



Formative research to inform adolescent programming in Cambodia

Engagement for health, nutrition and sustainable development

Summary report – February 2018

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This is the 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 Cambodia, a spreadsheet detailing the stakeholder mapping, and a synthesis report that summaries core learning across the four countries included in the research (Cambodia, Guatemala, Kenya and 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 their 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 Cambodia, 43% of the population is aged 19 years or younger and half of those are aged between 10 and 19 years (CDHS, 2014). There are limited data on the nutritional status of Cambodian adolescents, yet the prevalence of malnutrition is known to be high in other vulnerable groups and is a leading underlying cause of maternal and child mortality. Based on the nutritional situation of these other groups, the nutritional status of adolescents, and particularly adolescent girls, is likely of great concern. In Cambodia, 32% of children under five years are stunted, with gender disparities evident in rates of malnutrition (CDHS, 2014; Greffeuille et al., 2016). Amongst women of reproductive age (15-49 years), 14% are underweight and 44% are anaemic (Chaparro et al., 2014; CDHS, 2014). Amongst girls aged 15-19 years, however, 27.5% are underweight and 49.4% are anaemic (CDHS, 2014). There has also been a significant increase in the prevalence of overweight women in Cambodia (CDHS, 2014). In 2014, the rural plateau and mountainous region of Northeastern Cambodia (including Ratanak Kiri and Mondul Kiri Provinces) reported the highest rate of childbearing among girls aged 15-19 years in the country at 33.8%. In contrast, urban Phnom Penh had the lowest rate (5.9%) of childbearing in the 15-19 year age group, and in Prey Veng, the rate was 10.9% (CDHS, 2014).

There is no policy or strategy to address ‘adolescent’ health in Cambodia, however, the government has demonstrated interest in improving the health and nutrition of women, children and youth. Several policies, strategies and action plans that are relevant to the health and nutritional status of adolescents are in place, including the National Strategic Health Plan (NSHP), the National Nutrition Strategy (NNS), the National Policy on Youth Development (NPYD), the National Strategy for Food Security and Nutrition (NSFSN), the National Population Policy (NPP), and the National Action Plan for the Zero Hunger Challenge in Cambodia (NAP/ZHC).

Research objectives

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

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

Methodology

The mixed-methods, collaborative study was conducted between October 2016 and December 2017. A country landscape analysis of adolescent programming recorded 18 stakeholders working with the 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 adolescent girls and their communities. Data was collected in three provinces: Ratanak Kiri, Prey Veng and Phnom Penh. In Ratanak Kiri, data was collected in Ta Veng and Andoung Meas districts (rural, multiple ethnic minorities); in Pre Veng, in Kampong Trabek district (rural, Khmer); and in Phnom Penh, in Chbar Ampoy and Chroy Changva districts (urban, Khmer). A total of 280 participants were included in the study, and 130 data collection activities were undertaken, including focus group discussions, key informant interviews, technology surveys and participatory workshops with adolescent girls using a range of creative methodologies to document their voices (photowalks, graffiti walls, drawings). Although workshop activities focused on adolescent girls, interviews, discussions and surveys included topics of relevance to both male and female adolescents. Informed consent and assent was given prior to participation, and the study was granted ethical clearance by the Ministry of Health, National Ethics Committee for Health Research of Cambodia. The full analysis of qualitative data used thematic analysis developed specifically for analysing data generated through applied research. Evidence-based recommendations were designed to improve the design of nutrition-specific and nutrition-sensitive interventions for adolescents, and highlight opportunities for adolescent engagement regarding nutrition in Cambodia.



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 Cambodia, there is not one standardised 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.

Age is rarely used to indicate different life stages at the community level, and markers of adulthood can be observed in individuals considerably younger than 18 years old, the legal age of majority in Cambodia. Adolescents across research sites referenced puberty, marriage, parenthood, independence, labour and responsibilities as markers of growing up.

In Ratanak Kiri, 'adolescence' was described as a foreign concept, and there was no word for 'adolescence' or 'adolescents' in local languages. In general, a 'child' was described as an individual who was single and dependent on his or her family for survival, and an 'adult' was an individual who was married and taking care of his or her own family. Linguistically, there was a clear distinction between what it meant to be a 'physically 'fully-grown' adult and what it meant to be a 'mature' adult. Adolescent girls who were married and/or had started a family could be 'mature' without being 'fully-grown'. There was disagreement amongst community members as to whether puberty could be classified as a separate stage between childhood and adulthood; in general, puberty was primarily seen as a biological marker that indicated when transition from childhood to adulthood could occur.

