Ministry of Health

Formative research to inform adolescent programming in Kenya

Engagement for health, nutrition and sustainable development

Summary report – February 2018

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This is a summary report of the research, and presents key findings, recommendations and considerations for policy and programming. It accompanies a longer report of the work in Kenya, a spreadsheet detailing the stakeholder mapping, and a synthesis report that summarises core learning across the four countries included in the research (Cambodia, Guatemala, Kenya, Uganda).

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Introduction

Background

Adolescence is a time of significant brain development (Blum et al., 2014) and physical growth at a pace exceeded only by the critical first 1000 days (Thurnham, 2013). As identified in Sustainable Development Goal 2, Zero Hunger, addressing the nutritional needs of adolescent girls is one of the key steps towards achieving the objective of ending malnutrition by 2030. The 2013 'Maternal and Child Nutrition Series' published by *The Lancet,* the Vision 2030 Sustainable Development Goal agenda, and the Scaling Up Nutrition (SUN) movement have each played a key role in highlighting that adolescent nutrition interventions should be tailored to girls. Interventions to improve access to education, delay marriage, and prevent early pregnancies can contribute to improving adolescent girls' nutrition so they can reach their full potential (Horton, 2013; SUN, 2016; Thurnham, 2013; Black et al., 2013; Finlay et al., 2011). There is, however, a lack of evidence to guide the development and delivery of strategic nutritional messages and interventions for this specific target group. More research is needed on the nutritional status of adolescents globally (Leenstra et al., 2005; Patton et al., 2016).

In line with the global shift of attention towards adolescents, there is increased engagement and mobilisation of multi-sectoral actors around the adolescent agenda in Kenya. Adolescents (10-19 years) make up 22% of the population (UNICEF, 2014). It has been reported that 18% of girls aged 15-19 years have begun childbearing (KNBS, 2015) and over 25% of all new HIV infections are in adolescents and youth, with girls more at risk than boys (Kenya HIV Estimates, 2014). The ratio of secondary school attendance is significantly lower than that of primary school (MOEST, 2014) with girls more likely to dropout owing to factors including pregnancy, early marriage and poverty. This age group is also exposed to sexual and physical violence, substance abuse and social marginalisation.

Recent policy developments have been promising, and Kenya's Vision 2030 places young people including adolescents, at the centre of the country's development agenda. The Neonatal, Child and Adolescent Health Policy (2017) and the Food Security and Nutrition Policy (2011) both highlight specific interventions for improving adolescent nutrition, and nutrition is one of eight key pillars in the National School Health Policy (2017). Whilst adolescent-specific and -sensitive policies are numerous and cross-sectoral, it is difficult to ascertain the extent to which they have been operationalised or their impact.

In Kenya, food insecurity is a persistent problem, resulting from regular droughts and other factors linked to climate change; high costs for national food production; and the fact that nearly half of the population lives in poverty (USAID, 2014; Kabubo-Mariara, 2015). At the same time, a nutritional transition is occurring in both rural and urban settings (Keding, 2016), The food system is changing and supermarkets are becoming increasingly prevalent and popular, which is a primary determinant of the Kenyan nutritional transition (Rischke et al., 2015). Levels of obesity are linked to dependency on low-cost, high calorie, low-nutrient dense foods, and changes in energy expenditure.

Kenya's nutrition situation is characterised by high levels of stunting and micronutrient deficiencies, and increasing prevalence of overweight and obesity (Kenya National Micronutrient Survey, 2011; KNBS, 2015; Kimani-Murage et al., 2014). According to the Kenyan Demographic Health Survey (KDHS) the rate of stunting in children under five is 26.0% (KNBS, 2015), whilst adults are more likely to be overweight and obese than underweight. The KDHS reports that 26% of rural-dwelling women, and 43% of urban-dwelling women of reproductive age are either overweight or obese, compared to 11.2% and 5.5%, respectively, who were thin (KNBS, 2015). This dual burden points to the salience of adolescence as a period of transition in nutritional status. Although data on adolescents from the Kenya National Micronutrient Survey (2011) indicate concerning rates of anemia and iron, zinc, vitamin B12 and folate deficiencies (see also National Malaria Control Programme, 2016), research exploring the nutritional status of Kenyan adolescents remains limited.

Research objectives

This research is part of a four-country study that is contributing to the global evidence base for adolescent nutrition. The other three countries included in the study are Cambodia, Guatemala and Uganda. The research has four overall objectives:

1. To assess the experiences, needs and priorities of adolescents regarding their nutrition.
2. To understand the policy and programmatic environment and current practices for effectively engaging adolescents.
3. To establish the preferences of adolescents regarding how they want to be engaged in programming.
4. To establish user-centred recommendations for more adolescent-friendly, context-specific nutrition interventions.

Methodology

The mixed-methods, collaborative study was conducted between March and December 2017. A country landscape analysis of adolescent programming recorded 47 key stakeholders working with adolescents in the country, and categorised the focus, timeframe and location of interventions, the target group (age, ethnicity, gender), the modes of engagement and key programme implementers. Formative qualitative research using participatory creative methodologies elicited perspectives, experiences and suggestions from adolescents and their communities. Data was collected in three counties: Nairobi, Samburu and Meru. In Nairobi, fieldwork was conducted in Ngomongo (informal urban settlement) and Utalii (urban); in Samburu, in Ndoto (rural pastoralist); and in Meru, in Mikinduri and Maua (rural agriculturalist). A total of 312 participants were included in the study, and 144 data collection activities were undertaken, including focus group discussions, key informant interviews, technology surveys and participatory workshops with adolescents using a range of creative methodologies to document their voices (photowalks, graffiti walls, drawings). Informed consent and assent was given prior to participation, and the study was granted ethical clearance by Kenya Medical Research Institute (KEMRI). The full analysis of qualitative data used thematic analysis developed specifically for analysing data generated through applied research. Although not generalisable across the whole of the country, findings are likely applicable to areas and populations with similar socio-economic characteristics. Evidence-based recommendations were designed combining the formative research findings and stakeholder mapping, to improve nutrition-specific and nutrition-sensitive interventions for adolescents, and highlight opportunities for adolescent engagement regarding nutrition in Kenya.

Defining and experiencing adolescence

Adolescence is commonly understood as the life stage between the end of childhood and the beginning of adulthood (Kaplan, 2004). Conceptually, the UN defines adolescence as spanning the age range 10-19 years, although others argue for 10-24 years (Sawyer et al., 2018). Adolescence is a dynamic concept, both culturally and historically. The length, the progression and even the existence of adolescence as an interim life stage differ widely across cultures (Steinberg, 2014).

