Photo Credit: World Food Programme

Understanding the drivers of dietary choices and snack food environment of primary school children in Lao PDR and the Philippines

Regional landscaping analysis on dietary choices of primary school children
Final Report

April 22, 2022

This publication is produced for review by the World Food Programme and was prepared by Helen Keller International.

TABLE OF CONTENTS

ACRONYMS

BNS	Barangay Nutrition Scholar
DOH	Department of Health
DepEd	Department of Education
DILG	Department of Interior and Local Government
DSWD	Department of Social Welfare and Development
DQQ	Diet Quality Questionnaire
GoL	Government of Lao PDR
FNRI	Food and Nutrition Research Institute
ISNM	Integrated school nutrition model
LGU	local government unit
KII	key informant interviews
MoES	Ministry of Education and Sports
NGO	Non-governmental organization
NNC	National Nutrition Council
NNS	National Nutrition Strategy
OPT Plus	Operation Timbang Plus
PDR	People's Democratic Republic
PPAN	Philippine Plan of Action for Nutrition
RBB	Regional Bureau Bangkok
RHU	Rural Health Unit
SDO	School Division Office
SES	Socio-economic status
SFP	School Feeding Program
SSB	Sugar-sweetened beverage
WFP	World Food Programme

EXECUTIVE SUMMARY

Overview. Rising prevalence in childhood overweight and childhood obesity in the Philippines and Lao PDR are linked to increasing availability and consumption of ultra-processed, energy-dense, nutrient-poor foods. Evidence from neighboring Southeast Asian countries shows a high prevalence of unhealthy snacks within schools and within the immediate vicinity around schools, but information is scarce in Lao PDR and the Philippines on school food environments, unhealthy snacks, and drivers of children's dietary choices. The World Food Programme (WFP) Regional Bureau Bangkok (RBB) in collaboration with Helen Keller International (Helen Keller) undertook this landscape analysis to generate evidence for school-based programs and strategies to modify food environments and social norms to support healthy diets for children.

An integral part of WFP mission is to ensure that all primary school children have access to school meals that are healthy and that provide children with the nutrition they need to perform well in school. As school environments are so critical to child health and education, this study focused on the food environment in and around primary schools, focusing on children 6-11 years of age. The evidence generated is intended to inform strategic and behavioral change strategy design of WFP country offices and to support strategies that can effectively modify food environments and social norms to enable children and caregivers to make good food choices.

Methodology. This study used a mixed-methods approach that included a desk review of existing literature in Southeast Asia, semi-structured interviews with key stakeholders in Lao PDR and the Philippines, and a quantitative survey with primary caregivers of children 6-11 years. The study team interviewed key stakeholders within the health and education sectors in Lao PDR and the Philippines and asked them to describe the school food environments and what they perceived as drivers of children's dietary habits. The cross-sectional survey included 60 caregivers each in Lao PDR and the Philippines and was designed to generate understanding of their children's consumption of four categories of unhealthy snacks: sweet foods, salty/savory foods, processed meats, and sugar-sweetened beverages (SSB). Data were captured on consumption and mean number of days consumed in the previous week for each category. In Laos, consumption at school in the previous week was captured; Filipino schools were closed due to COVID-19 restrictions.

Findings. A systematic review of the available literature on dietary choices of school-aged children in the Philippines and Lao PDR, indicated that there is paucity of information from these two countries to inform programming and decision making. In the Philippines, there have been only a few studies that document growing snack consumption away from the home, but do not document in-school snack consumption. And, in the Philippines, there have been no published studies that have looked at advertising and promotion in or around the school environment. Similarly, in Lao PDR, there are currently no published reports on consumption of snack foods and sugar-sweetened beverages inside schools nor any documented papers on the school food and promotional environment or how that environment may influence consumption.

From the interviews, key stakeholders in both countries noted that school environments are where vendors seek to sell unhealthy snacks as they are popular with schoolchildren. Ultra-processed snack foods are affordable and readily available in/around schools. The sale of fresh fruits or vegetables is limited. In Lao PDR, 95-100% of children consumed each snack category in the previous week, with sweet and salty/savory foods eaten most often (5.1 days each). In the Philippines, consumption was lowest for SSB (72%) and highest for sweet foods (88%). Sugary

foods and beverages were consumed most frequently (3.3 and 3.2 days). Among Lao children, 67% ate processed meats at school, 80% salty/savory foods, 83% SSB, and 87% sweet foods.

Conclusions and Limitations. Unhealthy snack consumption was high, frequent, and enabled by school environments in both countries. The results provide some indication of where policy and program adjustments can be made to modify food environments and improve healthy diets for Lao and Filipino children. However, there are several limitations. The pandemic situation in both countries prevented us from directly observing and characterizing the food environments in and around the twelve schools. And the sample size for the caregiver survey was small and not representative, so findings cannot be genera cannot be generalized to a larger population. With these findings, the authors can suggest some broader trends and facilitators for unhealthy food and beverage consumption that may also be present at other schools. And the team gained a better understanding of some consumption patterns and some of the key driving factors of unhealthy snack consumption among Lao and Filipino primary school children.

Key Recommendations.

- **Track the nutrition transformation.** Results from the study shows that consumption of unhealthy foods and beverages is very high and that the food system in both countries enable unhealthy consumption patterns. Routinely and systematically monitoring the quality of children's diets (using a 24-hour recall or other dietary quality assessments) can help policy maker better understand healthy and unhealthy consumption patterns and track the impact of current nutritional policies over time and across different populations and geographies.

- **Monitor and observe school food environments.** Research has shown that foods that are the most available, affordable, and convenient are determinants of people's diets. Thus, understanding food environments—what's available, where it's available, and its affordability vis-à-vis the target populations is important. Due to COVID-19 surges in December 2021-February 2022, in person visits to characterize the school food environments across six schools in Lao PDR and six schools in the Philippines was not able to be conducted. In person school visits would allow for the study team to observe the school environment using a structured observation check list. The school visits would also allow the study team to assess the retail environment in the area surrounding schools to observe if there are any mobile vendors or promotional advertisements or other materials.

- **Conduct in-depth interviews with food vendors, caregivers, and other gatekeepers of children's food environments.** A key limitation of the current study was that food vendors were not included. A recommendation for future studies, would include qualitative interviews with key persons that act as gatekeepers of children's access to healthy and unhealth foods.

- **Regulate mobile vendors and retailers in and around schools.** Retailers in and around schools provided a consistent supply of affordable unhealthy foods and beverages for children to purchase that was priced in accordance with their "pocket money". To ensure the effective implementation of policies and laws meant to protect children from unhealthy foods, the authors recommend improving the regulation of what mobile vendors can sell in and arounds schools.

- **Improve knowledge among caregivers and retailers and vendors on what's healthy and unhealthy.** Many retailers and vendors may not fully comprehend the short and-long-term consequences of frequent consumption of ultra-processed, energy dense, and low nutrient value foods. The survey shows that children are eating these foods frequently both in their home, in the homes of other family members, and at school.

- **Multi-channel interventions that change social norms and values.** A critical review of strategic behavioral change programs indicates that increasing knowledge and awareness of good nutrition practices rarely leads to sustained behavior change. Furthermore, sustained change is unlikely to be achieved through a single activity. Thus, approaches to improving nutrition and having children adopt healthier eating practices needs to address systemic barriers to nutritious foods and build an enabling environment whereby interventions are layered, diversified, and multisectoral, as well as sequenced with other activities and programs. Using multiple channels, both inside and outside of schools, is important for strategic behavior change programs and should leverage social networks, television, radio, newspaper, and other forms of information dissemination targeted to caregivers and/or children and aim to increase demand for affordable and nutrition foods and healthy snacks.

- **Leverage multi-sectoral action and platforms.** To guarantee effective results of existing policies and regulations or healthy schools and food environments, there needs to be strengthened multi-sectoral support for implementation and standard monitoring and enforcement guidelines. There is also a need to raise awareness of these policies and regulations so that compliance can be optimized. Awareness raising should be targeted to multi-sector actors, including private sector manufacturers, and not be limited only those stakeholders in health or education.

BACKGROUND

The World Food Programme (WFP) Regional Bureau Bangkok (RBB) is collaboration with Helen Keller International (Helen Keller) undertook formative research to enhance understanding of the drivers that influence food and dietary choices of school-age children in Southeast Asia. An integral part of WFP mission is to ensure that all primary school children have access to school meals and are healthy and ready to learn. As school environments are so critical to child health and education, this study focused on the food environment in and around schools. This literature review and stakeholder analysis was a part of a larger formative assessment to understand drivers of food choice—both healthy and unhealthy food choices—in Southeast Asia to inform program design and policy action.

The expected outcomes of the regional landscaping and formative assessment findings were as follows:

1) To inform policy actions that promote improvements in the school food environment.
2) To serve as an entry point to engage with the retail sector on working with schools to influence what products these make available and or how they are displayed;
3) To engage with local producers to work with vendors to stock healthy and nutritious foods thus promoting diverse choices by generating demand among school children; and,
4) To inform and leverage diverse communication approaches to promote healthy diets using schools as a platform.

The evidence generated will be used to inform strategic and behavioral change strategy design of WFP country offices. Recommendations are intended to support strategies that can effectively modify food environments and social norms and attitudes on unhealthy and healthy foods of children as well as their families and communities, including food vendors. And, importantly, the study would also like to equip children to make good food choices.

It is important to note that data collection for this study occurred during the pandemic (October-March 2022). In both countries travel restrictions and personal precautions to limit the spread of COVID-19 were in place. Most all data collection was remote. Interviews were largely conducted by phone or by video conferencing. And the survey was conducted mostly by phone. There was limited in-person interviews and meetings. And, school observations were not conducted in this study.

I. LITERATURE REVIEW

1.1. OVERVIEW

Diets are changing in Southeast Asia and convenience foods, such as ready-to-eat, prepackaged foods and snacks foods are on the rise. Snacks of course can be nutritious but unhealthy snacks that are energy-dense and nutrient-poor and sugar-sweetened beverages (SSB) are slowly replacing traditional meals eaten at home throughout Southeast Asia (Development Initiatives 2018). Although snacks can provide important nutrients for school-aged children, undernutrition continues to exert a heavy toll in many countries in Southeast Asia and the increasing availability of unhealthy, ultra-processed snack foods may displace consumption of more diverse and nutritious foods in contexts where diets are often nutritionally

inadequate and where the triple burden of malnutrition exists (UNICEF 2019). Rates of overweight and obese children and adults are also rising in the region, coupled with growing incidence of non-communicable diseases (NCDs), which may place undue pressure on already under-resourced health systems. This systematic review summarizes literature on the consumption patterns and drivers of snack food of school-aged children in seven countries in Southeast Asia. It also identifies areas where further research is needed. The three objectives of this literature review are as follows: 1) To document consumption patterns of unhealthy foods and beverages among primary school-aged children 6-11 years; 2) To document information on the school food environment; and 3) To document drivers of food choice for primary school-aged children, 6-11 years. The authors conducted a systematic search from Embase, Global Health, and MEDLINE for English language literature published on Lao PDR, the Philippines, Cambodia, Indonesia, Malaysia, Thailand, and Vietnam from January 2000–September 2021. The search yielded 944 papers. After a multi-step screening process, 63 papers were identified that were directly relevant to at least one of the three objectives.

Findings indicate that it is common for school-age children in Southeast Asia, in both urban and rural settings, to consume snacks that are energy-dense and nutrient poor. Popular snacks are often ultra-processed, but 'traditional' local snacks are also widespread. Many studies reported consumption of unhealthy snacks and SSB several times per week, with snacks frequently sourced from home, street-side vendors, and increasingly from convenience stores and fast-food outlets in urban areas. Some studies documented unhealthy snack foods were readily available in and nearby schools. The small number of Southeast Asia papers on drivers of snack choice highlighted convenience, low cost, accessibility, and the increasing influence of advertisements, especially media promotions. Studies on consumption patterns of primary school children and the food environment were limited for both the Philippines and Lao. Lao had a dearth of documented information on snack consumption and dietary patterns of school-aged children with only one published paper that met the literature review inclusion criteria. The ability to compare study outcomes across the papers was limited, due to the great variation in measurement of consumption and definitions of snack foods, fast foods, and SSB.

Further research is needed to understand the unique drivers of food choice for primary school children, especially in and around schools, and in the Philippines and Lao PDR. High quality data will enable policy makers to fully understand what children are eating and the consequences of changing dietary patterns. Although there is a dearth of evidence from the Philippines and Lao, data from other countries in the region (i.e. Malaysia, Indonesia, and Thailand) are showing worrisome trends in the dietary habits of school-aged children. A review of data from across the globe shows that regardless of wealth, school-age children, adolescents, and adults are not eating enough foods that promote health such as fruits, vegetables, legumes and whole grains. Instead, they are eating too many refined grains and sugary foods and drinks. About a third (30.3%) of primary school children do not eat any fruit daily, yet 43.7% consume soda every day. (Development Initiatives, 2018). Analysis of over 23,000 packaged food products shows 69% are those prepared foods are nutrient poor and provide little nutrition, with the proportion higher in low and middle-income than high-income countries (Development Initiatives, 2018). The good news is that there is a growing body of evidence showing that healthy diet and healthy food environment policies and programmers are proving effective. However, implementation and delivery of these policies and programs are ad hoc and siloed. Multi-sectoral actors from health, food safety, trade, education, agriculture, private sector food companies need to come together to scale these policies and programs to significantly improve diets at the population level.

1.1. METHODOLOGY

KEYWORD SEARCH AND DATABASE PULL

The three objectives of this literature review are as follows: 1) To document consumption patterns of unhealthy foods and beverages among primary school-aged children 6-11 years; 2) To document information on the school food environment; and 3) To document drivers of food choice for primary school-aged children, 6-11 years. Three databases (Embase, MEDLINE, and Global Health) were searched on September 30, 2021. Three separate searches were run to identify potentially relevant papers for each of the objectives. The domains and search terms used for each objective are detailed in Table 1. The searches were limited to papers published in English and published since 2000. Each search was run twice for clarity and quality. The result was a listing of 944 papers across the three objectives.

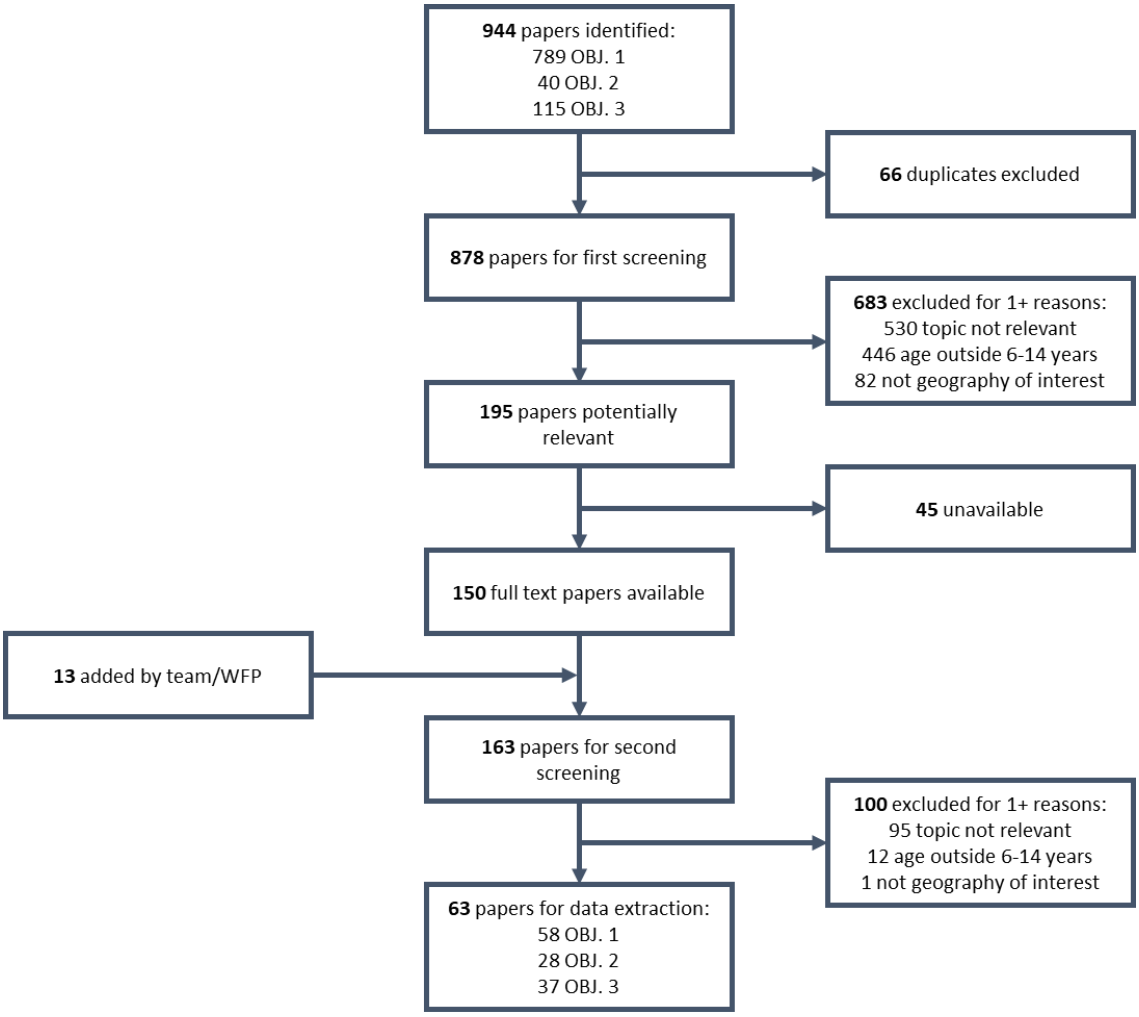
Table 1. Summary of database search

Objective	Domain	Search terms	Results
1	Consumption and consumption patterns of unhealthy foods/beverages	• diet/ • Lao* or Philippines* or Cambodia* or Indonesia* or Malaysia* or Thailand or Vietnam* • adolescent or child* or student*	789
2	School food environment	• food environment* • Lao* or Philippines* or Cambodia* or Indonesia* or Malaysia* or Thailand or Vietnam* • adolescent or child* or student*	40
3	Drivers of foods choice for unhealthy foods/beverages	• food preference* • Lao* or Philippines* or Cambodia* or Indonesia* or Malaysia* or Thailand or Vietnam* • adolescent or child* or student*	115

DOCUMENT SCREENING AND REVIEW

The search results for the 944 papers were downloaded and collated into a single Excel file that included the paper title, authors, journal citation, abstract, and unique identifiers for all 944 papers. The results were sorted to identify any duplicate listings, for which 66 duplicates were found, resulting in 878 unique papers. A series of screening steps were then undertaken to identify papers directly relevant to the three objectives, as detailed in Figure 1.

Figure 1. Flow diagram of paper selection process



The initial step entailed a review of the paper titles and abstracts to identify those potentially relevant to one or more of the review objectives. The first screening inclusion criteria were the following: (1) topic relevant to at least one of the three objectives; (2) population covers children 6-14 years of age; and (3) population resides in the geography of interest. Although the population of interest for the literature review was primary school children 6-11 years, we included a slightly expanded age group to capture more papers. The geography of interest included Lao PDR and the Philippines, along with five other countries in the Southeast Asia region, as noted in Table 1. Of the 878 papers screened, 683 were excluded for not meeting one or more of the inclusion criteria, which was captured in the Excel tracking form.

Next, the 195 potentially relevant papers proceeded to the second step, sourcing full text versions of the paper. Online sources, including the journal websites, Google Scholar, and Research Gate, were searched along with a university database. In total, 150 of the 195 papers were found, and among the 45 that were unavailable or behind paywalls, 29 were conference abstracts without full associated papers.

In the third step, the review team conducted a second screening of the papers, this time reading the text in full to determine if the papers continued to adhere to the three inclusion criteria. In addition to the 150 full text papers, the team read another 13 papers that were identified as potentially relevant by the team or WFP but had not appeared in the Embase, MEDLINE, and

Global Health searches. Among the 163 papers screened, 63 were found directly relevant to the literature review objectives. One hundred papers were excluded for not meeting one or more of the inclusion criteria, which was again captured in the Excel tracking form. The team also noted which of the three objectives each paper contributed towards, with the possibility of papers being relevant to multiple review objectives.

The fourth and final step involved extracting key pieces of relevant information from the papers and entering them into an Excel summary file. All papers had their first author, title, geography, study type, assessment method, population, child age covered, and sample size extracted. Additional information extracted by objectives is summarized in Table 2.

Table 2. Summary of data extraction topics

Objective	Domain	Objective-specific information extracted
1	Consumption and consumption patterns of unhealthy foods/beverages	• type of unhealthy food/beverage consumed or eaten as a snack • prevalence or description of consumption • source of food/beverage perceived as unhealthy • location consumed • time of day consumed
2	School food environment	• type of school • inside/outside school discussed • type of foods/beverages in environment • unhealthy or healthy foods • description of environment (i.e. vendors, billboards) • description of marketing or promotions
3	Drivers of foods choice for unhealthy foods/beverages	• child drivers reported • caregiver drivers reported • other related drivers reported

Review of Reports and Policies

In addition to reviewing published literature, we also reviewed relevant published reports or papers that had information and data pertaining to the three objectives of the literature review. A total of 14 published reports from international organizations were reviewed and 13 policies relevant for Lao PDR and 16 policies relevant for the Philippines.

1.2. RESULTS

Consumption Patterns of School-Aged Children of Snack Products and Other Unhealthy Foods and Beverages among Primary School-Aged Children

Snacking is common throughout the Southeast Asia region, but snacking lacks a standard definition across countries. Processed or commercial snack foods are those that are manufactured, packaged, and branded (Green et al., 2019). Snack foods can also include non-commercial snacks that are made at home or are otherwise packaged but not branded. Some snacks are also described as “traditional” or “street foods” that are sold by roadside vendors and stalls. There are also “fast-foods” including Western and local fast-food restaurants, local eateries, or “convenience” foods that are usually processed, packaged, and do not require cooking or preparation. The ten most popular fast-food restaurants in Asia in 2021 according to

Campaign Asia-Pacific's exclusive Asia's Top 1000 Brands are: McDonald's, Kentucky Fried Chicken, Pizza Hut, Burger King, Domino's, Subway, Jollibee, Mos Burger, Lotteria, and the Pizza Company (Campaign Asia, 2021). Snack beverages are often commercially produced, like soft drinks, sweetened milks, or sweetened teas, sweetened juices and milks sold in tetra packs, but can also be home-made or locally sourced, such as fresh sugar cane juice. Snack beverages are often referred to as SSBs (Thomson et al., 2017).

Within the Asia region, studies among primary school children often explored sweet and salty/savory categories of foods, along with traditional snacks, street-side foods, and/or fast foods. Some also reported on SSBs. For this literature review, we were interested in both consumption of foods and beverages perceived to be unhealthy and "snacking", the pattern of eating or drinking in between main meals.

Of the 63 papers that were included in the full text review, 42 papers had information related to snacking and/or consumption patterns of school-age children in the countries of interest. Five of the 42 papers had information specific to the Philippines and only one of the papers had information specific to Lao PDR.

Food patterns and eating habits are changing over time and the rapid nutrition transition through globalization is shaping food preferences. A cross-sectional study conducted in the Southeast Asian region involving the Philippines, Malaysia, and Indonesia, found that although traditional food patterns are maintained in these countries, Western-style and franchise fast foods are increasingly being viewed as snacks consumed in-between meals and recreational foods, especially in urban areas (Lipoeto, et al., 2012). However, it was noted that there is a significant difference noted between the urban and rural areas in food varieties consumed (Lipoeto, et al., 2013). Apart from the preference of Western-style food as snacks, the Global School-based Student Health Survey in the Philippines (World Health Organization, 2015), found carbonated drinks/SSBs (SSB) to be popular among 13–15-year-olds, with 37.6% consuming them daily in the 30 days leading up to the survey.

In the Philippines, snacking is known as *merienda* and is an integral part of the Filipino culture (Gonzales-Suarez et al., 2013). *Merienda* is viewed as a light meal typically taken mid-morning and mid-afternoon and is associated with a time to socialize with friends and or colleagues. Gonzalez-Suarez et al. (2013) assessed food and beverage consumption patterns outside of mealtime among school-age Filipino children aged 10-12 years and its association to childhood obesity. Authors found the children consumed an average of 245-300 Kcal per day outside of mealtime. In the morning and afternoon snack time, bread and rice/noodles/rice products were mostly consumed, whereas at night-time, biscuits and chips were most popular. Sweetened drinks were consumed the most during the morning and afternoon snacks, whereas mostly milk was consumed at night-time.

Research from Adair et al. (2005) suggests that the global expansion of the fast food and ultra-processed food sector is transforming eating pattens of youth in the Philippines. In an analysis of a longitudinal health and nutrition survey following children in Metropolitan Cebu from 1994 to 2002, authors found eating an afternoon snack, outside of mealtime, to be very common in 2002, with 86% of adolescents (mean age of 17.9 years) eating at least one food item as a snack in the previous day and 18% of daily caloric intake was sourced from snacks outside of mealtime. Most of the snacks eaten by the Filipino youth were bakery products, soft drinks/SSBs, and coffee with milk and sugar added. Over the analysis period, a greater proportion of children sourced snacks from home, 11% in 1994, up to 18% in 2002.

Rapid assessment of snack foods in and around schools in Cambodia

Helen Keller Intl Cambodia conducted a rapid assessment of unhealthy food and beverage consumption among primary school children in four select schools in Siem Reap and Kampong Thom provinces (Helen Keller, 2020). A small sample of 12 children 6-11 years of age and their caregivers provided information on foods and beverage consumed in the previous day. Children were found to consume a variety of commercial, manufactured snack foods and beverages, which are broadly considered energy dense and micronutrient-poor, with high levels of added sugar and salt. Non-commercial snack foods were also widely consumed outside of mealtime, including traditional Khmer snacks and desserts, along with unbranded and/or home-made ice cream, fried foods, bread with sweetened condensed milk, and green/sour fruit dipped in chili, salt, and sugar. Eight (66.7%) of the 12 children also consumed typical "main meal" foods or other foods easily perceived to be healthy outside of meals, including plain fresh fruit, Khmer noodles, plain steamed rice, grilled fish, and bread with pate/pork.

Angeles-Agdeppa et al. (2019) used data from the 2013 National Nutrition Survey that covered rural and urban areas across 80 provinces of the Philippines to investigate the role of socio-economic status (SES) in dietary intake of 11,691 children (6–18 years). Results showed that sugary foods are more preferred than savory snacks among all age groups and SES levels. Sugar consumption was mostly through table sugar for low SES children, while children of high SES consumed more SSB and soft drinks. Moreover, children 6-9 years old living in high SES households, compared to those living in low or middle SES households, showed significantly greater consumption of unhealthy and calorie-dense foods, including bread products, pastries, savory snacks (potato-based, corn tortillas, prawn/fish crackers, curls, and puffs), local dessert snacks (casava/banana/mango snacks, rice-based snacks), and other high-fat and -sugar food items, such as ice creams, popsicles, and candies. Low and middle SES children had greater consumption of complex carbohydrates such as fruits, vegetables, and root crops; however, overall dietary diversity was lowest for the low SES children compared to their higher-SES counterparts.

Data on drivers of food choice in Lao PDR is scarce and thus, there was only one peer-reviewed published study from Lao PDR that met the literature review's inclusion criteria. The paper was a secondary analysis by Fan et al (2020) of data from 1,621 Lao adolescents 12-15 years in the 2015 Global School-Based Student Health Surveys. Authors found consumption of SSBs (defined as one drink in the past 30 days) was 58%; prevalence of fast-food consumption (defined as consumption of fast food at least 1 day during past 7 days) was 44.5%; and the prevalence of low fruit and vegetable intake (defined as fewer than five servings of fruits and vegetables per day over past 30 days) was 81.9% among Lao adolescents 12-15 years old.

A study in Indonesia also examined the types of foods commonly consumed overall by school children (most of the children were around 11 years of age). Dewayani & Sukihananto (2018) found that fried, savory snacks were most frequently consumed by the 4th and 5th grade participants, including toast, *batagor* (fried fish dumplings), *somay* (dumplings), fried rice, and fried noodles/noodle stew. Students frequently enjoyed sweet foods like chocolates, biscuits/wafers, chips, candy, and *cilok* (tapioca dough), along with SSBs including sweetened milk/iced milk, iced tea, pop ice, ready-to-drink beverages, and powdered drinks ready for brewing. Only 38 (32.1%) of the 118 children consumed fruit at school.

In qualitative focus group discussions, urban dwelling 7–9-year-olds in Malaysia free-listed foods they commonly consumed as snacks, including white bread and peanut butter; local cakes and doughnuts; fresh fruit; biscuits/cookies; and instant noodles (Ishak et al., 2013). They also mentioned chocolate drinks, flavored milk, and yoghurt. Another study in Malaysia (Man et al., 2020) showed many of the unhealthy foods consumed included foods that were deemed inexpensive such as fried noodles, fried banana, doughnuts, and chocolate drinks. Bonchoo et al. (2017) examined dietary intake and obesity among urban dwelling Thais 10–12-year-olds,

and found children were consuming packaged snacks, sweet snacks (e.g., candy, cookies, cake, traditional dessert), street-side snacks, and convenience foods, along with drinking SSB and flavored milks. Authors defined convenience foods as "industrially ready-to-eat foods" like instant noodles and street-side snacks as "a light meal, local mixed dish, or local/Western fast food that is mostly sold by street-side vendors and road-side shop and does not have food/nutritional label". Boonchoo et al. (2017) found that participants who were overweight and/or obese had higher daily energy intake and macro-nutrient consumption than those who were non-obese. And, overweight and obese participants reported significantly higher consumption of cereal grains, meat/fish, flavored milk, and SSB during main meals than non-obese participants. Furthermore, obese children reported consuming more street-side snacks and fewer confectioneries during between meals than the non-obese children.

In Indonesia, Sekiyama et al. (2012) categorized snack foods consumed by 1–12-year-olds as modern snacks, traditional snacks, candies/desserts, and soft drinks. Traditional snacks, which included fried chips like banana chips, fritters, and sweets made from coconuts, sweet beans, rice, or flour, were the most consumed among this rural population, accounting for 23.9% of total energy intake.

In a meta-analysis of global patterns of adolescent consumption, Beal et al. (2019) surmised that 38% of adolescents in the South and East Asia regions consumed carbonated soft drinks at least daily and 57% consume fast food at least weekly; the latter being the highest of the five WHO regions assessed. Several studies in the region have also investigated added sugar consumption by children (Boonchoo et al., 2017; Shikani et al., 2014) and overweight and obesity and children's diets (Boonchoo et al., 2017; Gonzalez-Suarez et al., 2015; Rachmi et al., 2017; Wan et al., 2012; Woon et al., 2015). Many of these studies are in large urban areas within Asia but indicate growing concerns around children's diets and snack consumption, especially in the context of the nutrition transition and increasing availability of processed and/or unhealthy foods (Adair & Popkin, 2005; Baker & Friel, 2016; Boonchoo et al., 2017).

Location of Purchase and Consumption of Snacks

There is limited evidence from the Philippines, Lao PDR, and the Asia region on where and when snack foods and beverages are being consumed, for example at school or in the home. In a longitudinal analysis from Metropolitan Cebu, Philippines, Adair et al. (2005) found in 2002 that just over half of children (59%) sourced their snack foods and beverages from stores, followed by home (18%) and street foods (16%). In Metro Manila, street foods products that are high in fat and calories and at the same time affordable, have become more attractive and preferrable among school-age children (Angeles- Agdeppa et al., 2003).