Girls who participated in the workshops in Ratanak Kiri did not describe themselves on the basis of puberty, but rather on the basis of how well they were able to care for family members, both younger children and adults. In so doing, they clearly demarcated a space for themselves between childhood and adulthood. Girls frequently described themselves as being 'closer' to adults than to children due to their ability to 'think' like adults; forego 'playing' for household duties including cleaning, cooking, or farm work; take care of younger children in ways that an adult would; and to be respectful of their elders.

Unlike participants in Ratanak Kiri, those in Phnom Penh and Prey Veng articulated concepts of adolescence associated with 'youth' and being a 'teenager'. Mothers in both Phnom Penh and Prey Veng frequently referenced biological changes associated with puberty (e.g. menstruation) as a marker of adolescence in girls. They also cited 'adolescence' as a time for

increased mental ability, responsibility, and, in the case of girls rather than boys, increased 'thoughtfulness' and empathy towards their mothers. A key difference between mothers in Ratanak Kiri and those engaged in Phnom Penh and Prey Veng was

'This is me, in the middle. I am thinking. I have my younger brother on one side, and my mother on the other'.

12 year old girl, Ratanak Kiri



the latter's belief that their daughters were 'becoming women' at a younger age than they had, due to the earlier onset of puberty amongst girls today. Mothers in both Phnom Penh and Prey Veng suggested that earlier puberty was due, at least in part, to the improved nutritional status of their daughters, particularly in comparison to the poor diets of the mothers during the Khmer Rouge regime when many had experienced delayed menstruation.

Although most younger adolescent girls in Ratanak Kiri described themselves as being 'closer' to adults, the majority in Phnom Penh, identified themselves as children, or as being firmly located between childhood and adulthood. Whilst girls' definitions of what adolescence meant in terms of increased household assistance were similar in Phnom Penh and Ratanak Kiri (see drawing above), girls in Phnom Penh also described their additional responsibility to study and go to school. Older girls described themselves as possessing a greater mental capacity than children and younger adolescents (due to having completed higher grades at school), but saw themselves as distinct from adults because they were still in school and as such were expected to focus on their education rather than thinking about marriage and children. For the younger girls in Phnom Penh who still saw themselves as 'children', one of the driving factors behind this classification was the belief that older girls knew more about and were more concerned with 'beautifying' themselves by dressing nicely, styling their hair and applying makeup (see drawing below). Older girls in Phnom Penh asserted their ability to prepare more complicated food, and 'take charge of the household' in the absence of their mothers. Assuming control of household affairs involved shopping or sourcing/harvesting ingredients, preparing meals, cleaning and organising the house, and taking care of siblings.

'I think when we are older [than a child] we don't play around as much. We will be helping our mothers with housework and some light or heavy tasks like growing cassava with our parents'.

12 year old girl, Ratanak Kiri

In Prey Veng, girls distinguished themselves from children (who 'do not know how to cook') by their claimed ability to cook rice and prepare other dishes requiring multiple ingredients. Unlike girls in Phnom Penh, they did not acknowledge going to school as one of the responsibilities associated with their age. Younger girls defined themselves in contrast to adults who had to earn money 'in the factories', whilst older girls who did not see themselves as adults nonetheless described themselves as having many of the responsibilities of adults, including the ability to earn money by making rice wine and working in garment factories. Workshop participants were engaged in both of these occupations.

It is worth noting that the conceptual juxtaposition of markers of adolescence could impede effective and efficient programme implementation. Some adolescents excluded themselves from services aimed at their age group as they self-identified as adults (given that they were already married, had a child or were engaged in the labour market), despite being 10-19 years old.

'I am bigger than a child, but not yet an adult'.

11 year old girl, Prey Veng



Food and nutrition

Rice and side dishes

'There is not a dish in Cambodia that does not start with rice'.