In Kenya, there is not one standard definition or age range for adolescence applied across laws and policies, and there are marked disparities between community-level definitions of adolescence and the terminology adopted at the national level. It is clear that conceptually, there is a distinct period of life that marks the transition from childhood to adulthood, although how that transition is defined, what triggers the entrance and exit between life stages, and the terminology used to describe it vary.

'Ceremony is more important than age in Samburu'.

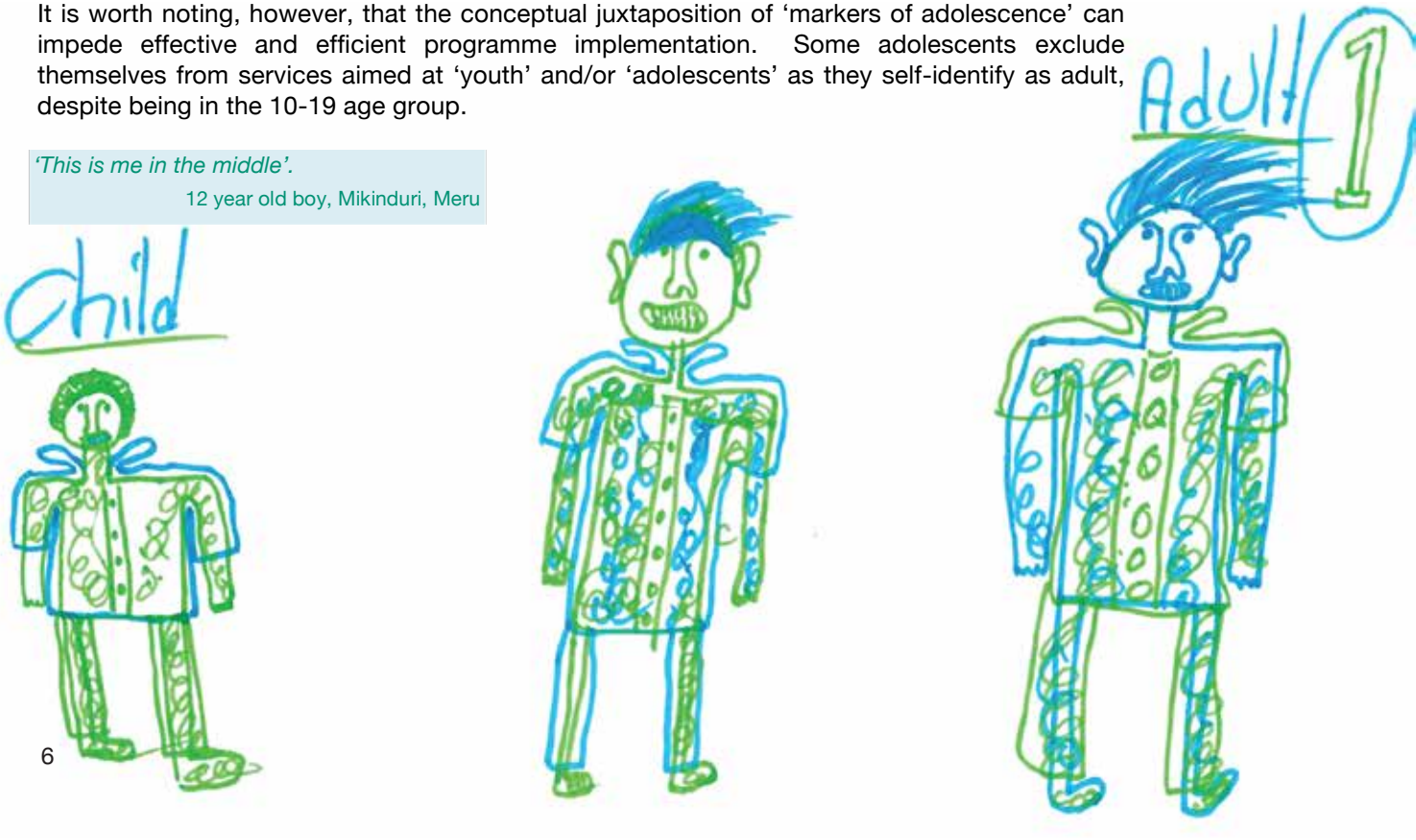
Caregiver, Ndoto, Samburu

Age is rarely used to indicate different life stages at the community level, rather key socio-cultural markers dominate, such as circumcision, marriage and parenthood. Both adults and adolescents across research sites identified adolescence as a period of physical and cognitive growth, with adolescents developing capacity '*to think*', becoming '*aware of many things*', and being more interested in material assets. Adolescents are also seen to assume greater personal agency to make independent decisions, whilst assuming a higher-level of responsibility, particularly in relation to taking care of younger siblings. During adolescence, however, the paths of girls and boys diverge, with boys' mobility expanding, whilst, in general, girls' social circles constrict. Boys are perceived to have a longer interim period between childhood and adulthood than girls, but markers of adulthood are often identified in both girls and boys considerably younger than 18 years old, the legal age of majority in Kenya.!

It is worth noting, however, that the conceptual juxtaposition of 'markers of adolescence' can impede effective and efficient programme implementation. Some adolescents exclude themselves from services aimed at 'youth' and/or 'adolescents' as they self-identify as adult, despite being in the 10-19 age group.

'This is me in the middle'.

12 year old boy, Mikinduri, Meru



Food and nutrition

Available food and food sources

Across the three sites, adolescents were exposed to different foodstuffs and sourced food in different ways, but in general, their diets were limited in quantity, diversity and overall quality.

Informal work and 'hustling' was described a common practice in Nairobi, particularly in the informal settlement of Ngomongo. There, the culture of food reflects the hustling lifestyle: disorganised, uncertain and unregulated. When describing the foods available to them, adolescents simply stated, *'all the rejects are sold here'*. Commonly eaten foods included *anyona*, the off-cuts of factory bread that are bagged and sold on the roadside; *chafua,* meaning 'dirty', a soup made from the juice of beans; and collard greens or *sukuma wiki*, which means 'push the week' due to their cheap price and ability to keep families fed when money for food is scarce. Food was described as the largest expenditure of household income in Nairobi. As a religious leader in Ngomongo asserted, '*although you're working hard, whatever you earn you spend on food'*. In both Ngomongo and Utalii, all household members, including adolescents, bought a large proportion of their food from roadside stalls, and only a few dishes were described as being '*truly home-cooked'*. Adolescents in Ngomongo also described the common practice of scavenging dumpsite food from as young as eight years old, trading hygiene and personal safety to acquire food (see graphic below). Having found food, adolescent girls reported, *'we don't wash it, we just wipe it*', asserting that they rarely became ill because *'our stomachs have adapted to it'*.