In other regional studies, the data are mixed on whether school-age children are consuming more snacks inside school than outside of school. In Thailand, Boonchoo et al. (2017) reported that nearly 20% of the urban dwelling 10–12-year-olds reported snacks were available at home, 75% or more bought them around their homes, and half bought them in or around their school. The study did not report how many children consumed food at school, but the authors found that the children who were overweight and/or obese consumed more street-side snacks than healthy weight children. Over the course of the day, SSB were consumed more often during main meals, and snack foods, like street-side snacks and confectionaries, were eaten more often between meals. In a qualitative study with urban dwelling Malaysian 7–9-year-olds, Ishak et al. (2013) reported that children usually consumed snacks outside of school, with those attending morning school sessions typically eating snacks in the afternoon/evening and the opposite for children attending afternoon sessions. In rural West Java, the study with children 1-12 years of

age saw children consuming snack foods all day long; however, authors noted consumption reduced as the day progressed and older children (7–12-year-olds), consumed larger amounts of energy from snack foods during school break times (Sekiyama et al., 2012).

In their study of sugar intake, Shikani et al. (2014) compared the intake of Cambodian and Japanese children, authors found that the intake of sugar was lower among Japanese children and attributed the difference to the availability of school lunches in Japan. Authors note that the "early and light breakfast which is typical in Cambodia, makes children very hungry while they are in school," and children buy food at school, which is usually "fast food" and beverages. In Dewayani & Sukihananto's (2018) study of urban 4th and 5th grade Indonesian (most students were around 11 years old) elementary school children found 86% of students purchasing snacks from the canteen, followed by street vendors (78%), and food stalls or *warung* (35%).

Helen Keller's rapid review in Cambodia showed that children aged 6-11 years consumed snack foods and beverages at home, school, English school, pagoda/temple, homes of other family and friends, and at stores and vendors (Helen Keller Intl, 2020). They had these snacks with their peers including classmates, friends, siblings, and cousins, as well as with their mother or with their whole household. Children also frequently consumed the foods and beverages while alone.

A study in Malaysia showed that 91.2% of the adolescents studied had meals away from home at least once a week and consumed those foods at a restaurant (53%), fast food outlets (41.6%), food courts in shopping complexes (40%) or food stalls (30.2%) (Cynthia et al., 2013). As the frequency of family meals away from home increased, there was an increasing trend in higher caloric dense meals, although no association with obesity and increased frequency of meals taken away from home. However, studies have shown that adolescents who consumed greater quantities of food away from home tend to have higher total energy intake and poorer diet quality (French et al., 2001; Taveras et al., 2005). Bowman et al. (2004) reported that children who consumed fast food had higher intakes of energy, fat, carbohydrate, added sugars and SSBs, than those who did not consume fast food. Cynthia et al. (2013) found that intakes of energy trended towards being higher among respondents who reported most family meals away from home, only energy-adjusted fat intake was significantly higher in adolescents having family meals away from home (measured as greater than 7 times a week). No significant association was observed for frequency of family meals away from home and body mass index.

Note that in the coming years, the location of vendors and restaurants may not limit snacking to specific areas that have higher density of street vendors or fast food restaurants. Since the COVID-19 pandemic, location of snack foods may pose less of an issue if a child has access to food marketing and food deliveries via digital applications. Moreover, marketing data confirms that COVID-19 restrictions such as lockdowns and physical-distancing requirements early in the pandemic, provided food ordering via mobile applications an enormous boost.

Drivers of Snack Consumption Among Children

In the Philippines, food consumption of children is influenced by several factors such as increasing availability of food and increasing food purchasing power (Lipoeto et al., 2013); food advertising (Endrina-Ignacio, 2018; (Kelly et al., 2015); and nutrition-sensitive policies (Dumlao, 2021). Childhood nutrition status is affected by the food provided to them at home, as well as to what is most accessible to them, especially when they are in school. Meals prepared at home and food made available to the family is influenced by westernization and exposure to fast food franchises in the Philippines, as well as an increase in food purchasing power among Filipinos

(Lipoeto et al., 2013). Going to and from school, children are exposed to advertisements of unhealthy foods and beverages, which are mostly within the vicinity of the school (Kelly et al., 2015). Thus, there is a need to formulate policies that gravitate towards health promotion, limiting the availability of unhealthy foods and beverages, and restricting promotion and advertisement of unhealthy foods within or near school premises (Kelly et al., 2015).

In Lao PDR, there were no published papers on the drivers of snack consumption among school-age children that met this literature review's specific inclusion criteria. However, there was one policy brief published by the WFP entitled *Drivers of Food Choice Research* (2016). Whilst the study population did not include school-age children 6-11 years of age, some of the findings on drivers of food choice are relevant for this literature review. The study sought to understand drivers of healthy and nutritious food choices in Lao PDR for families with children under five years old, adolescent women, and pregnant and lactating women. A total of 18 villages were visited in six districts. Determinants of food choice include income, seasonality of foods, access to markets, limited nutritional knowledge regarding healthy diets, intra-household dynamics including decisions regarding food allocation, cultural food beliefs, and increasing availability of highly processed snack foods available in village shops. Interviews with parents noted that caregivers would provide money to children to buy packaged snacks when there was no other food available at home. The report stated: "Parents noted that children become very attached to these foods and do not want to eat other more nutritious food. Shop owners want to sell these packaged foods as they provide them with a good income."

Rachmadewi et al. (2021) conducted focus group discussions and in-depth interviews with Indonesian school-age children and adolescents and found personal preference and food availability were main drivers of the students' food choices. Price and affordability were also a significant factors of food choice; even if healthy alternatives were available that they liked, if there were cheaper alternatives they liked, children generally selected these over fruits, which were reported to be more complicated or messy to eat. In discussions with Malaysian 7–9-year-olds, children said they like snacks because they are tasty and for characteristics like crispiness and smell (Ishak et al., 2013).

Ng et al. (2015) studied the influence of television food adverting on Malay children's food purchase request and product preferences. Malay urban schoolchildren were recruited to answer a questionnaire and the interviewers used a food album of 24 advertised food products. Results showed that children's amount of time watching television was significantly associated with food product preferences, food purchase requests, and the child's 'favorite advertisement'. Persuasive techniques used by food advertisers in TV commercials included use of product endorsements with promotional characters (49%), promotional offers such as free gifts (44%) and use of storyline (43%). Ng et al study highlights the powerful role television advertisements play in predisposing children to food purchase requests and creating unhealthy food preferences in early childhood.

A study by Man et al. (2020) hypothesized that a high unhealthy diet score among primary school children and adolescents living in East Malaysia could be due to the high density of fast-food restaurants in East Malaysia in combination with the area's lower SES, making affordability of foods more important. Interestingly, a study by Chawla et al. (2014) showed an association between obesity and children who received daily allowance or daily pocket money for snacks. Thai children that were received 50-100 baht (~USD 1.5-3) a day, were almost half as likely to be overweight and/or obese.

Perceived healthiness of snacks plays a mixed role in preferences and choice. About one-third of the children in the Malaysian study said they liked or disliked certain snacks because they knew they were healthy (Ishak et al., 2013). A few children said they liked to eat fruits and vegetables as they are nutritious foods, not because of the taste. Mailinda & Lestari (2019) found that 4th and 5th grade students in urban Indonesia had good knowledge of healthy snacks, but there was no correlation between their knowledge and the snack choices they made; 55% of the students had negative attitudes towards healthy snacks.

Parents are a common driver in their children's dietary consumption, especially mothers and caregivers who influence household food choices, purchases, and preparation (Rachmi et al., 2018). Many factors contribute to their choices on purchasing and feeding snacks. According to Rachmi et al. (2018), Indonesian caregivers of preschool and primary school children buy snacks based on affordability, practicality, availability, convenience, and time. Caregivers from lower SES in this study mentioned the expense of providing healthy snacks. Caregivers also had negative feelings about children consuming unhealthy snacks, but believed consuming unhealthy snacks was preferable to the child being upset or not having anything to eat. Among older children in the region, there are fewer studies on caregiver influence. Dewayani & Sukihananto (2018) found that Indonesian caregivers play a strong role in influencing consumption by their primary primary school children in the home environment, but not in the school environment: at school, peers are more influential. And, in a recent paper by Morris SS et al (2020), the authors concluded that the diets of children and adolescents are influenced by intra-household dynamics (decision making power for food allocation and food preparation), desirability and acceptability of foods, and socio-economic characteristics. The authors recommend that interventions designed to improve the diets of children and adolescents need to tap to high-level motivations of the children and adolescents (e.g. aspirations for autonomy), give greater emphasis to food preparation technology, gender issues, and group beliefs about broad categories of food.

School Food Environment

Food environments have been defined as the physical, social, economic, cultural, and political factors that impact the accessibility, availability, and adequacy of food within a community or region (Rideout et al, 2015; Cheung et al, 2021). The food environment consists of: 'food entry points', i.e. the physical spaces where food is obtained; the built environment that allows consumers to access these spaces; personal determinants of food choices (including income, education, values, skills, etc.); and the political, social and cultural norms that underlie these interactions. The key elements of the food environment that influence food choices, food acceptability and diets are: "physical and economic access to food (proximity and affordability); food promotion, advertising, and information; and food quality and safety" (adapted from HLPE, 2017).

Morris et al. (2020) and Downs (2020) have conducted a systematic review of the literature around school food environments and found that school-based interventions are well supported in the literature, however much of the evidence comes from high income countries. Some interventions were deemed more salient, such as interventions that reduced the cost of (healthier) meals or provided free meals; setting standards for school meals; and strategic communications involving food promotions of healthy foods were also supported. Whereas the increased availability of unhealthy snacks in the school environment has been tied to higher consumption of these foods among students in several countries (Azerdo et al., 2016; Girona et al., 2018; Larson et al., 2017). Controlling the school environment and using schools as a platform for education has the potential to modify norms and shape attitudes on unhealthy and

healthy snacks (Harrison & Jones, 2012; Katz et al., 2008). A systematic review and meta-analysis of the effectiveness of school food environment policies indicates promising, though modest, positive improvements in children's diets (Micha et al., 2018). Policies that govern the direct provision of healthy foods like fruits and vegetables increased fruit intake by 0.27 servings/day and vegetable intake by 0.04 servings/day. Competitive food and beverage standards that establish quality standards for foods and beverages sold outside of school meal programs reduced the consumption of SSBs by 0.18 servings/day and unhealthy snacks by 0.17 servings/day. Authors found all policies influenced dietary composition without altering total caloric intake. However, the analysis suggests some compensatory changes outside of school, for example restricting unhealthy snack foods and beverages in school increases students' consumption outside of school.

In our literature review, no studies were found describing the school food environments in the Philippines or in Lao PDR, and only a limited number were found from Indonesia, Malaysia, Thailand, and Cambodia.

In Cambodia, Helen Keller's rapid review of school environments inside the schools concluded that the school environment facilitated students' snack consumption—products were widely available, stocked with perceived favorites, and priced with the children's pocket money in mind (Helen Keller, 2020). Free time at school, both before and during the session, appeared to be dominated by purchasing snacks, though waning as the day progressed with pocket money running out. The snack foods and beverages sold by the vendors were a mix of commercial and non-commercial foods, with children reportedly preferring packaged snacks, while school directors and other adults would prefer to see children buy home-made snacks. For these four rural schools, no commercial promotions and/or advertising for snack foods and beverages were observed. A few vendors outside of the schools had a small number of promotional materials for snacks and beer, such as signs and braded umbrellas and coolers.

Like Cambodia, a study in Bangkok, Thailand schools found that there were many food-vendors within school compounds selling high-caloric food, such as fried chicken and French fries to students in grades 5-9 between ages 11-14 years of age (Chawla et al. 2014). In addition, soda machines and/or soft drinks were also freely available to students within the school compounds. Foo and Tan (2021) assessed the type and quality of food and beverages sold in school canteens in public primary and secondary schools in Kelantan, Malaysia. Results showed that when total sugar content of all pre-packaged foods was quantified based on a traffic-light nutrition-labelling system, almost one-third of foods and beverages sold in the canteens were classified as high sugar (29%). Confectionary (19%) and flavored milk and fruit drinks (10%) both exceeded the recommended sugar levels. Only one of these packaged foods and beverages (0.9%) was classified as a healthy food choice. About a quarter of the food items available in school canteens were classified as prohibited based on a new revised list of prohibited food and beverage items. These findings indicate that, despite the guidelines, many unhealthy food items were being sold in school canteens.

The environment outside and near schools can also influence unhealthy dietary patterns and selection of foods sold within school canteens as shown in the study of Hadi et al., 2021. The study also assessed the healthiness score of 147 school canteens in Indonesia and found that healthiness was inversely associated with the number of canteen vendors located outside the school, such that the more vendors located outside the school, the less likely that the school canteen was healthy (i.e., sold healthy food items such as fruits and vegetables and upheld school restrictions on sweetened or colored foods and/or on sugary salty foods). It was

hypothesized that school vendors outside the schools provided competition for school canteens to sell cheaper and more unhealthy foods (i.e., sugary, salty, and fried foods).

Rachmadewi et al. (2021) conducted a qualitative assessment of the school food environment focusing on school canteens in 18 schools in Klaten and West Lombok districts in Indonesia. The assessment found that specific government guidelines on healthy foods and beverages to be sold in canteens were not yet in place. As a result, many canteens had inadequate infrastructure and were managed informally, with limited rules, monitoring, and supervision. Although healthy options such as vegetables and fruits were available in most canteens, unhealthy foods and beverages were abundant and cheap. Focus group discussions with stakeholders indicated that the primary drivers of school canteen food choice were children's perceived preferences and affordability. The study found that street vendors in the vicinity of the schools were another source of food and beverages for students, although were of poorer nutritional and sanitary quality. Schools that lacked school canteens were particularly dependent on the street vendors.

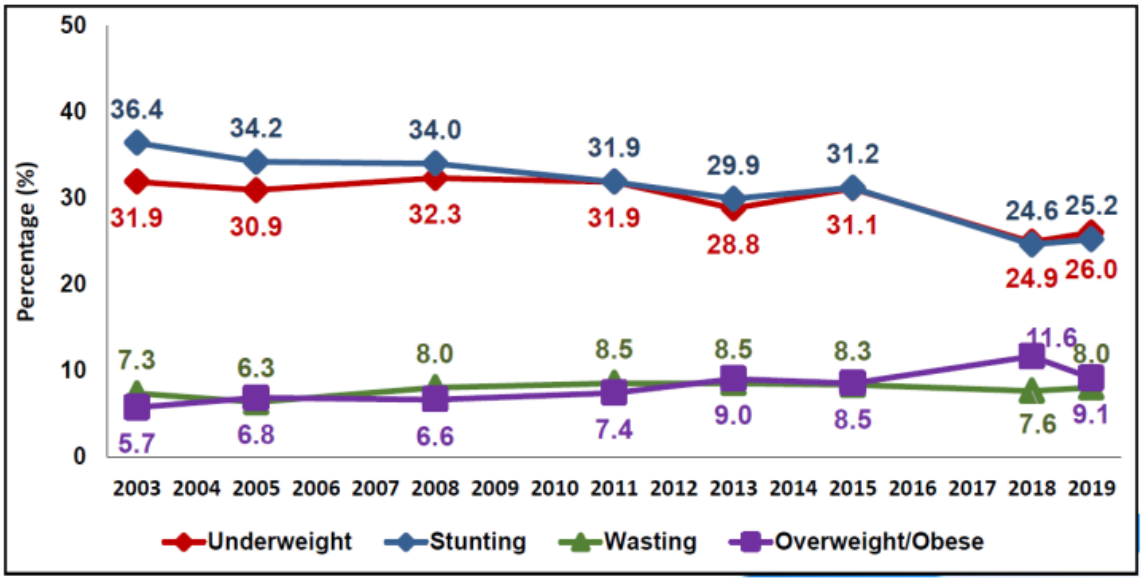
Several studies in the Asia region have noted the important potential role teachers and the school environment can play in limiting the availability of unhealthy foods, promoting healthier food choices and consuming fruits and vegetables (Dewayani & Sukihananto, 2018; Paes et al., 2015; Ishak et al., 2013). Mailinda & Lestari (2019) found no correlation between students' knowledge of and consumption of healthy snacks in their Indonesia study of 4th and 5th graders. It was also found that the types of snacks sold in schools must be controlled to reduce unhealthy snack consumption. Cambodian educators and caregivers noted a similar message, saying that with teachers and school directors, monitoring what snacks are sold inside schools, ensures the safety of foods consumed by children (Helen Keller, 2020). When discussing their decisions to allow vendors inside the schools, two directors said they and/or the school committee wanted to have vendors located inside the school to avoid children leaving the school to buy snacks from outside vendors. The directors noted that when students leave the grounds, they are at risk of getting hit by traffic. One school committee moved a vendor who used to be outside the school entrance, to inside the school. The overall perception of having snacks available inside schools is positive. Several caregivers and teachers noted that the snacks encourage children to go to school, and another caregiver said having snacks inside the school prevents her child from leaving the school grounds during the session and getting into trouble. Several directors echoed a similar concern about children exiting the school and having an accident. Teachers at three schools talked about snacks reducing hunger and sleepiness, leading to children paying more attention, following the lesson, and learning more quickly (Helen Keller, 2020).

However, while there are policies and interventions to help the school children learn better eating habits and improve their dietary patterns, primary school children are exposed to unhealthy food marketing, which is recognized as a probable causal factor for the rapid prevalence of obesity in this age group (Kelly, et al., 2015). In a study conducted in two cities of Ulaanbaatar, Mongolia, and Manila, Philippines by Kelly et al. (2015), school children are highly exposed to advertisements for unhealthy foods/ drinks on their way to school as the density of food advertising was twice as high in the area closest to their schools, compared to the area farther from their schools. Whilst there are efforts to counter implementation of the Department of Education circulars promoting healthy eating (Endrina-Ignacio, 2018; Dumlao, 2021), awareness and enforcement of such restrictions need to be sustained together with the help of the community and the role of healthy diets need to be addressed amongst millennials (Endrina-Ignacio, 2018).

PHILIPPINES REGULATORY ENVIRONMENT IMPACTING SCHOOL FOOD ENVIRONMENTS

In the Philippines, it is recognized that there are environmental factors that influence eating patterns of primary school children (Kelly et al., 2015; Endrina-Ignacio, 2018). Nutritional problems, such as overweight and obesity have been rising among school-age children since 2003 (see Exhibit 1). Although, during this period, underweight, stunting and wasting have been declining.

Exhibit 1. Trends in underweight, stunting, wasting and obesity in the Philippines



*Source: DOST-FNRI 2019 ENNS

Several laws, policies, and ordinances have been put in place to address all forms of malnutrition in the country, especially among children (see Exhibit 2 below). All policies in Exhibit 2 are still active and meant to be enforced. These policies are the basis of many programs regulating school food environments and nutrition programs for children. These policies have also been instrumental in creating programs addressing malnutrition which are implemented in cooperation with or solely by government agencies. For this review, we will present policies that are implemented by the Department of Health (DoH) and Department of Education (DepEd).

Exhibit 2. The Philippines policies and strategies with components of health and nutrition in schools

Year	Abbreviation	Full Title	Sector
1995	RA 8172	Act Promoting Salt Iodization Nationwide (ASIN) Law	Health
2000	RA 8976	Food Fortification Law	Health / Nutrition
2005	DepEd Order No. 14 s. 2005	Instructions to Ensure Consumption of Nutritious and Safe Food in Schools	Education / Nutrition
2005	AO Order 9 s. 2005	Integration of Food Fortification in Social Welfare and Development Programs, Projects and Services of LGUs, NGOs and DSWD	Social Welfare

2007	DepEd Order No. 8 series 2007	Revised Implementing Guidelines on the Operation and Management of School Canteens in Public Elementary and Secondary Schools	Education
2011	DepEd Order No. 43 s. 2011	Strengthening the School Health and Nutrition Programs for the Achievement of the Education for All (EFA) and Millennium Development Goals (MDGs)	Education
2014	DoH, FDA Administrative Order No. 2014-0030	Revised Rules and Regulations Governing the Labelling of Prepackaged Food Products Further Amending Certain Provisions of Administrative Order 88. B series of 1984	Health
2015	DoH, NNC Resolution No. 06	Enjoining All Schools to Strictly Enforce the School Policy on Healthy Foods in School Canteens	Health
2017	DepEd Order No. 13 s. 2017	Policy and Guidelines on Healthy Food and Beverage Choices in Schools and in DepEd Offices	Education
2017	PPAN	Philippine Plan of Action for Nutrition	Health / Nutrition
2018	Memorandum Circular 2018-42	Adoption and Implementation of the Philippine Plan of Action for Nutrition (PPAN) 2017-2022	Local Government Units
2018	DepEd Order No. 28 s. 2018	Policies and Guidelines on *Oplan Kalusugan* of the Department of Education	Education / Nutrition
2018	RA 11037	Masustansyang Pagkain para sa Batang Filipino Act (Nutritious Food for Filipino Children Act)	Education / Nutrition
2018	RA 11037	*Masustansyang Pagkain para sa Batang Pilipino* Act (Nutritious Food for Filipino Children Act)	Education / Nutrition
2019	RA 11223	The Universal Health Care Act	Health
2019	Joint Memorandum Circular No. 2019-0001	Guidelines on the Integration of Specific Programs, Projects, and Activities (PPAs) from the Philippine Plan of Action and Nutrition (PPAN)2017-2022 to the Local Development Plans, Investment Programs and Budget of Local Government Units	Local Government units and Health
2020	DepEd Order No. 23 s 2020	School-Based Feeding Program (SBFP)	Education / Nutrition
2021	ISNM	Integrated School Nutrition Model	Education / Nutrition
2021	GPP	Gulayan sa Paaralan (Bio-Intensive School Gardens)	Education
2021	Nutri Ed	Nutrition Education	Education

Promoting Salt Iodization Nationwide (ASIN). It was enacted to contribute to the elimination of micronutrient malnutrition in the country, particularly iodine deficiency disorders, and requires the iodization of all food-grade salt that is produced, manufactured, imported, traded, or otherwise distributed.

In 2000, the DoH implemented RA 8976 or The Food Fortification Law, which addresses additional micronutrient deficiencies by requiring mandatory fortification of staple food items such as rice with iron, wheat flour with vitamin A and iron, refined sugar with vitamin A, and cooking oil with vitamin A, along with voluntary fortification of other food items.

In 2005, the DepEd issued DepEd Order No. 14 series, also known as Instructions to Ensure Consumption of Nutritious and Safe Food in Schools. The series requires all regional directors, school superintendents, school heads, and other school personnel to observe the following measures: (1) a canteen for every school; (2) school canteen-prepared foods; (3) regulation/control of supply of food items; (4) home-prepared food snacks; (5) involvement of local government units (LGUs) and rural health units (RHUs) and; (6) food safety messages/concepts. Some LGUs have also issued ordinances regarding school vendors. For example, the Quezon City Health Division, issued a quality control ordinance “Anti-Junk Food and Sugary Drinks Ordinance” which states that all canteens in public and private elementary and high schools, as well as preparatory schools, and stores within its 100-meter premises should only sell nutritious foods included in the list of allowed food to be sold by Quezon City Health Division.

In 2005, DepEd issued Order No. 14 series, also known as Instructions to Ensure Consumption of Nutritious and Safe Food in Schools. The series requires all regional directors, school superintendents, school heads, and other school personnel to observe the following measures: (1) A canteen for every school; (2) school canteen-prepared foods; (3) regulation/control of supply of food items; (4) home-prepared food snacks; (5) involvement of local government units (LGUs) and regional health units (RHU) and; (6) food safety messages/concepts. Some LGUs have also issued ordinances regarding school vendors. For example, the Quezon City Health Division, issued a quality control ordinance “Anti-Junk Food and Sugary Drinks Ordinances” which states that all canteens in public and private elementary and high schools, as well as preparatory schools, and stores within its 100-meter premises should only sell nutritious foods included in the list of allowed food to be sold by Quezon City Health Division.

Also in 2005, the Department of Social Welfare and Development (DSWD) issued the Administrative Order 9 Series of 2005, also known as the Integration of Food Fortification in Social Welfare and Development Programs, Projects and Services of LGUs, NGOs and DSWD, aims to ensure that DSWD residential centers, canteen, caterers and DSWD food-for-work and feeding programs use and serve fortified foods with *Sangkap Pinoy* Seal*,* if available.

In 2007, DepEd issued another policy under DepEd Order No. 8 entitled *Revised Implementing Guidelines on the Operation and Management of School Canteens in Public Elementary and Secondary Schools*. This policy is a national order that aims to rationalize the operation of management of school canteens in the public school system and to ensure that these canteens shall help eliminate malnutrition among students, serve as a venue for development of desirable eating habits of students, serve as a laboratory for Home Economics, and provide nutrition education with hands-on training for students to promote food safety practices on handling, storing, preparing, and selling of safe and nutritious meals. The order also implements the sale of nutrient-rich meals, food products, and beverages. Also, it prohibits selling carbonated drinks, sugar-based synthetic or artificially flavored juices, junk foods, and any food product that may be detrimental to children's health. Snacks sold in school canteens must have the *Sangkap Pinoy* Seal (Filipino Ingredient Seal).

In 2011, DepEd implemented Order No. 43 series of 2011 which is also known as Strengthening the School Health and Nutrition Programs for the Achievement of the Education for All and Millennium Development Goals. This policy aims to strengthen the health and nutrition programs to improve the overall health of students and teachers. The order is comprised of a matrix of activities that involves health and nutrition assessments, deworming activities, healthcare preventative services, proper hygiene education, oral health education, supplementary feeding programs, breakfast feeding programs, school-based HIV/AIDS

education prevention program, National Drug Education Program, traditional and alternative health care, health-promoting schools, teachers' health welfare enhancement program, school-based tuberculosis prevention and control program, and pyscho-social intervention project.

In 2014, the Food and Drug Administration of DoH issued the Administrative Order No. 2014-0030 or the Revised Rules and Regulations Governing the Labelling of Prepackaged Food Products Further Amending Certain Provisions of Administrative Order 88. B series of 1984 which covers the labeling of all prepackaged food products, including food supplements, whether locally manufactured or imported into the Philippines.

In 2015, the National Nutrition Council (NNC) of the DoH, issued a regional nutrition committee resolution or the National Capital Region (NCR) Resolution No. 06, which is also known as Enjoining All Schools (Public and Private Elementary and Secondary) to Strictly Enforce the School Policy on Healthy Foods in School Canteens. The resolution enjoins all public and private elementary and secondary schools to strictly enforce school policy on healthy foods in school canteens. This resolution was enacted due to the 2014 baseline report detailing the nutritional status of school children in NCR wherein 12.65 % and 4.64% of school children are wasted and severely wasted, overweight, and obese, respectively. It strictly implemented that only cooked nutritious and affordable meals are to be served in the school canteens; a sanitary permit is required for ready-to-eat food products; and junk foods, fortified or not, are prohibited to be sold inside the school. The resolution also prohibits selling and offering of high fat, sugar, sodium, and highly caloric dense foods in schools.

In 2017, DepEd issued a Policy and Guidelines on Healthy Food and Beverage Choices in Schools (Order 13, s. 2017). This policy intends to promote and develop healthy eating habits among the youth and DepEd employees by making available healthy, nutritious, and affordable menu choices, and for setting food standards. To achieve this, three reinforcing strategies are identified: 1) to set food standards; 2) to increase availability of healthy and safe foods; and 3) to regulate the sale and marketing of unhealthy foods. To support policy implementation, mechanisms are put in place such as capacity building, partnerships, and monitoring and evaluation. Collaboration with partners and key stakeholders are recognized as vital in advancing and implementing the School and Nutrition Program. The DepEd Central Office, Regional Office, and Division Office are assigned as the responsible entities for gathering feedback in the implementation of this policy and guidelines.

In 2017, the NNC of DoH launched the Philippine Plan of Action for Nutrition or PPAN (2017-2022), which is an inter-agency, multi-dimensional and holistic approach plan that consists of 8 nutrition-specific programs, 10 nutrition-sensitive programs, and 3 enabling programs. The PPAN aims to address the recurring nutrition problems in the country which are: high levels of stunting and wasting among children under-five years of age, micronutrient deficiencies (Vitamin A, Iodine, and Iron), overweight and obesity among various population groups (children <5 years of age, children five to 10 years of age, adolescents, and pregnant and lactating women). In addition, it also commits to global goals as it is aligned with the 2030 Sustainable Development Goals, 2025 Global Targets for Maternal, Infant, and Young Children, and the 2014 International Conference on Nutrition.

In 2018, the Department of Interior and Local Government (DILG) issued an order entitled Adoption and Implementation of the Philippine Plan of Action for Nutrition (2017- 2022). This policy provides guidelines on the roles and responsibilities of LGUs in the implementation of the PPAN 2017-2022, including the formulation and/or update of the local nutrition action plan,

integration of applicable PPAN programs in their respective local development plans and annual investment programs, and passage of local policies to support the implementation of PPAN.

DepEd implements Oplan Kalusugan sa DepEd (OK sa DepEd) which is a convergence of health programs, policies, and activities to guide effective and efficient implementation at the school level. Under the plan, there are six flagship programs:

1. School Feeding Program (SFP) and other nutrition support programs such as:
   a) Nutrition Education for children and parents
   b) Bio-intensive School Garden
   c) Supplementary Feeding
2. Medical, Dental, (School Dental Health Care Program or SDHCP), and Nursing Services
3. Water, Sanitation, and Hygiene (WASH) in schools (WinS) Program
4. Adolescent Reproductive Health
5. National Drug Education Program (NDEP) with Comprehensive Tobacco Control
6. School Mental Health Program

In the SFP, schools provide hot meals or nutritious food products and milk to undernourished learners from kindergarten to grade 6 to improve classroom attendance and nutritional status. DepEd is assigned provide nutritious food for elementary school children while DSWD is assigned to provide nutritious food for day care school children.

Other nutrition support school programs include nutrition education and the integrated school nutrition model (ISNM). The ISNM integrates three major components namely: 1) bio-intensive school gardens which are *Gulayan sa Paaralan* Program (GPP) gardens which use ecological gardening practices to improve productivity and sustainability; 2) SBFP which uses iron-fortified and indigenous vegetables; 3) and nutrition education which uses a combination of learning strategies to promote the importance of nutrient-dense foods, good eating habits, and increased consumption of fruits and vegetables to learners and parents.

In 2018, the Philippine government issued RA 11037 Masustansyang Pagkain para sa Batang Pilipino Act (Nutritious Food for Filipino Children Act) an act institutionalizing the national feeding program for undernourished school-aged Filipino children enrolled in public schools. The aim of the program is to combat hunger and undernutrition among Filipino children. The components of RA 11037includes the Supplemental Feeding Program for Daycare Children, School-Based Feeding Program for public school children and Milk Feeding Program. Nutritious meals shall be provided to the recipients of the program for a period of not less than 120 days in a year.

In 2019, the DoH implemented RA 11223 or The Universal Health Care Act which emphasizes an integrated and comprehensive approach to ensure that all Filipinos are health literate, provided with healthy living conditions, protected from hazards, guaranteed equitable access to quality and affordable health care goods and services, and protected against financial risk. The Act employs a framework that fosters a whole-of-system-government-society approach in the development, implementation, monitoring and evaluation of health policies, programs, and plans.

Also in 2019, the DILG issued the DILG-DoH-NNC Joint Memorandum Circular No. 2019-0001, also known as Guidelines on the Integration of Specific Programs, Projects, and Activities (PPAs*)* from the PPAN 2017-2022 to the Local Development Plans, investment, Programs and Budget of Local Government Unit. It enjoins all LGUs and barangays (villages) to prepare their

budget for the financial year 2020 and onwards for improved nutrition outcomes, anchored on the list of suggested projects or actions from the PPAN 2017-2022, for implementation at barangay, municipal/city and provincial level.