Community leader, Prey Veng

Rice is the most important agricultural commodity in Cambodia and the staple of the national diet. The concept of a meal is synonymous with eating rice, and rice is consumed at every meal prepared in the

household. It was notable that when asked to list their daily food intake, participants frequently failed to mention rice due to their perception of it as a constant and guaranteed staple. Preparation of rice is the responsibility of women and girls, and adolescent girls across all research sites knew how to cook it. Often, more rice is prepared than could be consumed. Typically, it is cooked and stored in a large pot and every family member, young or old, male or female, is allowed to take as much as they care to eat.

In Cambodia, a nutritious meal is seen to be a meal with 'balanced' flavors that in addition to rice involves both wet (e.g. soup) and dry (e.g. fried or grilled meat) food categories. Participants described preparing multiple dishes referred to as 'side dishes' (including fish and vegetables) to accompany the rice. The more side dishes consumed during a meal, the more 'well-off' or food secure a family is perceived to be. In Phnom Penh, community members often reported having one side dish for breakfast, and two side dishes at lunch and the evening meal. In Prey Veng, they reported having one side dish for lunch, and one for the evening meal, whilst in Ratanak Kiri, they were more likely to report having one side dish per day, usually at lunch as this was seen to be the primary meal. During the dry season in Ratanak Kiri, it was more common for rice to be the only food stuff consumed at one or more meals each day, often with the addition of chili and/or salt for seasoning. As one caregiver in Prey Veng concluded, *'everyone has rice. For the side dish, it is not guaranteed'*.

The Fill the Nutrient Gap analysis (WFP, 2017) concluded that given the level of rice consumption per capita in Cambodia it is difficult for many women and girls to meet their nutrient needs, as their rice consumption is associated with insufficient consumption of other foods that are important sources of micronutrients. This level of rice consumption could potentially contribute to a further rise in overweight and obesity in the future, particularly as consumption of foods high in sugar and fat increase, and people adopt more sedentary lifestyles.

Food sources

Cambodian women and girls play a central role in ensuring household food security. In all research sites, women were responsible for harvesting, purchasing and preparing most of the food required by their families, although access to nutritional food sources differed substantially between rural and urban populations.

Sourcing food that was more diverse than 'just rice' had economic and time implications, and varied by province. The typical diet was more limited in Ratanak Kiri than the other two provinces. Caregivers in Ratanak Kiri suggested that they 'almost always' had sufficient rice (and rice wine) for family consumption because of their household rice fields, but the availability of all other food stuffs was highly dependent on the time of year and the family's current financial situation (e.g. whether or not they could afford to purchase vegetables to supplement their homegrown produce). Food in Ratanak Kiri was primarily sourced from subsistence agriculture although some items were also foraged from forests. River fish was considered the most significant source of protein, and the consumption of meat (buffalo, beef, pork) was almost entirely dependent upon the 'spiritual distribution' of food following an animal



'This is Ampil village. There is a cow next to the fish farm and you can see my family's garden'.

14 year old girl, Prey Veng

sacrifice. Community members suggested that for those who did not hold 'strong beliefs' it was permissible to slaughter a smaller animal, such as a chicken, for household consumption or to sell at market, although this happened infrequently. It was noted that people with 'very strong beliefs' *'wouldn't dare kill the animals'*.

In Prey Veng, many communities had established fishponds or larger fish farms with assistance from local NGOs to provide families with a source of fresh fish throughout the year. Participants commented, however, that the construction of dams in Vietnam had

restricted water flow and fish migration to the Mekong River, resulting in depleted local fish stocks. Community leaders concluded that the consumption of fish had reduced in recent years because the catch was often insufficient to feed a family. Fruits, vegetables and occasionally meat, were commonly sourced from mobile food vendors or local markets.

In Phnom Penh, foodstuffs other than fruits and herbs grown at home were typically purchased from mobile sellers, particularly during the dry season (e.g. dried fish, fresh fish, tomatoes, onions etc.). Although markets in Phnom Penh were comparatively accessible to women and girls (due to their proximity and the availability of transport), women preferred to buy their food from a selection of 'trusted' mobile sellers. This was seen to be more convenient and required fewer resources (in terms of time expenditure and out-of-pocket costs) than going to market. Participants in both Phnom Penh and Prey Veng also emphasised that they did not purchase vegetables from larger markets as they could not be trusted and were 'full of chemicals'. This idea was echoed by adolescent girls who had been taught by their mothers and grandmothers to avoid such food sources (although it is likely that many mobile vendors sourced the food they sell from these markets). Caregivers also associated 'bad' or 'unhealthy' food with markets where imported foods (e.g. from Vietnam) were sold. Although caregivers found it difficult to explain why they did not trust 'foreign' food, the general assumption was that if people in the food's country of origin did not want to eat it, but instead had vendors transport their products to sell in Cambodia, then it must be 'bad' food.