In Ndoto, Samburu, food could be purchased from markets and the trading centre but the major food source was the community's livestock (cattle and goats), although herds were seriously depleted at the time of the study (discussed further below). Beans were also referenced as a source of protein, with eggs available to the small number of families who kept chickens. Meat was rarely consumed, although ceremonies such as circumcision and marriage that were held a few times per year were viewed as occasions when everyone, regardless of personal wealth, could eat meat. The daily diet suggested an overconsumption of certain food groups such as starchy carbohydrates like *lochoro*, a mixture of flour and water. Adolescents described the monotony of their diets, which they were *'bored'* with.

In Meru, the majority of foodstuffs in both Mikinduri and Maua were purchased from the local market. Crops included bananas, maize, beans, cowpeas and peanuts, and in Maua, the primary crop was *miraa* (khat), a plant whose leaves are chewed for their stimulant effect. The majority of the produce was grown to be sold, but if feasible, a small portion of land would be reserved to produce staple foods for the household. Adolescents engaged in work were sometimes provided with food by their employers (for example, on construction sites), and if they had money, they also bought food from '*cafes or hotels'* (restaurants).

'The food that we eat is not bad food. The food comes from the big estates. We are different people, living by different standards. We are in slums while they are living well. They don't live like us, we don't eat balanced diet, we don't eat fruits. There is no need for us to allow food to be thrown away while we are starving. We just have to eat it...'.

18 year old girl, Ngomongo, Nairobi

Adolescents in Nairobi had greater access to roadside and pre-prepared foods, whereas adolescents in Meru reported wider access to a range of vegetables and fruits and nuts, but also to shop-bought snacks, which were perhaps less affordable to the communities residing in informal settlements in Nairobi. Adolescents in Samburu had the most limited range of food options, relying mainly on the staple lochoro and limited protein in the form of beans and animal products. Adolescents in Ngomongo, Nairobi and in Ndoto, Samburu reported going without food in the morning and also, at times, without a mid-day meal. Those herding animals in Samburu were more likely to have a morning and evening meal but had the smallest range of food options during the day.

Food responsibilities

Adolescents played a key role sourcing and preparing food for their household and were often responsible for their own food consumption. In all three fieldsites, the mother or main female caregiver was responsible for sourcing food and preparing meals. The male household head, if still living with the family, was responsible for providing the money to purchase the food, but increasingly, women have assumed a greater role in earning money to contribute to the household budget. If a female family member was present, she was expected to cook. As one girl in Nairobi explained, '*I have a big brother, but if I am around, he cannot cook. If I am not there, then he cooks*'. Similarly, in Meru, the main female caregiver was responsible for preparing food, often with the help of both younger and older adolescent girls who sometimes took the lead in preparing meals if they were not in school, or at the weekend. In Samburu, unmarried adolescent girls were involved in buying foodstuffs, whilst married adolescent girls and mothers prepared food, occasionally helped by younger adolescent boys. It was suggested that the recent drought has made mothers and female caregivers *'busier',* thus placing a greater responsibility on adolescent girls, particularly in relation to caring for their younger siblings, sourcing food and preparing meals. As part of the hustling lifestyle in Ngomongo, Nairobi, adolescents were often left to fend for themselves, and were responsible for finding their own food, particularly during the day.

Food status and aspirations

'You might get chicken feet sold in Kibera, the neck sold in Ngomongo, the head in Kayole. The good bits go to the rest of Nairobi'.

Caregiver, Ngomongo, Nairobi

Adolescents in all three sites emphasised the importance of having energy and of being attracted to food that was filling and '*fuelling'*. For many, however, food consumption was not only about sustenance, but also imbued with social significance linked to status. In Ngomongo and Utalii in Nairobi, this was thrown into sharp relief. Adolescents recognised that whilst they lived in one of Africa's most developed cities, they were themselves entrenched in incredible poverty. Being linked to wealthy Nairobi through geographical proximity and through objects on the dumpsite, adolescents saw and literally tasted '*the other side*'. In discussing their food aspirations, adolescents listed foods they desired including cakes, pizza and other items perceived as *'rich people food',* even if they could only acquire them from the dumpsite, where discarded food is brought from airports, rich estates and hotels. A sense of shame and injustice was strongly intertwined with descriptions of eating other peoples' '*trash'*, and adolescents were aware that they were making an emotional trade-off to source food at the dumpsite, but stressed it was their best option, *'we just have to eat it'*. Adolescent boys admitted feeling shame when they could not source food for different meals, and often ate food from the night before for their morning meal. Conversely, buying a snack or pastry to share with others during break time at school motivated many to participate in income-generating activities. In discussing their food choices, participants in Samburu expressed boredom with their uniform diets and wished for more diversity in their diets. Married girls and *morans* (adolescent boys responsible for the security of the community and taking care of the cattle), confirmed their preference for '*the food that is available and I grew up liking*'. Adolescents in school, however, discussed their aspirations for spaghetti, chapatti and rice, all foreign foods that were novel and different to their normal diets. Similarly, in Meru, adolescents prioritised their desire for foods that were novel, fast, energy-giving, filling and *'fashionable'*, although '*traditional'* knowledge about healthy foods, passed down orally between generations, also held significance for adolescents.

Factors affecting adolescent nutrition

Nine interrelated themes were found to influence adolescents' access to adequate and healthy food: household economic status; income-generating activities; social norms and restrictive food practices; food knowledge; educational attainment; climate; security; sexual and reproductive health; and service delivery issues.

Household economic status

'We just cook what we can afford we don't focus so much on the good groups'.