In 2020, DepEd issued the DepEd Order No. 23 s 2020, the Operational Guidelines on the Implementation of the School-Based Feeding Program for School Year 2020-2021, which is an adaptive strategy of the agency, in line with the current pandemic. The guidelines ensure the continuation of the implementation of the SBFP to address hunger and encourage learners to enroll, contribute to the improvement of their nutritional status, provide nourishment for their growth and development and help boost their immune system, and enhance and improve their health and nutrition values. Nutritious food products – through rationing – for at least 60 feeding days, and fresh or sterilized milk for 50 feeding days is provided.

As an adaptive strategy of the agency, in line with the current pandemic, DepEd released a policy under order number 14 series of 2020 or the Guidelines on the Required Health Standards in Basic Education Offices and Schools. The policy aims to implement specific interventions to mitigate the impact of COVID-19 in schools and offices. To achieve a strong immune system among learners and personnel to fight COVID-19, this policy shall enforce DO 13 series of 2017, to ensure the availability of nutritious foods in schools, provide nutrition education and post nutrition education and information materials such as *Pinggang Pinoy* (Healthy Plate), Food Pyramid, and cycle menus.

Lao PDR Regulatory Environment Impacting School Food Environments

In response to the double burden of malnutrition of populations in Lao PDR (Pengpid et al., 2018), the Government of the Lao PDR (GoL) have implemented policies to improve health, nutrition, and provide social protection. The policies and programs that have influence over school food environments are listed in Exhibit 3. Regarding the objectives of this literature review, of particular importance are policies and programs that relate to dietary habits of school-aged children and school food environments.

The National Policy for Promoting School Lunch (NPPSL) of 2014 focuses on education and nutrition-related outcomes, by stating that “emphasis is given on providing children with school lunch to promote access to education as well as to proper nutrition and good health to improve learning abilities. The NPPSL declares that the government will ‘provide counterpart funds for the provision of school lunch; these will have to be complemented by contributions from communities, as well as food production at schools. The policy promotes cross-sectoral collaboration, e.g., with respect to friendly and safe school environments, WASH, and complementary activities. It promotes healthy dietary habits, which children can sustain after their life in school – and can bring into their households and communities. The NPPSL is a cornerstone for the establishment of the National School Meals Programme (NSMP) and its future sustainability.

School feeding first started in Laos in 2002 and was initiated by the Ministry of Education and Sports (MoES) and WFP. Over the years, school feeding expanded to more schools, with MoES and WFP focusing on ensuring school feeding was nationally owned and sustainable, given the benefits of nutritious meals at school. Following the adoption of the NPPSL in 2014, a Memorandum of Understanding for the management of the school meal program was signed in 2018, to allow the shift from implementation by WFP, to the national government, which occurred in June 2019. The handover of the school-meals program by WFP to the MoES began in 2019 with 515 schools. In September 2021, the remaining 915 schools were handed over to

MoES. Given the need, WFP expanded the direct implementation of school feeding to 707 schools across 17 districts in partnership with MoES and Catholic Relief Services (CRS) from 2021.

Exhibit 3. Lao PDR Policies and strategies with components of health and nutrition in schools

Year	Abbreviation	Full Title	Sector
2014	NPPSL	National Policy for Promoting School Lunch	Education
2014	DPSL	Decree for Promotion of School Lunch	Education
2015	NPA	Nutrition Plan of Action 2016-2020	Nutrition / Health
2015	NSEDP 8	The 8th National Socio-Economic Development Plan 2016-2020	Overarching
2015	PA-SMP	Plan of Action of School Meals Programme 2016-2020	Education
2015	NNS	National Nutrition Strategy to 2025	Nutrition / Health
2016	ADS	Agriculture Development Strategy to 2025 and Vision to the year 2030	Agriculture
2016	DFDS	Decree for Food Safety and Nutrition in schools	Education / Health
2019	MDAP	Minister Directive on the Restoration of Agriculture Production in the Education Institutes	Education / Agriculture
2020	SRSP	Lao PDR case study on shock-responsive social protection	Social Protection
2020	ESP	(Draft) Education Sector Strategic Plan 2021-2025	Education
2021	NNPAN	National Nutrition Plan of Action 2021-2025	Nutrition/ Health/ Education/ Agriculture
2021	NSCHS	National Strategies for Children's health in schools (Hygiene and WASH)	Education

The objectives of the MoES NSMP are as follows: 1) to meet educational objectives; 2) to provide a social safety net; 3) to meet nutritional and/or health goals. The modality of delivery is to provide students with school meals, five times a week, during the school year. The geographies are dependent on vulnerability and need, but approximately 50% of all pre-school children in the country and 50% of all primary school children in the country participate in the NSMP. The NSMP follows a cash-based model, meaning that food is sourced through local procurement and community contributions. Nutritious food items such as rice, legumes, roots and tubers, eggs, poultry, meats, green leafy vegetables, fish, fruits, are encouraged, however, dependent on availability. National laws or policies related to school feeding include the National Policy on Nutrition (2008), National Nutrition Strategy (2030), and Action Plan 2016–2025. School cooks are trained in nutrition, menu planning, and food safety and hygiene. Foods grown in school gardens and small animals raised in schools, such as fish, are often consumed by students and/or sold to generate income to allocate to purchase of nutritious foods for school meals.

In 2015, the GoL adopted a National Nutrition Strategy to 2025 and Plan of Action 2016-2020, with the overall goal of reducing all forms of malnutrition among women and children and improve the nutritional status of multi-ethnic communities. Most recently, an updated National Nutrition Plan of Action (NNPAN) 2021-2025 was endorsed. In the plan, the GoL identified 22

priority interventions which include priorities that address the school food environment to improve child, adolescent and school community knowledge and behaviours about nutritious diets. Interventions include: 1) promote nutritious and healthy diets through integration into the school curriculum; 2) support the provision of micronutrient supplementation, deworming, immunization, and other health interventions in schools, including provision of fortified foods; 3) promote hygiene, including clean water, sanitation, and handwashing in schools; and 4) provide and promote nutritious school lunches. The plan emphasizes the importance of nutrition during the first 8,000 days and promotion of nutrition knowledge and behaviors is also meant to address the emerging burden of overweight, obesity and Non-Communicable Disease (NCDs).

1.3. GAPS IN THE LITERATURE

A systematic review of the available literature on dietary choices of school-aged children in the Philippines and Lao PDR, indicated that there is paucity of information from these two countries to inform programming and decision making. To date, there is very limited understanding of the prevalence of snack consumption among primary school children, along with the types of snacks consumed, the patterns of consumption, and the drivers of food choices for children aged 6-11 years old. See Exhibit 4 for an overview of the available literature for each of the three objectives.

Exhibit 4. Summary of findings from the regional landscaping of dietary choices of school-aged children, literature specific to the Philippines and Lao PDR

Literature review objectives	Papers from Philippines	Papers from Lao PDR
1) **To document consumption patterns of unhealthy foods and beverages among primary school-aged children 6-11 years;**	Of the 63 papers, only four had information on consumption patterns of school-aged children. Only one nationwide study; the remaining three in Manila and one in Cebu. -Angeles-Agdeppa (2003) looked at 376 mother-child pairs in urban poor communities in Metro Manila and focused on nutritional adequacy of diets. -Adair (2005) used a longitudinal cohort design to follow 2198 children in Metro Cebu to look at the changes in eating patterns. -Fan (2000) used data from the Global School-based Health Surveys to look at dietary habits among adolescents aged 12-15 years old --Florentino et al (2002) looked at physical activity patterns and dietary patterns of 10-year-olds in Metro Manila. - Angeles-Agdeppa (2019) conducted a cross-sectional survey of 11,691 children across 17 regions and 18 provinces (rural and urban) and assessed impact of wealth	Of the 63 papers, only one had information on consumption patterns of school-aged children. And, that paper, which was by Fan (2000) looked at older age children (12-15 years old) and not necessary school-aged children. -Fan (2000) used data from the Global School-based Health Surveys to look at dietary habits among adolescents aged 12-15 years old

	status on food intake patterns in Filipino primary school children and adolescents.	
2) To document information on the school food environment;	Of the 63 papers, there were no papers from the Philippines that had any information on the school food environment for children aged 6-11 or primary school children.	Of the 63 papers, there were no papers from Lao PDR that had any information on the school food environment for children aged 6-11 or primary school children.
3) To document drivers of food choice for primary school-aged children, 6-11 years.	Of the 63 papers, only one paper had information on child drivers or parental drivers of food choice. Angeles-Agdeppa (2003) looked at mother-child pairs to assess drivers and associations of underweight and overweight.	Of the 63 papers, there were no papers from Lao PDR that had any information on the drivers of food choice for children, 6-11 years.

In the Philippines, there have been only a few studies that document growing snack consumption away from the home, but do not document in-school snack consumption. And, in the Philippines, there have been no published studies that have looked at advertising and promotion in or around the school environment. Moreover, there was a great paucity in information related to consumption patterns of school-age children in diverse geographic areas. Most studies in the Philippines were based in the capital Similarly, in Lao PDR, there are currently no published reports on consumption of snack foods and SSBs inside schools nor any documented papers on the school food and promotional environment or how that environment may influence consumption.

II. STAKEHOLDER ANALYSIS

2.1. BACKGROUND

This stakeholder analysis used a qualitative approach to understand key stakeholders' perception of snacks and what constituted "healthy" vs. "unhealthy" foods and beverages in their context. The study team also wanted to understand more about policies and programs that address unhealthy foods and beverages and/or the school food environment as well as what snack foods and beverages were typically sold in and around schools in the Philippines and Lao PDR. Stakeholder recommendations on how to improve healthy food environments and healthy dietary choices for children were also an objective of the stakeholder analysis. The overall aim was to identify opportunities to strengthen healthy school food environments for primary school children.

2.2. METHODOLOGY

Identification of Potential Key Stakeholders

The stakeholder analysis consisted of first identifying key stakeholders that would have understanding, knowledge, and/or influence related to nutrition for school-aged children and/or school food environments. Stakeholders could include policymakers, program implementers, researchers, and other interest groups directly involved in influencing the food environment of primary school children. Stakeholders could also represent those working in production and supply, service delivery, and demand generation. Inclusion criteria to be considered as a potential stakeholder for interviewing were as follows:

- Persons who are involved in nutrition-related program planning or policy at the national and subnational level
- Persons who are influential in shaping the school's food environment
- Persons who are knowledgeable regarding nutrition- related programs of schools
- Decision-makers regarding food procurement and preparation in schools
- Implementers of nutrition/healthy lifestyle programs in schools

A long list of stakeholders for key informant interviews (KII) was identified through an internal brainstorming session involving members of the World Food Programme team in both Lao PDR and the Philippines (Noor Aboobacker, Maree Bouterakos, Rhea deLeon, Sengphet Laopaoher, Yangxia Lee, Martin Parreno, Soulitah Sengdala) and Helen Keller study team members (Dolly Rearo, Dalaphone Bounsavanh, Trixia Marollano, Annabelle Bonje). These persons were selected because of their intimate knowledge and experience with nutrition and/or school feeding programs. This was followed by a snowballing method to identify additional stakeholders. This process identified a total of 30 potential stakeholders in Lao PDR and 25 potential stakeholders in the Philippines.

Mapping Key Stakeholders

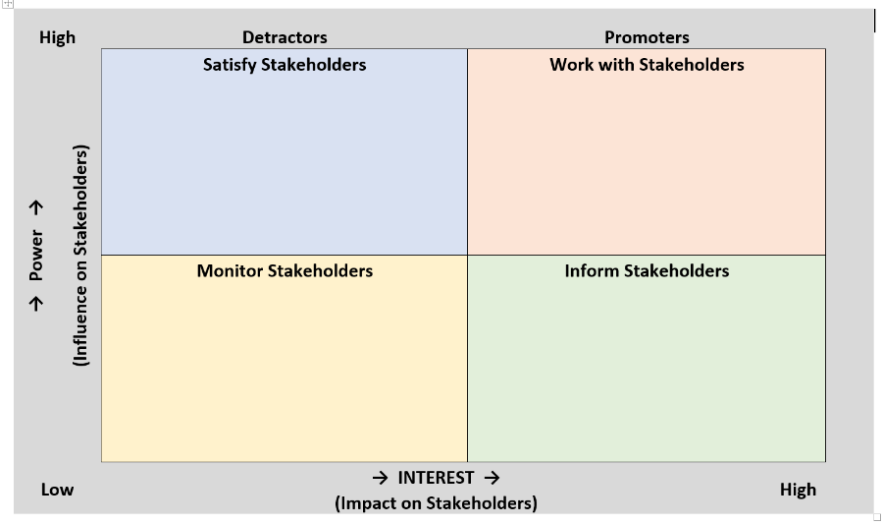
A multi-step process was used to facilitate the process of prioritizing and mapping stakeholders relative to their influence and interest in children's diets and the food environment. The first was to use the *Stakeholder Mapping Tool: Power/Interest Grid* (see Exhibit 5) as a general guide to help assess and think systematically about the level of influence a stakeholder may have in promoting the study's final recommendations. Each stakeholder/potential key informant listed

was mapped to one of four possible Quadrants (1, 2, 3, or 4) based on their level of power and interest.

Quadrants:

1. High power, highly interested and influential people: High-level policymakers and other influential persons (i.e., nutrition champions) who are advocating for healthy food environments and positive nutrition behaviors should be fully engaged. Prioritize including in KII.
2. High power, less interested people: Keep these stakeholders informed of the study findings. Invite to dissemination workshop and share key findings. Prioritize including in KII.
3. Low power, highly interested people: Adequately inform this group and have discussions to ensure that they are aware of study and findings. Include in KII only if there is availability, space.
4. Low power, less interested people: Not a priority to include in KII.

Exhibit 5. Stakeholder Mapping Tool: Power/Interest Grid



The second part of the process was to rank stakeholders within their individual quadrants. For each stakeholder mapped into Quadrants 1, 2, or 3, the study team listed their names and information in an Excel sheet and recorded their level and quadrant number. Once all names and information were entered, the team members ranked individuals within their respective quadrant. Ranking was to be based on perceived power and influence. Once complete, stakeholders in Quadrant 1 were ranked 1 to highest number, stakeholders in Quadrant 2 were ranked 1 to highest number, and stakeholders in Quadrant 3 were ranked 1 to highest number.

The third part of the selection process was to categorize stakeholders based on their affiliation and job position—if they were working at the national level, subnational level, or was posted as a school head/and or director. Study teams aimed to identify 8-10 national level stakeholders; 4-6 subnational level stakeholders; and 2-4 school heads/directors. In total, each country aimed to select a minimum of 14 stakeholders and a maximum of 20 stakeholders. The final selection of stakeholders was based on availability and willingness to be interviewed during the interviewing period.

Interview Guide and Questionnaire

Semi-structured interview guides were developed, and all questions were open ended. One guide was for both national and subnational stakeholders and another interview guide was developed for school heads/directors. The national/subnational level interview guide focused on: perceptions on “snack” and “unhealthy” foods and beverages; policies and programs that address foods, beverages, and schools, along with healthy eating, and nutrition; implementation, monitoring, and enforcement of these policies and programs; program and policy achievements; and perceived needs for further improving healthy eating practices for young children. The interview guide for school heads/directors covered the same domain as the national/subnational levels along with questions on the availability of foods and beverages inside their schools; and decision-making on what foods, beverages, and commercial promotions can be present in and around the schools.

Members of the WFP study team (Noor Aboobacker, Maree Bouterakos, Rhea deLeon, Sengphet Laopaoher, Yanxia Lee, Marteen Parreno, Soulitah Sengdala,) and Helen Keller study team members (Dolly Reario, Dalaphone Bounsavanh, Trixia Marollano, Annabelle Bonje) adapted the interview guide to the Lao and Philippines context and members of the WFP study team reviewed and approved the guide before being used. Interviewers were trained to add prompts as appropriate, to elicit more in-depth responses.

Data Collection and Data Management

Five members of the Helen Keller study team conducted individual interviews with a total of 18 stakeholders in Lao and 19 stakeholders in the Philippines. Interviews were conducted and recorded using online platforms (Zoom and Teams). On average, each interview lasted 60-75 minutes. After the interviews, recordings were used to transcribe the interviews from the local language to English and any supplemental notes taken during the interviews were documented. Transcribed and translated interviews were then uploaded into NVivo for coding.

Coding and Data Analysis

Four members from Helen Keller were charged with data coding, analysis, and interpretation, along with reading through all the notes from the 38 interviews to become familiar with content. After familiarization, the research team carefully reviewed the notes from each interview line by line and noted key themes and sub-themes and applied descriptive labels and codes. These labels and codes were then organized into categories per question in the interview guides (similar to a tree diagram or matrix) to develop an overarching analytical framework or codebook. An initial set of 56 codes emerged across the questions. The codes were then inserted into NVivo qualitative software. The working analytical framework was then applied to all the transcripts using line by line coding for all interviews using NVivo digital tagging and coding. In the process of line-by-line coding, other codes emerged and were added to the codebook. The final codebook contained 356 codes from Lao and 319 codes from the Philippines across the stakeholder files. In addition, all 37 files were classified into cases or stakeholder groups. The three stakeholder groups were: national, sub-national, and school head/director.

Interpretation of Data

Several times during the coding process, the research team met to discuss and interpret the data as well as to revise the analytical framework and codebook. Framework analysis was used to facilitate recognition of patterns, including contradictory data or deviant cases. Data was interpreted to understand the diversity of viewpoints on the subject matter but also to understand areas where there were common themes. The team noted the most common

themes that emerged per question and if there were any commonalities or differences among the stakeholder groups (i.e. national, subnational, school heads/directors). The frequencies of codes, the number of times they emerged in a single interview and the number of times they emerged across all interviews, was generated, and documented using NVivo. Throughout the coding process, interesting quotes that reflected the original meaning and 'sentiment' of the interviewee were tagged using NVivo so that they could be retrieved later as illustrative paraphrases of the respondents.

2.3. RESULTS FOR PHILIPPINES KEY INFORMANT INTERVIEWS

This section of the report summarizes the responses of stakeholders during key informant interviews and is organized according to the main themes which emerged. Nineteen stakeholders from the Philippines, across a range of sectors and agencies participated in the stakeholder assessment. Of the 19, nine were national, five were subnational, and five school heads/directors (see Exhibit 6).

Exhibit 6. List of stakeholders' organizations selected for key informant interviews in the Philippines

	Philippines
National stakeholders (9)	Department of Education (1)
	Department of Science and Technology – Food and Nutrition Research Institute (1)
	National Nutrition Council (1)
	Department of Health – Food and Drug Administration (1)
	Department of Social Welfare and Development (1)
	Department of Agriculture - Philippine Carabao Center (1)
	World Food Programme – Cotabato, Philippines (1)
	Universal Robina Corporation (1)
	International Institute of Rural Reconstruction (1)
Subnational Stakeholders (5)	DepEd Rizal School Division Office (1)
	Malabon School Division Office (1)
	Montalban Municipal Nutrition Office (1)
	Taytay Municipal Nutrition Office (1)
	Malabon City Nutrition Action Office (1)
School heads (5)	Schools in Malabon City (3)
	Schools in Rizal Province (2)
Total	**19**

Local Words and Meanings for the Word "Snacks" in the Philippines

At the start of the interview, the interviewer asked, "what do you think of when you hear the word 'snack'?" The interviewer is trying to understand the key informant's perceptions and own definitions of these foods and what immediately comes to mind. For example, types of foods, quality of foods, associations with time of day eaten, or other perceptions. In both countries, people use the English word "snack" in addition to local phrases that we wanted to identify and understand. Exhibit 7 lists the most cited local Filipino words that corresponded to the English word "snack" and the associated meaning of those words.

Exhibit 7. Local phrases and associated meanings for the word "snack" in the Philippines

Filipino word for "snacks"	Meanings
Merienda	It's a meal eaten before or after lunch; usually eaten between the main meals.
Pamatid Gutom	To bridge the gap between full meal, It is a smaller portion of your usual meal.
Pantawid Gutom	Something eaten when hungry before we eat the next main meal
Chichirya	Junk food

Snacks are a part of the nutrition transition in the Philippines. In the Philippines, many key informants noted that there was a change in the types of foods being consumed as snacks. In previous generations, snacks were traditional foods like sweet fruits or plantains and sweet potatoes that were either grilled, boiled, and minimally processed. But now snack foods are increasingly processed foods, fast foods, or viewed as "junk food".

"Snack, when we reach our age bracket [adulthood)], it means merienda. But for children, snacks is different for them. It's junk foods. Most of the people that we have interviewed in our community says that they view snacks as junk food." -Subnational stakeholder

"Before, when you say the word 'merienda', the mother would be cooking snacks like sweetened plantains, which was my favorite. Or banana cues [sweetened plantains on a stick] and camote cues [sweetened sweet potatoes on a stick] ...But now, when you say 'Let's have a snack', it means we will order burgers or French fries. -National stakeholder

"Children nowadays are fond of eating highly salty junk foods. Chicha [chichirya] is what the children's favorite snack. They also like drinking milk teas and these are easily accessible as you can simply order it online." -National stakeholder

"In reality, the school children won't really patronize snacks like boiled plantains and boiled sweet corns. They are fonder of eating chichirya [junk food]." - Subnational Stakeholder

Snacks commonly consumed as in-between meal throughout the day. In the Philippines, stakeholders at both the national and subnational level viewed snacks as light meals to be eaten in-between the main meals of breakfast, lunch, and dinner. Thus, snacks are commonly consumed throughout the day, often several times a day, and are a part of the routine dietary pattern for most Filipinos.

“Snacks are what we consume in between major meals. So, after breakfast, we can have an A.M. snack. After lunch, we have P.M. snack. Then, after dinner, we can also have a midnight snack.” -Subnational Stakeholder

“Snack is basically taken in between major meals. When we talk about major meals, it would consist of breakfast, lunch, and dinner. Snacks can be taken in between those meals. You can take snacks anytime of the day.” -National stakeholder

“Taken in between meals. It refers to light food and drinks. In the Philippine setting, we usually have two meriendas or snack per day. Taken in between breakfast and lunch, and in between lunch and dinner. But sometimes you have midnight snacks. But it generally refers to light foods and drinks.” -National stakeholder

Availability of snacks. Key informants frequently noted that snacks are everywhere and that they are easily accessible for children, and that they are conveniently located nearby schools.

In Legaspi, our office is right across an elementary school. Few meters away from school is an ambulatory store where they sell all kinds of chichirya, unhealthy snacks in the world. Pre-pandemic, I would really observe how those kids would behave, they will be holding all sorts of chichirya… when children would go out of school the ambulatory vendors/ store is very close, unhealthy food and drinks are sold in less than ten meters away from school.”-National stakeholder

“In the city, whether in the elementary schools or in the colleges like in Cotabato City for example, there are a lot of stores that surround these schools and sell different kinds of food.” -National stakeholder

“But, if you go outside the schools, I know that there are vendors that sell these. There may be no chips available in the schools but when you go out, it’s all actually there. I think it’s part of the policy that says that these vendors that sell junk foods should have a certain distance from the school.” -National stakeholder

Positive associations with snacks. Some participants noted the important role snacks play for children that do not have breakfast or other main meals. For these children, snacks can be an important nutritious alternative to a main meal.

"As I grow older, as I have seen malnutrition problems, I think, what if a snack is the only meal a child can get for the day? I think that’s where snack becomes more important to be provided in schools because in reality, there are really children who goes to school who did not have breakfast.” -National stakeholder

“These [snacks] are food that can give their daily nutrient requirements like how much calories they need to take in a day, the macro and micro-nutrients they need.” -National stakeholder

Negative associations with snacks. Snacks and snacking were viewed negatively by some when they replace or crowd out “main meals” or when they are “too heavy”. Some noted snacks as a contributor to malnutrition, overweight, and obesity.

"My father then would always tell us to not have a heavy merienda because you’d then lose your appetite for the main meals; of course, you’d then feel satiated as you have been full after a heavy snack.” -National stakeholder

"For children and unhealthy snacks, unfortunately, this is what causes malnutrition, whether it is undernutrition or obesity to which, is now what is increasing more. Nowadays, we can see more obese children and that is because of their snacking practices and habits.” -National stakeholder

Sometimes I find snacks for children disruptive to their main meal. Because we have kids at home, the timing of giving them snacks, sometimes disrupt their eating." -National stakeholder

FOODS AND BEVERAGES PERCEIVED AS "HEALTHY" AND "UNHEALTHY"

Because not all "snacks" may be perceived as healthy or unhealthy, the research team wanted to understand what foods or types of foods the key informants viewed to be healthy or unhealthy, specifically for children. Exhibit 8 lists the foods that are most associated with being healthy or unhealthy in the Philippines.

Most foods that are considered "traditional" or natural such as banana cues, grilled corn, or fresh fruits are viewed as "healthy". Though some foods such as *puto* and *kutsinta (Filipino steamed cake) a*re viewed as healthy though they can have a lot of added sugar and refined carbohydrates.

Exhibit 8. Foods or types of foods and drinks perceived as being "healthy" or "unhealthy" in the Philippines

Filipino foods and drinks viewed as "healthy" snacks	**Filipino foods and drinks viewed as "unhealthy" snacks**
Fresh buko juice (coconut juice)	*Chichirya (chips for example Boy Bawang, Mr. Chips, Chippy)*
Banana cues (sweetened plantains on a stick)	Soda or soft drinks
Camote cues (sweetened sweet potato on a stick)	Tetra juice
Cassava	Burger
Eggs	French fries
Goto (rice porridge)	Milk teas
Nilagang saging (boiled plantains)	Frappes
Nilagang mais (boiled sweet corn)	*Kwek-kwek (quail eggs coated in fried batter)*
	Chicharong manok (deep-fried chicken skin)
	Ihaw-ihaw (pork barbecue)
	Ihaw-ihaw (pork barbecue)
	Cakes
	Ice cream
	Chocolates
	Instant noodles
Types of Foods	
Traditional foods (banana cues, *camote* cues)	Street foods (ihaw-ihaw, kwek-kwek, chicharong manok, fish balls)
Filipino delicacies (*puto, kutsinta*)	Junk foods
	Fast foods
	Salty foods
	Sugar sweetened beverages (milk tea, frappes)
	Processed meats (hotdogs, meat loaf)

Views of healthy snacks. Many stakeholders in the Philippines mentioned that healthy snacks are foods that provide the daily nutrient requirements a child needs. Children should be provided with the right kinds of food for the development of their brain and body. Natural and fresh food are considered healthy food by many of the respondents.

"A certain healthy food product may contain certain vitamins and minerals and these contents must be proven scientifically if these are really present in the product. A certificate of analysis would help substantiate the claimed nutrients, and the nature of a food product." -National stakeholder

"These are foods that can give their daily nutrient requirements like how much calories they need to take in a day, the macro and micro-nutrients they need. These are healthy foods." –National stakeholder

Views of unhealthy snacks. Stakeholders considered snacks to be healthy or unhealthy depending on their nutrient profile and whether they contain chemicals or harmful substances. Unhealthiness is also dependent on the quantity consumed.

"I think it's not really all about the contents of food that makes it unhealthy but it's about the quantity that people consume." -National stakeholder

"The first thing that comes to my mind when I hear the phrase "unhealthy snacks and drinks" is that usually, these foods may be high in fat, sugar, and sodium." -Subnational stakeholder

"If a food contains certain contaminants, or it is adulterated, or unintentionally containing harmful substances that may cause harm or toxic to the body, then, we can consider it as unhealthy." -National stakeholder

Types of unhealthy snacks consumed by schoolchildren. Chichirya or junk foods are the most common unhealthy snacks consumed by school children in the Philippines. These types of snacks are high in sodium and caloric-dense, and often lacking the critical nutrients that schoolchildren need for their development.

"I would be thinking of junk foods as foods that very high in sugar, not balanced in terms of protein, carbohydrates, and all other micronutrients like more on of the sugar." -National stakeholder

"Also, chips are now the usual snack of children. These children would eat it with soft drinks. So, after having chips and soft drinks for a snack, you've finally had a fulfilling snack. Unfortunately, that is the reality. Those snacks are easily available." -National stakeholder

Types of Foods and Beverages Sold Inside Schools

For school heads and school directors, we asked specifically about the types of foods and beverages that are usually made available inside the school area. As many schools in the Philippines have been closed due to COVID-19 for the past two years, we asked school heads to let us know the situation pre-pandemic.

Availability and affordability of unhealthy snacks. Unhealthy snacks are readily available and easily accessed by children at a cheap price within the vicinity of schools. Key informants noted that mobile vendors and sari-sari stores near schools sell these kinds of food because they are liked and preferred by children. Many stakeholders believe schools have limited capacity to monitor and control these transactions outside school grounds.

"But still, there are some children that would buy food outside and they would buy junk foods. There are some street vendors that would tolerate little children and would sell them junk foods." -National stakeholder

"The external vendors have a big influence on the food choices of school children since they're the ones that these children would often see in their surroundings. When children go out of the school, that's it. The

children will buy just anything that is available outside the school and that is already beyond the school's control." -National stakeholder

Policy and Decision-Making on Foods and Beverages in and Around Schools

Policies for within school. Most of the school heads mentioned that they follow the guidelines of DepEd regarding the type of foods and beverages being sold inside the school canteen. To encourage the schools to follow the guidelines regarding the availability of healthy food and snack inside the school canteen. DepEd recognizes the "Most Functional School Canteen" on an annual basis. They also have a monitoring team that regularly checks the school canteen to ensure that healthy snacks are available and accessible in every public school.

"We have a lot of orders that basically regulated the foods and drinks that can be sold and offered inside the schools. We also have the DepEd order no. 13 series of 2017 on the healthy food and beverage choices in the schools." -School head

"We follow the suggestion of our school canteen managers on what are the usually bought meals by the school children. We also follow the guidelines on healthy food and drink choices inside the schools." - School head

"The canteen manager sells the food in the canteen. She is also a teacher, but she has helpers. And the DepEd requires that the canteen helpers should have yearly medical check-up, our school canteen also have sanitation permits from the provincial government of Rizal. The canteen helpers should be healthy because they help with managing the school canteen. The canteen helper also does the purchasing of the snacks and foods that are being sold inside the school canteen." -School head

One school head mentioned that some teachers are allowed to sell food products inside the school canteen to augment their income.

"So far, I do not see ambulant vendors inside the schools. We only have our school canteens. There are some teachers who sell food products inside the school so they can have an extra income. They would not really sell it personally, but they will just place it inside the school canteen." – School Head

One school head emphasized the ability of the canteen helper to make healthy food appealing to the eyes and taste of the schoolchildren is a unique strategy in encouraging children to consume nutritious foods.

"To make nutritious food appealing to kids, perhaps the strategy of our canteen helper is a perfect example. She is very creative that the children don't notice that she/he is eating the vegetables and fruits that she/he doesn't like." -School head

Foods and Beverages Outside or Nearby Schools

Snacks within the vicinity of schools. Unhealthy foods and drinks are commonly available outside schools. Often school children prefer to buy food outside school even if they are encouraged by the teachers to purchase food from the school canteen.

"We coordinate with the LGU to make the ambulant vendors at least 100 meters away from the school vicinity." -School head

"We don't have any control about what they buy and eat outside the schools. And we keep on telling the learners and the parents as well not to buy junk food outside the schools. There are cases that the

children experienced having stomach pain, and the parents are assuming that it is cause by the food that they buy inside the schools, but it is the food that they bought outside the school." -School head

"And outside school we cannot control the food being sold by the vendors like 'palamig' (sugar sweetened drink). The public schools do not have any control of that. There are cases that sometimes when the child has pocket money, they don't buy in the school canteen even though we keep on emphasizing that healthy food is available inside the school, I think they like more what is being sold outside the school." -School head

Role of community leadership in regulating ambulant vendors. School heads coordinate with barangay local government officials to minimize the presence of ambulant vendors and ensure food safety. However, the results are sometimes not favorable and create misunderstanding between the barangay officials and the vendors.