Food preparation and consumption

In Ratanak Kiri, the multiple and time-consuming responsibilities associated with food production were seen to dominate the daily routine of women and girls. They often listed 'cooking rice' as one of their more difficult daily chores, due in part to the large quantities of rice that had to be prepared for each family meal, and the physical requirements of collecting water and firewood to cook it. Cooking was often described by adolescent school girls in Ratanak Kiri as a solitary experience, as many had to prepare a meal for themselves after school whilst their families were working on the farms. In contrast, adolescent girls in Phnom Penh and Prey Veng articulated more positive experiences of cooking. They had a wider selection of recipes in their repertoires and were more knowledgeable about selecting and using multiple ingredients, due to increased access to and affordability of a wider selection of foods. Being able to produce a range of flavorful side dishes was viewed as a sign of girls' increased maturity and growing ability to help their mothers and grandmothers with dinner preparations.

Participants across all fieldsites were emphatic that apportioning or rationing food within the household was not practised. As one community leader stressed *'everyone can eat until they are full. Everyone is free to eat as much as they want...We are not Khmer Rouge'*. In their workshops, many adolescents confirmed that food was always available and equitably distributed, and as one 15 year old participant in Prey Veng concluded, *'I have never had*

nothing to eat. I eat until I'm full'. Because side dishes were less plentiful than rice, however, whether a family ate together or separately impacted who had access to the sour soups or 'dry' meats served alongside rice. In Phnom Penh and Prey Veng where it was more common for girls to help their mothers or grandmothers prepare the meal and where the evening meal was eaten together as a family, girls had equal access to the side dishes they helped prepare. Girls in Ratanak Kiri who had to prepare their own meals or had food left for them might not have the same access to side dishes as other family members. In Ratanak Kiri, it was common for family members to serve themselves from a communal food dish at different times in the evening depending on when they finished their day's labour.

In Phnom Penh and Prey Veng, children and adolescents with 'pocket money' were likely to have access to multiple food sources beyond what was prepared at home. Those attending school could choose from numerous food vendors who set up their food stations and snack shops outside the gates of primary and secondary schools. Girls in Phnom Penh also had access to 'mobile restaurants', vendors with small portable grills attached to their motorbikes on which they produced a variety of foods from waffles to grilled meat. They also frequented shops that sold shrimp and rice crackers, sodas and energy drinks, bags of chips, and assorted meat products that were designed to appeal specifically to children and adolescents (e.g. brightly colored meatballs dyed pink, blue and green).



Factors affecting adolescent nutrition

Three interrelated themes were found to influence adolescents' access to adequate and healthy food: land cultivation; education and employment; and sexual and reproductive health.

Land and agriculture

In Ratanak Kiri, the land available for family farm activities has been reduced due to logging, plantation monocultures (e.g. palm oil) and government appropriations for conservation (e.g. Virachey National Park). This has resulted in changes to the traditional shifting cultivation practices, shorter rotational periods for crops and depleted soil nutrients. Weeding family farmland remained the responsibility of women and girls, and participants confirmed that despite their intensive labour, crop yields were less and the varieties of food grown more limited than in the past. Reduced forest cover and upriver dam projects were also associated with reduced access to animal and fish resources from foraging activities. In Prey Veng, mechanisation for crop harvests, including rice, had reduced 'heavy' agricultural workloads particularly for women and older girls. Instead, animal husbandry consumed a large proportion of their daily routine. It contributed to the economic stability of households and provided more income to purchase food.

Education and employment

Historically, the national education system has been severely under-resourced. The Ministry of Education, Youth and Sports has taken steps to improve the situation, although more remains to be done. Most Cambodian schools operate two half-day schedules, with one set of students attending classes in the mornings, and another set attending classes in the afternoon, from Monday to Saturday. Education in Cambodia is free from Grades 1-9, although students need to mobilise substantial resources, both financial and logistical, to cover out-of-pocket expenses associated with buying school uniforms, shoes, books, pencils and papers, travelling to and from school (either by bicycle or public transport), and funding extra tuition to supplement the normal class schedule and help them prepare for exams. For many households, these costs are burdensome. In the participant workshops, girls frequently discussed having to drop out of school due to their family's lack of resources. Many highlighted the pressure they felt to leave school to seek employment to help support their family financially.

