive age or they have an adolescent specific objective that refers to (reproductive) health.

Only very few organizations have an objective specific to adolescent nutrition:

- Improve nutrition and livelihood of adolescent girls (Concern)
- Improve feeding practices of adolescents (Irish Aid)
- Improve nutritional status of adolescents (Nutrition International)
- Ensure adolescents' access to micronutrient interventions (Nutrition international)
- Improve nutritional status of adolescent girls (UNICEF)

## 7 Findings from the landscape analysis

### 7.1 Knowledge on Adolescent nutrition

#### Definition of adolescents

Key informants were asked about the definition of adolescents and responses ranged from 10 to 25 years. Most respondents stated using either the WHO or Ethiopian government definitions. In six cases, the definition was given as starting from 15 years of age and it appeared that adolescents were confused with the definition of “youth” (which is defined as 15 to 24 by WHO and as 15 to 29 years by the National Youth Policy of Ethiopia). While the Ethiopian National Adolescent Health and Nutrition Strategy targets 10 to 24 year-olds, it clearly defines adolescents as 10 to 19 year-olds.

Responses from key informants highlighted the need for awareness raising for the definition and respective needs of the different age groups, which will need varied approaches for program implementation and modalities.

#### Perception of nutrition problems of adolescents

Most respondents (8) mentioned undernutrition (stunting or wasting) as the main nutrition problems of adolescents. Overweight and obesity, particularly in urban areas was raised by only two respondents as a problem of adolescents.

The second most commonly mentioned problems were micronutrient deficiencies in general (7 respondents). Six respondents mentioned either iron deficiency anemia or anemia in general as a problem. Folate deficiency and the issue of neural tube defects was mentioned by four respondents. Other micronutrient deficiencies were mentioned only once or twice (zinc, vitamin A, iodine, and calcium) Lack of dietary diversity or poor diets in general were mentioned by four respondents as a problem. Two respondents also raised the problem of unhealthy behaviors of adolescents, such as preference for sweet and fatty foods, and alcohol.

Some respondents also mentioned underlying causes of malnutrition, such as food insecurity (5), lack of knowledge, (4) and parasitic infections (1). Early marriage and pregnancy was mentioned by some (7) respondents as a problem, affecting the nutritional status of adolescent girls themselves, as well as their babies.

Basic causes of malnutrition were also mentioned such as cultural issues and gender inequality (5). Particularly girls being neglected in the family and the society not only when it comes to household distribution of food. Poverty and lack of education due to mostly girls dropping out of school early was mentioned only once. However, no respondents mentioned unsafe water, lack of hygiene, and sanitation as a problem, which is interesting given the number of studies showing an association between water, sanitation and hygiene, and adolescent nutrition.

Overall there seems to be a good understanding of what the main nutrition problems of adolescents are in Ethiopia. One respondent however raised the lack of evidence, which can also

be supported by the literature review in this report. While there are studies showing all of the issues raised above to a certain extent, there is little to no information on these issues on a nationally representative level.

**Quotes from respondents:**

“Adolescents are a neglected group that is getting food last, even in case of droughts, they prefer to give food to children first. In other areas, it is the head of household that gets food first. Adolescents in most cultures are considered secondary.”

“We don’t really know what the actual nutrition problems of adolescents in Ethiopia are, but based on their physiological needs, we can make assumptions on what the problems could be.”

Importance of addressing adolescent girls

All respondents agreed that there is a need to focus separately on girls in interventions. Most respondent mentioned them being the future mothers as the main reason and only few mentioned that it has the dual impact for their own health and the next generation’s. The importance of breaking the intergenerational cycle of malnutrition was obvious to all key informants. It was also mentioned that due to their marginalization they need special attention through interventions.

Respondents also mentioned the gender bias towards favoring boys, mostly in rural communities and girls are also more likely to drop out of school in Ethiopia due to cultural issues. Families often want support from the girls in the household or want them to get married.

All key informants agreed that girls need special programmatic attention and some interventions like iron-folate supplements are obviously targeted at girls. However, to most respondents it was obvious that change can only happen if the whole spectrum of the population is targeted, and that interventions targeted at girls have to be supported with awareness raising and SBCC campaigns targeting the whole family or community.

**Quotes from respondents:**

“They (adolescent girls) are very different from women of reproductive age and interventions tailored to them (WRA) might not work for adolescent girls”

“The focus has been on mothers and children and while adolescents could be mothers, they are not purposely targeted in nutrition and health interventions.”

“This is the age group where they shape their behavior. If we change the girls’ behavior at this age, they will be good mothers.....this will have long-lasting benefits for themselves and their families”

**7.2 Perceptions from stakeholders on policy framework**

Most respondents agreed that the issue of adolescent nutrition was adequately reflected in government strategies and policies. Only three respondents stated that there is little to no awareness in the government yet for this issue.

The policy document most often mentioned was the second NNP, which has a strategic objective focused on adolescent nutrition. The second most commonly mentioned document was the Draft Food and Nutrition Policy. School-relevant nutrition strategies were only mentioned by respondents who were working in that sector.

While there seem to be enough policy documents mentioning adolescent nutrition, all key informants agreed that there is a huge gap between policies and implementation. It was also raised that while it seems known what needs to be done, there is no guidance on how to do it. With regard to the delivery platforms, there needs to be more guidance, particularly for adolescents out of school. Only one respondent mentioned FMOH's Comprehensive Integrated Nutrition Service (CINuS), which includes five interventions targeted at adolescents.

Most key informants agreed that adolescent nutrition has only recently been recognized as an issue in policy. There has been quite a shift: while the first NNP only mentioned adolescents under maternal nutrition, in NNP II adolescent nutrition received a lot more attention with a separate specific objective targeted at adolescents. A similar shift has occurred with the adolescent health strategy. While the previous strategy 2006-2015 was mostly focused on reproductive health issues, the current strategy 2016-2020 specifically addresses nutrition.

Respondents, who were more critical of the policy documents, suggested that there should be more policies in terms of micronutrient supplementation, fortification as well as market-based approaches and a legal framework to support such policies.

It was also recognized that adolescent nutrition is requiring a multisectoral approach. Given that many of the underlying causes of malnutrition in adolescents fall under social issues, the health sector cannot address adolescent nutrition alone and other sectors would need to work on their respective strategies.

There was overall good awareness of the policy landscape. However, no respondent was able to quote all the available documents from different sectors, which implies a lack of communication among sectors. One respondent mentioned that while reproductive health policies and programs are very strong, nutritionists often do not consider them nutrition-relevant.