"We ask the barangay to help us but sometimes the result is not favorable for both. Sometimes it creates misunderstandings between the vendors and barangay officials. We proposed to the barangay that the vendors should be given a specific time when to sell their product (food/drinks) outside school. It is usually after classes, before the start of the class, vendors are not allowed to sell food/drinks outside the school. But somehow there are vendors who don't follow the proposal because this is their source of income. Most of the vendors are parents of our students. What we proposed to the barangay is to monitor who are the vendors outside the school so if there will be problem, we know whom to approach." -School head

"We do not have control on who can sell outside the schools because if we would prohibit them, they might argue with us. So, we let the barangays help us regulate the vendors outside the schools." -School head

"We actually do not allow the ambulant vendors to sell close by the school. We tap the LGU in reprimanding these vendors to maintain a certain distance away from the school as this is an order from DepEd. We do not have control over these vendors outside so I think the vendors may comply with LGU guidelines on how to regulate their businesses in terms of food safety and proper business permits. The vendors must have at least a health certificate and pass the food safety requirements from the LGU. However, not all complies with those requirements, and we can't just tell them to stop selling as they are just doing it for a living." -School head

Policy and Decision-Making on Food Promotion Advertisement

Decision-making advertisement. The school heads prohibit posting advertisements inside the school and its vicinity. There are few school heads who mentioned that they do not allow any advertisement materials that promote a certain brand particularly those that are categorize as 'unhealthy'.

"It is the school head who makes the decision if advertisements inside or outside. But we do not allow any advertisement materials that promote certain brands of food to be posted inside or outside the school." -School head

"We do not allow advertisements to be posted inside the school and its walls and vicinity. Although, we no longer have control on sari-sari stores outside the schools that would post advertisements in their stores." -School head

"We cannot control the advertisements of fast foods like Jollibee, but we make sure that we don't allow these posters to be displayed in our school. The flyers that these fast foods give us is for our personal consumption, but we do not encourage our learners to consume these kinds of foods." -School head

Formal Agreements with Vendors in Schools

All the school heads that we talked to confirmed that there are no formal agreements with vendors to sell food inside the school because the presence of ambulant vendors inside school is prohibited by the Department of Education.

"We only sell food and drinks inside the school canteen. We do not allow ambulant vendors or other vendors inside the school." -School head

"Inside the schools, we do not have that much of a challenge in maintaining the healthy meals in our canteens as we have guidelines to follow. But with regards to the external vendors, I think the LGU has a big role to play in helping us develop the snack environment outside our schools." -School head

Familiarity with Policies or Programs that Address Healthy and Unhealthy foods in Schools

Exhibit 9 lists policies which stakeholders were most familiar with were the policy on school canteens, the Sangkap Pinoy Sela, the SFP, Masustansyang Pagkain para sa Batang Pilipin, Gulayan sa Paaralan Program (School Garden Program)

Exhibit 9. Policies or programs that address unhealthy foods in schools or the food environment that stakeholders were most familiar with

Policies or programs	Knowledge about the policy
Policy on school canteens	Stakeholders commented that these guidelines apply to school canteens operating in public elementary and secondary schools. School canteens should only sell nutritious foods and those with the *Sangkap* Pinoy Seal food products. It provides guidelines in categorizing foods and drinks specifically, classifying them into the color-coding system: red=product not allowed to be sold; yellow=allowed to be sold in school twice a week; and green=allowed to be sold everyday
Sangkap Pinoy Seal (Filipino Ingredient Seal)	Stakeholders commented that *Sangkap* Pinoy Seal is part of RA 8976, Food Fortification Law. Food producers whose products contain iron, iodine, and vitamin A can avail themselves of the *Sangkap* Pinoy Seal. Food products that do not bear the Pinoy *Sangkap* Seal are prohibited in school canteens.
School Based-Feeding Program	Stakeholders reported that the target beneficiaries of this program are undernourished kindergarteners to grade 6 public school children. This policy helps in promoting awareness regarding healthy foods and it improves the classroom attendance of school children. During the pandemic, food supplies were delivered directly to the houses of the school children with the assistance of the school division office and the barangay officers.
Masustansyang Pagkain para sa Batang Pilipino (Nutritious Food for Filipino Children)	Stakeholders noted that the Republic Act institutionalized the national feeding program in the country. It mandates both DepEd and DSWD to implement SFP and Supplemental Feeding Program for daycare children. For 120 days, undernourished children will be given a fortified meal.

Gulayan sa Paaralan Program (School Garden Program)	Stakeholder commented *Gulayan sa Paaralan* is a program component of OK sa DepEd policy. It introduces school children to gardening and cultivating nutritious foods where the garden produce is used for supplementary feeding programs specifically in daycare centers. It is a holistic nutrition intervention program of DepEd.

Key Achievements Made through these Policies and Programs

There was a wide range of notable successes of the Philippines School Feeding Program (SFP), see Exhibit 10. Many stakeholders noted that the SFP was an entry point for providing nutrition education, hygiene education, and that school gardens reintroduced indigenous vegetables to children and to the parents. One of the key successes most noted is the strong multi-sectoral collaboration produced through the SFP and the strong collaboration between schools and community leaders and local producers. The SFP also provided a model of cooperation between parents, communities, and schools to improve healthy food environments. Others noted that the benefits of SFP are that children are not exposed to unhealthy foods, they eat more nutritious foods, and are introduced to more diverse foods.

Exhibit 10. Perceived key achievements of the School Feeding Program

Perceived key achievements and/or successes noted of the SFP	Supporting interview quotations
Strong community partnerships built	*"Local partnerships should also be valued. We have someone wherein whenever we call, they would immediately answer. If that partnership was not built, I don't think that there would be support provided. I think that is also an important factor and achievement." --National stakeholder*
Inclusion of nutrition education in the basic education curriculum	*"DepEd adopted the modules that we developed, and it is integrated in their lectures and in their daily learning lectures regarding good nutrition. This is about basic nutrition. It includes seven modules that we have developed and submitted to Secretary Liling Briones of DepEd. We are very happy because, it was actually scaled up at the national level through their DepEd Nutrition Division," -National stakeholder*
Awareness of school children about healthy foods	*"The school children became more aware about healthy snacking and the teachers are willing to learn more and disseminate more information about nutrition education." -Subnational stakeholder*
Ability to introduce more diverse and nutritious foods to children	*"We learned that there is definitely room for improvement in the utilization of school gardens to provide fresh, nutritious, and safe vegetables. These vegetables can be used in schools whether it be in the feeding programs and maybe, also, in snacks. For snacks, there are recipes that are prepared that's not only applicable for lunch but also, for snacks. If children would like burgers, we can do a cowpea burger. That's actually tasty. Beans are tasty." –National stakeholder*
Sustainable livelihood for vegetables and dairy farmers	*"The objectives of this milk feeding program became two pronged –to address the nutrition of the children and to increase the income of the farmers. This is not only the dairy farmers; because in the nutritious products there is also the provision of vegetables, fruits, eggs, rice, bananas, camote. These are sourced from our local farmers. Many*

	farmers were helped by this RA. That is the goal of the government, especially at this time of the pandemic, to help the farmers." -National stakeholder
Re-introduction of indigenous vegetables	*"School feeding program has the integration and the utilization of indigenous vegetables in the school meals… They have also integrated the bio-intensive gardening practices that really aims to eliminate the use of chemical fertilizers…" –National stakeholder*
Ability to control school food environments and mold children's food preferences for healthier foods	*"School canteens, by the way, have a big role to play most especially with the snacking environment of children. Children actually buy their food in these school canteens while with the school-feeding programs, the meals are just provided to the children so it's more controlled. But with regards to snacks, it's the children who actually choose and buy it from the canteens. The way to control the snacking environment of the children is to manage the available snacks provided in the canteens." National stakeholder*

Inclusion of nutrition education in the basic education curriculum. Many stakeholders noted that one of the positive benefits of the SFP was the promotion of healthy diets and the integration of nutrition education and hygiene education into the school curriculum. A number highlighted that one of the primary tasks of the teachers is to introduce children to the importance of heathy foods. The teachers are taught to integrate in their lectures the value of proper nutrition and its impact on children's overall development.

"If children are accustomed to eating chips and soft drinks, they will do it until they grow old. But really, schools are powerful. They say that sometimes, children listen to their teachers more than their mothers. Now, if schools have a regular and very powerful way to mold the children's perception and knowledge and education to good food and good nutrition."—National stakeholder

"Nutrition education should have a part on the education curriculum. Children should be taught at an early age the healthy snacking patterns and healthy dietary choices. If it is already included in the curriculum then, it should be strengthened or revitalized." -National stakeholder

"Teachers are responsible in educating them regarding the different kinds of nutritious foods like fruits and vegetables. And what does it does to our body, but the challenge is how to prepare and cook it in a way that the children will like it. Educating the children in relating to eating nutritious food should be continuous until they grow up." -National stakeholder

Strong multi-sectoral partnerships. When various groups work together openly, the processes and goals become more aligned, which leads to achieving a common goal. Multi-sectoral partnership creates an enabling environment where everyone can utilize the knowledge, skills, and experience of everyone involved.

"I think establishing partnerships is important. The government and the NGO learn from each other. Both the government and the NGOs like the WFP are grounded with what is really happening in the field and that is important because all of the programs that we do here are based on the needs of the people." -National stakeholder

"Our partnership with DepEd is through their School Division Offices. For this on-going milk feeding program, we have partnered with 95 School Division Offices from Luzon, Visayas, and Mindanao. The 95 school divisions are in partnership with our regional centers nationwide." -National stakeholder

"The various inter-agencies should have better collaboration in implementing the policies and should also involve stakeholders in relation to policymaking. Like me, I belong to Food Industries Association, if they inform us, we usually join a round table discussion, and the industry is also willing and open to collaborate." -National stakeholder

Sustainable livelihood for vegetables and dairy farmers. The School Feeding Program addresses not only the problem of malnutrition but also helps in alleviating the living conditions of the local farmers but also financially supports local farmers by providing a reliable market for their products. Republic Act 11307 emphasized that nutritious foods must be locally produced.

"They are the supplier of the milk feeding program. But before the milk feeding program, they already produce other dairy product – queso, pastillas, chocolate milk. So the milk is like an additional product for the feeding program. They will no longer think where to sell their milk because DepEd is already there waiting for their supply." -National stakeholder

Challenges Faced with Implementing and Enforcing

When asked about implementation and enforcement challenges, stakeholders talked about constraints in human and community resources to operate the program, budget constraints for operations and monitoring, and limited knowledge of food safety and hygiene (see Exhibit 11).

Exhibit 11. Common challenges noted in implementing the School Lunch Program

Typical challenges that were noted	Supporting interview quotations
Lack of in-person access to schools during the pandemic	*This is prior to pandemic we would get all the data. And at some point, we also visit the school with the assigned monitoring officer. We were able to talk to the school principal and the in-charge of the school feeding program. But now that there's a pandemic, DepEd is doing something different, I am just really hoping that it will come back up to resemblance of normalcy soon." -National stakeholder*
Lack of community resources to support cooking and contribution of produce	*"Our LGUs tried to tap the local sari-sari stores (micro variety of goods stores) for easier procurement of goods for our far-flung communities but, they said that it would be a challenge to monitor this kind of set up (for the supplemental feeding programs in remote areas)." -National stakeholder*
Lack of human resources	*"Usually, the first challenge is the manpower, it can't just be us doing everything. For example, I cannot do it alone – the getting of children's weight etc. If there is already lack in the manpower itself, the whole program will not work." -Subnational stakeholder*
Lack of proper knowledge of food safety	*"They are serving milk also, when we have our field survey, we also noticed that there are vegetables given in plastic bags distributed to children. It was distributed at the district level and then given directly to the beneficiaries however there are cautions into it because some of the vegetables might be rotten already as I have seen before. Some of the vegetables are rotten already like the bottle gourd (Upo in Filipino) because they cut it into pieces, again we are also concern about food safety and if it is perishable vegetables like cucumber or bottle gourd they should not cut it into pieces, instead they distribute in whole." -National stakeholder*

Budget constraints	*"Aside from the hot meals, undernourished children are provided with milk, according to law for 120 days. But for the DepEd, I think with the budget constraints, they initially in the first year of implementation, provided the kids for 20 days, on the second year an average of 25 days, so it's around 25-30. In school year 2021 it has an average of 30 days. They were not able to provide the 120 days." - National stakeholder*
Inconsistent with guidelines	*"I already talked to the supplier of Enhanced Nutribun but DepEd said we don't want the Enhanced Nutribun. There are DepEd divisions who do not approve the Enhanced Nutribun." -National stakeholder*

Inconsistencies in the implementation of programs and policies at the national and school level. Having a consistent approach is very crucial in implementing policies and programs. Many stakeholders noticed inconsistencies in terms of policy implementation both at the national and school level. These inconsistencies, if not properly addressed, might hinder achieving the objective of the policies.

"Not exactly but from time to time, who are doing rounds to school, because there are instances regarding reports on our sales. Then there would be, schools from the other municipalities are strict while others are not strict. When they are strict, it means that the monitoring team from Central Office is checking their canteen." -National stakeholder

"In our office at DepEd, this is pre-pandemic, every meeting, they always serve unhealthy food like fried chicken, why? Because it is cheaper, we cannot demand healthy food or vegetables, and it is not readily available. Healthy food is expensive, the finance unit will question our unit for spending beyond the allowed (food) budget." -National stakeholder

"The Milk Feeding Program, according to RA 11037, the milk supply must come from the National Dairy Authority (NDA). But they now allow the giving of powdered milk to school children. That is not encouraged by the NNC or the DOH though it is not very young children. But you know if I'm a mother I would see my son, my child, my daughter getting powdered milk in school as something to be fed or given to the child. I would never think that formula milk is bad, right and I will think it's also good for my child because the school distributes it. So, why wouldn't I give it to my little kid? There is a subtle approval of milk powder to be given to a child — very young child. And yet that's a no, no when it comes to our breast-feeding campaign." -National stakeholder

Proper allocation of funds. Stakeholders noted the importance of prioritizing and allocating resources wisely to ensure funds reach where they are required the most. Some key informants suggested that to identify areas of weakness, gathering and utilizing data will help in allocating resources in a useful and sustainable manner.

"I think funds should be allocated for capability building in the division offices and local schools. We do the orientation yearly for the school canteen managers. Sometimes, they tend to forget about the guidelines. Every year, they also replace the school canteen managers. So, when they replace the manager, we need to do another orientation." -Subnational Stakeholder

"At least we have already started and what is good is that it has been institutionalized already the milk feeding program. We just hope that the budget for this will continue. We will not see it's impact if this will be only for one year. It would be good if it will be continuous and eventually reduce malnutrition." - National stakeholder

"These are some of the things that we try to look, how many weighing scales do they have, and what kind of weighing scale do they use. DOH had funds to buy balance beam; that is high large weighing scales that are heavy, that [can measure] height." -National stakeholder

Support and commitment of national and local key officials. Key informants frequently mentioned that successful implementation and long-term sustainability of the programs depended on local buy-in of key leaders and government ownership and commitments. Government leaders were needed to support advocacy and promote the health and nutrition of schoolchildren.

"And no matter how good your intentions are, it's the mayor who still calls the shots, especially if the mayor is traditional politician. Especially if the mayor is autocratic. We are trying to point out the win-win solution wherein you give in to the mayor [at times]. It looks like you must meet halfway in order to come up with a win-win (situation)." -National stakeholder

"One more challenge is the support from the key officials. This also falls under the issue of prioritization. Usually, the key officials would only support education and curriculum development. Probably, the officials think that the department (DepEd) should really be focusing on education as it is its mandate. But this doesn't apply in all regions and divisions, this is just a mere observation in some offices." -Subnational stakeholder

"It is hard to implement a policy or program if it is not well supported by our government officials. Otherwise, it is easy if the government officials are open-minded and easy to work with." -Subnational stakeholder

Monitoring and Enforcement Mechanisms for Policies and Programs

Poor monitoring system in place. Program implementers must focus on creating an enabling environment to ensure seamless implementation and monitoring of the policies and programs. Provisioning of proper equipment and conducting training and capacity building among those who are involved in the program implementation are of equal importance.

"I also told them that we will no longer use the weighing scales available in schools that are often-limited, which is no longer correct. I think this is probably one of the reasons why I heard, or I would hear every now and then rumors those teachers don't really weigh their students or get the height of the students because they don't have proper gadgets or equipment for it." -National stakeholder

"The only problem is the anthropometric assessments are being repeated in the barangays and schools since the barangays have a separate monitoring with the schools. So, we tell them that in order to avoid redundant measurements, there should be one coordinated session of assessments. We also tell our Barangay Nutrition Scholar to ensure that their measuring equipment is calibrated. All our equipment is calibrated by FNRI. In Operation Timbang Plus, we also include the height aside from the usual measurement of weight only." -Subnational stakeholder

Impact of pandemic on monitoring system. Key informants noted that the COVID-19 pandemic affected the implementation of many school-based policies and programs. Travel restrictions, lockdowns, and health protocols delayed the deliveries of supplies for the school feeding program. Monitoring the weight and height of schoolchildren was also a challenge since schools shifted to online learning, modular learning, and blended learning.

"Because of the pandemic, we don't have information of the weight of the children, we don't know how it was monitored. Unlike before pandemic, the weight of the children is closely monitored, we have baseline and end line data of all the children, by grade, by area but because of the pandemic, we don't have that kind of data anymore. The school distributed food to children but they don't know its impact on the child's nutrition. That to me, I think is a waste of money." -National stakeholder

There were just some adjustments because there is a need to follow the health protocols. At the onset, we need to use Personal Protective Equipment, gloves in going around with the barangay nutrition scholars, and health workers. We did home visitations to do the operaton-timbang (weight), the OPT, deworming, vitamin A. -Subnational stakeholder

"It is really very challenging especially during the peak of 2020. There are travel restrictions, there are specific LGUs lockdowns. There were delays in the delivery and implementation. And since children are not in schools, what happens is that the milk products are delivered in the houses of the children. There were some school division offices (SDO) that coordinate with the barangay officials for them to assist in the delivery to their constituents. There are those kinds of SDO's. For others, they do it at the same time in the delivery of juices. They are able to strategize on how to hasten the process." -National stakeholder

Recommendations to Improve the Availability, Quality, and Type of Foods in and around Schools

Capacity building of school administrators. Most of the stakeholders noted that program implementers must be well-equipped and well informed about the policies and programs covering schools. Creating and teaching nutrition-specific curriculum will cultivate the habit of eating healthy foods at a young age.

"So maybe in some instances training was so necessary because like I mentioned earlier we expect teachers or schools to implement this policy but what if the teachers or schools are not equipped." -National stakeholder

"We conduct trainings to the division-level offices. The trainings would involve the medical officers and school nurses, usually. We would also train school canteen managers and then these managers would disseminate the information to their neighboring schools. We can't do the trainings for all the schools here as we cover 3,000 schools here in the region." -Subnational stakeholder

"There should be a dedicated subject on Nutrition in schools. I think Nutrition is only added in some topics probably in the health subjects or in the technology and home economics classes. Nutrition is only discussed in a few hours in school. There should be a separate subject focusing on Nutrition." -Subnational stakeholder

Strong monitoring system of school canteens. The canteen managers should ensure that the school canteens adhere to the policies and guidelines implemented by the central office. The types of snacks sold in schools should be strictly monitored.

"School canteens, by the way, have a big role to play most especially with the snacking environment of children. Children actually buy their food in these school canteens while with the school-feeding programs, the meals are just provided to the children so, its more controlled. But with regards to snacks, it's the children who actually choose and buy it from the canteens. The way to control the snacking environment of the children is to manage the available snacks provided in the canteens." -National stakeholder

"We often see biscuits and high in sugar food products, but we do also see some food products that has the Sangkap Pinoy Seal (Filipino Ingredient Seal) being sold inside the schools. Snacks are allowed to be sold in schools, but these products must have the Sangkap Pinoy Seal. Also, the snacks must be promoted by FNRI. If we see products that are prohibited in the schools, I won't mention the brands anymore, we will just tell the schools to remove those food products." -Subnational stakeholder

"Another factor to consider is who will be in-charge of the monitoring, because if the schools will monitor its own canteen there will be self-preservation. The best way is self-regulation if your policy is implemented for a long time, it would be better if there is self-regulation. But if the policy is relatively new, it good to have some form of monitoring but I think self-regulation is better." -National stakeholder

Synchronize government programs. Addressing the problem of malnutrition requires a concerted effort from various government agencies. There should be a comprehensive, unified and holistic nutrition program that integrates all the nutrition-related activities of the different government agencies.

"We should not implement a 'piece-meal', one agency will implement this, and the other agency will implement this. I always say in a forum that what we need is a concerted effort and a comprehensive national nutrition program plan to really integrate all the nutrition related activities of the different agencies." -National stakeholder

"Another thing, maybe the government should synchronize its programs, the various agencies should sit, talk more often, and do concerted efforts together. Sometimes the problem is, agencies don't agree with one another. I think we will be more successful if the various agencies have unified stand on a specific issue like malnutrition." -National stakeholder

"There are a lot of sub-systems involve. It has a huge impact not only in the aspect of health but also in the overall development of the child including their learning because it will somehow affect their brain development and the overall development of their bodies. The economic aspect is not there yet, but we also need to consider that not all families are economically capable to purchase healthy food. But if all sectors will do their part, perhaps we may be able to attain it in the long run." -National stakeholder

Provide budget for staff positions for nutritionists / dietitians in schools to reduce the workload of public-school teachers. Having a nutritionist/dietician in schools will help facilitate a better monitoring system of policies and programs on food and nutrition in schools.

"I think it would be better if we will have more Registered Nutritionist Dietitians in the schools and they will do the monitoring of the policies and programs on food and nutrition in the school. Food safety is also important, and this can be well monitored by RNDs." -Subnational stakeholder

"I know that DepEd used to have a nutrition division, but it was dissolved and was integrated into another division. The voice of the nutritionist has disappeared. It has great influence in terms of ensuring the nutrition program in all schools nationwide." -National stakeholder

"We need to have a dietitian and nutritionist in the school who will intensely monitor the availability of nutritious foods in school. The teachers are too loaded with their work, I think commitment and concerns of our teachers or feeding coordinators to implement the RA 11307 because we need to realize that this is important for the children." -National stakeholder

Incentivize vendors to sell healthy food to school children. Access and affordability are key drivers of food choices. Food environments in and around schools have limited affordable healthy choices for children. Mobile vendors and sari-sari stores owners should be incentivized and encouraged to limit unhealthy choices and increase the availability of healthy foods around schools. Monitoring the vendors requires a certain degree of surveillance and the local government units LGUs should emphasize the enabling side of surveillance rather than its punitive side.

"To encourage the vendor to sell fruits, snacks or vegetables, inform them that they will be given incentives. If there are rewards or incentives, it can encourage the vendors to sell healthy and nutritious food or at least the fruits or vegetables that could be made available for the children, or within the vicinity of the schools." -National stakeholder

"I heard this story that the vendors' cart was confiscated by the police, I don't think it is the right thing to do. I think the right thing to do is to teach the vendors how to sanitize their cart and cooking equipment, these vendors are also trying to make a living and this kind of food are some of the foods that schoolchildren are able to buy." -National stakeholder

Recommendations to Improve Eating Practices for Young Children

Inform and empower the school children about healthy foods. Many of the stakeholders noted that informing the schoolchildren about healthy foods will empower and encourage them to eat nutritious food. The child needs to understand the value of good nutrition in their body, feeding them with correct information builds their values.

"Also, when we did our monitoring rounds before, we found out that some of these children do not actually eat fruits and vegetables in their homes. But in the day care centers, when the children would eat in groups, they eventually would. I think they are being encouraged to eat better through their peers." -National stakeholder

"Children should be taught at an early age healthy snacking patterns and healthy dietary choices." -National stakeholder

"We really have to advocate the benefits of proper nutrition and good eating habits to the children. We must strongly educate and encourage the children about the benefits of good nutrition to our health. We have to make the children understand the importance of these lessons and why being healthy is important and why good nutrition is important." -National stakeholder

Accessibility and affordability of healthy food. The majority of stakeholders mentioned the importance of making healthy foods accessible and affordable. Educating both parents and schoolchildren about nutritious food is a key role in addressing the problem of malnutrition. Ensuring that the lower socio-economic classes have the capability to afford healthier foods is equally significant.

"You know not all policies could really capture the nuances of the contexts. Like I mentioned earlier on the child, what if the child can't afford and that's all there is available for him to access." -National stakeholder

"No matter how much information campaign you do, if the consumers cannot afford to buy it. For example, a child who is hungry… even if he likes to eat an apple, his money is not enough because an apple is expensive, the child will prefer to buy chips which only cost 2 pesos or will buy fish balls. Kids will buy the cheaper food to get rid of hunger." -National stakeholder

But of course, it's a different thing if other people's economic situations are considered. We must face it; noodles are cheaper and people in the marginalized group don't have the same access as we have. Farmers produce goods, by they don't get to get to eat the food that they produce. Their product is expensive. If you buy broccoli in an online store, it is very expensive. Looking at the price of vegetables, it looks like I'm going to have a heart attack first. I don't think people from the lower income group have the capability to buy healthy food. -National stakeholder

Proactive roles of parents and caregivers. All the stakeholders who were interviewed agreed that parents play a key role in their children's food choices. Children start to form their food preferences at an early age. A child who is accustomed to eating nutritious food at home will most likely prefer eating healthy food even when outside their home.

"I think educating the family, will be a big factor that will contribute to the child's good choice for healthy foods. So even in school, he will not look for it anymore because he got used to it already." -National stakeholder

"Parents have an important role on this as well. Whatever the children see at home, they would adapt to that. The long-term solution to addressing the issues on the behavior of children in terms of snacking is education. Behavioral change. This is how you ensure that the children are eating right. -National stakeholder

"Yes, you will refer to your childhood upbringing. You will see a difference if the mother is educated, there is less chance that their child will be malnourished. Even if the mother is not very educated but is open to new ideas, like accessing health services, community assistance, then the condition of her children is better." -National stakeholder

Empower and engage community stakeholders. Community engagement enables the community to better understand the importance of healthy and nutritious foods. It also leads to community empowerment where all members are informed and educated on the issues at hand.

"I think it is a community approach and everyone must participate. Although the teachers will remind the schoolchildren, there are vendors outside schools. If we don't fully understand the value of having nutritious food, it can be very problematic." -National stakeholder

"I still believe in the community-manage approach most especially in the rural and most remote areas. We need to train people in these areas, and they need it more so that they will become self-sufficient. The last mile schools should be given more priority. We should ensure that they have access to more support and resources so they can ensure their access to nutritious meals." -National stakeholder

"Support from our stakeholders is really an important factor for the success of this program. If the program has no support, then, nothing will happen with it." -National stakeholder

Regulate school canteens and vendors in and nearby schools.

"You really can't prohibit the food vendors outside the school's gate as they are just doing it for a living. It is hard for us to control vendors outside the schools. I think there should be a law to regulate vendors in and around the school. DILG or LGUs can address this issue" -Subnational stakeholder

The way to control the snacking environment of the children is to manage the available snacks provided in the canteens…really profile the available snack products in schools…I would personally also want to focus on the carinderia (local eateries) because these are what's available to the masses as they have limited budget for meals so, they'd rather buy ready-to-eat meals there. These people (who patronize the local eateries) are the marginalized sector of the society and they do not have much options as they don't have much money. They can only buy the cheap options but I do hope that these options are nutritious as well. So, really, we should really regulate the eateries." –National stakeholder

2.4. RESULTS FOR LAO PDR KEY INFORMANT INTERVIEWS

This section of the report summarizes the responses of stakeholders during key informant interviews and is organized according to the main themes which emerged. Eighteen

stakeholders from Lao PDR, across a range of sectors and agencies participated in the stakeholder assessment. Of the 18 interviews, 10 were national, four subnational, and four school heads/directors (see Exhibit 12)

Exhibit 12. List of stakeholders organizations selected for key informant interviews in Lao PDR

	Lao PDR
National stakeholders (10)	Department of Education (1)
	Research Institute for Educational Sciences (1)
	Education Promotion Centre (1)
	National Nutrition Centre (1)
	Donors and INGOs (3)
	World Food Programme (2)
	Private sector (1)
Subnational Stakeholders	WFP field office in Pakse (1)
	WFP field office in Phongsaly (1)
	General Education Division in Louangnamtha Province (1)
	General Education Division in Salavan Province (1)
School heads	Schools in Namtha District, Louangnamtha province (2)
	Schools in Lao ngarm District, Salavan Province (2)
Total	**18**

Local Words and Meaning for the Word "Snacks" in Lao PDR

In Lao PDR, stakeholders were asked about their own perceptions and definitions of 'snack', along with common local phrases. The interviewer is trying to get at the key informant's perceptions and own definitions of these foods and what immediately comes to mind. For example, types of foods, quality of foods, associations with time of day eaten, or other perceptions. Exhibit 13 lists three local Laotian phrases for snacks and their meanings.

Exhibit 13. Local phrases and associated meanings for the word "snack" in Lao PDR

Laotian word for "snacks"	**Meanings**
Aharn Vang	In-between meal; meal taken during leisure time; any foods eaten outside of main meals (e.g. coffee, tea, biscuits); foods eaten as a supplement to main meals "*Aharn Vang*" is only used in the city or in an official way

Kong kin Lin	Snacks eaten outside of main meals (e.g. sweet foods, milk, candy, milk, cheese); foods that can be eaten any time and are not the main meal and it is not something to eat with rice
Khao Nom	Snacks that child like to eat and like to buy from shops, typically located inside and outside schools.

The most common Laotian term for snack is *aharn vang.* But many noted that this is a relatively new concept, as snacks were not a part of the traditional culture, but only came about recently, within the past two decades. One stakeholder noted that *aharn vang* is associated with WFP because when the school feeding program started in Lao in 2002, it was originally a snack programme and did not provide main meals.

"Aharn vang is a new concept. Because in the past, there was no word Aharn vang in Lao. After the World Food Program came in 2002, there has been Aharn vang." –National stakeholder

"In the past, we had 'Aharn vang project' providing snacks for children to eat in the morning. The snack for children is made from nutritious corn. However, from 2015 to the present, the Aharn vang project was changed to lunch because communities do not consider Aharn vang to be an important meal. They think that the main meal is more important. Therefore, we changed to providing lunch."—National stakeholder

Snacking has both positive and negative associations. *Aharn vang* and snacking was viewed as positive when the foods eaten are considered nutritious for the body and promote good health. The SFP, and by extension *aharn vang*, was also noted as a key reason child are motivated to come to school. But, *aharn vang* could also be negative if they were foods that contain high levels of fat, oil and sugar.