Caregiver, Mikinduri, Meru

Low household economic status emerged as a significant factor underlying adolescents' nutritional status and food insecurity. In Nairobi, adolescents in both sites agreed, *'we just afford the unhealthy but cheap food'.* The cost of food was identified as a barrier to eating sufficient food, and the option of choosing nutritious food was a luxury most participants could not afford. *Ugali* is a staple component of the daily diet, but in response to the recent and rapid rise in the cost of maize flour across the country, caregivers in Ngomongo concluded, '*we just taste, we don't get satisfied, we just taste'*. The impact of the price of maize was felt in Utalii, but not to the same degree. There, several adolescents suggested that *'worrying'* about food was a concern for their parents, not for them. In Samburu, the drought had a negative impact on livestock, the main source of revenue, and the inability to sell unwell or dying animals had led to lower-than-normal incomes and a lack of money to purchase food. This further restricted the already limited diet. As one *moran* explained, '*due to the current situation there's no market for the few animals left for us to sell, so we don't have money to buy food. There are no other casual labour activities that one can do to get some money, so they have to take blood from the animals*'. Tapping blood was described as an 'art' that required expert knowledge to drain a quantity of blood that would not be detrimental to the cow's health. Blood mixed with milk is a traditional Samburu meal, particularly eaten to supplement the diet during dry seasons, but with the effect of the drought on milk production, adolescents reported that they were sometimes having to consume blood alone. In Meru, low household income was also a barrier to adolescents eating well, and again the rising price of key commodities such as maize flour was keenly felt. The lack of diversified income in Meru contributed to an over-reliance on farm produce, yet space for cash crops was prioritised at the expense of growing food to eat. In Maua, this was particularly striking and local programme implementers estimated that 95% of land was dedicated to the production of *miraa*. Some families reported eating only two rather than three meals a day when food was scarce, and adolescents confirmed that they often had to eat '*cheaper'* food. As one young mother stated, '*meat is a dream*'.

Income-generating activities

Across the sites, both female and male adolescents were engaged in income-generating activities to provide resources for their own and/or their household's food. In Nairobi, particularly in the informal settlement of Ngomongo, piecemeal work and 'hustling' were common. The informal labour activities that adolescent girls were engaged in included washing clothes, collecting plastic and scrap metals to wash and sell, and, for older girls (aged 14 years onwards), prostitution. In both Ngomongo and Utalii, older boys described hustling for work at construction sites, and being paid to carry and transport stones. Experiences of exploitation were common, with boy's wages often based on a middlemen's visual appraisal of their age and strength. In Samburu, income generation also played a major role in determining school attendance. Caregivers were forced to spend long hours in search of work, leaving adolescents, particularly girls, to take care of household activities and younger siblings. There,

'The things people do to get food. This woman is washing plastic bags from the dumpsite. The picture is close to my heart, as I myself do this job. Instead of being idle at home, my mother saw that the work is good, so we began it together. You just use your energy'.

19 year old girl, Ngomongo, Nairobi

adolescents also participated in labour activities, although in Ndoto, employment options were limited for the entire community. In Meru, the main income-generating activities for adolescents were related to cash crop industries, including tea, coffee, bananas and *miraa* production. Local programme implementers confirmed that children began to work in *miraa* production from the age of seven, but their involvement with *miraa* created significant health issues for adolescents. In Maua town, adolescent participants estimated that two to three girls and seven to eight boys in every ten habitually chew *miraa*. They reported that this directly affects food consumption as *miraa* suppresses appetite.

An additional income-generating activity mentioned in all sites was brewing alcohol. Local alcohols included *busaa* (made from maize flour), *changaa* (made from herbs, sugar and honey) and *muratina* (made from honey and herbs). Selling alcohol was a way to generate income to buy food. Drinking alcohol was highlighted as a common strategy to overcome hunger, but the beverages were also seen as food sources in themselves, as people consumed the residue left over from the brewing process.

Social norms and restrictive food practices

A number of social norms and restrictive food practices emerged as factors affecting adolescents and their access to adequate nutrition. In Nairobi, the hustling lifestyle meant that it was convenient to have ready-made food close at hand. Poor household storage facilities prevented food from being prepared ahead of consumption, and this contributed to the preference for street food. Traditionally, in Samburu, the community did not eat fish, eggs, chicken, donkey or pig, although now many people eat chicken and eggs if they have the opportunity. A number of gender-specific eating practices were evident. Pregnant women (including adolescent girls) were restricted as to the quantity and type of food they could eat in order to limit the foetus size and reduce the risk of obstructed labour. For the duration of pregnancy, their diet mainly consisted of milk mixed with water, and their intake was monitored by their husband, mother-in-law and community elders. In Meru, pregnant women were encouraged to consume lots of fluids, such as soup, fruits and yams. Unmarried adolescent mothers suggested that they were sometimes seen as a burden on their households, and as such, those living at home often received only one portion of food to divide between herself and her child. Many reported that they would prioritise their child, and at times forego meals. Concerns were raised that this practice and restrictive diets during pregnancy and the post-partum period may affect the production of breastmilk, and contribute to young mothers not breastfeeding exclusively for six months.

Gender-specific eating practices were also evident for boys. In Samburu, a boy could no longer eat food prepared by his mother following his circumcision. He was prohibited from eating in front of women, and had to eat in the company of at least one other circumcised boy. Similarly, in Meru some circumcised boys ate separately, for, as a community leader in Mikinduri confirmed, '*the boy can no longer enter the mother's kitchen. He starts shying away from his mother, he cannot tell her directly that he is hungry, he can't show her his weakness'*. Across the fieldsites, it was agreed that male members of the household ate first and larger portions of food. Adolescent boys were generally given more than girls because they were perceived to be stronger, and had greater needs associated with protecting the family and doing more physical household chores such as fetching water. Despite their heavy workload, female caregivers and girls were allocated less food at meals and often ate last, although in Utalii, Nairobi, caregivers did suggest that it was more common for girls to snack in-between meals than boys.

Food knowledge

'Food is not consumed for the benefit of the body, it's just to fill the stomach'.

Local government official, Ndoto, Samburu

A commonality across fieldsites was that adolescents generally perceived '*healthy food*' and '*good food*' to a) provide energy; b) '*keep you full'*; and c) be natural. In Nairobi, for example, rice was considered to be unhealthy because it did not '*keep hunger away for long'*. Despite classifying roadside food as unhealthy, it made up a substantial component of the diets of adolescents in Nairobi. Some adolescents emphasised the need for a range of food types and thus appeared familiar with the concept of a varied diet, yet wanting different foods was also associated with taste preferences and status (as discussed above). Adolescent boys in Ngomongo described their age-mates as *'not having knowledge, they only eat to be strong. They don't really know which foods are good and which aren't good'.* Caregivers agreed that money (purchasing power) was more important than knowledge about what to buy. Amongst adolescents in Samburu, there was less recognition of the need for, or importance of, a varied diet. This could reflect the fact that a more limited diet was their norm, although when prompted they were able to list healthy foods, including proteins, fruits, vegetables and carbohydrates. Nonetheless, they suggested that during times of serious drought and elevated food insecurity, perceived nutritional content did not drive consumption. Instead, food was chosen simply to satiate hunger and give energy. Girls were more likely to describe learning about food and food preparation from their mothers and friends, whilst boys (in Meru) also mentioned television and billboard adverts as sources of information. Adolescents who attended school confirmed that they received information on healthy foods from '*books and teachers'*. Food and nutrition is part of the current school curriculum as a unit within the subject 'Science' taught in classes 1 to 8, however stakeholders raised the concern that not all schools taught the curriculum reliably and placed limited value on the subject.