**Quotes from respondents:**

“In terms of policies and programs there is a good emphasis on that (“adolescent nutrition”). But in terms of implementation and taking it to the community level, it will require more interventions from different organizations”

“There is a lot of work from the government towards job creation of youth to help the economy but not with a nutritional objective in the background.”

“We need to articulate very well the contribution of other sectors towards adolescent nutrition, e.g. delaying early marriage, family planning etc. Reproductive health programs are very strong, but as nutritionists we don't recognize them as nutrition interventions.”

## **7.3 Interventions**

### **Settings**

Most organizations (11) stated to work through schools, followed by health centers/posts, (8) and youth centers (5). Three respondents stated working directly with households. Two institutions mentioned farmer training centers and the community as the setting of implementation.

### **Focus on girls**

A lot of programs are targeted specifically at girls, particularly interventions related to sexual and reproductive health as well as to micronutrient supplements, but most also addressed boys for broader behavior change activities.

### **Adolescent participation**

Adolescent participation is an important element for eleven institutions, while there is a wide range of what “participation” could entail. For some respondents, adolescent participation meant that they were participating as the target group in the intervention, for instance participating in community activities or taking supplements. Other organizations considered it as active engagement in planning, designing, and evaluating intervention. Most organizations that stated encouraging participation have consultative meetings with adolescents.

Nutrition international (NI) reported using participatory research in the design phase which involves adolescents as well as involving adolescents in drawing materials and tools as well as developing role play exercises. NI also works with “Motivator Girls” who have different roles: as peer educators, organizing education sessions and providing weekly iron and folate to other girls.

UNFPA stressed that adolescent participation is one of their principles as they work with youth groups who are engaged in not only planning and monitoring, but also implementation. Furthermore, Community Care Coalitions (CCC) are used to identify vulnerable adolescents.

### **Types of interventions**

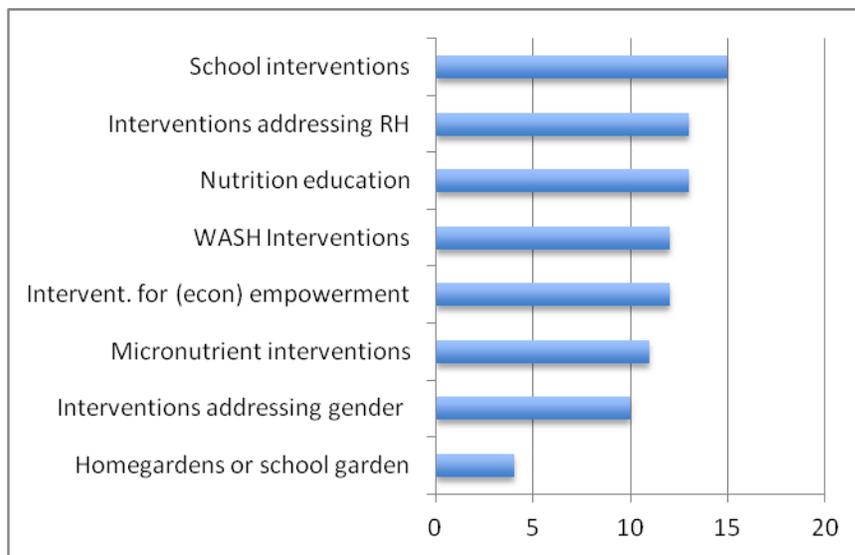
Key informants were asked about several interventions that were grouped into the following categories:

- Nutrition education
- School interventions
- Interventions for (economic) empowerment
- WASH interventions

- Interventions addressing gender issues
- Interventions addressing reproductive health
- Micronutrient interventions

Figure 5 below shows the number of institutions implementing different interventions. Most institutions implement school related nutrition interventions, followed by interventions related to reproductive health and nutrition education. Looking at the individual interventions, prevention of early pregnancy was stated by most respondents, followed by promoting girls' education, hygiene and nutrition education and counseling. The least frequently mentioned interventions were related to physical activity promotion and obesity prevention (each 3 institutions).

**Figure 5: Number of institutions implementing different interventions**



## 7.4 Behavior Change and channels for nutrition messages

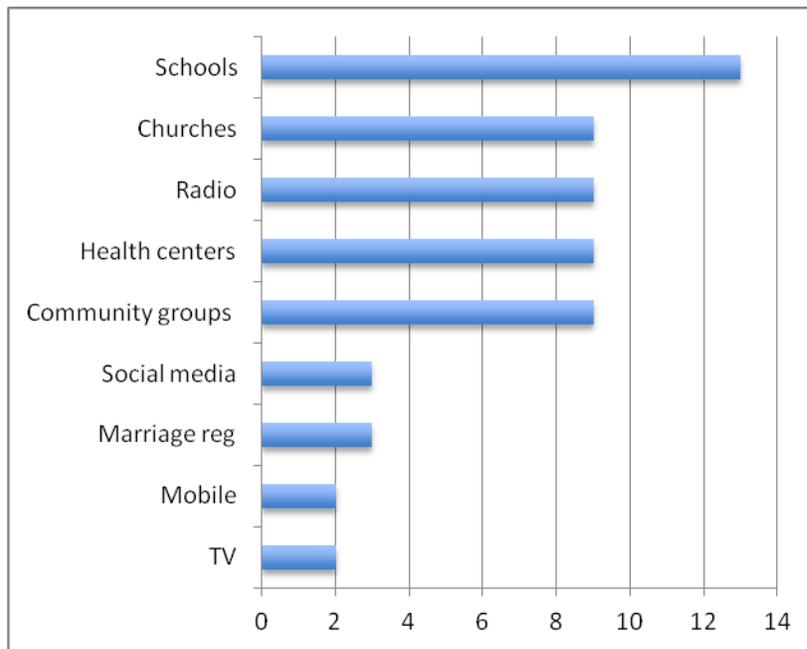
Most institutions (13) stated that their programs include a social behavior change communication (SBCC) component. Not these institutions however target adolescents specifically with their messaging but might include them in the target group of women and reproductive age.

The most common channels used for SBCC messages to adolescents are schools, followed by radio, health centers, and community groups (see Figure 6 below). This finding seems to be in line with the information sources that adolescents quoted in a recent survey, where the majority mentioned schools as the main source (FMoH and UNICEF, 2016).