"When I hear the word 'Aharn vang' I think it is a good thing because having Aharn vang in school encourages students to come to school regularly and promotes students' good health." –School head

"Aharn vang is food that we eat in between main meals – breakfast, lunch, and dinner. It can be any kind of food that is nutritious or unhealthy. For example, a pregnant woman or a newborn mother who ate breakfast, after 1 or 2 hours, she eats extra snacks before going to lunch. Her snacks can be vegetables, fruits or sweets. Children too, sometimes they do not eat enough main meal, they need more nutritious snacks." –National stakeholder

"Aharn vang are nutritious foods that are eaten as a supplement between the main meal – breakfast and lunch. Sometimes when you do not feel like eating the main meal, you can eat supplements, such as milk and 'snack', to make sure your body gets enough food." –National stakeholder

"Aharn vang can be any food that you eat to relieve hunger or increase energy during the day in between your eating main meal – breakfast, lunch and dinner. Eating Aharn vang is to give the eater energy and strength to continue working or performing activities."—Subnational stakeholder

When I hear the word 'Aharn vnag', in my mind, are desserts, oily foods like snacks. When I was going to school in Lao PDR, our local Aharn vang were sweets that we could buy in school. Snacks are not good for health because they are oily, salty, chemical-added but they look delicious and so we want to eat them. –Subnational stakeholder

Foods and Beverages Perceived as "Healthy" and "Unhealthy"

Because not all snacks may be perceived as healthy or good for the body, the research team wanted to understand what foods or types of foods the key informants viewed to be healthy or

unhealthy, and specifically for children. Exhibit 14 lists the foods that were most associated with being healthy or unhealthy for children in Lao.

Healthy and unhealthy snack foods. Most foods that are considered "traditional" or natural such as fresh fruits or rice are viewed as healthy. Foods commonly associated with being unhealthy are expired foods, spoiled foods, foods with chemicals, and those considered to be too spicy or too sweet. Also, SSBs that are sparkling and carbonated were are grouped into the unhealthy food category by stakeholders.

"It also includes poor quality food, expired food, food that contain chemical ingredients exceeding the Ministry of Health's regulation. I have seen expired food being sold at school, causing stomach aches among students." –National stakeholder

"Another issue is about expired food which is a big problem, especially in the rural areas where expired foods are still sold in schools. Villagers do not know about the expiration date and they still eat expired food." –National stakeholder

"Unhealthy foods or beverages are foods that taste too sweet, too salty, too oily and too spicy. It is not nutritious, processed foods, fried food, sweets and other foods that use chemicals to make food last longer." --National stakeholder

"When I hear about unhealthy food and drinks, firstly, I think of 'junk food' like rice crackers that are widely sold in the market. The second is alcoholic beverage products, the third is food that is not nutritious but saturated. For example, eating potatoes will be healthy, but the truth is that it is not full of nutrients, it has no nutrients." –National stakeholder

"When I hear questions about children and Aharn vang/Aharn kin lin or unhealthy foods and drinks, I think of Pepsi, meatballs, oily fried snacks and sweet colorful desserts." –Subnational stakeholder

Exhibit 14. Foods or types of foods perceived as being "healthy" or "unhealthy" in Lao PDR

Laotian foods viewed as "healthy" snacks	Laotian foods viewed as "unhealthy" snacks
ນົມ (Milk)	ຕຳຫມາກຮຸ່ງ (Papaya salad)
ຖົ່ວ (Nuts)	ເຂົ້າໂຄບ (Rice crackers)
ຫມາກໄມ້ຕາມລະດູ (Seasonal fruits)	ນົມຫວານ (Sweetened milks)
ຂະຫນົມທີ່ບໍ່ຫວານ (Unsweetened sweets)	ຂະຫນົມຈືນກອບ (Crispy snacks)
ເຂົ້າຕົ້ມມັດ/ອາຫານພື້ນບ້ານ (Traditional foods-bundle boiled rice)	ນ້ຳ້ອັດລົມ (Carbonated drinks)
	ຂະຫນົມອົມ (Candy)
	ລູກຊີ້ນ (Meatballs)
	ຫມີ່ສຳເລັດຮູບ (Instant noodle)
	ນ້ຳ້ ຫລື ວຸ້ນ ຫຍີ່ຫ໌ ດີໂດ່ (Dido drink or Jelly)
	ຫມາກຂາມສົ້ມ (Sour tamarind)
	ໂຢເກີດຫວານ (Sweet yogurt)
	ກະແລ້ມ (Ice cream)
	ຂະຫນົມສີສັນ colorful desserts
	ນ້ຳ້ແປ໊ບຊີ (Sparkling drink- Pepsi)
Types of food	

ຫມາກໄມ້ (Fruits)	ອາຫານບໍ່ມີຄຸນປະໂຫຍດ (Junk food)
ນົມ (Milk)	ອາຫານເຜັດ (Spicy foods)
ອາຫານປະເພດຕົ້ມ/ແກງ (Boiled food)	ອາຫານທີ່ມີສານເຄມີ ເຊັ່ນ: ໃສ່ສີ, ໃສ່ສານກັນບູດ (Foods with chemicals e.g. dyes, preservative)
	ອາຫານສຳເລັດຮູບ (Ultra-processed foods)
	ເຄື່ອງດື່ມທີ່ມີທາດເຫລົ້າ (Alcoholic beverages)
	ອາຫານເຄັ້ມ (Salty foods)
	ອາຫານມັນ/ອາຫານຈືນ (Very oily foods/ Fried foods)
	ອາຫານຫມົດອາຍຸ (Expired food)
	ອາຫານບູດ (Spoiled food)
	ເຄື່ອງດື່ມພວກນ້ຳ້ຫວານ (Sugary drinks)

Types of Foods and Beverages Sold Inside Schools, Time of Purchase and Location of Purchase

For school heads and school directors, we asked specifically about the types of foods and beverages that are typically available inside the school area. As many schools in Lao may have been closed due to COVID-19, we asked school heads to let us know the situation pre-pandemic as well as currently.

Typical foods sold in school. There is a wide range of foods and drinks reportedly sold in shops in schools, from fresh fruits and drinking water, to rice and main meal foods, to processed foods and soft drinks. Stakeholders also mentioned processed meat products like meatballs and hot dogs, and other salty snacks. Almost all school heads/school directors noted that the pricing of these snacks are very reasonable from 1,000-5,000 Kip (0.8-0.40 USD).

"There are fruits such as jujubes and mangos grown in the school – there is a little bit of them and quite enough for students to eat. In addition, there are crispy snacks made from shrimp [a bit salty snack imported from Thailand], Deedo, Pepsi, fried meatballs and hot dogs, papaya salad, ripe papaya, ripe mango and watermelon."—School head/director

"Food available in schools are fruits. Papaya is grown in the school garden, with drinking water in each classroom. In addition, there will be boiled rice, meatball, hot dogs, chicken feet, Deedo, and coconut jelly in small bags. These are for sale in the shops around the school, about 10 meters away from the school."—School head/director

"Food and drinks that are usually available in school include smoothies, meatballs, hot dogs, and other snacks."—School head/director

"In addition to the school meal, there are home-grown bananas that are available occasionally – we plant bananas in school. There is also providing a large bottle of drinking water in each classroom for the children to drink at the school's own expense."—School head/director

"The regular price of the snacks that students often buy in school is around 1,000 - 5,000 kip." –School head/director."—School head/director

Buyers of snack foods and time of purchase. Purchasing of snacks inside schools through shops is frequently done in-between classes—either before classes start in the morning, during school break, or late afternoon once classes have ended. Snack foods are purchased by all age ranges attending primary schools—as young as kindergarten/pre-primary up to fifth grade—though some stakeholders noted purchase patterns by age.

"Students often buy food and drink before the class starts, both in the morning and in the afternoon…Buyers are students of all grades from grade 1 to grade 5, but students do not always buy from them because the teacher forbade them to buy a lot of food outside school. Those foods might make them sick." –School head/director

"Buyers are students from kindergarten to grade 5. They usually buy during the 15 minutes break in between classes. They also buy during their wait for the class to start." –School head/director

"Buyers are students from grade 1 to grade 5, but grade 1 to grade 3 students are observed to buy more than other grades. They like to buy snacks in the morning. As soon as they see sellers, they would run to them, especially during school break."—School head/director

Foods and Beverages Outside or Nearby Schools

Because the food environment can influence diet outcomes and enable and reinforce positive or negative eating habits, the authors wanted to look at the food environment nearby schools—in the immediate vicinity of school grounds.

Snack foods often found in the immediate vicinity outside of schools. It is not uncommon for snack foods to be sold nearby the schools, typically within a few hundred meters. Shops are often set up outside of residential homes close to school entrances. Foods sold outside are noted to be similar to those sold inside schools, but seem to also include more grilled meats (e.g. grilled pork, grilled chicken).

"As can be seen from what the children often buy and eat, there are candy, hot dogs, meatballs, Deedo, coconut jelly, fried chicken feet. Most are sold at people's homes around the school."—School head/director

"Outside shops nearby school are shops that open in people's homes. The food and drinks sold are similar to those sold inside the school, such as snacks, hot dogs, Pepsi and Deedo."—School head/director

"Food and drinks are available at the shops in the village, about 100-200 meters away from the school. Most of the shops sell sweets, smoothies, fruits, meatballs, hot dogs, grilled chicken, grilled chicken's organ and grilled pork. These stores sell for all general public and not just for students." –School head/director

"There are 3-4 shops at people's houses near the school. The type of food and drinks sold are the same as the ones sold at the school, such as sliced rice, rice cakes, boiled rice, papaya salad, Deedo juice." –School head/director

Policy and Decision-Making on Foods and Beverages in and Around Schools

The study team wanted to know what polices were in place to control the school food environment and limit exposure to unhealthy foods and beverages. The team also wanted to understand how decisions were made on what was allowed inside school grounds and nearby schools.

Policies for within schools. There was not a uniform response from school heads/school directors on what kind of foods and beverages can be sold inside schools. One school head mentioned that schools do not specify what kinds of foods and drinks are allowed in schools shops. Another school head mentioned that there were some regulations and that foods sold

needed to be nutritious. However, that school head did not provide clear examples on what constitutes a nutritious food vs. an innutritious food or beverage.

"The school does not specify what foods or drinks can be available or sold in school. However, if students are seen playing with toys in the classroom, the teacher will check with the school shop and forbid the sale of snacks that are packed with any kind of toys. We ban selling toys because when children have a toy they play it in the classroom and do not pay attention to study." –School head/director

"There is a selling rule for the inside-school shop. The developed rule is passing through the village party unit to agree on. Rules contain many points – the first point is the shop must keep clean, second is all sellers must wear face masks and gloves to prevent COVID-19 disease, third is foods to be sold must be nutritious and not expired and toys cannot be sold (including balloons and cards) as playing toys will distract children learning."—School head/director

"We do not allow mobile shops to sell in and around our school because it is hard to manage them. When children buy snacks from them, children often throw away the rubbish. Importantly, during the COVID-10 outbreak, mobile sellers go everywhere and meet many people, they might carry COVID-19 disease with them and spread to children in our school. So, when they are seen, they will be asked to leave immediately." —School head/director

One school director said that although there were no regulations, there were a few guidelines shops needed to follow.

"The school set rules for inside school shop. The rules are the shop needs to pay the fee for school, 100,000 Kip per month [approximately USD 7.5], has to keep clean, the seller has to wear face mask and gloves to prevent COVID-19, the food to be sold must be nutritious and not expired. All toys are not allowed to sell, such as balloons, cards as they will distract students' attention to study." –School head/director

One school head/director noted that there has not been guidance given to them on what school shops can and cannot sell.

"The school has never talked to those outside school shops about the food and drinks that can and cannot be sold. I also do not know if the village authority has any rules or regulations for those shops."—School head/director

Considerations regarding shops in schools. Some school heads mentioned that they did not allow shops inside schools because of concerns over student equity—some students would have more money than others to buy items in the shops and this accentuated equity gaps among the children.

"I have worked in this school from the school year 2018 to 2019, there has not been any shop in school. We prefer not having a shop because of many reasons. Firstly, some children do not have money and if they see their friend buy snacks, they would have an inferiority complex about their being poor. Secondly, they would ask for money from their parents to go to school. Thirdly, the school will be dirty and full of plastic bags." –School head/director

"Factors in deciding not to have any shop in school are being afraid of the community's criticism, concerning if children may not pay attention to study as they would always want to buy snacks from the shop. Lastly, having the shop might discourage some poor students from coming to school – as if they see their friends buy snacks but they do not have money, they may not want to come to school. Therefore, there should be no shops in the school." –School head/director

One school head/director said that shops were beneficial since they provided snacks for kids and revenue to the schools.

"If there are no shops in the school, children often climb over the fence to buy snacks from outside, whatever they want. They will buy, eat, and throw litter around. So, we decided to have a shop in school since it is easier to manage in school rather than outside school shops. Having a shop, children can get some snacks to avoid hungry during their time in school. It is also beneficial for school as the shop will pay some money to be the school's revenue." –School head/director

Mobile vending carts. Policies on mobile vending carts were not uniform amongst the schools a part of the study. Policies appeared to be dependent on the discretion of the school management to allow mobile vendors near school grounds or to not allow them. Of the school heads interviewed did allow mobile vending, it was mentioned that kids frequently bought from these mobile vendors during school breaks.

"We do not allow mobile shops to sell in and around our school because it is hard to manage them. When children buy snacks from them, children often throw away the rubbish. Importantly, during the COVID-19 outbreak, mobile sellers go every way and meet many people, they might carry COVID-19 disease with them and spread to children in our school. So, when they are seen, they will be asked to leave immediately." –School head/director

"For mobile shops that sell bread and ice cream, there is signage to inform them that selling in school is not allowed. Sometimes, they sell during the break and our students do not refuse them. So, we do not take any action on that. We only advised that firstly, sellers must practice COVID-19 prevention measures and secondly they must keep clean… In addition, it is recommended that mobile shops, if possible, do not come to sell snacks during school hours because it will make children want to go shopping and not pay attention to study. They should come during the break." –School head/director

Decisions on what can be sold outside of school grounds was viewed as the sole prerogative of shop keepers. All the school heads uniformly said that they did not have any authority to tell private shop keepers what to sell if the shop was not on school grounds. However, some school heads noted that they did talk to shop keepers about not selling toys and other items that can distract students from their studies. When discussing recommendations later in the interview, some school heads believed it would be possible to talk to shop keepers and improve their understanding and awareness of the importance of healthy snacks.

"It is up to the store owner to decide what food and drinks to sell in their store. What the school can do is talk to the store owner about what should or should not be sold to students. For example, if a teacher sees a student bringing a toy to the classroom, the principal will talk to the store owner that toys should not be sold to children. Toys will not be seen for a while but after that, the shop owner will bring them to sell again."— School head/director

"It is up to the store owner to decide what food or drink to sell. There are no rules or regulations for out-of-school stores."—School head/director

"Control and managing outside-school shops are out of the school's command. There is no rule for them unlike inside the school shop that is under the school's management. However, the principal used to talk to the outside-shop owners informally about their selling toys such as balloons or cards to students. The given reason is toys can distract students' attention to study." —School head/director

"Opening the shop is their family income source. So, what they sell well, they sell. There has not been any sector identified which foods can and cannot be sold in their shops…They are often similar. No specific types of food and drinks are banned for both mobile vendors and shops outside school."— School head/director

"The initial rules for those outside sellers, we warn them that if they sell snacks to students and students throw away rubbish, their sell will be banned. We can do this because there is signage informing them not to sell, but if they do, they have to be responsible for the rubbish. So, the sellers have to keep clean and also tell children to do so." — School head/director

Policy and Decision-Making on Food Promotion Advertisement

Marketing of unhealthy foods and beverages is recognized to influence children's dietary preferences, food choices, purchasing requests, and consumption patterns. Thus, the study team wanted to understand any policies to limit food marketing in schools and nearby schools. If no policies were in place, who made decisions (if any) regarding food advertisements.

Decision-making on advertisements. Decisions on advertisements inside and nearby schools seemed largely to be at the discretion of the school management committee or school head/director. A few school heads noted that the advertisements should not be harmful to children (e.g., alcohol advertisements) and that any food advertisements should be viewed as "healthy". Guidance on what is allowed and not allowed seemed to be determined by school management and not centrally regulated.

"The main factor in deciding will be about the benefits of those foods. If the food is healthy, we can allow them to put billboards, but if the billboard adverts unhealthy food, we do not want them to be put up." – School head/director

"In my opinion, the factor in deciding whether to allow the advertisement or not is the benefit of the food. We need to consider the type of food, if the food is beneficial for the health of teachers and students, the advertisement can be allowed."— School head/director

"A key factor in deciding whether to advertise in a school is whether the product is appropriate for the student. For example, advertisements for alcoholic beverages, coffee, etc. that are for adults, we do not allow advertising. But the advertisement about handwashing with soap, we will allow." –School head/director

"In the past, food and beverage signs were never posted in schools. But if a decision is whether to advertise or not, the school principal and teachers will be the decision makers. If the advertisement is outside the school grounds, it is up to the teachers and the village organization or village education development committee to decide jointly whether to allow the advertisement." –School head/director

Formal Agreements with Vendors in Schools

Overall, all the school heads noted that there was no official agreement with shop keepers selling inside the schools. Yet there was an annual fee paid to the schools.

"The school does not have any documented agreement or policy for local vendors as there are no shops in the school. Mobile shops, on the other hand, are only informally advised to be safe, clean, and not to sell during school hours. For outside shops and school advertisers, we do not have any restrictions for them. But when the schoolteachers went to the village meeting, we told the village organization that we did not want the shops in the village to sell toys such as rubber guns, rubber bands, and small balls - because it would disturb the children's learning. The village organization then announced through the village loudspeaker at the request of the school."—School head/director

"The school does not have any agreement or policy for in-school and out-of-school vendors or advertisers, but in-school vendors are required to pay an annual fee for the school." School head/director

Familiarity with Policies or Programs that Address Healthy and Unhealthy foods in Schools

The policies which stakeholders were most familiar with were the policy on Decree for Food and Drink in Schools, Policy on National Strategies for Children's Health in Schools, The National School Health Strategy, and School Feeding Program (see Exhibit 15). Detailed knowledge of the below policies were limited amongst most of the stakeholders.

Exhibit 15. Policies or programs that address unhealthy foods in schools or the food environment that stakeholders were most familiar with

Policies or programs	Knowledge about the policy
Decree for Food and Drink in Schools (in draft)	Stakeholders commented that the decree was being drafted in 2016 but were not clear if it was officially approved. Nobody had any new updates. It was originally planned, that after the Minister's approval, there would be training for teachers, school principals and school vendors at the school. However, it does not appear that drafting of the decree has been completed.
Policy on national strategies for children's health in schools	Stakeholders commented the policy is focused on the implementation of water sanitation and hygiene in schools.
National School Health Policy	Stakeholder commented the policy is largely implemented only in projects' target areas. Most of this policy has been supported by international organizations such as JICA and UNICEF, which have been focusing on building latrines, handwashing facilities, trash management, and supplying clean water to establish quality school standards.
School Feeding Program	Stakeholders commented the program was started and supported by WFP by providing rice, foods, and ingredients for cooking lunch in the school. The school feeding program also provided training to school personnel and community members on cooking and food management. The school feeding program provided a green box contained nutrition and school gardening lessons and teaching materials, including storybooks and textbooks. The main purpose of the program is to address educational issues, such as reducing school dropouts, improving school attendance, and improving learning outcomes. The government has allocated budget a budget of 800 LAK (0,06 USD) per student per meal/lunch in the primary school.

Key Achievements Made through these Policies and Programs

Stakeholders noted several wide-ranging successes and achievements made through the school feeding program. Many commented on the benefits directly to children's education—improved learning outcomes, improved school retention (reduced dropout rate), reduced absenteeism. Many also noted that the school feeding program enjoyed great appreciation from parents as it reduced parental burden and provided a nutritious meal. See Exhibit 16 below on the various aspects of the school feeding program that stakeholders noted were successful and beneficial.

Exhibit 16. Perceived key achievements of the School Feeding Program

Perceived key achievements and/or successes noted	Supporting interview quotations
Increased enrollment	*"The achievement of the lunch program is to increase the net enrollment rate of children (6-year-old children by law are required to attend primary school), increase the overall enrollment rate. Dropout rates and repetition rates are also reduced." –National stakeholder*
Reduce absenteeism	"*This is a reason for children to be absent from school and become poor performers. The school meal program is considered to contribute to solving this problem. As a result of providing lunch in school, students' absenteeism is reduced."* –National stakeholder
Reduced dropout rate	*"The main success of the school meal program, according to the report of the District Education and Sports Bureau, is that the number of school dropouts is declining, the number of children attending school is increasing, as in some places dropouts are non-existent".— Subnational stakeholder*
Nutrition education	*"The school meal program directly trains children to be disciplined, eat healthier, wash their hands before eating, drink boiled water and use toilet."—National stakeholder*
Improved learning outcomes	"*In addition, after the arrival of the school meal program, as far as I know, the student's learning outcomes improved…The lessons learned from the success of the program are the successful implementation of the project brings about improved education regardless of the geography of the school – meaning education in both remote and urban schools can be improved." –National stakeholder*
Reduces childcare burden for parents, allows them to continue working throughout the day	*"Parents have time to work on the farm all day long because the children do not go back to have lunch at home." –National stakeholder*
Increased multi-sectoral engagement	*"The second achievement is a good collaboration of various government's sectors, such as education, health and agriculture sectors as well as the Lao women's union. The school lunch program is a bridge to connect these sectors to work together in harmony. Moreover, the program educates all sectors about the importance of nutrition work for our country and also make them aware that each sector has nutrition indicators that they must achieve. So having a lunch program will help them achieve their nutrition indicators as well as their socio-economic development goals."—Subnational stakeholder*

Challenges Faced with Implementing and Enforcing

There were a range of challenges noted in implementing the school feeding program. The most common challenges were budgetary constraints and suboptimal participation from community

members. Also, infrastructure challenges (i.e. lack of running water and functional latrines) was noted as a barrier to delivering the program as it was designed.

The most common challenge noted was budgetary constraints. Many stakeholders noted that there were many budgetary constraints which impacted the quality of implementation of the school feeding program.

"There is the budget challenge. Everywhere I go I heard about the lack of budget; the budget is not enough. If the project is ended, it will be difficult for schools and communities to continue gardening for self-sufficiency because people are poor and cannot fully contribute to school lunches." –National stakeholder

"But there are some things we cannot solve internally because it relates to insufficient budget. In some upland schools, few students have access to a water supply system, which is a barrier to implementing the school meal program. Although the government announces that Lao PDR is moving out of the least developed country, we still need to rely on the development partners' support. Relying on the government 800 Kip per person per day for lunch is not practical. If a school has a lot of students, there is no problem as they will get more budget according to the number of their students. But for the school with fewer students face a significant challenge. For example, 20 students multiplied 800 KIP, the school to get 16,000 Kip per day for the school meal, it is not enough to buy food."—Subnational stakeholder

"The budget is not enough because many things need to be done. The budget is small, but we will try to raise funds from as many sources as we could - Not limited to just the US, also other donors." –National stakeholder

"Human resources are sufficient to implement this activity. At the school level, there will be teachers and village authorities to lead the activity. In terms of budget, compared to the economic status of our country, the allocated budget is considered insufficient. But it is still possible to implement with the allocated budget."—Subnational stakeholder

Community participation limited at times and reduces project effectiveness. A common remark of many stakeholders involved in the school feeding program was that community participation was critical to the overall success and effectiveness of the program. The school feeding program is designed to be a public-private partnership: local producers and communities are meant to contribute to the program—providing locally sourced food stuffs, fruits, vegetables, and animal source protein. And, community members were meant to help support cooking in the schools. Many stakeholders noted that the degree to which communities supported and partnered with the schools to deliver nutritious meals is variable and can be inconsistent, affecting overall program effectiveness.

"*The main challenge is community participation. Some villages are not as good as they should be, such as not cooking on time. Community food contributions depend on the potential of each area. In poorer areas, their contributions are still limited because they have to always catch up with their farm. They rarely have time to contribute to the school meal program."—Subnational stakeholder*

"Some communities still use poverty as an excuse for not being able to contribute to the school meal program."—Subnational stakeholder

"The key challenge is community involvement because WFP expects the community to be most involved. So, if the community does not actively take part or contribute to the program, the school meal program cannot be most successful…Some communities are not active enough to carry out cooking lunches. The program has to raise awareness and encourage them several times in order for them to cook for children regularly. For example, in some areas, there is no cook and a lot of ingredients leftover in the storage. Leftover ingredients must be distributed to students to cook at home.."—National stakeholder

"Community awareness is the main challenge of whether or not the school meal program can be successful. If the teachers or school administrators are strong, they will be able to communicate and work with the community to understand school meal work. Once the community understands, lunch activities will not be a problem. If the community does not comprehend, problems will follow - such as not cooking, not contributing food" –Subnational stakeholder

Inconsistent collaboration from community partners. Many stakeholders noted that it was important to improve the collaboration from partners, ensure buy-in at all levels, and to raise awareness about the importance of community engagement in order to make the program successful and sustainable.

"School meal is not cooked regularly in some schools due to poor community cooperation. In this regard, the organization and the government have discussed with the community to find out their difficulties and constraints. It might cause by VEDC's roster management – when it comes to someone's turn they may not show up."—National stakeholder

"The first challenge is the community's contribution. When it comes to food contributions, people are not always able to contribute. So, they cannot cook delicious, variety food for children. It is quite challenging to solve this issue because it is about the poor economic status of the villager." –National stakeholder

Some communities are running a business and focusing on their business. As they have their commitment, it is challenging for them to spare time and take part in the school meal program. We talked to the community and gave reasons why they should participate. For example, while parents were going to work on the sugarcane plantation, children did not have food and that made parents worry about their kids and had to come back home to provide lunch. So, it is better if children can have lunch in school and not return home. This is also to reduce the risk of house burning while they are cooking without parents' supervision. This detailed talking makes the community more understanding and involved. –Subnational stakeholder

Lack of running water and latrines. Another challenge noted was the lack of appropriate facilities in some schools where running water and latrines were not available or in good functioning order. In remote and poorer areas, this was often the case. In these situations, delivering hygienic meals was challenging and these infrastructure issues needed to be addressed to ensure children can receive save and nutritious meals. Other challenges noted are described in Exhibit 17 below.

"Challenges at the school level: some schools received support from the school meal program but they do not have running water and latrine. So, it is difficult for them to smoothly implement the school meal program." –Subnational stakeholder

"The challenge in implementing the school meal program is that most of the schools do not have enough water. Some schools in the highlands use water only in the rainy season and many schools lack water in the dry season. Another barrier is there is limited land area to do school garden. So, growing vegetables and raising livestock are limited in the upland areas." –Subnational stakeholder

Exhibit 17. Common challenges noted in implementing the School-based Feeding Program

Typical challenges that were noted	Supporting interview quotations
Community contribution to food and supplies limited in some areas	*"Villagers in poor areas do not have many food options. Their fresh food contributing to school meals is then limited. They can only share what they have in the field or garden such as pumpkin and melon."— National stakeholder*
Poor community awareness and buy-in at times	*"Community awareness is the main challenge of whether or not the school meal program can be successful. If the teachers or school administrators are strong, they will be able to communicate and work with the community to understand school meal work. Once the community understands, lunch activities will not be a problem. If the community does not comprehend, problems will follow - such as not cooking, not contributing food…It is based on community understanding, in Phongsaly and remote rural areas in Luang Namtha, they face economic challenges, their income is below $1.7 and that makes community contribution limited. Therefore, teachers and village authorities need to work hard to mobilize the community to understand the importance of school meals to their children. The success of the school meal program heavily depends on the management of school leaders, teachers and village authorities. If the two parties get along well and work well together, everything will be fine. –Subnational stakeholder*
Limited participation and involvement of community partners and development partners	*"They face multi-layer challenges – teachers experience not having a cook and not enough water. These should not be under the responsibility of schoolteachers solely. Therefore, I have proposed that many stakeholders should be involved. To sum up, having development partners involved leads to the success of the school meal program." –Subnational stakeholder* *"Challenges at the school level are student management, community engagement with teachers. Some schools have not yet done so in mobilizing the community to participate in this activity." –Subnational stakeholder*
Need to improve awareness among parents about healthy dietary practices	*"The challenge of implementing the school meal program and improving it is, first and foremost, we need to motivate parents to understand children's physical development. In particular, the healthy diet of children can make them taller and healthier according to the standards set out."— Subnational stakeholder*
Language barriers	*"Ethnicity is also a challenge. Those are Ta-Oi, Samouay and Tum-Lan ethnics in some villages who do not understand the Lao language, have to rely on people in the district to translate it. This is a language barrier challenge."—Subnational stakeholder* *"Some ethnic groups who do not speak Lao are also a minor challenge in understanding the policies of the school meal program – those including both village authority and community members." —Subnational stakeholder*
Geographic hardships	*"The geographical challenge is that of a poor ethnic group like Ta-Oi, where even rice is not enough to eat. In contrast to districts with good*

Typical challenges that were noted	Supporting interview quotations
	economies such as Lao Ngam, the contribution of the community is satisfied, making this activity well-organized." –Subnational stakeholder *"Challenges at the school level are the geographical factors and facilities in the school, such as the school located on a hill, no water, cramped space, no areas to plant and raise animals." –Subnational stakeholder*
Trained people to implement the school feeding program	*"Personnel challenges: At the district and provincial levels, there is a lack of staff in charge of this work, especially with the frequent staff turnover – the trained staff resigned and then the untrained new staff come in the role. This situation also happens in school, some teachers relocate to other schools, some principals retire. Similarly, managers in the international organization also left every 2-3 years."—National stakeholder*
Ensuring teacher support and buy-in	*"In the past, some teachers did not understand and felt that the school meal program was an extra job for them. Some of them even asked for compensation. Complicated things start with misunderstandings. So, we have had discussions to build understanding. Things will be less complicated when teachers and village authorities have a good and common understanding."—Subnational stakeholder*

Monitoring and Enforcement Mechanisms for Policies and Programs

The study team sought to identify opportunities to strengthen healthy school environments in Lao. Stakeholders were asked about policies and practices around monitoring and enforcing any existing school food policy or program.

"The challenge in implementing the school food sale policy is we do not have a specific budget to monitor the shop. So, when we visit the school to support teaching and learning, which is once or twice per academic year, we will take that opportunity to monitor the shop in the school. Food selling in school is not a big problem and we mainly focus on the teaching and learning techniques and school environment. Only 20% of all schools in Luang Namtha have a shop in school. Sellers mostly sell in their house not in school because if they have a shop in school, they have to pay some fee to the school. They cannot afford to pay the fee because they do not make a lot of benefit from selling snacks and foods. Most of the time, shops will be in only big schools with a lot of students."—Subnational stakeholder

"The challenge in implementing the school meal program is the insufficient budget to allow provincial staff to monitor the program activity in schools. Also, due to the COVID outbreak, the Ministry did not allow provincial staff to travel. In some cases, there was some underspent budget like 10 million Kip, but it cannot be withdrawn to monitor the activity due to COVID-19. Moreover, the economic is not good. The only thing that the government can support the teacher during the school closer is that teachers still get the salary. Overall, the implementation of the school meal program got stuck."— Subnational stakeholder

Recommendations to Improve the Availability, Quality, and Type of Foods in and around Schools

There were a variety of recommendations on how to improve the availability, quality, and type of foods in and around schools. Many stakeholders noted that it was important to have clear rules and regulations and that this should be developed by the DoH and DepEd. Others believed

improved communication with retailers and vendors would help and that raising awareness with shop vendors on the value of healthy snack foods was an important initiative.

Regulating the food environment in schools and nearby school. There was a lot of support among national, subnational, and school heads/directors to regulate the school environment as well as to support awareness raising with vendor both inside and outside the school. It was noted that regulations would need strong collaboration across departments and sectors.