Families with limited resources often had to choose which child to send school and it was reported that they were more likely to support a son's education. There was a perception that boys with an advanced education were more likely to secure higher-paying jobs. Sons were expected to follow their own pursuits, whilst girls were more commonly regarded as being 'tied' to their household. In Phnom Penh, families living in poverty or with significant debt, knew that their daughters were likely to find low-skilled work in one of the many garment factories, and it was acknowledged by community leaders and caregivers in the capital that parents frequently pressured their daughters to leave school to help generate income.

Participants in Prey Veng confirmed that girls from poorer families would typically leave school around Grade 7 or 8 (usually 12-15 years old) to work in factories in Phnom Penh or other provinces. NGO staff, community leaders and caregivers suggested that whilst this meant they contributed to their family's economic resources, a motivating factor was avoidance of the

increasing financial commitment for schooling, with every successive grade costing more because of the need to pay for more 'extra' classes. Many girls also reported that a key driver of leaving school was peer conformity and their desire to follow their friends who had already migrated for factory work. In discussing why boys in their community left school, respondents in Prey Veng frequently attributed it to gambling or drug abuse rather than to an impetus to find paid employment.

Cambodian labour law states that the minimum age for wage employment of children is 15 years old. Children aged 12 to 14 years may legally engage in 'permissible' work that lasts less than 12 hours per week, whilst 15 to 17 year olds are entitled to engage in economic work for up to 48 hours a week. Those aged 18 and older may engage in 'full-time' employment (48 hours or more per week) (ILO 2013). The ILO reported that in 2012, there were approximately 13,000 'economically active' children aged 5-17 in Phnom Penh, and up to 23,000 in Prey Veng (ILO 2013). Disaggregating this data by sex, the ratio of male to female 'child' workers in Prey Veng is roughly one-to-one, whereas in Phnom Penh there are two girls to every boy, most likely due to the large numbers of women who are employed by the garment industry. This has implications for the nutritional status of girls and women, as factory work typically involves long hours and reduced daily access to nutritious food sources. 'Mass faintings' of garment workers have been reported in Cambodian factories over the last decade. These events have been attributed to a confluence of factors including malnutrition, heat exhaustion, long work hours and psychosomatic disorders (GIZ Cambodia, 2016; Eisenbruch, 2017).

In Ratanak Kiri, most 10 to 14 year old girls in the workshops were positive about school and cited wanting to learn to read as a motivating factor for attendance. Despite this, their need to help their families on the farm surpassed their desire for further education. Some girls described school as providing a 'welcome break' from their heavy chores, yet school attendance frequently led to a sense of guilt that they were taking scarce resources away from the household, most importantly their own labour on the farm. Girls explained that because they were expected to marry, have children and work on the farm as their own mothers and grandmothers had done, pursuing an education could feel like an indulgent and selfish pursuit. For girls from ethnic communities in Ratanak Kiri, where communal life and rituals bind one family to another, pursuing a personal educational goal could be an isolating experience. They received limited help with their homework from illiterate family members, and were reluctant to come home from school to an empty house when their family and neighbours were working at the farm. In this situation, girls described having to take care of themselves, including preparing their own food, with little or no adult supervision. Even if they had been left food, they still had to eat alone (as discussed above) and for many, this emphasised their isolation.

'The farms are usually far, so when the children stay at home alone after school, they have no food to eat. Their mothers are not at home, so they have nothing to eat. They can survive like this by their own means for a while, but when this keeps happening every day, they start to follow their parents [to the farms]. Then they may drop out of school permanently'.

Community leader, Ratanak Kiri

Maternal health and food taboos

Caregivers confirmed that their daughters often missed school when menstruation began due to embarrassment and lack of knowledge about '*how to take care of the bleeding*'. Workshop participants in Ratanak Kiri made it clear that if a girl left school, she was in effect indicating to potential husbands that she was ready to get married. National-level respondents confirmed that Cambodian youth have very low levels of knowledge regarding sexual and reproductive health, a topic not openly (or easily) discussed. According to the most recent Cambodian Demographic Health Survey, knowledge of at least one method of contraception among all women aged 15 to 19 years old was only 4.6%. Further, 95.4% of sexually active 15 to 19 year olds reported that they did not practise any form of family planning. The national rate of pregnancy in 15 to 19 year olds is 12% (CDHS, 2014).