Social media is used only by one institution, whereas two additional ones stated that they were planning to use social media for nutrition messages. SBCC through community groups is done through community development facilitators, peer-to-peer groups, community gathers, market sessions and Community Care Coalitions (CCC).

Few organizations have developed nutrition messages specific for adolescents. Messages are either in development, because the programs had just started. One organization stated using messages from Alive & Thrive “Building smart and strong schools”. UNICEF developed messages and SBCC materials under the ANSP program.

**Figure 6: Number of intuitions using different channels for behavior change interventions**



## 7.5 Monitoring, evaluation, and research

### Program evaluations on adolescent nutrition

According to the key informant interviews, the only evaluation that had been conducted was the Knowledge, Attitude and Practice (KAP) survey as well as a formative assessment on a school deworming campaign conducted by MoH and UNICEF. Other than these two surveys, no organization had so far conducted a program evaluation looking at nutrition outcomes in adolescents.

### Indicators for adolescent nutrition

Most program indicators that were mentioned by respondents were referring to diets and nutritional status of women 15 to 49 years. Most commonly used indicators are BMI as well as dietary diversity scores. Only two organizations mentioned outcome indicators related to adolescent’s diet (dietary diversity) and BMI. Another respondent stated using mid-upper arm circumference for adolescents. Prevalence of anemia as well as an indicator on food allocation to girls within the household were only mentioned once. Other indicators were only output indicators related to iron-folate supplementation and deworming.

### Past or planned research

Very little research has been conducted by NGOs related to adolescent nutrition programs. CRS commissioned a study to John's Hopkins university on different types of fortified supplements for adolescents combined with an education component using a market-based approach. The ENGINE project conducted formative research looking at barriers and motivators of adolescent girls' nutrition. The Ministry of Education conducted research on the homegrown school-feeding program and Nutrition International is planning research to better understand the delivery modalities for supplementation. CRS, Nutrition International as well as Growth through Nutrition mentioned plans to conduct formative research/gap analysis on adolescent nutrition.

The interviews with the universities revealed that research on adolescent nutrition is still in the early stages. Lack of funding was stated as the main limiting factor to research in this area. It was also raised that there might be a need to harmonize approaches as well as indicators among research institutes.

### **Knowledge gaps**

Apart from two respondents, who stated no major knowledge gaps, others mentioned several knowledge gaps:

Nutritional status and nutrient needs of adolescents:

- What are the actual micronutrient and other nutritional needs of adolescents?
- Dietary intake of adolescents
- Nutritional status of adolescents only reported for 15 to 19 years old in DHS, but no data for 10 to 14 year-olds

Causes of malnutrition

- What are the actual causes of malnutrition in adolescents?
- How much do gender issues impact adolescent nutrition?

Impact of adolescent malnutrition:

- What is the economic impact of malnutrition of adolescents?
- What is the long-term impact of adolescent malnutrition for instance on child development when they become mothers?

Knowledge, perception and awareness of adolescents:

- What is their knowledge on different nutrition topics?
- What and who influences their knowledge?
- What is their perception of a healthy diet?
- What influence does globalization/industrialization have on adolescent nutrition?

Program implementation:

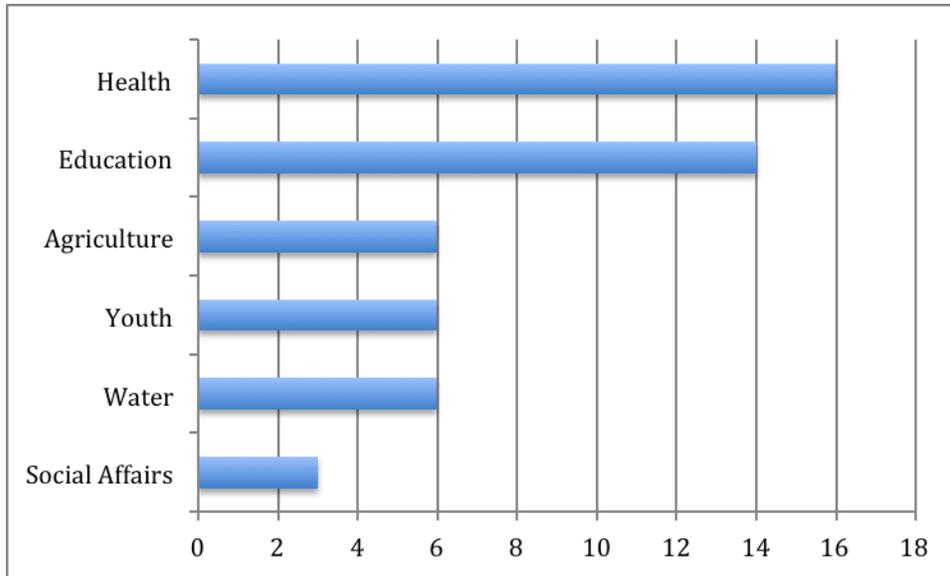
- How to make services better available to adolescents?
- What are the best delivery platforms and modalities for interventions, particularly for out of school adolescents?
- What are the taboos around adolescents' sexuality and diet and how to address them?
- How to influence dietary patterns of adolescents?
- What communication do we need to get adolescents to use services?
- How to better work with communities to identify entry points?

- What is the cost-effectiveness of different interventions for adolescents.
- How can adolescents best be engaged in income generating activities?

## 7.6 Coordination and partnerships

Key informants listed sectors that they are working with on issues related to adolescent nutrition (see Figure 7 below). The health sector was mentioned by most respondents, followed by education, agriculture, youth, water, and social affairs.

Figure 7: Sectors mentioned by institutions they are working with (No of institutions).



Most key informants stated that there was a lack of coordination on issues around adolescent nutrition and very few respondents were aware of any existing coordination mechanisms in this field. It was suggested that adolescent nutrition should be coordinated either by the Ministry of Health or as a working group under the National Nutrition Technical Committee. Another suggestion was to strengthen existing mechanisms. However only three respondents named any of the following mechanisms:

- Iron-folate technical working group under the MoH Nutrition case team
- Adolescent and youth health taskforce, chaired by MoH
- Maternal and adolescent infant and young children nutrition technical working group
- School health and nutrition taskforce chaired by MoE: meeting regularly

## 7.7 Financial support for adolescent programs

Information on the project funding for adolescent nutrition is limited since nutrition projects that have an adolescent component or adolescent projects that have a nutrition component, rarely show a breakdown specific for adolescent nutrition activities.