"To improve the supply of food in and around the school, the collaboration between partners is required. The health sector in conjunction with the education sector should monitor foods in school to see whether available food is age-appropriate food for children. Different age children need different food and it is important to ensure the shop knows what kind of food to be sold, which ones are healthy or unhealthy for children. Health sector staff who are knowledgeable in nutrition can advise what food is appropriate for children in grades 1-2-3…Moreover, all unhealthy foods should be banned."—Subnational stakeholder

"Talking about shops or retail stores in or around the school is a big deal, so it is important to disseminate information to the shop owner. If they do not follow, laws and regulations need to be reinforced. When it comes to the law, it is out of the Ministry of Education and Sports' roles and responsibility, more work to be done at the national level."—National stakeholder

"Moreover, when talking about selling food in school, I would like the District Chamber of Commerce to be involved in monitoring the quality of food and its expiration dates."—Subnational stakeholder

This needs to be reinforced because as long as unhealthy snacks are still sold at schools, school nutrition indicators will be achieved. Similarly, shops outside and nearby schools must also be educated by the education and health sector to ensure the owners are aware of nutritious food."—School head/director

Ban shops in schools. In some schools, shops that sell food products are allowed. These shops are different than school canteens.

"From 2017-2018 school year onwards, the Saravan province has taken measures not to have shops in schools. The shops outside the school are under the responsibility of other relevant sectors, especially the district trade office which is responsible for inspecting the quality of the goods." –Subnational stakeholder

Work with shops to raise awareness about the importance of healthy foods. Many stakeholders believed that working with vendors, initiating dialogue about healthy and unhealthy foods would improve the quality of foods sold by shops in schools.

"For Aharn vang or snacks sold at school, in my opinion, I do not want to have the snack shop in school. If they are to be continued, they have to be educated on the food choice and the quality of food sold at school. For example, selling boiled rice made with Lao ingredients, noodles soup, fried noodles to provide a lot of nutrition. This is required teachers in the school to talk to shopkeepers. Possibly, the education and health sectors are responsible for educating the shop owners."—Subnational stakeholder

"This needs to be reinforced because as long as unhealthy snacks are still sold at schools, school nutrition indicators will be achieved. Similarly, shops outside and nearby schools must also be educated by the education and health sector to ensure the owners are aware of nutritious food."—School head/director

Recommendations to Improve Eating Practices for Young Children

Among the many recommendations on how to improve eating practices for young women, the majority of recommendations were around improving nutrition education for children, teachers, and parents; empowering teachers to monitor and dialogue with school vendors; increase

awareness of healthy and unhealthy foods at all levels; improve the food environment by making more accessible and affordable nutritious foods; banning shops in schools; and providing greater schools with external expert technical assistance to improve food quality, food diversity, and food safety.

Nutrition education. Nutrition education for children, teachers, and parents was viewed by many stakeholders as a first step towards improving the food environment in and around schools.

"In rural areas, there is a lack of food, they have no money to buy food. It is necessary to advise them to eat a variety of food groups and encourage them to grow many kinds of vegetables and animals."—National stakeholder

"Nutrition education should be provided to teachers and cooks in the school. Cooks will be mindful to cook nutritious foods for children, which will help change unhealthy eating habits."—National stakeholder

"It is important that parents and teachers at the school understand how to provide their children with healthy food, and that parents and teachers should be aware of what foods are good and what are bad. In our curriculum writing, we have tried to integrate these topics. Recently, we write the curriculum for grade 4 and we have integrated only a little bit of these topics because there are many topics to be included such as sex education, reproductive health, disasters, and AIDS. Therefore, it is necessary to disseminate nutritional knowledge to the community to make sure they see the importance of providing healthy food to children."—National stakeholder

Increase awareness of healthy and unhealthy foods.

In the future, I would like to request to help find funding sources to support our country. Especially work related to providing knowledge on what kind of food is really good for health, food inspections - What foods contain sugar or nutrients? How to ensure food safety in the community.—Subnational stakeholders

"The long-term solution is to make the community, the family and the individual understand the nutrition which leads to eating habits change but it takes a long time for people in the community to understand and change."--Subnational stakeholders

It is up to the parents to decide what to feed their children, so start at the family level, not making it a habit for the children to eat out. The campaign to eat five food groups in every meal – breakfast, lunch and dinner, must start at the family level to educate the parents first of all. Perhaps, the health sector to be responsible for raising awareness.—Subnational stakeholders

Empower teachers. Some stakeholders noted that empowering teachers to conduct nutrition education and monitoring of foods sold in shops would be beneficial.

Apart from waiting for the registration to be reinforced, what we can do is educate villagers and teachers about the dangers of consuming junk food or freely allowing shops to sell unhealthy food in or around schools. This will give teachers more ownership. –National stakeholder

Improve food environment. There was recognition that the food environment influences children's choices and dietary patterns. This means reducing unhealth choices and increasing healthy options.

For all children, adequate nutritious foods must be provided, their food must be hygienic, do not let them eat chemical added food and processed foods must be inspected to ensure that they do not expire.—Subnational stakeholder

What can be done to improve eating practices are cooking delicious, nutritious food, raising awareness on nutritional principles at the school and community levels. It is important to check if they know what they eat is good for their health? This helps them consider choosing good food and avoiding bad foods. This is a complicated and multi-layer task. It refers to school administration and an improved school environment. –Subnational stakeholder

Ensure all schools have access to diversified fruits, vegetables, and animal source protein.

"At the school level, gardening should be done to produce food, which will make the students know how to grow vegetables. The gardening skills that they learn from school can also be applied in their daily life."—National stakeholder

Cooking foods for children, cooks must think of a variety of food, do not cook the same food repeatedly. So, the community has to contribute vegetables, also in the school itself, there has to be animal husbandry and gardening to supply the school kitchen.—Subnational stakeholder

"We still have a lot of work to do. Considering the school lunch program completed 4-5 years ago, what we should do is monitor whether the project has really benefited communities. It takes time to see the benefit - planting vegetables for 3 months, vegetables can be harvested and eaten, but planting fruit trees for 3 years will actually bear fruit or some plants need 5 years to bear fruit."—Subnational stakeholder

Use locally sourced foods. Some stakeholders raised the importance of using local foods so that any program would be practical to implement.

"Talking about food in or around the school, if we want to make it better, we should suggest eating nutritious foods and foods that are available in their area. For example, it is not possible to recommend eating apples in all schools across the country."—National stakeholder

Technical assistance. Some noted that technical assistance from outside experts could be used to improve aspects of the school feeding program.

"If we want good quality food, we have to ensure quality control. For example, gardening requires the expert from outside to plant and demonstrate to teachers, who in the future will monitor the planting -they can advise on the use of chemical fertilizers. By doing this we can control quality…Currently, we have a plan to hold a meeting with the Agriculture and Forestry College and Department of Vocational Education and Training to connect technical experts from these sectors with this work." –School head/director

In order to be sustainable and to be in line with the school meal system, we need to include more technical experts from many sectors such as agriculture, nutrition and education. –National stakeholder

III. CAREGIVER SURVEY ON CHILDREN'S CONSUMPTION

3.1. OVERVIEW

The third component of the commissioned formative research was to collect quantitative information to either characterize the food and promotional environment in and around selected primary schools or to implement a small-scale quantitative phone survey with caregivers of children attending primary schools in the Philippines and Lao PDR. Due to COVID-19 surges across the region in December 2021 to February 2022, WFP and Helen Keller mutually agreed to move forward with the phone-based survey with caregivers. While small in scale, the quantitative data can be used to inform future, rigorous investigation and/or program and policy decisions.

3.2. METHODOLOGY

Survey Design

A cross-sectional quantitative survey was implemented in February to March 2022 through phone interviews with primary caregivers of children 6-11 years attending the 12 primary schools in Lao PDR and the Philippines (six schools per country). If the child was available, the child also participated in the survey, to help respond to questions on consumption of unhealthy foods and beverages in the past week.

Location

In October 2021, six primary schools in each country of interest were identified by the in-country WFP teams for involvement in the landscape analysis. School directors (or their designates) in four schools per country participated in the KII interviews. In each country, schools were included were located in both rural and urban/peri-urban areas and had diversity in student enrollment numbers. All 12 primary schools included Grades 1-5, in addition to pre-primary classes. Table 3.1 summarizes the schools.

Table 3.1. Summary of 12 primary schools

No.	Province	District (La); Municipality (Ph)	Location	Total enrollment, 2021-2022	Grade 1-5 enrollment
	LAO PDR				
1	Salavan	Lao Ngram	Rural	61	44
2	Salavan	Lao Ngram	Rural	136	115
3	Salavan	Lao Ngram	Rural	188	132
4	Luangnamtha	Namtha	Urban	162	135
5	Luangnamtha	Namtha	Peri-urban	104	81
6	Luangnamtha	Namtha	Peri-urban	200	188
	PHILIPPINES				
1	National Capital Region	Malabon City	Urban	3396	2870
2	National Capital Region	Malabon City	Urban	3984	3267
3	National Capital Region	Malabon City	Urban	2262	1921
4	Rizal	Binangonan	Peri-urban	3055	2484
5	Rizal	Rodriguez	Rural	561	463
6	Rizal	Taytay	Peri-urban	1834	1534

Note: La=Lao PDR; Ph=Philippines.

At the time of survey, all six schools in Lao PDR were open for in-person learning, whereas the six schools in the Philippines were closed and had been implementing online/distance learning since March 2020.

Participants

A survey was undertaken with primary caregivers of children 6-11 years of age and attending Grade 1-5. Primary caregivers were defined as the main caregiver of the child and responsible for feeding and meals, and therefore were assumed to have the most knowledge regarding the consumption patterns of their children. Children had to be physically and mentally abled, as children who are not fully abled interact with their environment differently and likely have different access to foods and beverages. The aim of the survey was to gain an understanding of typical or usual behaviors. Children were expected to be enrolled and attending the school regularly, either through physically attending class if schools were open, or participating in online/distance learning if schools were closed.

Along with being the primary caregiver, adult participants had to be 18 years or older and able to communicate clearly in the official languages of the country (Lao, English, Filipino). For the phone-based survey, including a third person as translator was not logistically feasible. The caregiver also needed access to a phone, either their own, the family phone, or a phone of someone else they could borrow.

Sample Size and Participant Selection

The target sample size was 10 caregiver surveys per school, for a total of 60 surveys in Lao PDR and 60 in the Philippines. Convenience sampling was used to identify children and their caregivers to participate due to the COVID-19 situation, the need to coordinate with schools remotely, and the timeline of the study. The small and convenient sample of children was designed to be illustrative and to indicate some patterns that may be present at these and other schools. The information can be used to inform future, rigorous investigation, but cannot be generalized or used to indicate prevalence of behaviors among all children at their respective schools or other schools in the countries.

The research coordinators in each country contacted the directors at each school to identify a focal point to assist with identifying children and caregivers that meet the study selection criteria. Focal points were asked to supply a list of 16 caregiver and child pairs, where 8 children were 6-8 years and attending Grade 1-3 and 8 children were aged 9-11 years and attending Grade 3-5. We requested a mix of male and female children, but no specific targets were provided. Once lists were received from focal points, the names for each school were randomized and the research coordinators began calling caregivers from the top of the lists, working their way down, until 10 surveys per school were completed.

Survey Tool

A short, structured quantitative questionnaire was developed to be completed over the phone in approximately 30 minutes. The questionnaire included screening questions to ensure that participants were eligible to participate and to confirm they were the individuals identified by the focal points. Data were also captured on child, caregiver, and household characteristics; consumption of five categories of unhealthy foods and beverages in the past week (sweet,

salty/savory, processed meats, SSBs, fast food); consumption patterns for four categories (sweet, salty/savory, processed meats, SSBs); and school availability of unhealthy foods and beverages.

To measure household wealth, the EquityTool (EquityTool, 2022) approach was used, which allows us to compare the wealth of the survey participants to the national populations in their respective countries. For each country, the Equity Tool identified a simplified list of household assets from the DHS or MICS that are asked to participants. Results are then calculated following EquityTool's supplied methods to determine which DHS/MICS Wealth Index quintiles the participants fall into. The Lao PDR simplified list of assets includes 10 questions from the Lao PDR MICS 2017 (Lao Statistics Bureau, 2018) and enables us to compare participants to the 2017 MICS wealth index. For the Philippines, the simplified list includes seven questions from the Philippines Demographic Health Survey 2017 (PSA & ICF, 2018) and enables comparison to the 2017 DHS wealth index.

The categories of unhealthy foods and beverages included in the questionnaire were informed by the Diet Quality Questionnaire (DQQ), developed by the Global Diet Quality Project (Global Diet Quality Project, 2022). The DQQ is an internationally standardized and validated survey tool designed to interpret diet quality within and across countries (Hereforth, et.al., 2020). The tool captures data on 29 different food groups and has been adapted for over 100 countries (including Lao PDR and the Philippines) by providing country-specific sentinel foods for each food group. We included the DQQ's 10 groups of unhealthy foods and beverages in our survey, as detailed in Table 3.2, and merged some groups to form the five categories of investigation of this survey: sweet foods, salty/savory foods, processed meats, SSB, and fast food.

Table 3.2. Unhealthy foods and beverages categories in the survey and source categories from the Lao PDR and Philippines Diet Quality Questionnaire (DQQ)

Study category	Lao PDR DQQ food group	Philippines DQQ food group
Sweet foods	Cakes, kanom kai, donuts, cookies, cassava cake, sticky rice with banana, or sticky rice with mango	Cakes, cookies, sweet breads, cassava cake, ensaymada, donuts, buchi, kakanin or biko
	Candy, chocolates, ice cream, nam wan, kanom ta koh, kanom tuay, or kanom san	Candy, chocolates, ice cream or sorbetes, halo-halo, halaya, leche flan, taho, or bukayo
Salty/ savory foods	Chips or crisps such as Lays	Potato chips such as Chippy, Mr. Chips, corn chips, or Boy Bawang
	Instant noodles	Instant noodles
	Fried potato, fried chicken, fried pork, fried fish, fried banana, kanom eun or kholo, patankoh or kanumku	French fries, fishball, kropek, chicharron, IUDs, adidas, or kwek-kwek
Processed meats	Sausages, hot dogs, meatballs, or dried meat	Hot dogs or sausages, longganisa, chorizo, Vienna sausage, canned meats, tocino or tapa
SSBs (SSB)	Sweetened coffee, sweetened tea, drinking tea, smoothie, flavored milk, Milo or Ovaltine	Sweetened tea, bubble tea, sweetened coffee, 3-in-1, chocolate flavored drinks, or sago at gulaman
	Fruit juice or fruit drinks	Fresh fruit juice, or fruit-flavored drinks such as Zesto or C2
	Soft drinks such as Pepsi, Coca-Cola, or Mirinda	Soft drinks such as Coke, Sprite, or Royal Tru, energy drinks such as Red Bull, or Gatorade
Fast food	Food from any place like Pizza Company, Swensen Pizza, Lotteria, BKL, or other places that serve burgers or pizza	Food from any place like Jollibee, McDonald's, Pizza Hut, or Shakeys

We also explored consumption patterns for sweet, salty/savory, processed meats, and SSB, if a child consumed the items in the previous week. Specific survey questions on consumption patterns are listed below:

- The time of day the child usually consumed the unhealthy foods/beverages in the past week (morning, afternoon, or evening)
- Whether the foods/beverages were usually consumed as part of or in between main meals in the past week
- The frequency of consuming the foods/beverages at school (if open) in the past week (every day, most days (4-6 days), about once a week (1-3 days), no days)
- The locations where the child consumed the unhealthy foods/beverages in the past week
- The reasons why the child likes to consume the unhealthy foods/beverages (detailed in Box 3.1)

These questions and answer options were informed by the landscape analysis, key informant interviews, two 2019 investigations in Cambodia (17 Triggers, WFP, & SNV, 2020; Helen Keller, 2020), and other previous work by Helen Keller (Green, et al., 2019; Pries, et al., 2017; Sharma, et al., 2019). Participants were asked to spontaneously report all the locations of consumption and reasons for consumption in the past week, along with the one main location.

Box 3.1. Drivers of food choice

Likes the taste
Likes the smell, colors, appearance
Hunger/thirst
Fun, enjoyment
Easily available
Habit
Tired, needs energy
Sees friends consume; encouraged by friends
Sees other adult in household consume
Sees other child in household consume
Given to child
Likes attractive packaging
Cheap, low price
Advertising, promotions, media
Good for health
Quick to eat; easy to prepare

The questionnaire administered in Lao PDR and the Philippines was the same, except for the country-specific list of simplified household assets provided by EquityTool and the country-specific sentinel foods listed under each food group. The survey was translated into Lao and Filipino by the research coordinators, with a second independent person verifying the translations. Ona[1] was used for programming the questionnaire into electronic form and capturing data.

Data Collection

Data collection took place 22 February to 3 March 2022 in both countries. Surveys were administered over the phone by two team members in Lao PDR and two team members in the Philippines who were trained on the questionnaire and electronic data collection with ONA. Team members contacted the listed participants by mobile phone twice: first, to determine willingness to participate and to schedule a convenient day and time to conduct the survey interview, preferably when the child could be present to answer questions; and second, to undertake the survey. In the Philippines, some participants opted to be contacted and surveyed via Facebook Messenger. Additionally, the school and surrounding community in Rodriguez municipality, Rizal province, the Philippines had severely limited mobile connectivity which meant the Philippines team members were unable to reach the caregivers to schedule survey interviews. As a result, the team traveled to the school to conduct the surveys face-to-face with caregivers and their children, following Helen Keller's COVID-19 safety procedures.

Ethical review and approval was not required as the purpose of this overall project is to inform program and policy actions in Lao PDR and the Philippines, as well as possible future

[1] Ona (www.ona.io) is a mobile data collection platform. Electronic surveys can be completed on smartphones, tablets, or computers and data are uploaded to a secure online platform.

investigations. Questions and information collected were not of a sensitive nature. Verbal consent was obtained from all eligible caregivers. No direct interviews or interactions were conducted with children. Caregivers received mobile phone credit as reimbursement for their time, as did school focal points for their assistance in identifying participants.

Data Management and Analysis

Ona was used for programming the questionnaire and conducting the interview. Team members entered participant responses directly into the web-based survey accessed via laptop computer or mobile device. Each completed survey was uploaded at the end of the survey interview, or in the case of the school in Rodriguez municipality, at the end of the day once a network connection could be established.

Data were downloaded, cleaned, and analyzed using Stata version 16 (StataCorp, College Park, TX, USA). A continuous wealth index score was generated using procedures developed by EquityTool, and households were allocated to the national wealth quintiles for their respective countries using the score. Calculations include the geographic location of the household, which must be either 'rural' or 'urban', therefore peri-urban locations were classified as 'urban' as per national standards. Quintiles are numbered 1 to 5, with 1 being the lowest wealth and 5 being the highest wealth. For comparisons between household wealth, quintiles were grouped 1-3 and 4-5.

A score was generated to reflect the degree of consumption of the unhealthy foods and beverages. To calculate the score, the number of days consumed in the past week was summed across the five groups of sweet, salty/savory, processed meats, SSB, and fast food. The possible score ranged from 0 (none of the five groups consumed in the past week) to 35 (all five groups consumed every day of the past week).

Data are presented here as percentages or means, stratified by country. Descriptive comparisons are made between child age group (6-8 years and 9-11 years), child sex, household rural-urban designation, and household wealth (Q1-3/low wealth and Q4-5/high wealth). Due to the small sample size, no statistical testing was undertaken.

3.3. RESULTS

Surveys were completed with 60 caregivers in each country, 10 per school. All participants were sourced from the initial lists of 16 caregiver and child pairs provided by each school focal point; no additional names had to be requested. In all 60 interviews in Lao PDR, the child was present to provide information; in the Philippines, the child was present for 59 out of 60 caregiver surveys.

Participant, Child, and Household Characteristics

The survey participants were primarily women and the mothers of the children (Table 3.3). All of the children in Lao PDR were attending in-person learning at school, while all children in the Philippines were using distance/on-line learning since March 2020. When household wealth was compared to the 2017 national surveys in each country, over half of Lao PDR participants were living in households in the highest two wealth quintiles and along with 70% of Philippines participants.

Table 3.3. Characteristics of surveyed caregivers, their children, and households

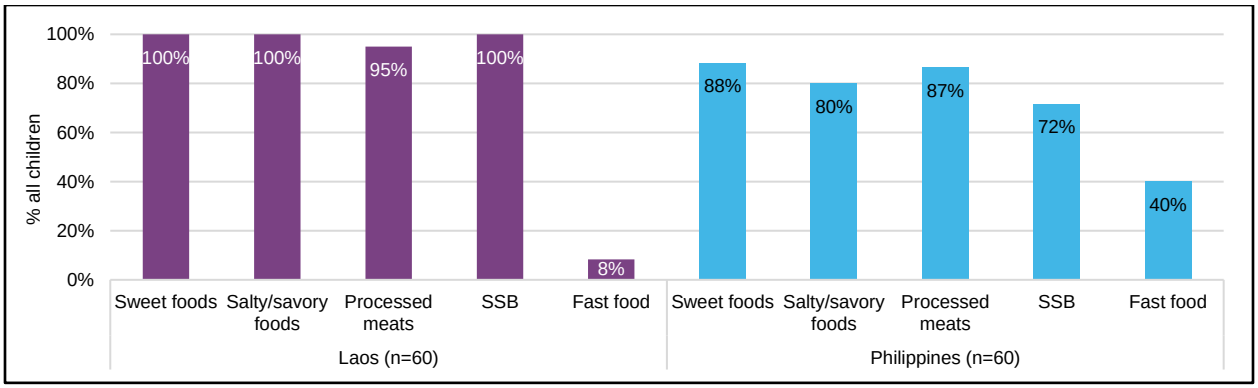
	Lao PDR (n=60)	**Philippines** (n=60)
Caregiver sex (female)	95 (57)	97 (58)
Caregiver age (years)	34.9 ± 6.1	37.8 ± 8.4
Caregiver relationship to child		
Mother	90 (54)	85 (51)
Father	5 (3)	3 (2)
Grandmother	3 (2)	7 (4)
Aunt	2 (1)	5 (3)
Child sex (male)	47 (28)	50 (30)
Child age (years)	8.4 ± 1.4	8.5 ± 1.6
Child age group		
6-8 years	52 (31)	47 (28)
9-11 years	48 (29)	53 (32)
Child grade	3.3 ± 1.4	2.9 ±1.5
Child attending in-person learning	100 (60)	0 (0)
Head of household (male)	87 (52)	88 (53)
Household wealth quintile		
1 (lowest)	5 (1)	3 (2)
2	15 (9)	8 (5)
3	27 (16)	17 (10)
4	37 (22)	42 (25)
5 (highest)	17 (10)	30 (18)
Province of residence		
Salavan	50 (30)	-
Louangnamtha	50 (30)	-
National Capital Region	-	50 (30)
Rizal	-	50 (30)

Note: Data presented as percentage (n) or mean ± standard deviation. Percentages may not add up to 100% due to rounding. Wealth quintile as compared to the national wealth quintile of the 2017 MICS (Lao PDR) and 2017 DHS (Philippines).

Consumption of Unhealthy Foods and Beverages

All children in both countries consumed at least one category of unhealthy foods or beverages in the previous week. Figure 3.1 shows the consumption of the five categories in Lao PDR and the Philippines. Among the surveyed children, consumption appeared to be lower in the Philippines compared to Lao PDR, except for fast food, which was the least commonly consumed category in the past week for both locations. In Lao PDR, children reportedly consumed a mean of 4.0 groups in the past week and 3.7 groups in the Philippines.

Figure 3.1. Percentage of children consuming unhealthy foods/beverages in the previous week



For Lao children, there were few differences in consumption for child sex, child age group, urban-rural geography, and household wealth group (Annex Table A1). Fast food consumption was only reported in urban areas (17% versus 0% rural) and in wealthier households (16% versus 0% in Quintiles 1-3). Children in wealthier households also had greater processed meat consumption (100%) than those in less wealthy households (89%). The mean number of groups consumed in the past week did not vary with regards to child and household characteristics.

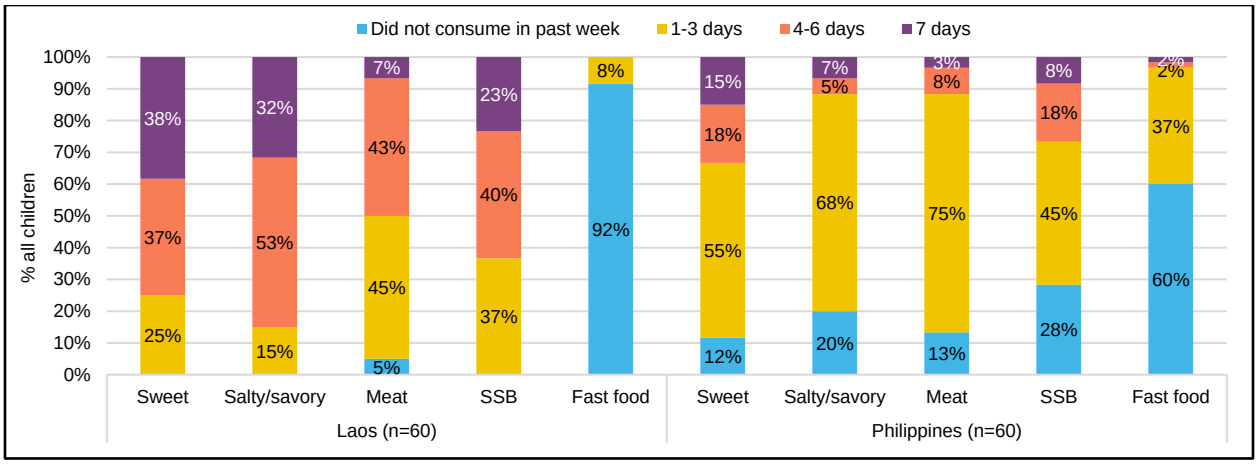
In the Philippines, there were more distinct differences in consumption by characteristics (Annex Table A1). Male children had greater consumption of salty/savory foods (90%) and SSB (80%) than female children (70% and 63%, respectively). Children in urban areas preferred sweet foods (94% versus 60% rural) and fast food (46% versus 10%), while rural children preferred salty/savory foods (90% versus 78%) and SSB (80% versus 70%). Children in wealthier households were more likely to consume fast food (49%) and less likely to consume SSB (44%), compared to less wealthy children (18% and 65%, respectively). The mean number of unhealthy groups consumed was relatively similar with regards to child and household characteristics.

Among Lao PDR children who consumed the foods/beverages of interest, sweet foods and salty/savory foods were consumed most often (5.1 days in the past week), followed by sweet beverages (4.3), processed meats (3.8), and fast food (1.8). Children in wealthier Lao households consumed all categories on average 1.2-1.8 days more often than children living in lower wealth households (Annex Table A2). Male and older children also consumed fast food more frequently (2.0 days each) than their female (1.0) and younger (1.0) classmates.

Sugary foods and beverages were most popular for Filipino children (3.3 and 3.2 days, respectively), and then the salty/savory foods and processed meats (2.2 days each), and finally fast foods (1.8) (Annex Table A2). The frequency of consumption was relatively similar by child sex, child age, and household wealth. Urban children consumed salty/savory foods and SSB about twice as many days (2.4 and 3.5, respectively) than rural children (1.3 and 1.8).

Figure 3.2 shows the frequency of consumption in the past week categorized for all children. In Lao PDR, consumption was often 4-6 days in the past week, and one-quarter to over one-third of children consumed these foods every day. Consumption was less frequent among Filipino children, with consumption primarily between 1-3 days.

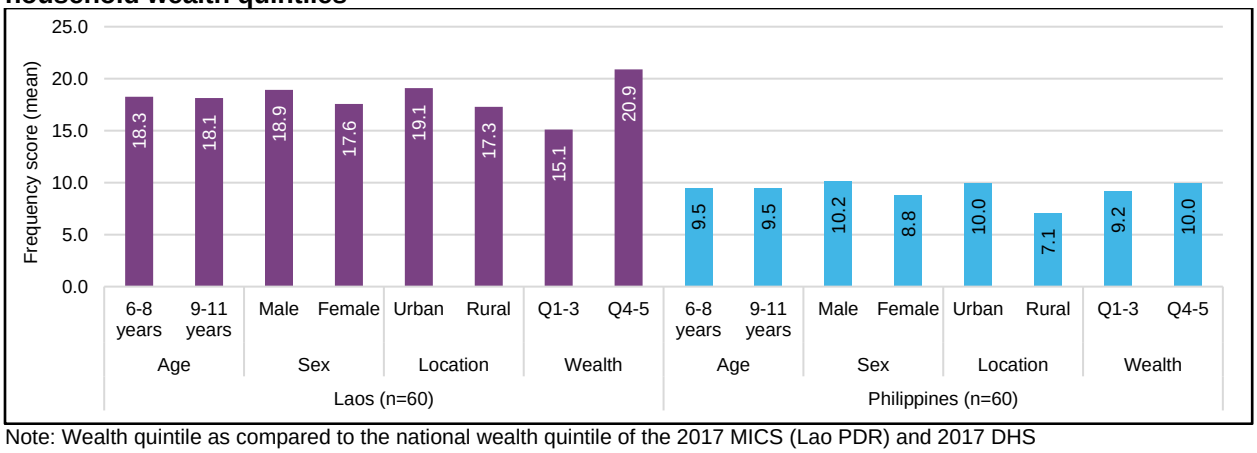
Figure 3.2. Frequency of consumption of unhealthy foods/beverages in the previous week



Note: Due to rounding, percentages may not add up to 100%. Meat=processed meats

A score was generated to reflect the degree of consumption of the unhealthy foods and beverages in the past week, ranging from 0 (none of the five groups consumed in the past week) to 35 (all five groups consumed all 7 days of the past week). The overall mean scores were 18.2 in Lao PDR and 9.5 in the Philippines. Scores for each country were relatively similar by child age and sex, with the most distinct difference between less wealthy and more wealthy households in Lao PDR (Figure 3.3).

Figure 3.3. Unhealthy consumption score by child age, child sex, household location, and household wealth quintiles

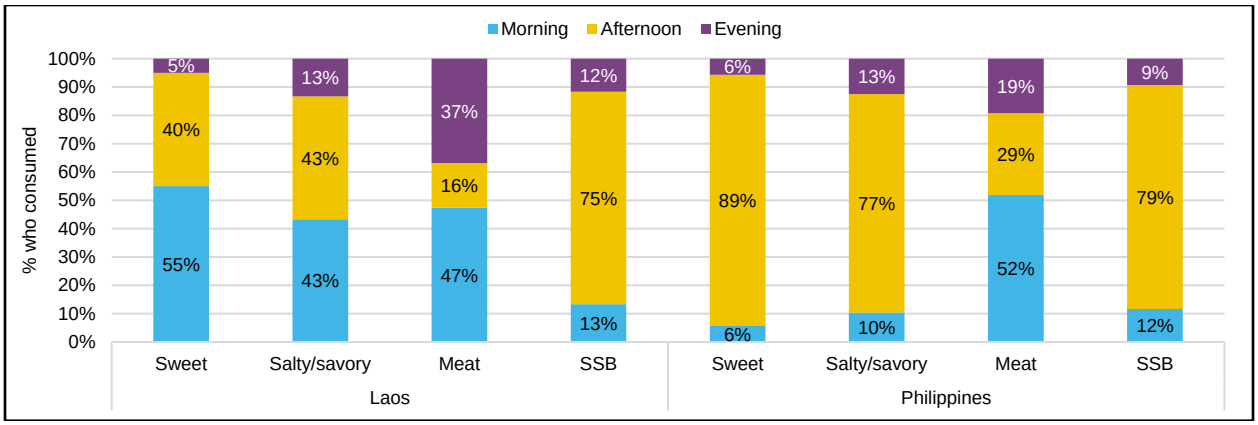


Note: Wealth quintile as compared to the national wealth quintile of the 2017 MICS (Lao PDR) and 2017 DHS (Philippines). Q1-3=quintiles 1 to 3; Q4-5=quintiles 4 and 5.