Multiple food taboos were identified by participants from the indigenous ethnic minorities in Ratanak Kiri, many of which related specifically to pregnant and lactating women. These taboos were often enforced by strong social norms, and non-adherence risked consequences

not only for the mother and her child but for the whole community. Food taboos governing the later months of a woman's pregnancy revolved around the notion of trying to ease her delivery by preventing mother and child from 'sticking' together during labour. Therefore, any food that was viewed as closely connected to something else (e.g. a coconut to its husk, or a turtle to its shell) was to be avoided. The physical appearance of a child was also thought to be associated with the consumption of certain foods. It was thought, for example, that eating eggs might lead to an unattractively round or obese child. This led many women to avoid such food. Food restrictions were reinforced by the desire to bear smaller babies, as it was known that a larger baby could contribute to a difficult labour. These findings are in line with the recent anthropological study in Ratanak Kiri commissioned by Plan International (Breogán Consulting, 2017).

Food taboos that determined women's eating patterns after delivery focused on what lactating mothers should eat to avoid adversely affecting her child through breastmilk. Older caregivers frequently explained that they breastfed a child until their next child was born, whereas adolescent girls were more aware of recent health messages that children should be breastfed 'for at least six months' at which point complementary food sources could be introduced. Many girls and young mothers interpreted this as meaning that they could stop breastfeeding their children at six months.

It was notable that some of the most-practised food taboos in Ratanak Kiri restricted the consumption of food stuffs that otherwise provided valuable sources of protein (e.g. eggs, fish) and vitamins (e.g. fruit, vegetables). It was also considered to be more important for first-time mothers to strictly observe food taboos than it was for women who had had multiple children. This may have contributed to the difficulties many mothers reported in relation to their first pregnancy and delivery, particularly in the case of adolescent pregnancy.

In Phnom Penh and Prey Veng, dietary restrictions for pregnant women revolved around avoiding spicy food or food with a high salt content. Mothers in Phnom Penh were frequently instructed by 'elders' to avoid fermented fish, fish sauce, chili and 'raw' vegetables. As in Ratanak Kiri, breastfeeding was common, and in Phnom Penh and Prey Veng food taboos in the postpartum period also focused on lactating mothers. In both provinces, however, community members remarked that younger generations' observance of food taboos had significantly declined. Adolescent girls, particularly those who were 15 years and older, were aware of some of the dietary restrictions placed upon pregnant and lactating women, but were not sure of the purpose of avoiding certain foods. Several respondents commented that it was only the 'elders' who would try to enforce restrictions upon postpartum women. In Cambodia, the antenatal care attendance rate is 95% (CDHS, 2014), and younger women confirmed that they were more likely to follow the advice that health workers had provided to them.



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'

Adolescent girls 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 lifestyle of adolescents and must recognise their competing priorities.

'Use our groups, don't group us'

Girls stressed the importance of creating opportunities where they could meet with peers. In line with their different experiences, however, they highlighted that those in- and out-of-school girls had different social groups, as did girls who were already married and had children, compared with those who did not.

'Show us real experiences'

Adolescent participants across all research sites emphasised their desire to have activities for young people facilitated by youth leaders who were close to them in age and socio-economic status, and who had shared similar experiences and challenges growing up. This was particularly important with regards to sexual and reproductive health, as girls stressed they would not discuss such issues with their families or elders.

'Provide trusted online information'

Girls across all research sites were unable or unwilling to discuss sensitive topics with their families, particularly related to sexual and reproductive health. They preferred to consult with their peers and use social media platforms such as Facebook. They often questioned the validity of information online and suggested that trusted and secure online sources of information should be developed and promoted.

'Include the people around us'

Because of the important gatekeeper roles that caregivers play in their lives (particularly mothers and grandmothers), adolescent girls emphasised that initiatives directed at their engagement (with the exception of sexual and reproductive health initiatives) should also involve their families.