Few projects were considered for the calculation of available funding for adolescent nutrition. There was either at least estimations on the adolescent nutrition component available (GTN) or a total budget of a project that predominately focuses on adolescent nutrition (Concern,

ABDOBORU, WHO-ANI, Irish Aid). The total estimated amount of project funding for adolescent nutrition in Ethiopia (only based on the conducted interviews) was roughly 12.5 Million USD.

## **7.8 Lessons learned, opportunities and challenges**

### **Lessons from adolescent health and nutrition programs**

The main lesson that respondents stated was that not considering adolescent nutrition has been a missed opportunity. Working only on children and pregnant women made a gap around adolescence in the lifecycle apparent. A lot of organizations have learned from this and are now putting more emphasis on adolescent nutrition than in the past. However even if programs have components of adolescent nutrition, they are not budgeted clearly, which should be addressed in future programs according to one key informant.

Organizations working already on adolescent nutrition, noted that they often work in isolation since coordination is lacking. Given the multisectoral nature of adolescent nutrition, it also requires inter-ministerial coordination, which is limited in adolescent nutrition. Better coordination would also help in avoiding overlaps, which has happened in the past. The lack of coordination has also led to isolated interventions that do not take the multiple issues of adolescents into account.

Another important lesson from different programs targeting adolescents is that adolescents are very dynamic, learn quickly, and can influence the community, neighbors, and peers. It has also been shown successful in engaging adolescents for instance in iron-folate supplementation programs with activities around counseling and distribution.

Only one key informant stated the importance of having age-specific approaches, given that 10 to 14 year-olds have very different needs and behaviors than 15 to 19 year-olds. The same is true for considering adolescents as part of 15 to 49 year-olds, since adolescents will be overlooked in this group and their needs are obviously very different from adults. Addressing girls specifically was also mentioned as an important lesson to make a difference.

From research on adolescent nutrition, lessons can be learned about making research participatory as well as the logistics of reaching in and out-of-school adolescents.

Important lessons from interventions targeting adolescents in reproductive health and HIV can be learned, for instance when it comes to delivery platforms, on how to involve youth, having a bottom up approach, etc.

#### **Quotes from key informants**

“Addressing one issue only will not solve the problem. If you only address nutrition but do not give sexual and reproductive health education, they might get an STI. There are also mental complications that need to be addressed. We need to see the adolescent as a whole.”

### **Opportunities to work on adolescent nutrition in Ethiopia**

Most respondents stated that adolescent nutrition is a relatively new topic, even on the global agenda. However, with recent interest on the global level with new initiatives, the SDGs, and new research, as well as the stronger focus on adolescent nutrition in Ethiopia with the second NNP, a lot of opportunities arise. Having the commitment from the NNP II as well as the Draft Food and Nutrition Policy will give implementing partners an important platform. Also, the National Child Policy 2017 was mentioned as an opportunity, as well as the fact that the constitution considers the rights of the child. The interest of the First Lady in adolescent nutrition was also raised as an opportunity.

In the Growth Transformation Plan II, the government gives a lot of attention to job creation for youth and while the age group might be different from adolescents, this commitment could also pose an opportunity to advocate for adolescents. Among donors, opportunities arise as well, such as the EU+ joint nutrition strategy, through which EU Member States advocate jointly on different nutrition issues, such as adolescent nutrition.

Regarding interventions, the CINuS was mentioned as an opportunity to also address adolescents with nutrition interventions in the community. Educating girls was stated as an opportunity to improve their nutritional status as well as that of future generations. In the education sector, there is currently a revision of the curriculum underway, which could be an opportunity to focus on adolescent nutrition. The flagship programs (PSNP and AGP) were also mentioned as possible platforms for nutrition interventions targeting adolescents.

While most key informants raised research gaps, they also stated existing opportunities with the evidence that is already available that shows that adolescents have been neglected. One respondent also stressed the need for harmonized approaches for research and implementation.

#### **Quotes from key informants**

“There is an important opportunity for research on adolescent nutrition. But what comes first research or implementation? If you implement before having sufficient research, your programs might not be effective, or you even could cause adverse effects. Or you wait for research to provide sufficient results, but that could take long and should not be an excuse for inaction. We need to be innovative and combine research and implementation.”

#### **Challenges in implementing adolescent nutrition programs**

Lack of research on the importance of adolescent nutrition was mentioned as a challenge. Challenges for research include ethical considerations, which can be difficult, when consent of parents might be necessary.

One respondent mentioned that the nutritional situation of adolescents is not as serious as that of children. A lot of organizations want to address the acute, burning issues, whereas improving adolescent nutrition would be an investment in the future.

Coordination among the different government sectors can be a challenge since adolescent nutrition requires the input from many different sectors and a strong working group with government leadership. This will require a lot of advocacy. Since there are sufficient policies and

strategies addressing adolescent nutrition, a different type of advocacy for system strengthening and implementation would be necessary. At the same time, there are financial limitations due to the lack of focus on the donor side, which was also raised as a challenge. Now that there is increasing interest in this issue, the funding situation might change and could mean that more NGOs start working on adolescent nutrition. This would require even more coordination as well to synthesize all the information from different programs and communicate that to the government.

It was suggested that there is a need for a comprehensive model or a clear implementation strategy that all stakeholders in Ethiopia could use in their programs. Regarding implementation challenges, it was mentioned that health extension workers already have a lot of tasks and adding activities around adolescent nutrition might overburden them. Another implementation challenge mentioned was the lack of availability of companies producing iron-folate supplements in Ethiopia, which requires imports from abroad.

There are also challenges around gender and cultural issues. Culturally-rooted practices will make it difficult to address some of the sensitive cultural issues, such as the way girls are discriminated against with regard to their education, diet, and empowerment. There seems to be an overall lack of societal awareness at the community level towards adolescents. Early marriage, teenage pregnancies and living in unsafe environments are challenges that many girls are facing. Also, taboos around adolescent diet and sexuality and general lack of openness on issues around adolescence.

The current focus on adolescents is on reproductive health, but policy makers and implementers will need to understand that there are many other issues, like nutrition, that adolescents are struggling with. A respondent argued that adolescent girls are often just seen as the “future mothers”.

#### **Quotes from key informants**

“Creating that understanding that girls are not just future moms will be challenging”

“You need a combination of a program and a research institute since the researchers will see things independently. Within the next three, four years, we need a model for adolescent nutrition otherwise there will be a lot of confusion among donors, government and implementing partners. Alive & Thrive could make a difference and help generate the evidence.”