Educational attainment

Across the fieldsites, school attendance was seen as a protective factor against a range of adolescent vulnerabilities that had the potential to impact nutritional status. In Nairobi, staying in school was viewed by participants as protecting girls from pregnancy and boys from the pressure of criminality. The value of education was highlighted for similar reasons in both Meru and Samburu, where it was also seen to discourage early marriage and participation in child labour activities. In all three counties, the rate of dropout between primary and secondary school was very high (MOEST, 2015). Whilst children and adolescents may have been registered at school, attendance was variable and dependent on a household's financial situation and adolescents' competing responsibilities including income-generation activities and seasonal duties, such as harvest.

"Boy with Carcass"

Ndoto, Samburu County

Climate

Climate issues were most keenly felt in Samburu. Adolescents noted that as a direct result of drought, the health of livestock is threatened, animals produce less milk and, due to high rates of livestock death, less meat is available to them. In addition to the impact on the community's health and nutrition status, weak livestock exerts a significant emotional impact on the community. In Samburu, the value, emotional connection and psychological identification of communities with their livestock, partiucarly cattle, was clearly evident (see photograph taken by an adolescent girl during a workshop in Ndoto). Climate was also an issue in Meru. Recent bouts of dry weather had resulted in poor harvests and low-quality yields, and girls documented this as a significant feature of their lives.

'That is a carcass of an animal that has died of drought. There are many around the village. This is a problem because the drought is affecting all of us. Even the children are feeling the loss. We can't get grass or hay during this period, and there are no medicines to treat livestock disease'.

16 year old girl, Ndoto, Samburu

Security

In Samburu, where *morans* act as key protectors of their villages, hunger was linked explicitly to cattle raiding. One local government representative explained, '*if you don't have what you eat, you must fight to get at least some milk, some meat when you are away from home with the animals'*. Insecurity from cattle raiding and highway banditry further affected access to food as it limited market and trade routes, and restricted the provision of external support to the area. Issues of security also had a significant effect on the lives of adolescents in Nairobi, particularly linked to theft and the threat of sexual violence. Elevated risk levels limited the movement of adolescent girls, restricting their access to certain food markets judged to be unsafe. Although the dumpsite in Ngomongo was an important source of food, it was perceived to be a dangerous place that required adolescents to take precautions against gang violence. One adolescent girl referred to the process of sourcing food from the dumpsite as being *'survival of the fittest'.*

Sexual and reproductive health

At the time of data collection, recent droughts had left many families low on livestock and food supplies, and with little money. In times of such insecurity, many decide to marry their daughters at an earlier age to secure their bride price, an important source of income and, given that bride price is usually paid in the form of cattle, a positive way to overcome a dwindling herd. The KDHS reported that 85% of married girls aged 15-19 years in Meru used modern contraception (with 0% unmet need), and 78% in Nairobi (with 6% unmet need), but that in Samburu, only 18% of married girls aged 15-19 years old used modern contraception (with 12% unmet need) (KNBS, 2015). Despite apparent access to contraception in Nairobi, adolescent participants in both Ngomongo and Utalii conveyed a negative attitude and reluctance to use condoms, frequently repeating, '*some people say you can't eat a sweet with its wrapper, you need to remove the wrapper'*. Early sexual debut, early marriage, unprotected sex and sexual violence were linked in all fieldsites to increased risk of pregnancy and HIV, and seen to have nutritional implications. National stakeholders highlighted that pregnant adolescents, adolescent mothers and adolescents with HIV are particularly vulnerable groups at significant risk of malnutrition. Reaching them remains challenging. Their needs are not well addressed or advocated for, and they are in danger of being left behind.

Service delivery issues

Health facilities are an important avenue for nutrition services, particularly during pregnancy and the first 1000 days, yet many adolescent mothers who participated in the study had not attended antenatal care (ANC). 'Youth friendly services' are outlined in policy (in the Reproductive Health Care Bill, 2014) but few appeared to be in place. The county hospital in Meru was the only study site that included youth friendly services, but none of the adolescent participants in Meru were aware of the youth-friendly centre at the hospital, and it was notable that ANC was not provided as part of its services. Adolescents did not regularly interact with health facilities and regarded them as '*places for sick people*', rather than for preventative care. In all three sites, negative community attitudes towards early pregnancy made pregnant adolescents feel ashamed, and girls confirmed that they were likely to '*hide themselves away*' and not present for care. There was a lack of privacy at health centres and girls did not want to raise their profile by attending. Many adolescents recounted negative experiences at the point of care, including difficult interactions with health staff, and in Meru, adolescent girls emphasised that they did not attend ANC because they feared the mandatory HIV test that was part of the service, explaining, '*You prefer not to know your status'*. This suggests that, unfortunately, the inclusion of HIV testing within an integrated service actually created a barrier for the entire service.

School feeding programmes, another important route for nutrition services, also contained multiple challenges. At the time of the study, the Government of Kenya had recently developed the National School Meals and Nutrition Strategy, encouraging all counties to

provide safe, nutritious daily meals to all primary grade students. In both Nairobi fieldsites, local primary schools provided lunchtime meals, supported by a range of NGOs and WFP. School meals were perceived to be a good motivator for keeping children in school, although caregivers in Ngomongo described the food as lacking in variety. Caregivers did not always know how much food was given to their children at school, and caregivers' perceptions of school-provided rations affected how much food they gave children in the household. If children were thought to have eaten a larger lunch at school, for example, they were likely to be given less for an evening meal at home.