Consumption Patterns of Unhealthy Foods and Beverages

If a child consumed sweet foods, salty/savory foods, processed meats, or SSB in the previous week, additional questions were asked about their consumption patterns, including time consumed, where consumed, and reason for consuming. Figure 3.4 shows the usual time of day the children ate or drank the unhealthy groups in the past week. The Filipino children predominantly consumed these foods and drinks in the afternoon, while Lao children showed more variation by type of food/beverage.

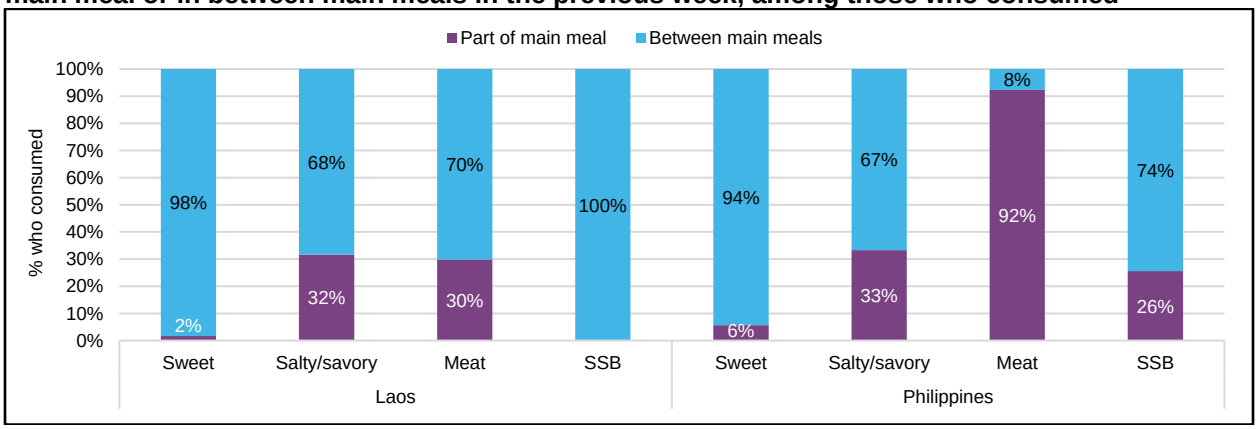
Figure 3.4. Time of day foods/beverages were usually consumed in the past week, among those who consumed in previous week



Note: Due to rounding, percentages may not add up to 100%. Meat=processed meats

In both countries, the children usually consumed unhealthy foods and beverages between main meals (Figure 3.5), with no real differences by child sex, child age, urban-rural location, and household wealth status (data not shown). Notably, processed meats were primarily consumed as part of a main meal for Filipino children.

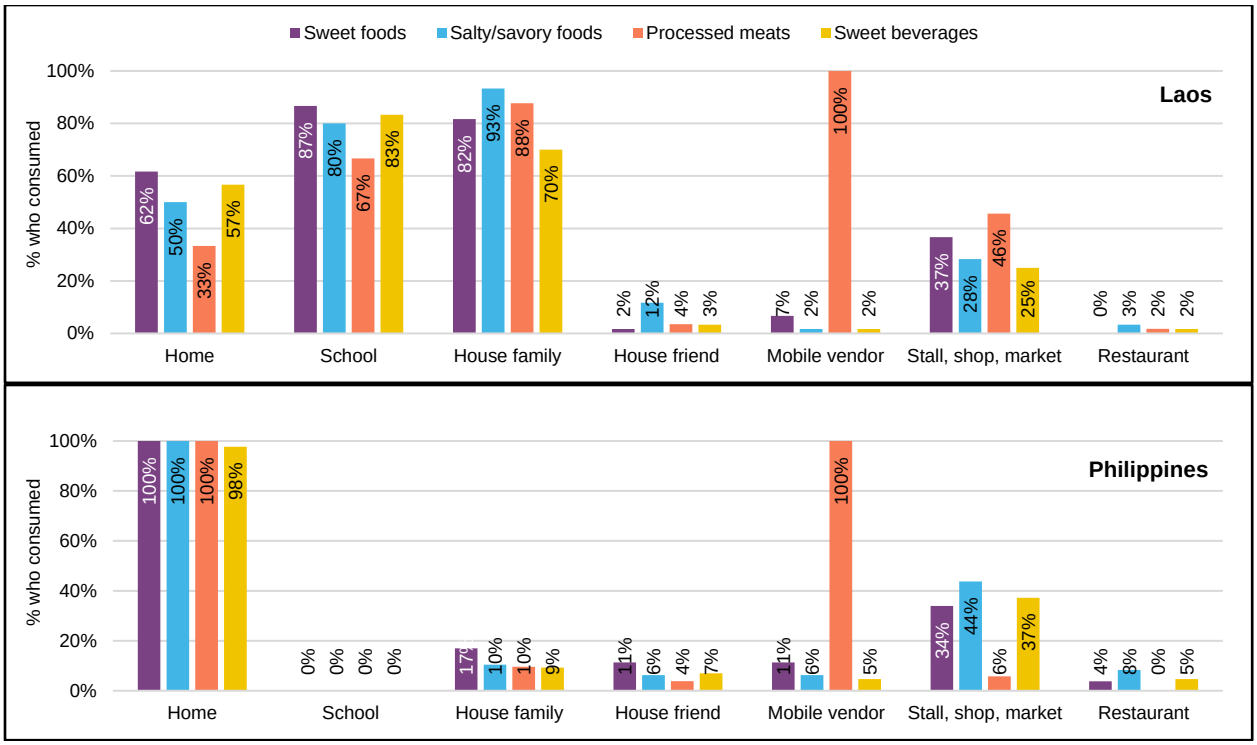
Figure 3.5. Percentage of children usually consuming unhealthy foods/beverages as part of a main meal or in between main meals in the previous week, among those who consumed



Note: Due to rounding, percentages may not add up to 100%. Meat=processed meats

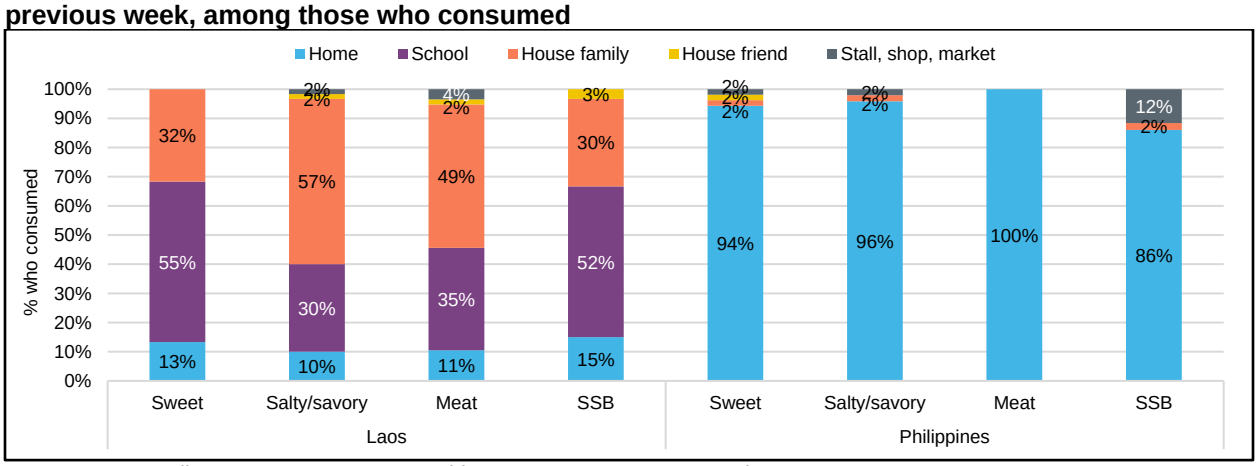
When asked about all locations that children ate the four categories of foods/beverages in the past week, caregivers mentioned seven locations (Figure 3.6). In the Philippines, where some COVID-19 restrictions were in force at the time of the survey, home was the predominant location to consume these items. With movement unrestricted in Lao PDR, caregivers reported a greater diversity of locations for consumption. Home was a frequent place, but even more common was school and the home of family. In both countries, all children consumed processed meats at mobile vendors.

Figure 3.6. Locations where children consumed unhealthy foods/beverages in the previous week, among those who consumed



After naming all locations where children consumed the foods/beverages, caregivers were asked to identify the one main location of consumption. In the Philippines, home was again the primary location of consumption for all four categories (Figure 3.7). For Lao children, the predominant locations were school and the home of family. For younger Lao children, the main location to consume SSB was at the home of family (42%), whereas the main location for older children was school (69%). Overall, salty/savory foods and meats were usually eaten at family homes in Lao PDR, but girls, urban children, and those living in wealthier households report the main location to be school (47%, 59%, and 53%, respectively).

Figure 3.7. One main location where children consumed the unhealthy foods/beverages in the previous week, among those who consumed

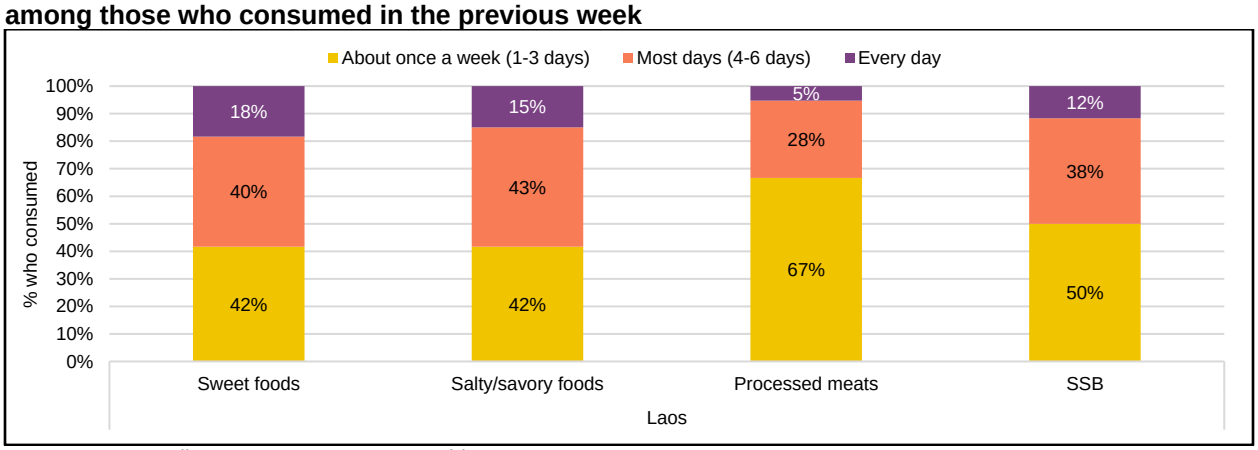


Note: Due to rounding, percentages may not add up to 100%. Meat=processed meats

For Lao PDR, where schools were open, caregivers were asked the usual frequency their child consumed the unhealthy foods and beverages at school, with the possible answer options being

'every day', 'most days (4-6 days)', 'about once a week (1-3 days)', or 'no days'. Figure 3.8 shows the responses given.

Figure 3.8. Frequency of usually consuming unhealthy foods/beverages at school in Lao PDR, among those who consumed in the previous week



Note: Due to rounding, percentages may not add up to 100%.

Annex Figure A1.a-b. shows the frequencies for Lao PDR children, stratified by child sex, child age, urban-rural location, and household wealth. Male children tend to consume the foods/beverages with greater frequency at school than females, as do children living in wealthier households. Nearly one-quarter of rural children usually consume sweet and salty/savory foods at school every day.

Drivers of Unhealthy Food and Beverage Choice

To explore the drivers of children's choices for the unhealthy foods and beverages, caregivers were asked why they think their child likes to eat or drink the four categories of foods/beverages. Responses were wide ranging (Table 3.4), although there was consensus that children like the taste of these items. Among Lao PDR children, liking the smell, colors, and appearance of the foods and drinks was influential as was seeing their friends consume the items. In the Philippines, different factors were perceived to drive children's choices. Many caregivers said children like and consume the foods/beverages because that is what is given to them. Seeing other adults in the households consume these items along with easy availability and fun and enjoyment were also perceived to drive choices for the Filipino children.

Table 3.4. Percentage of caregivers reporting perceived reasons why their child likes to consume unhealthy foods/beverages, among those who consumed in the previous week

	Lao PDR				Philippines			
	Sweet (n=60)	**Salty** (n=60)	**Meat** (n=57)	**SSB** (n=60)	**Sweet** (n=53)	**Salty** (n=48)	**Meat** (n=52)	**SSB** (n=43)
Likes taste	98	98	95	100	94	94	96	100
Likes smell, colors, appearance	47	32	39	67	30	10	4	21
Hunger/thirst	3	27	23	17	23	33	38	44
Fun, enjoyment	25	22	19	17	72	52	37	72
Easily available	43	25	40	25	77	69	60	77
Habit	33	50	23	12	32	27	29	30
Tired, needs energy	7	0	2	8	13	4	0	9

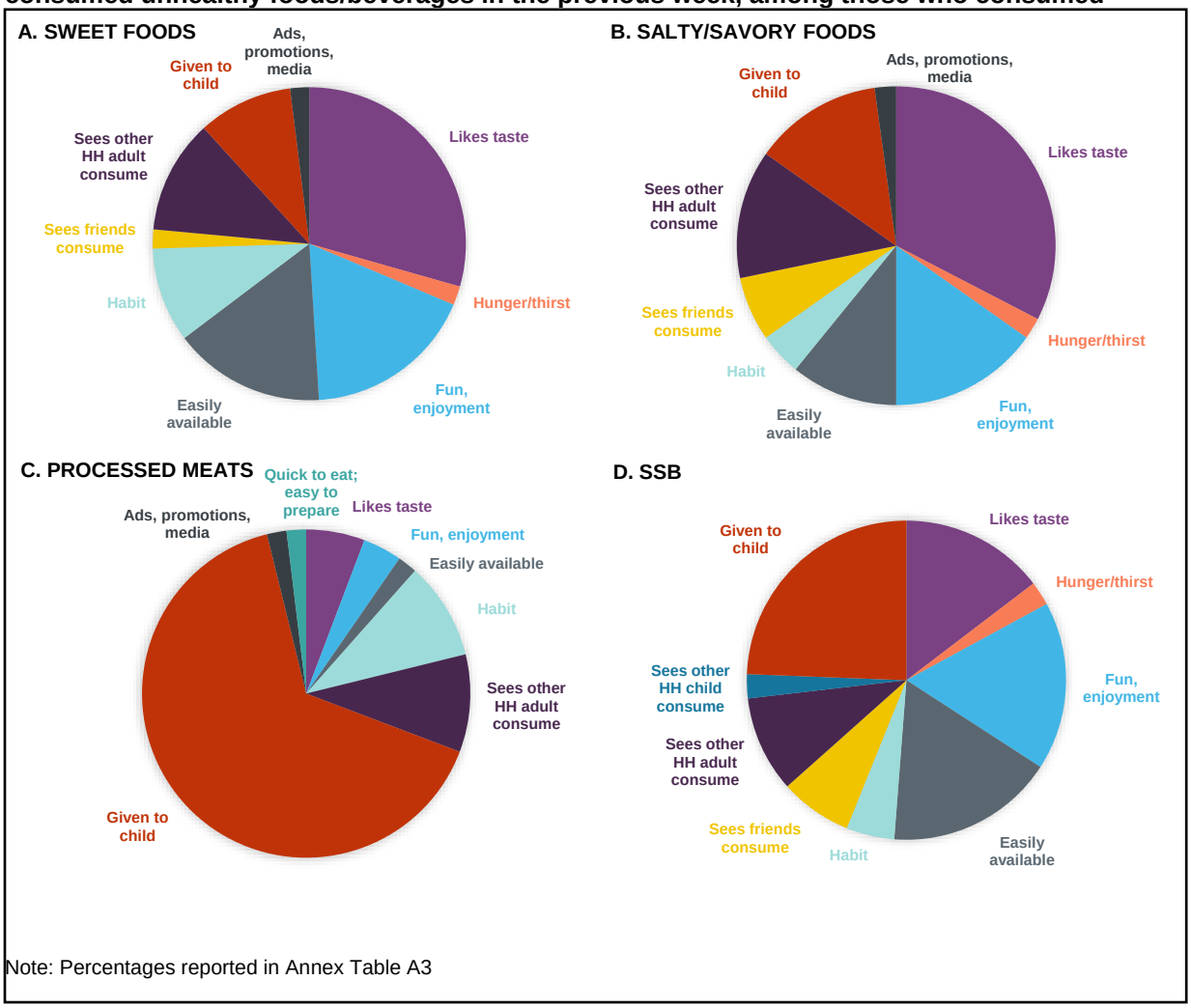
Sees friends consume	65	50	40	45	26	17	6	12
Sees other HH adult consume	25	42	54	15	58	60	81	49
Sees other HH child consume	7	10	7	2	43	54	37	37
Given to child	15	15	16	22	83	75	96	79
Likes attractive packaging	2	5	0	2	17	10	2	12
Cheap	37	25	33	23	42	31	33	28
Ads, promotions, media	2	0	0	2	38	29	31	35
Good for health	3	0	0	0	0	0	0	0
Quick to eat; easy to prepare	0	5	5	0	0	2	4	0

Note: HH=household; Meat=processed meats

Caregivers were also asked to name the one main reason their child liked to eat or drink the categories of interest. In Lao PDR, the predominant single reason was the child liking the taste for sweet foods (83%), salty/savory foods (67%), processed meats (77%), and SSB (83%). Aside from 12% who said that seeing other household adults eat salty/savory foods was the main reason, all other reasons were reported by less than 10% of caregivers for all categories of foods/beverages. A full table of all reasons and categories can be seen in the Annex for both countries.

In the Philippines, there was considerable variation in caregivers' responses (Figures 3.9.a-d). 'Likes the taste' was the predominant reason for eating sweet and salty/savory foods as well as perceived fun and enjoyment for sweet foods, salty/savory foods, and SSB. The overwhelming driver of children liking processed meats was being given the food, and for a lesser extent, with SSB, and salty/savory foods.

Figures 3.9.a-d. Percentage of Filipino caregivers reporting the one main reason why their child consumed unhealthy foods/beverages in the previous week, among those who consumed

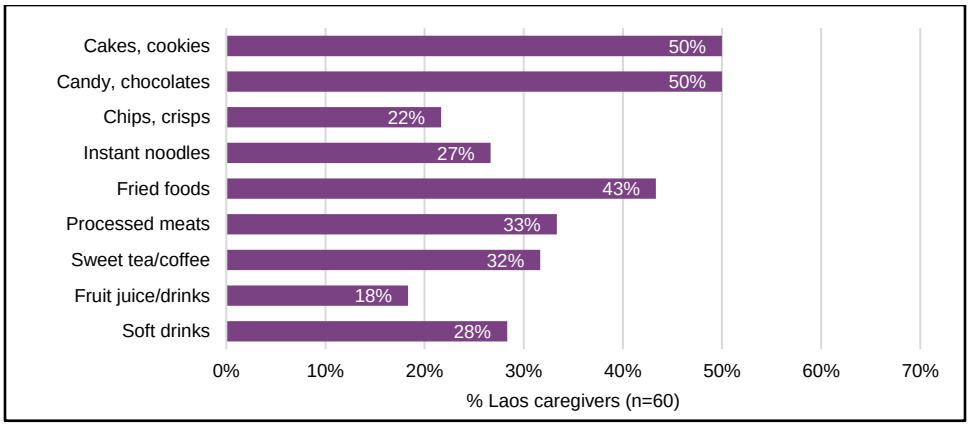


Note: Percentages reported in Annex Table A3

AVAILABILITY AT SCHOOL

In Lao PDR, where primary schools were open for in-person learning at the time of the survey, caregivers were asked to recall if specific categories of unhealthy foods and beverages are usually available inside their children's school. Caregivers were encouraged to consult with their child before responding. Overall, 52% of caregivers said any sweet foods were available, 47% salty/savory foods, 33% processed meats, and 35% SSB. Figure 3.10 shows the breakdown of the individual groups asked to caregivers, and Figure A2 in the Annex shows the prevalence by district. Caregivers in Namtha district reported greater prevalence of every category in schools in comparison to Lao Ngarm caregivers.

Figure 3.10. Percentage of Lao caregivers reporting unhealthy foods/beverages available inside their child's school



Note: See Table 3.2 for full description of food/beverage categories

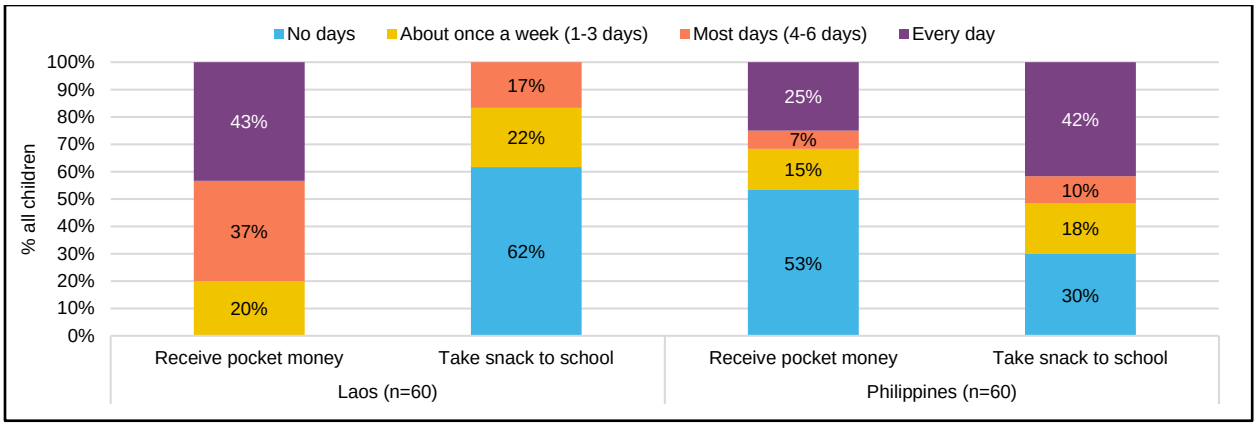
When asked their opinion on the availability of these foods and beverages inside the school, 28% of Lao caregivers said their presence was good, 48% said it was bad, and 23% believed it to be both good and bad. Caregivers' opinions remained similar for child sex, child age, and household wealth status, but differed by urban-rural location. Urban mothers had an overall more favorable opinion, with 43% saying good and 30% with mixed opinions; 70% of rural mothers had a negative opinion of unhealthy foods/beverages inside the schools.

All Lao caregivers usually provide pocket money to their children to buy foods and drinks, with 43% providing money daily (Figure 3.11). The overall mean amount of money provided is 3800 Kip (0.33 USD) per day. Half of male children received money every day compared to 38% of females (Annex Table A4); although the amount given to males (3929 Kip) was similar to that given to females (3688 Kip). Greater proportions of urban (57%) and wealthier (50%) children were given pocket money (versus 30% rural and 36% lower wealth), and received higher amounts (4633 Kip urban; 2967 Kip rural; 4563 Kip wealthier; 2929 Kip less wealthy).

When schools were open in the Philippines only about half of the children received pocket money. The mean daily pocket money for all surveyed Filipino children was 15.2 Pesos (0.29 USD). In this survey population, more girls were given money to buy snacks every day (33% versus 17% males; Annex Table A4), but girls received smaller amounts (12.9 Pesos) than boys (18.3 Pesos). The same was true for older children, with 34% receiving money with a mean amount of 14.6 Pesos, compared to 14% of younger children who received 16.9 Pesos per day on average. Similar to Lao PDR, urban and wealthier children received higher daily amounts (16.1 Pesos, both groups) than rural (11.8 Pesos) and less wealthy (13.4 Pesos) children.

It was more common in the Philippines for children to take foods/beverages with them to school to eat as a snack, with almost half packing a snack on a daily basis. Among Lao children, packing a snack was less popular. Table A5 in the Annex shows the frequency of packing snacks by child sex, child age, urban-rural location, and household wealth status.

Figure 3.11. Frequency of children usually receiving pocket money to buy foods/beverages and taking snacks to school



Note: Due to rounding, percentages may not add up to 100%.

3.4. SUMMARY AND LIMITATIONS OF THE SURVEY

Among this small, convenient sample of primary school children, consumption of unhealthy foods and beverages appears to be a common practice. In Lao PDR, any consumption of sweet foods, salty/savory foods, processed meats, and sweet beverages was nearly universal (95-100%). Consumption was also frequent, with sweet and salty/savory foods and SSB consumed four or more days a week, either in the morning or afternoon between main meals. This survey did not explore the frequency consumed per day or the amount consumed at each time. Consumption of unhealthy foods/beverages at school and the homes of family was more common for the surveyed Lao children, than at home. Caregivers noted that the nine sub-categories of unhealthy foods and beverages were prevalent inside their children's schools, and all Lao caregivers provided their child pocket money to purchase foods/beverages at school; almost half give money on a daily basis. Children's interest in eating the unhealthy foods and beverages in Lao PDR was primarily driven by taste, followed by seeing their friends and other adults in their household consume.

In the Philippines, consumption of sweet foods, salty/savory foods, processed meats, and SSB was commonplace, but lower compared to Lao children. This difference may be attributable to the COVID-19 situation, with more restrictions in place in the Philippines than Lao PDR at the time of the survey, and schools closed for in-person learning. The impact of these restrictions can be seen in the location of consumption, where Filipino children very rarely consumed these foods/beverages outside the home, whereas Lao children were more frequently consuming them outside of the home. Filipino children also consumed the foods/beverages in fewer days per week than Lao children, which may also have been impacted by restricted access and availability due to the pandemic. In the Philippines, the sweet and salty/savor foods and SSB were overwhelmingly consumed in the afternoon and between meals, where processed meats were frequently consumed in the morning and nearly always as part of a main meal and commonly sourced from mobile vendors. Drivers of food/beverage choice were more varied for the surveyed Filipino children compared to the Lao PDR children. Filipino children also strongly liked the foods and beverages for their taste, but they were nearly as likely to consume the items because they were given them to eat and drink. Easy availability and seeing other adults in their household consume the unhealthy foods/beverages were also influential, as was fun and enjoyment for sweet foods and beverages.

There are a number of limitations for this survey, aside from those related to the pandemic. Only six schools were included per country, so these findings cannot be generalized beyond

these schools. The locations were purposely chosen for the larger study for a number of reasons, including distance from a main city and/or airport. Areas that are more remote may be different, especially with regards to food availability and consumption. Caregivers were conveniently selected by school focal points and the 10 surveyed were those able to be reached by the research team. These, along with the eligibility criteria of having phone access and ability to speak an official language, may make the participants and their children different from others at their school. Only 10 caregivers and their children were surveyed from schools with wide ranging enrollment. Their responses do not represent all the children and caregivers in the selected schools. Additionally, in Lao PDR we have to rely on caregiver and child recall on the availability of foods/beverages in the school, which may only be an approximation of the school environment. The pandemic situation in both countries prevented us from directly observing and characterizing the food environments in and around the twelve schools.

With these findings we can suggest some broader trends and facilitators for unhealthy food and beverage consumption that may also be present at other schools. We have gained a better understanding of some consumption patterns and some of the key driving factors of unhealthy snack consumption among Lao and Filipino primary school children.

IV. CONCLUSIONS AND RECOMMENDATIONS

The following recommendations are drawn from the literature review, key informant interviews, and the caregiver survey findings. The conclusions and recommendations are formulated in line with the expected outcomes of the formative assessment. These recommendations are the views and perspectives of the research team and do not necessarily reflect the views of the WFP regional office or country offices. However, these recommendations have been shared and discussed with WFP country counterparts as part of an internal debrief to synthesize findings and to ground conclusions and recommendations based on counterpart knowledge and understanding of the context.

Objective 1: To inform policy actions that promote improvements in the school food environment

OVERALL RECOMMENDATIONS

- **Track the nutrition transformation.** Results from the study shows that consumption of unhealthy foods and beverages is very high and that the food system in both countries enable unhealthy consumption patterns. Based on the key informant and survey data, 'snack' most often means in between meals, not the type of food. And in the survey, it was evident that the unhealthy food categories can be eaten during main mealtimes, especially processed meats in the Philippines. National policymakers and donors should invest urgently in rigorous monitoring and high-quality data collection of factors driving the nutrition transformation that is occurring in each country. The literature review indicated that there was a dearth of information on unhealthy consumption of various foods and beverages among primary school-age children in both the Philippines and Lao PDR. Routinely and systematically monitoring the quality of children's diets (using a 24-hour recall or other dietary quality assessments) can help policy maker better understand healthy and unhealthy consumption patterns and track the impact of current nutritional policies over time and across different populations and geographies. This data is needed to know what is working and not working in terms of improving nutritional outcomes for children and to inform evidence-based policies and programming.

  There is a simple to use and low-burden tool that has already been validated in many countries in Southeast Asia and that can be used to assess dietary quality and changes in dietary quality over time. The Diet Quality Questionnaire (DQQ) was developed by the Global Diet Quality project and enables the collection of consistent, comparable dietary data and indicators to measure unhealthy diet at the national level and across countries for the first time. The simple tool takes only 5-6 minutes to administer, has been validated for women of reproductive age, and has the potential to be used with children. A specific tool for infant and young child feeding is to be released soon by the Global Diet Quality Project.

- **Invest in high-quality representative data.** A quantitative survey with primary school-age children is needed to collect representative data on snack food and beverage consumption. Generalizable consumption data enables policy makers to state the prevalence of the problem, to document the dynamics and patterns of what is consumed, to understand the context of consumption (e.g. with peers, with family members, on the street, in fast food establishments) to inform decision making by government partners. This data can inform policy development and implementation, structural changes in the environment, and inform behavior change interventions. To date there is no published data on snack consumption in

the Philippines or Lao PDR for this age group, especially in rural areas. The landscape analysis indicates the ready availability of snack foods in and around schools may be a driver, but the authors do not know if it is a primary driver of unhealthy snack consumption or if there are larger factors to consider. A representative quantitative survey can capture data on some factors that may influence children's consumption. The survey could also include modules for the primary caregivers of the children, to document household demographics as well as other characteristics and perceptions that may impact snack consumption.

- **Monitor and observe school food environments.** Research has shown that foods that are the most available, affordable, and convenient are determinants of people's diets. Thus, understanding food environments—what's available, where it's available, and its affordability vis-à-vis the target populations is important. Due to COVID-19 surges in December 2021-February 2022, in person visits to characterize the school food environments across six schools in Lao PDR and six schools in the Philippines was not able to be conducted. In person school visits would allow for the study team to observe the school environment using a structured observation check list. The school visits would also allow the study team to assess the retail environment in the area surrounding schools to observe if there are any mobile vendors or promotional advertisements or other materials.

  Whilst it was not part of the formal study, one member from the WFP Laos team was able to conduct in-person visits to three selected schools in Salavan province. From first-hand observation, it was evident that the availability of snack foods and beverages in and around schools was driven by the school principal and key school staff, their knowledge, and their motivation. For instance, one principal created a sign at the school entrance that states "no food vendors allowed to sell food in the school". In all three schools visited, there were food vendors close by, all selling cheap and unhealthy packaged food products. Most products were in colorful packaging and in Thai, Vietnamese, or Chinese language, and thus, it was difficult to ascertain the main ingredients of the snack items and the expiry date. There were no promotional posters displayed, however, snack food items were at the front of the stores.

  There are no published studies detailing the promotional environments in and around schools in Southeast Asia at the time of this study. Schools in the Philippines are to resume in person learning by September 2022 and schools in Laos are already open for in-person learning. Thus, a survey to observe the school environments in different geographies and among different population groups is recommended.