#### **How to make services adolescent-friendly?**

While most respondents agreed that there is a need to make services more adolescent-friendly, very few suggested involving adolescents in designing the services. Designing an adolescent-friendly service would need to be informed by the needs and wishes of adolescents themselves.

A survey by UNFPA found that the qualities of health services that young people valued the most were the friendliness of the provider, followed by low-cost or free services, and services close to their homes. The survey also found that girls use adolescent services a lot less than boys (UNFPA, 2010)

It was mentioned that adolescent health services are not always accessible and if they are, girls who use them are often labeled with stigma. While youth centers were mentioned as functional, they seem to only offer information around reproductive health, but not nutrition. They could be considered as a platform for nutrition interventions. Linking the different platforms is also a current challenge since there are no referral mechanisms for adolescents that have nutrition problems. Adolescent programs should therefore not only work with one platform, but for instance with schools and health centers at the same time. The challenge of reaching out-of-school adolescents could also be addressed by working through different services.

As mentioned above, there are a lot of taboos around girls using adolescent health services and the past approach was to have a separate room for adolescents, which was associated with reproductive health or even abortions, which meant that adolescents hardly used them. However, the Ministry of Health is now aiming to train all staff at the health facility on adolescent issues and make health facilities “youth responsive”. It will be important that these trainings also include nutrition. It was raised that giving iron supplements is currently the only nutrition service for adolescents. Services for adolescents should be flexible so that adolescents to be able to use them whenever they need.

While most key informants talked about health and youth centers, only one respondent suggested considering platforms in the agriculture sector, such as Farmer Training Centers that could also provide services for adolescents.

#### **Quotes from key informants**

“We have to involve them in the design and decision-making process. They are independent and want to think independent.”

“Adolescents want providers that smile and are at their age and don't judge and understand their interests”

## 8 Conclusion and recommendations

Focusing nutrition actions on adolescents will help prevent the intergenerational transmission of malnutrition, food insecurity, and poverty. It will not only help improve the nutritional status of adolescents themselves but also the nutritional situation of future generations, and national economies.

While adolescent nutrition is still a relatively new topic in Ethiopia, both the literature review as well as the stakeholder mapping revealed growing interest and awareness, as well as some evidence and experience available. Within the policy landscape, adolescent nutrition is reflected well, but as mentioned by several key informants, implementation is limited. With increasing interest and action in this field, coordination will be key to avoid duplication and address gaps. Some organizations focus entirely on one single intervention, which if within their field of expertise, is entirely appropriate, but to improve adolescent nutrition, a wide spectrum of interventions need to be considered. Not every organization should address all interventions. Reproductive health is a good example; there are many experienced organizations in this field and nutrition should support these programs, not attempt to duplicate them.

Overall it seems evident that a model or implementation guide will be necessary to bring all stakeholders on the same page and ensure a coordinated approach. The same is true for research efforts. There are multiple studies on adolescent nutrition in Ethiopia, yet they appear to have been conducted in isolation from each other. There are many research gaps in Ethiopia that could be addressed if studies are conducted in a more coordinated, harmonized manner.

Monitoring and evaluation of the programmatic impact on adolescent nutrition is also limited. While there is some agreement on which indicators to use for adolescent nutrition, it was also raised by key informants that there might be a need to identify a different indicator that properly captures adolescent nutrition data and measures the impact of interventions on adolescents. The overall recommendation from this landscape analysis is that adolescents should be recognized as a priority target group and their needs should be adequately addressed in national programs. Below is a list of more recommendations that were identified as part of this exercise:

### Policy recommendations

- **Advocacy:** We need to raise awareness around how adolescents are “defined” and the respective needs of the different age groups. Using a blanket approach will not work and program implementation and modalities need to be tailored to each of the age groups. Advocacy is also needed at all levels to strengthen implementation of programs supporting adolescent nutrition.
- **Coordination:** We need to support the government to lead such efforts and bring all relevant stakeholders (donors, implementing partners, researchers) together. Using existing platforms would be most efficient considering the multiple coordination mechanisms that already exist in Ethiopia. Additionally, it would be necessary to raise

the question of other available coordination mechanisms related to adolescent nutrition.

- System strengthening: Interventions to support adolescent nutrition require strong systems (related to schools, health and food) and adolescent-friendly delivery platforms in different sectors. Testing approaches through different sectoral platforms will be necessary and will help strengthen existing systems.

### **Program recommendations**

The overall recommendation is that there is a need for an implementation guide/model based on research and program evidence. More specific recommendations on programming are below:

- Targeting of adolescents:
  - Adolescents should be considered separately as two groups for programmatic purpose: the younger ones (10 to 14 years), when 80 percent of the growth takes place and need for nutrients is very high; and the older ones (15 to 19 years).
  - There should also be a strategy for reaching adolescents in different settings: school going, out-of-school, in urban slums, rural areas etc.
  - Targeting adolescents for prevention of obesity in urban areas, where changing lifestyles and eating patterns contribute to obesity. Ethiopia is undergoing rapid urbanization and economic growth. The nutrition transition with the rise in obesity and other nutrition-related chronic diseases is becoming visible.
- Integration of programs with other sectors:
  - As was mentioned previously by several key informants, adolescents must be seen as a whole and not in terms of individual interventions, such as iron-folate supplements, which could only be one potential solution to the complex aspects of adolescent nutrition. While not every program can cover all relevant interventions, coordination will be crucial, and synergies should be explored between programs. Having a comprehensive model or implementation guide should help efforts to link interventions and programs.
  - Adolescent nutrition should be mainstreamed and integrated into existing public health programs that have an adolescent component.
  - Before designing nutrition programs for adolescents, experience from other programs in reproductive health and HIV should be explored and built on, particularly regarding implementation modalities, platforms, and ways to reach out of school adolescents.