In Samburu, schools were perceived to be a major source of food for children and availability of school meals impacted school attendance. There, participants explained that children were more likely to attend school when they saw smoke coming from the school kitchen. Standard portions were served to the pupils regardless of age, however, meaning that a four-year-old girl was allotted the same as an 18-year-old boy. Teachers explained that they sometimes tried to reapportion food, allotting more to the older pupils, although this was not always possible. In Meru, the school visited as part of the study reported receiving only minimal support from the government and did not have a partner organisation, so the provision of school meals relied on contributions from both caregivers and the school. Some children explained that they had to go home for lunch or skipped a midday meal altogether. Stakeholders emphasised that the provision of regular school meals would be a powerful incentive for children to attend school, and suggested that schools should cultivate a kitchen garden to supplement basic meal options with more vegetables. In Mikinduri, Meru, an NGO project had constructed fishponds in school grounds to provide a source of protein to contribute to the pupils' diets. As one girl reported, however, the pond at her school had dried up and could not be sustained through the dry season without using precious piped or well water.

Engaging adolescents

Understanding how to effectively engage adolescents is essential for assessing how nutrition-specific and nutrition-sensitive interventions can be delivered and best related to other components of the 'adolescence equation'. Throughout the study, adolescents highlighted their priorities and needs related to engagement.

'Come to us, fit around our lifestyles'

Adolescents stressed the importance of accessibility and preferred to be 'reached' in places they already frequented and at convenient times. Interventions must be tailored to fit the often-chaotic lifestyle of adolescents and must recognise their competing priorities.

'Use our groups, don't group us'

Adolescents expressed preference for being grouped together, unless interactions were likely to be particularly sensitive, in which case grouping by gender was more appropriate. They also suggested grouping according to life stages: married girls and young mothers should be engaged separately from unmarried girls; and boys, pre-and post-circumcision.

'Make it entertaining'

Great importance was attributed to the need for activities to be primarily entertaining, as well as informative and understandable. The use of music to attract and sustain the attention of adolescents was highlighted. Dance crews, theatre groups and sports activities were also popular.

'Show us real experiences'

Adolescents confirmed that they found 'real life' stories to be the most engaging and affective way of sharing and learning from experiences.

'Speak our language'

The importance of conversing with adolescents in their local language was stressed. Adolescents highlighted the benefit of tailoring language to fit their colloquialisms and make associations with '*what is trending*'. They also stressed the need to be spoken to with respect in order for them to feel comfortable engaging with services and programmatic interventions.

'Ask us, include us'

Adolescents stressed that they wanted to be involved in a participatory manner. They suggested that rather than passive or one-directional methods of conveying information (such as billboards, brochures and posters), they wanted to be included in interpersonal activities. This would give them a chance to ask questions and ensure that their voices were heard and opinions recognised. Adolescents stressed that different and multiple modes of engagement may be needed to interact with adolescents, but that all engagement should be transparent.

'Balance tradition and modern'

Although it was less apparent in Nairobi, adolescents in Meru and Samburu highlighted tensions between their desire for novel, '*foreign'* foods, and traditional foods '*we grew up with*'. Balancing the traditional and modern, not only in terms of food and nutrition but also regarding socio-cultural drivers and lifestyles, is important when engaging adolescents.

'With food, we need energy now…'

The need to show the immediate benefit of food to secure adolescents' interest was highlighted across the fieldsites. Adolescents reported that having energy was their priority to ensure they could complete their daily workload.

'Build us for the future'

Adolescents wanted engagement activities to '*assist us to foresee our future'* through building skills and interests. They were most receptive to learning when it built on activities they enjoyed and were good at. Participants emphasised the importance of engaging adolescents holistically, providing health and nutritional information alongside sexual and reproductive health services, education and vocational training.

Recommendations

Strengthening the visibility of adolescents

- Kenya has a valuable window of opportunity to further develop its enabling environment for adolescent nutrition. To strengthen the evidence base, there is a need to disaggregate available data for adolescents and to systematise routine collection of adolescent-specific data. To complement and supplement routine quantitative data, high quality qualitative data should be collected to better understand the lived realities of adolescents, and the complex root or underlying causes for their nutrition practices and food-related behaviours. At national and sub-national levels, competencies must be developed to analyse, interpret and apply both qualitative and quantitative data.
- The definition of adolescence at the national level is not consistent with definitions used at the community level. This results in some adolescents self-identifying in ways that prevent them from seeking youth-orientated services. Interventions must be sensitive to variables including age, gender, socio-economic status, life experiences / stages, livelihoods and ethnicity. Effective engagement should target groups as defined and understood at the community level.
- The tendency at both policy and programmatic levels to group adolescents with 'children', 'youth' or 'women of reproductive age' reduces the visibility of adolescents, hampers the identification of adolescent-specific problems, and limits the development of appropriate strategies and programme design to meet their specific needs. Although it may not be possible to agree on definitions and terminology across all sectors, it is important that measures be taken to prevent adolescents' needs from becoming diluted, or insufficiently addressed. This will require focused advocacy with national stakeholders and partners to ensure their commitment to this age-group, regardless of the terminology used.
- 'Adolescents' must not be interpreted as a homogenous or standard group. Within this age group, different life-stages occur and should be accounted for. Similarly, adolescents are subject to a range of socio-economic and contextual factors that shape their lived realities. These sub-groups are not mutually exclusive, rather an adolescent can belong to or self-identify with multiple groups concurrently and over time. Assuming a user-centred design approach, interventions should therefore be developed in an age-, gender- and context-specific or -sensitive manner.
- Promising policy developments include the Food Security and Nutrition Policy (2011) and the Neonatal, Child and Adolescent Health Policy (2017), both of which highlight specific interventions for improving adolescent nutrition, and the National School Health Policy (2017), in which nutrition is one of eight key pillars. The challenge is to support these policies to be well implemented, and to advocate for the inclusion of adolescent nutrition in related policies that are being renewed, such as the National Youth Policy and the Nutrition Action Plan.

Influencing adolescent nutrition

- When taking adolescents as the central unit of analysis, it becomes clear that this group is uniquely affected in Kenya. Programmes targeting adolescents must take account of the nutritional challenges faced in different contextual settings, and the impact these have on their overall growth, development and well-being.
- Increasing communication and information about nutrition alone will not improve the diet or healthy behaviour of adolescents. Rather, interventions should adopt a systems-based approach that can address the nutritional needs of adolescents in the context of and in

combination with other key components of their lives. Communication and information should be combined with improved access to healthy food and other services.