'Ask us, include us'

Adolescents stressed they wanted to be engaged in a participatory manner and involved in key decision-making processes so that their voices were heard and their opinions recognised.

'Speak our language'

Adolescents stressed that they were not a uniform group and that boys and girls, older and younger adolescents and those from different communities should be engaged in the most appropriate way. Girls in Ratanak Kiri, for example, stressed the importance of using their local languages so they felt comfortable and could fully participate.

'Make it entertaining'

Adolescent girls reported that they want to be engaged in a fun manner. They recommended the use of music, different media and sports activities as positive hooks to engage them.

'With food, we need energy now...'

Adolescents reported that having energy was a priority to ensure that they could complete their daily workload. They often associated this with being able to consume as much rice as they wanted/needed. Adolescents with access to (and the ability to pay for) energy drinks also highlighted them as an important source of energy.

Recommendations

Strengthening the visibility of adolescents

- Nearly 20% of the population in Cambodia are aged between 10 and 19 years, yet they are largely invisible in policy. Adolescent health and nutrition is a large-scale challenge, and as a sub-population with unique nutritional and other needs, adolescents are at risk of being left behind. Focused advocacy efforts are needed to encourage key actors to commit to interventions for this group. The development of the new National Strategy for Food Security and Nutrition (NSFSN) which is due to be implemented in 2019-2023 presents a valuable opportunity to raise the visibility of adolescents as a priority group to be explicitly included in key national policy.
- 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, the complex root or underlying causes of their nutrition practices, and potential solutions to improve their food-related behaviours. At national and sub-national levels, competencies must be developed to analyse, interpret and apply both qualitative and quantitative data.
- At the national level, adolescence is defined differently across sectors and ministries, and as a result the needs of adolescents are at risk of becoming diluted or falling through the cracks. This reduces the visibility of adolescents, hampers the identification of adolescent-specific problems, and limits the development of appropriate strategies and programmes designed to meet their needs. Similarly, the definition of adolescence at the national level is not consistent with definitions used at the community level. Interventions must be sensitive to variables including age, gender, socio-economic status, life experiences / stages, livelihoods and ethnicity. Regardless of the terminology used, effective engagement should target groups as defined and understood at the community level.

Influencing adolescent nutrition

- When taking adolescents as the central unit of analysis, it becomes clear that this group is uniquely affected in Cambodia. 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 wellbeing.
- 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 addresses the nutritional needs of adolescents in the context of and in combination with other key components of their lives (e.g. education and employment, and sexual and reproductive health).
- 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 during non-school hours. 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.

container gardens) may be particularly relevant and appealing for adolescents residing in urban and peri-urban localities.

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 use of local languages; and showcasing real experiences. They emphasised the importance of privacy, and trust. They wanted interventions to develop their skills for the future, and for interventions 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 and grandmothers; peers; teachers (for those in-school); and community leaders. Although participants confirmed that whilst adolescent girls may seek advice and counsel from influential figures in their lives, they have a high level of autonomy and decision-making power. Still, securing the buy-in and support of key influencers is vital in both generating demand and facilitating utilisation of programmes and services.
- Adolescents can 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 their younger siblings and 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 adolescent 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 and reproductive health; economic empowerment and livelihood support; education; social protection; and leadership related to youth participation. Overall, however, programmes were not implemented at scale and coverage was limited. Only a few programmes were designed with adolescents as the primary beneficiaries, but multiple programmes accidentally included adolescents (such as health interventions for pregnant women, and livelihood support programmes for farmers).
- Various platforms engaged adolescents at the community level. For those in formal education, particularly younger adolescents, school was identified as a positive and trusted platform for engagement, although it was noted to be a selective platform given that not all adolescents (particularly older adolescents) attended. Only girls who had recently given birth discussed health facilities as places that provided health- and nutrition-related advice.
- 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. Girls in urban areas were more likely to use social media and watch television. These girls reported using platforms such as Facebook to chat with each other. Girls' internet usage was not closely monitored

by their caregivers. Radio was accessible for adolescents in all areas, although it was not widely used. Television was the preferred mode of entertainment in urban and, increasingly, in rural areas.