- While reproductive health programs should be supported and promoted by nutrition interventions, they should avoid duplication or potentially doing harm.
- Interventions are also needed in nutrition-sensitive sectors: most interventions currently are implemented through health facilities and schools. Sectors like agriculture or water could contribute to improving adolescent nutrition. Interventions in agriculture and WASH should be considered given the documented associations between nutritional status and dietary diversity, and WASH.
- Considering the increasing rates in urbanization as well as obesity and chronic diseases, adolescent programs need to consider the drivers of the nutrition transition in Ethiopia as well as potential long-term implications on adolescents' health and nutrition. Physical activity should be promoted as well as relevant regulations around food processing, particularly in terms of sugar, salt, and fat content.
- Adolescents are also engaged with the private sector, which should be explored for programming in a careful manner avoiding adverse effects from food advertising of unhealthy foods or so called “junk foods” and non-nutritious fast foods. Adolescents need to learn to recognize that some advertising may not be supportive of good nutrition.
- Considering research findings that food insecure adolescents are more likely to be absent from school, programs targeting adolescent nutrition should always consider issues around food insecurity.
- Participation of adolescents:
  - One of the limitations of this exercise was to consult with adolescents themselves to better understand the needs and ideas of adolescents around nutrition. Such efforts should be a very important first step of follow up activities to ensure their needs are addressed properly.
  - Involving adolescents and young people in the design, planning, implementation, and evaluation of measures to improve their health and nutritional status will increase their ownership. If adolescents are given a voice by being involved in the identification of their health issues and development of appropriate solutions, they will also be more visible to their communities, stakeholders, and decision makers.
- Settings and communication channels:
  - Adolescents need to be addressed through different platforms: health facilities, youth centers, and other community platforms can reach the out of school adolescents, whereas school platforms and health facilities can reach adolescents in schools. Overall, it was suggested that programs on adolescent

nutrition work on multiple platforms to increase the reach and effectiveness of the interventions.

- Youth centers should be redirected to address the dominance of males at these facilities, either by capitalizing on their presence and implementing programs for boys, or by providing structured gender-specific programs, including girls-only spaces.
- Religious institutions reach large numbers of young people in both urban and rural areas. These institutions should be explored as potential mechanism to further engage youth in educational and development activities.
- Particularly for adolescents in urban areas, social media should be explored as a possible channel for nutrition communication. Traditional communication channels that work for mothers might not work for adolescents.

### **Recommendations related to Monitoring, evaluation and research**

Good information systems are an important step towards making adolescents and their health more visible to policy makers, researchers, donors, and development partners. Below are some recommendations on how to better generate and use information:

- Research: the overall recommendation is to ensure tight linkages between research and implementation to ensure learning from new programs and to avoid doing harm.
  - Studies should not look at individual aspects of adolescent nutrition in isolation, but it would be important and more informative to bring evidence from different partners together, supporting partners to collect evidence and analyze secondary data to identify underlying causes of malnutrition in adolescents.
  - Research is also needed on interventions, which is currently very scarce.
  - Research should also be better coordinated and communicated to policy makers and implementers
  - Standardized methodologies should be utilized for assessing dietary intake and malnutrition status. This will allow for better comparison of findings.
- Regular nutrition assessment should be built into all nutritional interventions for adolescents. This should include anthropometry (weight and height) for assessing all forms of malnutrition.
- Developing a database on health and nutrition status of adolescents, taking into consideration rural-urban differentials and socio-economic disparity could be a helpful tool. Collection and analysis of age and sex disaggregated data (particularly data from 10 to 14 year-olds is missing) can be included in the national surveys.

## 9 Limitations of this landscape analysis

Data collection and the interviews with key informants took place during a period of three months (June to August 2017). There might have been new studies and developments afterwards that could not be considered for this present report. Furthermore, key informants were interviewed from only some government institutions, donors, implementing partners, as well as universities. Since not all relevant organizations and informants could be met due to time constraints, this analysis is not as complete as it could be but gives an indication of the situation around adolescent nutrition. In addition, organizations from the demand side, such as youth organizations, have not been interviewed, which was definitely a limitation of this exercise.

The information provided in this report be reviewed and validated by all relevant stakeholders.

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## 11 Annex 1 – Key informant interview tools

### 11.1 Government - Questions for Landscape Analysis on Adolescent Nutrition in Ethiopia

Date of interview:
Name of institution:
Name of respondent:

#### Knowledge on adolescence

1. In your opinion/in your institutions definition: how would you define adolescents?
2. What do you consider the main three nutrition problems of adolescents in Ethiopia?
3. Should adolescent girls be specifically targeted for nutrition and health in Ethiopia? If yes, why?

#### Government strategies and policies

4. Do you think adolescent nutrition is adequately addressed in national policies and initiatives? Can you elaborate in which policies?
5. What strategies are being proposed to improve adolescent nutrition? (ask for a copy of the policy/initiative)
6. If no, please suggest where and how it should be addressed in government strategies?

#### Program implementation

7. What adolescent nutrition programs are currently being implemented to reflect national policies in initiatives and support adolescents directly or indirectly?
8. What is (are) the objective(s) of your programs addressing adolescent nutrition? (e.g. promote optimal linear growth/prevent thinness, prevent overweight/obesity, prevent micronutrient deficiencies etc.)
9. Where are they being implemented? Specify regions and numbers of woredas. Specify if you are covering all kebeles in the woreda. (collect specific information on list of regions and woredas)
10. What is the timeframe of implementation for the different programs?
11. Are adolescents a primary target group in your project(s) or are you addressing them indirectly? Please specify:
12. Do you have a specific focus on adolescent girls? If so, please mention the focus areas
13. Through which settings are you targeting adolescents (prompt for schools, HH, health center, FTC, schools, youth centers etc.)
14. What age groups are you targeting? Please specify the age ranges.
15. Do(es) your program(s) encourage adolescents' participation in the design and implementation of programs? If yes, please explain how.
16. Do your programs cover promotion, prevention as well as management? To which extent are these three components addressed in your programs?
17. Which of the interventions are addressed in your programs?