- Reducing poverty by increasing safe income-generation opportunities (and raising household economic status) is key, but such opportunities should be designed around keeping adolescents in school, e.g. scheduling activities for afternoons and weekends. For adolescents who are older or do not attend school, vocational training that develops business skills and provides resources such as start-up equipment, is an important avenue of constructive engagement.
- In addressing agricultural practices for adolescents and their households, an agri-nutrition lens should be adopted. Knowledge, skills and resources should be developed for effective and efficient irrigation systems and post-harvest storage, and consideration given to issues of land access. New and emerging urban-agricultural methodologies (e.g. sack-gardens) may be particularly relevant and appealing for adolescents residing in urban and peri-urban localities.!
- Addressing adolescent nutrition requires a systems-based approach that considers restrictive social norms, sexual and reproductive health issues including early marriage and teenage pregnancy, and access to education. These are critical components related to improving nutritional status and wellbeing.

Engaging with adolescents

- As target beneficiaries, adolescents should be engaged as active participants in the design, implementation and monitoring of interventions. Programmes should be sensitive to the needs, preferences and priorities of adolescents. During the research, they clearly articulated suggestions that should be operationalised including ease of access; the strategic use of language; and showcasing real experiences. They emphasised the importance of privacy, trust and transparency in all engagements. They wanted interventions to develop their skills for the future, but to be dynamic and entertaining, using music, dance and sport.
- Several key influencers in the lives of adolescents were identified including caregivers and parents, particularly mothers (for younger adolescents); husbands and mothers-in-law (for married female adolescents); peers (for older adolescents); teachers (for those in-school); community leaders (for adolescent girls and boys of different ages); and religious leaders (less relevant in Ndoto and Samburu). Securing their buy-in and support is vital in both generating demand and facilitating the timely utilisation of programmes and services. Mentors and ambassadors who were the face of campaigns targeting adolescents were also identified as powerful advocates, but who is best placed to act in this regard and specifically in relation to adolescent nutrition, requires careful consideration and further research.
- Adolescents took a high level of responsibility for their own food choices, and often for food preparation for their household. Adolescents can therefore be agents of change for family members and their broader communities. In addition to receiving information about nutrition and nutrition-related services for their own wellbeing, adolescents should be considered primary targets for cascading knowledge and improving the nutrition of other vulnerable groups (e.g. children under five, pregnant women).
- There is need to support trusted adolescents to assume positions of leadership to represent the voice(s) of their peer group(s), to ensure appropriate user-centred design, and to provide monitoring and evaluation feedback to ensure programmes are appropriate, relevant and effective.

Platforms for engagement

- Considering the dynamic needs of adolescents, there is no ‘one size fits all’ delivery channel. Interventions should respond to the complex realities of an adolescent’s life and rather than being an additional burden, should be mindful of the conflicting responsibilities

they may have. Adolescents should be engaged through multiple avenues or platforms that are mutually supportive.

- The formative research and stakeholder mapping documented existing programmes that engaged adolescents and implemented activities related to nutrition; sexual reproductive health; HIV prevention, treatment and management; livelihoods; agriculture; education; social protection; and participation, governance and leadership. There was a particular bias towards girls and sexual reproductive health and HIV programming. Overall, however, programmes were not implemented at scale and coverage was limited.
- Various platforms engaged adolescents at the community level. Adolescents discussed their preference for being engaged at informal community spaces, through clubs and groups with peers and with a strong support/mentoring component. For those in formal education, school was identified as a positive and trusted platform for engagement, although it was noted to be a selective channel given that not all adolescents (particularly older adolescents and girls) attended. There is scope to actively engage adolescents though religious institutions, although only in communities where religious practices are valued and are routine. Valuable lessons should be learnt from the Ministry of Health and Nutrition International pilot programme for weekly iron and folic acid supplementation (WIFS) and adolescent nutrition education to inform further engagement with religious institutions, particularly in terms of how 'youth friendly' they are.
- Technology platforms are a promising way to engage adolescents, yet the research provided further evidence that the penetration and use of technology is highly context-specific, and differs according to social groups, age and gender. Mobile technology was a popular means of communication, although adolescents in Samburu had markedly lower access to and usage of all technology platforms. Older adolescents appeared to have slightly more access to technology than younger adolescents, and the internet was most frequently used, unsupervised, by older adolescents in Nairobi and Meru, mainly for social media (particularly Facebook and WhatsApp) and for Google searches. Television was generally more popular than radio, although access to television was lower. Positive engagement through mass media channels was highlighted, such as the '*Youth Café'* show on KTN News (television); KELIN talk shows on sexual reproductive health (radio), and *Shujaaz* (comic book and radio show). It is important to negotiate the use of new technologies with parents, caregivers and other 'gate-keepers', particularly if girls and younger adolescents are the target group for social media-based interventions.

Entry points for strategic partnerships

- Actors already engaging adolescents in other sectors should be encouraged to collaborate with the Nutrition and Dietetics Unit and the Neonatal, Child and Adolescent Health Unit of the Ministry of Health. This will help mainstream nutrition-sensitive and nutrition-specific activities.
- Commitment to channels that can reach the most marginalised and vulnerable adolescents is needed. Adolescent programming must be creative and use approaches that target particular groups of adolescents (e.g. out-of-school adolescents and mature minors) in ways they prefer and are receptive to. Investment in these channels should be prioritised in mainstreaming nutrition-sensitive and nutrition-specific activities.
- Services aimed at women of reproductive age should purposefully try to reach all adolescents, and services aimed at pregnant women should ensure that pregnant adolescents are effectively included. The national move towards all health facilities adopting a 'youth friendly approach' is a realistic goal that should be supported as it is likely to have greater and more sustainable impact as opposed to creating sporadic and separate 'youth friendly services'. A youth friendly approach should engage adolescents in ways and through channels that adolescents have suggested and prioritised. Services must be presented in a way that helps adolescents see them as directly relevant and inclusive, particularly in terms of preventative as well as treatment-orientated services. Engaging adolescents when they are younger (e.g. 10-14 years) is important. Normalising health facility visits for this age group can reduce stigma related to attendance and would

- help move away from the negative association between health facility attendance and sexual reproductive health issues.
- There is an urgent need to overcome bottlenecks in school feeding programmes and to improve the efficiency of school feeding, particularly in drought-affected zones. Portion sizes and micronutrient content should be adjusted to cater to the greater nutrient needs of adolescents as compared to younger children. School 'demonstration gardens' could supplement school meal provision with fresh products. Family contributions (e.g. in terms of foodstuffs, firewood or in-kind contributions) are also vital in some areas. Structural weaknesses inherent in the school system, including limited storage facilities for food products and poor access to water and sanitation need to be simultaneously addressed. Expanding school feeding programmes to include adolescents may be a positive driver to encourage adolescents to maintain school attendance and benefit from the protective capacity of the education system for longer, delaying early pregnancy and marriage, with the resulting positive impact on nutrition.
- Including nutrition as a mandatory subject in the curriculum at both primary and secondary levels is an important component of educating adolescents about food and healthy eating. Teaching should include interactive and participatory learning experiences (e.g. through demonstration gardens). The ongoing inclusion of 'Food and Nutrition' as a key pillar in the School Health Policy, and the review of the life skills curriculum provides a valuable opportunity to further develop a holistic approach to school-based nutrition education.
- The food industry should be positively engaged to ensure low-cost and healthy food is produced and sold, and to influence market trends towards the recognition and consumption of food that is healthy and has a high nutrient value. The Scaling Up Nutrition (SUN) business network could be strengthened to serve as an effective entry point to develop strategic partnerships with the private sector.