Entry points for strategic partnerships

- Policy and programming entry points need to be strengthened and expanded. Currently, programming is selective and localised. Further investment in both nutrition-specific and nutrition-sensitive adolescent programming is needed if the most vulnerable girls are to be reached.
- Actors already engaging adolescents in other sectors should be encouraged to incorporate nutrition-sensitive and nutrition-specific activities in their work, and those who have developed adolescent-specific communication methodologies should be identified as potential avenues for linking policy and action.
- Similarly, actors who are already active in nutrition, food and agricultural sectors should be encouraged to expand their policies and interventions to better reach adolescents.
- Many adolescents are included in activities that are orientated towards adults. In acknowledging this, programmes should be aware of the special needs of adolescents of different ages and encouraged to modify their services appropriately. 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.
- Coordination between government, partners and programme implementers should be improved to support an enabling environment for adolescent engagement. 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.
- 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.



Summary of key policy and programme implications

Theme	Key considerations
Rice and side dishes	<ul style="list-style-type: none"> Rice is the most important agricultural commodity in Cambodia and the staple of the national diet. Fortifying rice could be a good way of improving access to nutritious diets, and more should be done to explore the opportunities to fortify rice and other staple foods nationally. Knowledge of healthy food does not directly translate to healthy food practices, so investment should be made to ensure adolescents and their families have access to affordable and nutritious foods and assume healthy diets and consumption patterns. There is a universal desire for side dishes to accompany rice, but financial constraints, seasonal availability, land issues and food taboos often limit what is purchased, available, prepared and eaten. Adolescents and their caregivers must be better informed about the most affordable healthy foods available to them in addition to fortified rice.
Food sources	<ul style="list-style-type: none"> 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 (particularly those located close to schools and workplaces) would increase their availability to adolescents, who should be encouraged to choose healthier food over other options. Snacks and convenient ('<i>on-the-go</i>') foods are particularly appealing to this age-group, and so cheap, safe and healthy ready-made food should be made widely available. Ongoing initiatives to fortify snack foods should also be supported.
Food preparation and consumption	<ul style="list-style-type: none"> Because adolescent girls 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. 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). Interventions that focus on food and meal preparation may be helpful, particularly if available technologies can make cooking less arduous and time consuming for women and girls (particularly in North East provinces). Interventions to improve storage and processing capacity will also help reduce time spent on food preparation.
Land and agriculture	<ul style="list-style-type: none"> Poverty is widespread, particularly in the North East provinces of Cambodia, and is exacerbated by the reduction of land available for family farming due to logging, plantation monocultures and conservation zones. Policies invoking the activation of social safety nets and food assistance may help mitigate the impact of shorter crop rotations and reduced opportunities to fish and forage. New seed varieties and agricultural technologies may also be beneficial in reducing the work burden that falls on women and girls responsible for cultivating family crops.
Education and employment	<ul style="list-style-type: none"> Structural weaknesses in the school system need to be overcome if schools are to be an effective delivery platform. Social protection programmes that aim to keep children in school, such as the education scholarship programme, are important initiatives. Despite the potential value of school as a platform for sustained engagement, however, 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. Income-generating activities are often prioritised by adolescent girls over school attendance, due to pressures to contribute to household economy and food security (e.g. agricultural labour, garment factory work). These activities require a high level of energy expenditure and may be exploitative. Adolescents and their families need strong incentives to continue formal education for this age group and to limit the household responsibilities of girls so that they can spend more time on their studies. Safe income-generation opportunities should be made available, but designed around keeping adolescent girls in school.
Maternal health and food taboos	<ul style="list-style-type: none"> Reducing adolescent pregnancy 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 wellbeing. This is particularly important for the North East provinces which report the highest rates of adolescent pregnancy in Cambodia. Awareness must be raised around good nutrition during pregnancy and the risks associated with food taboos followed by pregnant and lactating women. In parallel, initiatives should improve antenatal care, delivery practices and postnatal care, particularly amongst rural populations with restricted access to health centres (such as in the North East provinces). Delivery with skilled attendance and exclusive and continued breastfeeding should be actively promoted. In areas other than the North East provinces, women and girls described good access to and agreement with maternal and child health advice provided at health facilities. This is in marked contrast to the reluctance adolescent girls displayed in discussing sensitive sexual and reproductive health issues with health workers or family members. The focus on maternal and child health advice needs to shift to include more information on sexual and reproductive health. Technology and social media should be explored as trusted platforms to convey sexual and reproductive health issues to adolescent girls who may be able to access it privately and in confidence.

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