Interventions	Addressed in program
Micronutrient interventions	

IFA supplementation to adolescents	
General anemia prevention in adolescents	
Provision of nutrient-rich food/ Targeted supplementary feeding for at-risk adolescents (e.g. during disasters; in food insecure communities)	
Iodized salt access	
Nutrition support for pregnant and post-natal adolescents	
Deworming	
Food vouchers	
<b>Nutrition education/counseling</b>	
Nutrition and health counseling of adolescents	
Care groups for adolescent girls	
Education for obesity prevention	
Promoting physical activity	
Food taboos	
<b>Interventions addressing (reproductive) health</b>	
Adolescent friendly reproductive health services	
Prevention of early pregnancy	
Promoting pregnancy spacing	
Infectious disease control (e.g., sexually transmitted diseases, malaria, Tb)	
Family planning	
<b>School interventions</b>	
Promotion of girls' education	
Nutrition education in schools	
School feeding	
<b>Interventions for (economic) empowerment</b>	
Promotion of economic empowerment and income generation	
Cash transfers for HH with adolescents	
Life skills to strengthen knowledge, skills, and employability	
Foster girls' self-esteem (e.g., sports programs; community-service projects; mentoring programs to expand girls' expectations for the future)	
<b>WASH Interventions</b>	
Promotion of hygiene practices to HH with adolescents	
Promotion of menstrual hygiene	
WASH Infrastructure/supplies for schools (e.g., wells; sanitation facilities; soap)	
<b>Interventions addressing gender issues</b>	
Working with husbands to support married adolescent girls	
Gender-sensitive school environment/policies (e.g., safety/privacy for girls at school; raise proportion of female teachers)	
Prevention of child marriage	
Others:	

18. Is behavior change a part of your program? If yes, what channels do you use for changing behaviors and social norms targeting adolescents?

Channels	Used in program
TV	
Mobile phones	
Community groups (please specify):	
Health centers	
Marriage registries?	
Radio	

Social media	
Schools	
Churches	
Others:	

19. Do you have specific messages targeted to adolescents? If so, could you give examples or provide samples of communication materials?

Coordination and partnerships

20. With which sectors are you collaborating in your programs addressing adolescent nutrition? (e.g. Health, WASH, Education, Agriculture, family planning etc.)
21. With which implementing partners (local as well as international NGOs) are you working?
22. Are you aware of a mechanism/body/institution that coordinates issues around adolescent health and nutrition? Please specify.

Monitoring and Evaluation and research

23. Have you conducted (or have planned) any program evaluations looking at outcomes for, or impacts on, adolescent nutrition?
24. Are you collecting monitoring data? What kind of indicators are you collecting information on? What is the frequency of data collection? How is this data used?
25. Which outcome indicators do you use to assess adolescents nutrition/diet?
26. Are you conducting any research relevant to adolescent nutrition?
27. What do you think are the knowledge gaps/research with regard to adolescent nutrition?

Financial information

28. What is the budget of your programs addressing adolescent nutrition? (Please list individual programs and their budgets separately). – In case the information is confidential, could we have approximate figures?

Additional questions:

29. What lessons have you learnt promoting adolescent nutrition?
30. What opportunities exist to promote adolescent nutrition?
31. What challenges are there specifically to the Ethiopian-setting?
32. How can services that may already be available or targeting adolescents be made more adolescent nutrition friendly or responsive?
33. Any other comments?

**11.2 Donors - Questions for Landscape Analysis on Adolescent Nutrition in Ethiopia**

Date of interview:
Name of organization:
Name of respondent:

Knowledge

1. In your opinion/in your organization's definition: how would you define adolescents?
2. What do you consider the main three nutrition problems of adolescents in Ethiopia?
3. Should adolescent girls be targeted specifically for nutrition in Ethiopia? If yes, why?

#### Government strategies and policies

4. Do you think adolescent nutrition is adequately addressed in national policies, strategies and programs? If yes, please elaborate: in which policies, strategies and program and how?
5. If no, please suggest where and how it should be addressed in government strategies?

#### Program implementation

6. How is adolescent nutrition currently reflected in your country strategies generally, in nutrition and/or other sectors?
7. What is (are) the objective(s) of your country strategy addressing adolescent nutrition? (e.g. promote optimal linear growth/prevent thinness, prevent overweight/obesity, prevent micronutrient deficiencies etc.)
8. What are the main programs your organization funds that are designed to directly or indirectly support adolescent nutrition?
9. Are adolescents a primary target group in your project(s) or are you addressing them indirectly? Please specify:
10. Do your programs have a specific focus on adolescent girls? If so please mention the focus areas.
11. What is the time frame of your projects related to adolescent nutrition?
12. In which regions/woredas of the country are your projects on adolescent nutrition being implemented?

#### Coordination and partnerships

13. With which government sectors are you collaborating in your programs addressing adolescent nutrition?
14. With which implementing partners (local as well as international NGOs) are you working?
15. Are you aware of a coordination mechanism/body/institution that coordinates issues around adolescent health and nutrition?

#### Monitoring and Evaluation and research

16. Have you conducted (or have planned) any programme evaluations looking at outcomes for, or impacts on, adolescent nutrition?
17. Which indicators do you use to assess adolescents nutrition/diet?
18. Are you conducting any research relevant to adolescent nutrition?
19. What do you think are the knowledge gaps with regard to adolescent nutrition?

#### Financial information

20. What is the budget of your programs addressing adolescent nutrition? (Please list individual programs and their budgets separately).

#### Additional questions:

21. What lessons have you learnt promoting adolescent nutrition?
22. What opportunities exist to promote adolescent nutrition?
23. What challenges are there specifically to the Ethiopian-setting?

24. Any other comments?

### 11.3 NGO/UN - Questions for Landscape Analysis on Adolescent Nutrition in Ethiopia

Date of interview: Name of organization: Name of respondent:
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#### Knowledge on adolescent nutrition

1. In your opinion/in your organization's definition: how would you define adolescents?
2. What do you consider the main three nutrition problems of adolescents?
3. Should adolescent girls be specifically targeted for nutrition in Ethiopia? If yes, why?

#### Government strategies and policies

4. Do you think adolescent nutrition is adequately addressed in national policies, strategies and programs? If yes, please elaborate: in which policies, strategies and program and how?
5. If no, please suggest where and how it should be addressed in government strategies?

#### Program implementation

6. How is adolescent nutrition currently reflected in your plans generally, in nutrition and/or other sectors?
7. What are the main programs your organization implements/supports that are designed to directly or indirectly support adolescent nutrition?
8. What is (are) the objective(s) of your programs addressing adolescent nutrition? (e.g. promote optimal linear growth/prevent thinness, prevent overweight/obesity, prevent micronutrient deficiencies etc.)
9. Where are the programs being implemented? Specify regions and numbers of woredas. Specify if you are covering all kebeles in the woreda. (collect specific information on list of regions and woredas)
10. What is the timeframe of implementation for the different programs?
11. Are adolescents a primary target group in your project(s) or are you addressing them indirectly? Please specify:
12. Do you have a specific focus on adolescent girls? If so, please mention the focus areas
13. Through which settings are you targeting adolescents (prompt for schools, HH, health center, FTC, schools, youth centers etc.)
14. What age groups are you targeting? Please specify the age ranges.
15. Do(es) your project(s) encourage adolescents' participation in the design and implementation of programs? If yes, please explain how.
16. Which of the interventions are addressed in your projects?