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Summary of key policy and programme implications

Theme	Key considerations
Available food and food sources	• Make diverse, healthy, natural and affordable foods available and attractive to adolescents and their families, particularly in times of scarcity. Promoting healthier foods in small shops and food carts would increase their availability to adolescents who should be encouraged to choose healthier food over other options. • Curb the promotion and availability of unhealthy foods to adolescents and their families. • Improve food safety in urban settlements, particularly in relation to marketers, food vendors and small businesses selling pre-prepared foods.
Food responsibilities	• Because adolescents have high levels of responsibility for their own and their families' nutrition, particularly that of their younger siblings, it is important to target messaging aimed at benefitting other vulnerable groups (e.g. children under five years old) towards adolescents. • Household decision-makers and 'financial controllers' should be engaged so they allow and actively encourage healthier food options to be priority purchases.
Food status and aspirations	• The promotion of healthy foods should focus on components adolescents value in terms of choice and consumption, primarily that they are energy-giving, filling and tasty. Incentivising adolescents to chose healthy food and adopt healthy food practices should be linked to positive identity markers and social status. • Snacks and 'on the go' food are particularly appealing to this age-group, and so cheap, safe and healthy ready-made food should be made widely available. • Although many adolescents were attracted to food they considered 'novel', there are avenues for promoting both traditional and modern 'fashionable' foods that align with adolescent aspirations.
Household economic status	• Adolescents and their caregivers must be better informed about the most cost-effective healthy foods available to them. • Poverty is widespread, particularly in the ASAL region, and exacerbated by climate change induced vulnerabilities. Policies invoking the activation of social safety nets and food assistance should be strongly linked to drought, and should purposively consider adolescent issues and constraints. • Healthy food is often more expensive, or at least is perceived to be, so it may be may useful to explore reducing costs associated with healthy '*natural'* products whilst simultaneously decreasing access to non-nutritious, unhealthy foods.
Income-generating activities	• Income-generating activities are often prioritised over school attendance, and adolescents and their families need strong incentivisation for this age group to continue formal education. • Many of the income-generating activities adolescents engage in require a high level of energy expenditure and are exploitative. Safe income-generation opportunities should be made available but designed around keeping adolescents in school, e.g. scheduled for afternoons and weekends. • For older/out-of-school adolescents, vocational training that develops business skills and provides resources for start-up equipment is a key avenue for constructive engagement.
Social norms and restrictive food practices	• Ingrained gender norms related to food allocation within the household prevent girls' healthy nutrition. Raising awareness about the importance of an adolescent girl's nutrition should focus on her strength and role in the (household) economy (in terms of immediate value) and on the importance of her health for the next generation (future value). • Engaging with key male and adult influencers is critical. • Raising awareness around good nutrition during pregnancy also needs to be discussed in these forums. In parallel, initiatives should improve antenatal care, delivery practices and postnatal care to assuage fears around having large babies (and therefore restricting diet during

		pregnancy). Delivery with skilled attendance should be actively promoted. • Cheap, safe and healthy snack foods should be made available for pregnant adolescents, and consideration given to snacks in terms of their value as food and micronutrient supplements. • *Morans* in Samburu are not able to access food-based services if women are present. This should be accounted for in programming to ensure they receive appropriate provision.
	Food knowledge	• Knowledge of healthy food does not directly translate to healthy food practices, so investment should be made to ensure adolescents assume healthy diets and consumption patterns. This is linked to making healthy food not only available and accessible, but also aspirational and attractive. • Interventions that focus on food and meal preparation may be helpful, particularly in areas where nutritious foods are not normally consumed and in urban settlements where there is a reliance on pre-prepared food.
	Educational attainment	• The value of adolescent education should be promoted through community-based role models and linked to attractive incentive structures for adolescents and their wider family unit. To help facilitate school attendance, it is important to explore ways to reduce income-generation activities of both boys and girls, and the housework / household responsibilities of girls.
	Climate	• Recognising the ramifications of climate stress on adolescent health and nutrition and how it affects their education and future employment is critical. Humanitarian assistance linked to drought and food insecurities should purposively consider adolescent issues and constraints and the role of adolescents in household and societal structures.
	Security	• Whilst it is important to invest in longer-term solutions to security issues, in the short- to medium-term girls in unsafe urban centres must be reached where they are and not left behind due to their constrained environment. • Links between social norms for herders, cattle-raiding activities, nutrition and community food security merits further investigation.
	Sexual and reproductive health	• Reducing adolescent pregnancy and HIV is key in ensuring the healthy development of adolescent girls, and is linked with poverty reduction and education promotion efforts that have been proven to have a positive impact on adolescent nutrition and broader well-being.
	Service delivery issues	• Health facility services should actively try to reach adolescents and sustain engagement. Services should be carefully designed to ensure this age group perceives them to be relevant. Normalising health facility visits for preventative care is important and should aim to shift association away from sexual reproductive health issues. In parallel, the provision of quality care for adolescents must be further strengthened and an appreciation for preventative services developed. • Outreach visits to the community can be beneficial in overcoming stigma associated with facility attendance and to 'build bridges' between facilities, services and adolescents. • The quality and delivery of school meals need to be improved, including consistency in availability, nutritional value and portion size. • Expanding school meal programmes to include adolescents at secondary-school level may be a positive driver to keep this target group in school, although for this to be effective, the perceived value of adolescent education must be built at the community level. • Structural weaknesses in the school system (storage, WASH, workload of teachers etc) need to be overcome if schools are to be an effective delivery platform. Despite the potential value of school as a platform for sustained engagement, it must be recognised that schools do not reach all adolescents or the most vulnerable, and interventions must therefore be combined with engagement channels that can reach out-of-school adolescents, including mature minors.

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