Interventions	Addressed in project
<b>Micronutrient interventions</b>	
IFA supplementation to adolescents	
General anemia prevention in adolescents	
Provision of nutrient-rich food/ Targeted supplementary feeding for at-risk	

adolescents (e.g. during disasters; in food insecure communities)	
Iodized salt access	
Nutrition support for pregnant and post-natal adolescents	
Deworming	
Food vouchers	
<b>Nutrition education/counseling</b>	
Nutrition and health counseling of adolescents	
Care groups for adolescent girls	
Education for obesity prevention	
Promoting physical activity	
Food taboos	
<b>Interventions addressing (reproductive) health</b>	
Adolescent friendly reproductive health services	
Prevention of early pregnancy	
Promoting pregnancy spacing	
Infectious disease control (e.g., sexually transmitted diseases, malaria, Tb)	
Family planning	
<b>School interventions</b>	
Promotion of girls' education	
Nutrition education in schools	
School feeding	
<b>Interventions for (economic) empowerment</b>	
Promotion of economic empowerment and income generation	
Cash transfers for HH with adolescents	
Life skills to strengthen knowledge, skills, and employability	
Foster girls' self-esteem (e.g., sports programs; community-service projects; mentoring programs to expand girls' expectations for the future)	
<b>WASH Interventions</b>	
Promotion of hygiene practices to HH with adolescents	
Promotion of menstrual hygiene	
WASH Infrastructure/supplies for schools (e.g., wells; sanitation facilities; soap)	
<b>Interventions addressing gender issues</b>	
Working with husbands to support married adolescent girls	
Gender-sensitive school environment/policies (e.g., safety/privacy for girls at school; raise proportion of female teachers)	
Prevention of child marriage	
Others:	

17. Is behavior change a part of your program? If yes, what channels do you use for changing behaviors and social norms targeting adolescents?

Channels	Used in program
TV	
Mobile phones	
Community groups (please specify):	
Health centers	
Marriage registries?	
Radio	
Social media	
Schools	

Churches	
Others:	

18. Do you have specific messages targeted to your adolescent target group? If so, could you give examples or provide samples of communication materials?

Coordination and partnerships

19. With which government sectors are you collaborating in your programs addressing adolescent nutrition? (e.g. Health, WASH, Education, Agriculture, family planning etc.)
20. With which implementing partners (local as well as international NGOs) are you working?
21. Are you aware of a mechanism/body/institution that coordinates issues around adolescent health and nutrition? Please specify.

Monitoring and Evaluation and research

22. Have you conducted (or have planned) any programme evaluations looking at outcomes for, or impacts on, adolescent nutrition?
23. Which indicators do you use to assess adolescents nutrition/diet?
24. Are you conducting any research relevant to adolescent nutrition? Please give examples.
25. What do you think are the knowledge gaps with regard to adolescent nutrition?

Financial information

26. What is the budget of your programs addressing adolescent nutrition? (Please list individual programs and their budgets separately).

Additional questions:

27. What lessons have you learnt promoting adolescent nutrition?
28. What opportunities exist to promote adolescent nutrition?
29. What challenges are there specifically to the Ethiopian-setting?
30. How can the services that may already be available or targeting adolescents be made more adolescent nutrition friendly or responsive?
31. Any other comments?

**11.4 Universities - Questions for Landscape Analysis on Adolescent Nutrition in Ethiopia**

Date of interview: Name of university: Name of respondent:
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Knowledge on adolescent nutrition

1. How are adolescents defined in Ethiopia?
2. What do you consider the main three nutrition problems of adolescents in Ethiopia?
3. Should adolescent girls be specifically targeted for nutrition in Ethiopia? If yes, why should they be targeted for nutrition?

#### Government strategies and policies

4. Do you think adolescent nutrition is adequately addressed in national policies, strategies and programs? If yes, please elaborate: in which policies, strategies and program and how?
5. If no, please suggest where and how it should be addressed in government strategies?

#### Research on adolescent nutrition

6. What are the current main research topics in Ethiopia around adolescent nutrition?
7. Are you conducting/Have you conducted any research relevant to adolescent nutrition? Please give examples.
8. What research gaps do you think there are in adolescent nutrition?
9. Which settings are mostly used to research adolescent nutrition? (e.g. schools, HH, health center, FTC, schools, youth centers etc.)
10. Is nutrition of adolescent girls sufficiently addressed in current research in Ethiopia? Please elaborate.
11. Which indicators are being used by researchers in Ethiopia to assess adolescents nutrition/diet? Is there harmonization?

#### Coordination and partnerships

12. With which universities are you collaborating on issues around adolescent nutrition?
13. Are you working with other partners (NGOs, UN, etc.)? Please elaborate.

#### Additional questions:

14. What lessons have you learnt researching adolescent nutrition?
15. What opportunities exist to promote adolescent nutrition?
16. What challenges are there specifically to the Ethiopian-setting?
17. How can services that may already be available or targeting adolescents be made more adolescent friendly or responsive?
18. Any other comments?

## Annex 2 - List of interviews and dates

	Category	Institution	Date of interview
1	Govt	FMoH: MCH Directorate, Adolescent health case team	28-Jul-17
2	Govt	FMoH: MCH Directorate, Nutrition case team	28-Jul-17
3	Govt	Ministry of women and Children's Affairs	25-Jul-17
4	Govt	MoANR: Nutrition case team	18-Jul-17
5	Govt	Ministry of Education	17-Jul-17
6	Donor	USAID	26-Jul-17
7	Donor	EU	19-Jul-17
8	Donor	Irish Aid	18-Jul-17
9	Donor	Embassy of the Netherlands	18-Aug-17
10	Donor	GIZ	17-Jul-17
11	Donor	Canada	19-Jul-17
12	UN	UNICEF	26-Jul-17
13	UN	WHO	21-Jul-17
14	UN	UNFPA	20-Jul-17
15	NGOs	Save the children: Growth through Nutrition	25-Jul-17
16	NGOs	Concern	26-Jul-17
17	NGOs	CARE	21-Jul-17
18	NGOs	Child Fund	27-Jul-17
19	NGOs	CRS	21-Jul-17
20	NGOs	Nutrition International	20-Jul-17
21	University	Addis Ababa university	24-Jul-17
22	University	Hawassa university	email sent 26 July 2017