- **Conduct in-depth interviews with food vendors, caregivers, and other gatekeepers of children's food environments.** A key limitation of the current study was that food vendors were not included. A recommendation for future studies, would include qualitative interviews with key persons that act as gatekeepers of children's access to healthy and unhealth foods. From the literature we know that terms such as "healthy" and "unhealthy" are abstract for children and that they care more about convenience, taste, and what their peers are eating. Interviews with gatekeepers on their knowledge, attitudes and behaviors related to children's diets and views of healthy and unhealthy may further improve knowledge and programmatic responses on how to influence the gatekeepers of children's eating behaviors and food preferences.

- **Improve implementation and monitoring of policies and programs.** Stakeholders in the Philippines and Lao PDR noted that the implementation and monitoring of policies and programs were ad hoc and that there were not clear roles and responsibilities for all that were meant to be involved. Training for monitoring was not always provided and there were

not standardized checklists and forms. It was noted that implementation of the policies and programs becomes a challenge whenever there were changes in school staff and/or local government officials. A systemized process for disseminating, communicating, and training personnel on the content of such policies and expectations for implementation and monitoring by staff member are needed. Tools such as standardized reporting forms and checklists can be helpful as well as online data submission. As staff turnover is a constant, refresher trainings are also needed to ensure accountability and to effectivity implement and achieve the desired outcomes of the policies and programs.

Objective 2: To serve as an entry point for schools to engage with the retail sector to influence what products are available and how they are displayed

- **Regulate mobile vendors and retailers in and around schools.** Retailers in and around schools provided a consistent supply of affordable unhealthy foods and beverages for children to purchase that was priced in accordance with their "pocket money". To ensure the effective implementation of policies and laws meant to protect children from unhealthy foods, the authors recommend improving the regulation of what mobile vendors can sell in and arounds schools. The following could support improved regulation of mobile vendors in and around the school environment in the Philippines and Lao PDR:

    - Issue Executive Orders from the LGUs in the Philippines and [similar ordinances local ordinances Lao PDR]. Local officials from provincial, municipal, and city offices should standardize regulations limiting sale of unhealthy foods in and around schools by both retailers and mobile vendors. There also needs be explicit guidance on what can be sold in and around schools, which will make regulations easier to follow and to hold retailers to account.

    - Institutionalize incentive programs for mobile vendors. Financial assistance from LGUs in the form of incentive program for selling healthy foods is needed to motivate mobile vendors to invest in modifying the products they sell and to ensure food safety. Consider incentives such as subsidies for vendors selling fresh fruits and vegetables and healthy snack foods.

- **Improve knowledge among caregivers and retailers and vendors on what's healthy and unhealthy.** Many retailers and vendors may not fully comprehend the short and-long-term consequences of frequent consumption of ultra-processed, energy dense, and low nutrient value foods. The survey shows that children are eating these foods frequently both in their home, in the homes of other family members, and at school. A huge driver for Filipino children eating unhealthy foods was that it was being given to them, presumably by family members. Also, as the data from the Philippines shows, when you take schools out of the equation [as in the case of the Philippines when schools were closed], unhealthy foods are still being consumed frequently.

  It will be important that future programming raise awareness on the short- and long-term implications of snack food consumption. In Lao PDR, several key informants noted concerns related to food safety and that expired foods were often found among the vendors. However, there was less concern raised over the long-term consequences related to poor nutrient quality and poor dietary diversity of these snack foods. Food safety is an important, but more awareness may be needed to address understanding the significant long-term consequences of poor nutrient quality and consuming empty calories.

Objective 3: To engage with local producers and vendors to stock healthy and nutritious foods to promote diverse choices and generate demand among school children

- **Expand and scale community gardens (i.e. Gulayan sa Paaralan and ສວນຜັກຊຸມຊົນ).** Community gardens currently exist in both the Philippines and Lao PDR but need to be further expanded and scaled. Gardens produce can be used for school feeding programs and/or can be distributed to community pantries for those most vulnerable. To increase the availability, accessibility, and affordability of healthy foods in the community, local governments should expand and promote the importance and benefits of community gardens and school gardens. The Ministry of Agriculture and Forestry in Lao PDR, and the Department of Agriculture (DA) in the Philippines could assist schools by providing seeds and other agriculture inputs to promote school gardens. Long term plans are needed to promote community garden's sustainability.

- **Strengthen product development of snack foods to diversify and increase healthy snack food choices for school children.** Governments, civil society and school committees should engage with both public and private sector manufacturers to develop food products that are nutritious, delicious, and attractive to children. In the Philippines, DOST-FNRI has developed such a product called the Enhanced Nutribun which has been fortified with micronutrients. Other snacks developed by DOST-FNRI are Nutri cookies and Nutri sticks in the Philippines. In addition to fresh fruits and vegetables, products such as dried fruits that have a longer shelf-life can provide alternatives to ultra-processed energy dense and low nutrient foods. The products developed may not only help diversify the healthy snack choices for school children but also provide livelihood opportunities for farmers and small and medium food manufacturing companies and food vendors. Next steps could be to conduct a landscape analysis of private sector interest and capability to develop and market nutritious snack products. However, it should be noted that product development is a long-term approach and maybe more feasible in some countries that already have these manufacturing and processing facilities well established.

Objective 4: To inform and leverage diverse communication approaches to promote healthy diets using schools as a platform

- **Multi-channel interventions that change social norms and values.** A critical review of strategic behavioral change programs indicates that increasing knowledge and awareness of good nutrition practices rarely leads to sustained behavior change. Furthermore, sustained change is unlikely to be achieved through a single activity. Thus, approaches to improving nutrition and having children adopt healthier eating practices needs to address systemic barriers to nutritious foods and build an enabling environment whereby interventions are layered, diversified, and multisectoral, as well as sequenced with other activities and programs. Using multiple channels, both inside and outside of schools, is important for strategic behavior change programs and should leverage social networks, television, radio, newspaper, and other forms of information dissemination targeted to caregivers and/or children and aim to increase demand for affordable and nutrition foods and healthy snacks.

- **Leverage multi-sectoral action and platforms.** To guarantee effective results of existing policies and regulations or healthy schools and food environments, there needs to be strengthened multi-sectoral support for implementation and standard monitoring and enforcement guidelines. There is also a need to raise awareness of these policies and regulations so that compliance can be optimized. Awareness raising should be targeted to multi-sector actors, including private sector manufacturers, and not be limited only those stakeholders in health or education. Multi-sector stakeholders must aid in facilitating the recommendations to achieve effective and sustainable change in food environments. Nutrition promotion can be achieved by using different platforms (e.g. mass media, social networks, community theaters, etc.,) to inform parents and children of nutrition facts but also of the implications of unhealthy food to the development and well-being.

- **Intensify advocacy on nutrition and food safety.** Communities need to have an increased awareness and knowledge of what constitutes nutritious food and food safety. In partnership with appropriate health officials, school administrators should intensify advocacy on nutrition and food safety and consider integrating such lessons into the school curriculum. The following should be done to facilitate the intensification of the school's advocacy campaign.

    - **Build capacity of school staff.** All teachers and staff should be involved in advocating for the consumption of nutritious and healthy food in and around schools. With the assistance of the school division office, workshops and training should be conducted to properly address the knowledge gaps.

    - **Empower learners.** The school administrators should empower school children by involving them in various programs and activities which seek to promote healthy and nutritious foods. Integrating understanding of what constitutes healthy and unhealthy foods can be incorporated into school curriculums and school programs. A specific example of such activities is school gardens, children can be engaged in planting and harvesting vegetable crops to cultivate and nurture awareness about healthy and nutritious foods.

    - **Develop a user-friendly handbook on food safety and nutrition for use by schools and local government authorities.** A comprehensive and easy-to-understand handbook should be provided to all the local governments. Community health workers could take the lead in informing and orientating the community.

REFERENCES

FROM LITERATURE REVIEW

Adair, L.S. & Popkin., B.M. (2005). Are Child Eating Patterns Being Transformed Globally? *Public Health and Public Policy*, 13 (7).

Angeles-Agdeppa I, Lenighan YM, Jacquier EF, Toledo MB, Capanzana MV. The Impact of Wealth Status on Food Intake Patterns in Filipino School-Aged Children and Adolescents. Nutrients. 2019; 11(12):2910. https://doi.org/10.3390/nu11122910

Baker, P. & Friel, S. (2016). Food systems transformations, ultra-processed food markets and the nutrition transition in Asia. *Globalization and Health*, 12, 80. DOI 10.1186/s12992-016-0223-3

Beal, T., Morris, S.S., & Tumilowicz, A. (2019). Global patterns of adolescent fruit, vegetable, carbonated soft drink, and fast-food consumption: a meta-analysis of global school-based student health surveys. *Food and Nutrition Bulletin*, doi: 10.1177/0379572119848287.

Boonchoo, W., Takemi, Y., Hayashi, F., Koiwai, K., & Ogata, H. (2017). Dietary intake and weight status of urban Thai preadolescents in the context of food environment. *Preventative Medicine Reports*, 153-157, http://dx.doi.org/10.1016/j.pmedr.2017.09.009.

Campaign Asia (2021). Asia's Top 1000 Brands: https://www.campaignasia.com/article/the-top-10-fast-food-brands-in-asia-pacific/471528

Chawla, N., & Panza, A. (2012). Assessment of Childhood Obesity and Overweight in Thai Children Grade 5-9 in BMA Bilingual Schools, Bangkok, Thailand. Journal of Health Research, 26, 317-322.

Cheung, J., Lok, J., Gietel-Basten, S., & Koh, K. (2021). The Food Environments of Fruit and Vegetable Consumption in East and Southeast Asia: A Systematic Review. *Nutrients*, 13(1), 148. https://doi.org/10.3390/nu13010148

Department of Education. (2017). *Policy and Guidelines on Healthy Food and Beverage Choices in Schools and DepEd Offices.* Pasig City, Philippines. DepEd.

Department of Education. (2018). *Policy and Guidelines on Oplan Kalusugan sa Department of Education.* Pasig City, Philippines. DepEd.

Department of Education. (2020). *Operational Guidelines on the Implementation of the School-Based Feeding Program for School Year 2020-2021.* Pasig City, Philippines. DepEd.

Development Initiatives, 2018. 2018 Global Nutrition Report: Shining a light to spur action on nutrition. Bristol, UK: Development Initiatives.

Dewayani, N. & Sukihananto. (2018). Relationship between maternal knowledge of balanced nutritional guidelines and snack food selection by school-aged children at school. *Enferm Clin*, 28 (Suppl 1), 280-284.

Downs, S., & Demmler, K. (2020). Food environment interventions targeting children and adolescents: a structured review. Glob Food Secur.

Dumlao, M. C. (2021). School Health and Nutrition Promotion among school children. Department of Education. Pasig City. Philippines.

Endrina-Ignacio, M.S. (2018). Behavioral Risk Factors for NCDs among School Children in the National Capital Region (NCR), Philippines. *Philippine Journal of Science,* 147 (3), 503-511. https://philjournalsci.dost.gov.ph/images/pdf/pjs_pdf/vol147no3/behavioral_risk_factors_for_NCDs_among_school_children.pdf

Foo, L. H., & Tan, Y. J. (2021). Assessment of Food Quality in School Canteens: A Comparative Quantitative Study between Primary and Secondary Schools in Malaysia. Nutrients, 13(9), 3009. https://doi.org/10.3390/nu13093009

Freeman, R., & Bunting, G. (2003). A child-to-child approach to promoting healthier snacking in primary school children: a randomized trial in Northern Ireland. *Health Education*, 103 (1), 17-27.

Gonzalez-Suarez, C.B., Lee-Pineda, K., Caralipio, N., Grimmer-Somers, K., Sibug, E.O., Velasco, Z.F. (2015). Is what Filipino children eat between meals associated with body mass index? *Asia Pacific Journal of Public Health*, 27 (2): NP650-61. doi: 10.1177/1010539513491416.

Green, M. (2019). Best Practices: Marketing of Complementary Foods & Snackk Foods. Consultation for Complementary Feeding in the Southeast Asia Region. Bangkok, Thailand.

Hadi, H., Triastanti, R. K., Anggraeni, D., Nurwanti, E., Lewis, E. C., Colon-Ramos, U., Kang, Y., Yamaguchi, M., & Gittelsohn, J. (2021). The role of the school food environment in improving the healthiness of school canteens and the readiness to reopen post COVID-19 pandemic: A study conducted in Indonesia. Journal of public health research, 10.4081/jphr.2021.2287. Advance online publication. https://doi.org/10.4081/jphr.2021.2287

Harrison, F. & Jones, A.P. (2012). A framework for understanding school based physical environmental influences on childhood obesity. *Health Place*, 18, 639-648.

Helen Keller International, *Understanding the consumption of unhealthy snacks among primary school children in Cambodia*. 2020: Phnom Penh (unpublished report).

HLPE. 2017. Nutrition and food systems. A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, Rome.

Ishak S, S.I.Z., Shohaimi, S., & Kandiah, M. (2013). Assessing the children's views on foods and consumption of selected food groups: outcome from focus group approach. Nutrition Research and Practice, 7 (2), 132-138. http://dx.doi.org/10.4162/nrp.2013.7.2.132.

Ignacio, M.S. (2018). Behavioral Risk Factors for NCDs among School Children in the National Capital Region (NCR), Philippines. *Philippine Journal of Science,* 147 (3): 503-511.

Katz, D.L., O'Connell, M., Nijke, V.Y., Yeh, M.C., & Nawaz, H. (2008). Strategies for the prevention and control of obesity in the school setting: systematic review and meta-analysis. *International Journal of Obesity*, 32, 1780-1789.

Kelly, B., King, L., Jamiyan, B., Chimedtseren, N., Bold, B., Medina, V. M., De los Reyes, S. J., Marquez, N. V., Rome, A. P., Cabanes, A. O., Go, J., Bayandorj, T., Carlos, M. B. & Varghese, C. (2015). Density of outdoor food and beverage advertising around schools in Ulaanbaatar (Mongolia) and Manila (The Philippines) and implications for policy. Critical Public Health, 25 (3), 280-290.

Kelly, B., Hebden, L., King, L., Xiao, Y., Yu, Y., He, G., et al. (2016). Children's exposure to food advertising on free-to-air television: an Asia-Pacific perspective. *Health Promotion International*, 31(1), 144–152.

Larson, N., Miller, J.M., Eisenberg, M.S., Watts, A.W., Story, M., Neumark-Sztainer, D. (2017). Multicontextual correlates of energy-dense, nutrient-poor snack food consumption by adolescents. *Appetite*, 112, 23-34. doi: 10.1016/j.appet.2017.01.008.

Lin, P.Y., Lin, F.Y., Chen, T.C., Chen, W.L., Doong, J.Y., Shikani, S., et al. (2016). Relationship between sugar intake and obesity among school-age children in Kaohsiung, Taiwan. *Journal Nutrition Science Vitaminology*. 62 (5), 310-316.

Lipoeto, N. I., Geok Lin, K., & Angeles-Agdeppa, I. (2013). Food consumption patterns and nutrition transition in South-East Asia. *Public health nutrition*, *16*(9), 1637–1643. https://doi.org/10.1017/S1368980012004569

Man, C.S., Salleh, R., Ahmad, M., Baharudin, A., Koon, P.B., & Aris, T. (2020). Dietary Patterns and Associated Factors Among Adolescents in Malaysia: Findings from Adolescent Nutrition Survey 2017. International Journal of Environmental Research and Public Health, 17.

Mailinda, E. & Lestari, R.F. (2019). The relationship between level of knowledge and attitude towards behavior in choosing healthy snacks of 4th and 5th grade students. *Enferm Clin*, 29 (Suppl 1), 81-84.

Micha, R., Karageorgou, D., Bakogianni, I., Trichia, E., Whitsel, L.P., Story, M., et al. (2018). Effectiveness of school food environment policies on children's dietary behaviors: A systematic review and meta-analysis. *PLoS One*. 13 (3), e0194555. doi: 10.1371/journal.pone.0194555

Morris, S.S., Simón Barquera, S. Barquera, Aang Sutrisna, A. Sutrisna, Doddy Izwardy, D. Izwardy, & Roland Kupka, R. Kupka. (2020). Perspective: Interventions to improve the diets of children and adolescents. Global food security, 27, 100379. doi: 10.1016/j.gfs.2020.100379

Ng, S. H., Kelly, B., Se, C. H., Sahathevan, S., Chinna, K., Ismail, M. N., & Karupaiah, T. (2015). Reading the mind of children in response to food advertising: a cross-sectional study of Malaysian schoolchildren's attitudes towards food and beverages advertising on television. *BMC public health*, *15*, 1047. https://doi.org/10.1186/s12889-015-2392-z

Paes, V.M., Ong, K.K., & Lakshaman, R. (2015). Factors influencing obesogenic dietary intake in young children (0-6 years): systematic review of qualitative evidence. *BMJ Open*, 5:e007396. doi:10.1136/bmjopen-2014-007396

Pengpid, S., Vonglokham, M., Kounnavong, S., Sychareun, V., & Peltzer, K. (2020). The prevalence of underweight and overweight/obesity and its correlates among adults in Laos: a cross-sectional national population-based survey, 2013. Eating and weight disorders : EWD, 25(2), 265–273. https://doi.org/10.1007/s40519-018-0571-5

Rachmi, C.N., Li, N., & Baur, A. (2017). Overweight and obesity in Indonesia: prevalence and risk factors—a literature review. *Public Health*, 147, 20-29

Rachmi, C.N., Hunter, C.L., Li, M., & Baur, L.A. (2018). Food choices made by primary carers (mothers/grandmothers) in West Java, Indonesia. *Appetite*, 130, 84-92.

Rachmadewi, A., Soekarjo, D., Maehara, M., Alwi, B., Mulati, E., & Rah, J. H. (2021). School Canteens in Selected Areas in Indonesia: A Situation Analysis. *Food and nutrition bulletin*, *42*(2), 225–246. https://doi.org/10.1177/03795721211008021

Rideout, K. Mah, C.L. Minaker, L. *Food Environments: An Introduction for Public Health Practice*; National Collaborating Centre for Environmental Health British Columbia Centre for Disease Control: Vancouver, BC, Canada, 2015.

Sekiyama, M., Roosita, K., & Ohtsuka, R. (2012). Snack food consumption contributes to poor nutrition of rural children in West Java, Indonesia. *Asia Pacific Journal of Clinical Nutrition*, 21 (4), 558-567

Shikani, S., Ry, L.K., Takeichi, H., Emiko, E., San, P., Sarukura, E., et al. (2014). Sugar intake and body weight in Cambodia and Japanese Children. *The Journal of Medical Investigation*, 61, 72-8.

Takeichi, H., Taniguchi, H., Fukinbara, M., Tanaka, K., Shikani, S., Sarukura, N., et al. (2012). Sugar intake from snacks and beverages in Japanese children. *Journal Nutrition Science Vitaminology* 58 (2), 113-7.

Thomson, N., Worsley, A., Wang, W., Sarmugam, R., Pham, Q., & Februhartanty, J. (2017). Country context, personal values and nutritional trust: Associations with perceptions of beverage healthiness in five countries in the Asia Pacific region. *Food Quality and Preference*, 60, 123-131.

UNICEF (2019). The State of the World's Children 2019. Children, Food and Nutrition: Growing well in a changing world. UNICEF, New York.

Wan, A.M.W.M., Norazawati, A.K., & Lee, Y.Y. (2012). Overweight and obesity among Malay primary school children in Kota Bharu, Kelantan: Parental beliefs, attitudes and child feeding practices. *Malaysia Journal Nutrition*, 18 (1), 27-36.

Woon, F.C., Chin, Y.S., & Nasir, M. (2015). Association between behavioural factors and BMI-for-age among early adolescents in Hulu Langat, district, Selangor, Malaysia. *Obesity Research Clincal Practice*, 9 (4), 346-56.

World Health Organization, Western Pacific Region (WHO WPR). (2016). *WHO Nutrient Profile Model for the Western Pacific Region. A tool to protect children from food marketing.* Manila, Philippines: WHO WPR.

World Food Programme, Lao PDR (2016). *Drivers of Food Choice: Summary Policy Brief.*

World Health Organization, Department Health. (2015). *Global School-based Student Health Survey*. Philippines

Government Document Citations from the Philippines

Republic Act 8172. 1995. An Act for Salt Iodization Nationwide (ASIN). Republic of the Philippines. https://www.officialgazette.gov.ph/1995/12/20/republic-act-no-8172/

Republic Act 1876. 2000. Philippine Food Fortification Act of 2000. Republic of the Philippines. https://www.lawphil.net/statutes/repacts/ra2000/ra_8976_2000.html

Department of Education. 2005. Instructions to Ensure Consumption of Nutritious and Safe Food in Schools. https://www.deped.gov.ph/2005/04/18/do-14-s-2005-instruction-to-ensure-consumption-of-nutritious-and-safe-food-schools/

Department of Social Welfare and Development. 2005. Integration of Food Fortification in Social Welfare and Development Programs, Projects and Services of LGUs, NGOs and DSWD. https://www.dswd.gov.ph/issuances/AOs/AO_2005-009.pdf

Department of Education. 2011. Strengthening the School Health and Nutrition Programs for the Achievement of the Education for All (EFA) and Millennium Development Goals (MDGs). https://www.deped.gov.ph/2011/05/30/do-43-s-2011-strengthening-the-school-health-and-nutrition-programs-for-the-achievement-of-the-education-for-all-efa-and-millennium-development-goals-mdgs/

Department of Education. 2017. Policy and Guidelines on Healthy Food and Beverage Choices in Schools and in DepEd Offices. https://www.deped.gov.ph/2017/03/14/do-13-s-2017-policy-and-guidelines-on-healthy-food-and-beverage-choices-in-schools-and-in-deped-offices/
National Nutrition Council. 2017. Philippine Plan of Action for Nutrition 2017-2022. https://www.nnc.gov.ph/phocadownloadpap/PPAN/18Sept_PPAN2017_2022Executive%20Summary.pdf

Department of Education. 2018. Oplan Kalusugan of the Department of Education. https://www.deped.gov.ph/2018/07/06/do-28-s-2018-policy-and-guidelines-on-oplan-kalusugan-sa-department-of-education/

Republic Act 11037. 2018. Masustansyang Pagkain para sa Batang Pilipino Act. Republic of the Philippines. https://www.officialgazette.gov.ph/downloads/2018/06jun/20180620-RA-11037-RRD.pdf

Republic Act 11223. 2019. Universal Health Care Act. Republic of the Philippines. Department of Health. https://doh.gov.ph/sites/default/files/health_magazine/RANo11223_UHC.pdf

Department of Interior and Local Government. 2018. Adoption and Implementation of the Philippine Plan of Action (PPAN) 2019-2022. https://www.dilg.gov.ph/PDF_File/issuances/memo_circulars/dilg-memocircular-2018326_271826aa87.pdf

Department of Education. 2020. Operational Guidelines on the Implementation of School-Based Feeding Program. https://www.deped.gov.ph/wp-content/uploads/2020/09/DO_s2020_023.pdf

Department of Interior and Local Government, Department of Health and National Nutrition Council. 2019. Guidelines on the Integration of Specific Programs, Projects, and Activities (PPAs) from the Philippine Plan of Action and Nutrition (PPAN) 2017-2022 to the Local Development Plans, Investment Programs and Budget of Local Government Units. National Nutrition Council. https://www.nnc.gov.ph/phocadownloadpap/userupload/Ro4b-webpub/Signed%20Joint%20Memorandum%20Circular%20No.%202019-0001%20re%20PPAN%202017-2022.pdf

Department of Education. 2021. Guidelines on the Utilization of Downloaded Financial Assistance for the Implementation of the Integrated School Nutrition Model for CY 2021. https://authdocs.deped.gov.ph/wp-content/uploads/2021/03/OUAD00-0221-0218.pdf

Government Document Citations from Lao PDR

Ministry of Education and Ministry of Health, Lao PDR. (2005) National School Health Policy. Ministry of Education and Ministry of Health, Lao PDR.

Department of General Education, Ministry of Education and Sport. 2014. National Policy for Promoting School Lunch. Ministry of Education and Sports.

Decree No.1679/Ministry of Education and Sports "(MoES)" (2014) on Promoting School Lunch. Ministry of Education and Sports.

National Nutrition Committee. 2015. Nutrition Plan of Action 2016-2020. National Nutrition Committee. https://extranet.who.int/ncdccs/Data/MUS_B14_NPAN%202016-2020[1].pdf

The VIIIth National Assembly's Inaugural Session. 2015. The 8th National Socio-Economic Development Plan 2016-2020. Ministry of Planning and Investment. https://policy.asiapacificenergy.org/sites/default/files/8th_NSEDP_2016-2020.pdf

Ministry of Education and Sport. 2015. Plan of Action of School Meals Programme 2016-2020. Ministry of Education and Sport.

National Nutrition Committee. 2015. National Nutrition Strategy to 2025. National Nutrition Committee. http://extwprlegs1.fao.org/docs/pdf/lao168828.pdf

Ministry of Agriculture and Forestry. 2016. Agriculture Development Strategy to 2025 and Vision to the year 2030. Government. http://www.maf.gov.la/wp-content/uploads/2016/01/MDS-2025-and-Vision-to-2030-Eng.pdf

Department of Food and Drug, Ministry of Health. 2016. Decree for Food Safety and Nutrition in Schools. Ministry of Health.

Ministry of Agriculture and Forestry. 2019. Minister Directive on the Restoration of Agriculture Production in the Education Institutes. Ministry of Agriculture and Forestry.

World Food Programme Regional Bureau for Asia and the Pacific. 2019. Lao PDR case study on shock-responsive social protection. World Food Programme Regional Bureau for Asia and the Pacific.
https://laopdr.un.org/sites/default/files/2019-08/2019%20Social%20Protection%20Systems_Lao%20Case.pdf

Ministry of Education and Sport. 2020. (Draft) Education and Sport Sector Development Plan 2021-2025. Ministry of Education and Sport.

National Nutrition Committee. 2021. National Nutrition Plan of Action 2021-2025. National Nutrition Committee.

(UNPUBLISHED) Ministry of Education and Sport. 2021. National Strategies for Children's health in schools (Hygiene and WASH). Ministry of Education and Sport.

From Caregiver Survey

17 Triggers, World Food Programme (WFP), & SNV. (2020). *Final Research Report- Nutrition behavior change communication strategy for primary school age children in Cambodia*. Phnom Penh, Cambodia: 17 Triggers.

EquityTool. (2022). Available at: https://www.equitytool.org/ [Accessed 26 January 2022]

Green, M., Hadihardjono, D.N., Pries, A.M., Izwardy, D., Zehner, E., & Huffman, S.L. (2019). High proportions of children under 3 years of age consume commercially produced snack foods and SSBs in Bandung City, Indonesia. *Maternal & Child Nutrition*, 15(S4): e12764.

Global Diet Quality Project. (2022). Available at: https://www.globaldietquality.org/home [Accessed 12 January 2022]

Helen Keller Intl. (2020). *Understanding the consumption of unhealthy snacks among primary school children in Cambodia*. Phnom Penh, Cambodia: Helen Keller.

Hereforth, A.W., Wiesman, D., Martinez-Steele, E., Andrade, G., & Monteiro, C.A. (2020) Indicators That Reflect Healthy Diet Patterns at Population Level. *Current Developments in Nutrition*, 4:12.

Lao Statistics Bureau. (2018). *Lao Social Indicator Survey II 2017, Survey Findings Report*. Vientiane, Lao PDR: Lao Statistics Bureau and UNICEF.

Philippines Statistics Authority (PSA) and ICF. (2018). *Philippines National Demographic Health and Health Survey 2017*. Quezon City, Philippines, and Rockville, Maryland, USA: PSA and ICF.

Pries, A. M., Huffman, S. L., Champeny, M., Adhikary, I., Benjamin, M., Coly, A. N., et al. (2017). Consumption of commercially produced snack foods and sugar-sweetened beverages during the complementary feeding period in four African and Asian urban contexts. *Maternal & Child Nutrition*, 13(Suppl. 2), e12412.

Sharma, N., Ferguson, E.L., Upadhyay, A., Zehner, E., Filteau, S., Pries, A. (2019). Perceptions of commercial snack food and beverages for infant and young child feeding: A mixed-methods study among caregivers in Kathmandu Valley, Nepal. *Maternal & Child Nutrition*. 15 (S4): e12711.

ANNEX: SUPPLEMENTAL TABLES AND FIGURES FROM CAREGIVER SURVEY

Table A1. Percentage of children consuming unhealthy foods/beverages in previous week, by child sex, child age, urban-rural location, and household wealth

	Lao PDR (n=60)					Philippines (n=60)				
	Sweet	**Salty**	**Meat**	**SSB**	**Fast Food**	**Sweet**	**Salty**	**Meat**	**SSB**	**Fast Food**
Child sex										
Male	100	100	96	100	14	87	90	83	80	40
Female	100	100	94	100	3	90	70	90	63	40
Child age										
6-8 years	100	100	94	100	3	89	75	89	71	43
9-11 years	100	100	97	100	14	88	84	84	72	38
Geography										
Urban	100	100	97	100	17	94	78	86	70	46
Rural	100	100	93	100	0	60	90	90	80	10
Household wealth										
Q1-3	100	100	89	100	0	82	82	82	65	18
Q4-5	100	100	100	100	16	91	79	88	44	49

Note: Wealth quintile as compared to the national wealth quintile of the 2017 MICS (Lao PDR) and 2017 DHS (Philippines). Q1-3=quintiles 1 to 3; Q4-5=quintiles 4 and 5.

Table A2. Mean number of days consumed unhealthy foods/beverages in the previous week among those who consumed, by child sex, child age, urban-rural location, and household wealth

	Lao PDR					Philippines				
	Sweet (n=60)	**Salty** (n=60)	**Meat** (n=57)	**SSB** (n=60)	**Fast Food** (n=5)	**Sweet** (n=53)	**Salty** (n=48)	**Meat** (n=52)	**SSB** (n=43)	**Fast Food** (n=24)
Child sex										
Male	5.2	5.3	3.9	4.4	2.0	3.6	2.3	1.9	3.4	1.6
Female	4.9	5.0	3.7	4.2	1.0	3.0	2.0	2.4	2.8	1.9
Child age										
6-8 years	5.2	5.2	3.7	4.4	1.0	3.7	1.9	1.8	3.5	1.5
9-11 years	5.0	5.0	3.9	4.1	2.0	2.9	2.4	2.5	2.9	2.0
Geography										
Urban	5.1	5.2	4.1	4.6	1.8	3.3	2.4	2.0	3.5	1.8
Rural	5.1	5.1	3.5	3.9	-	3.0	1.3	2.9	1.8	1.0
Household wealth										
Q1-3	4.2	4.5	3.1	3.6	-	2.9	2.1	2.2	3.1	1.0
Q4-5	5.8	5.7	4.3	4.9	1.8	3.4	2.2	2.1	3.2	1.9

Note: Wealth quintile as compared to the national wealth quintile of the 2017 MICS (Lao PDR) and 2017 DHS (Philippines). Q1-3=quintiles 1 to 3; Q4-5=quintiles 4 and 5.

Figure A1.a-b. Frequency of usually consuming unhealthy foods/beverages at school in Lao PDR, by child sex, child age, urban-rural location, and household wealth

Note: Due to rounding, percentages may not add up to 100%. Wealth quintile as compared to the national wealth quintile of the 2017 MICS (Lao PDR) and 2017 DHS (Philippines). Q1-3=quintiles 1 to 3; Q4-5=quintiles 4 and 5.

Table A3. Percentage of caregivers reporting perceived one main reason why children like to eat the unhealthy food or beverage, by child sex, child age, urban-rural location, and household wealth

	Lao PDR				Philippines			
	Sweet (n=60)	**Salty** (n=60)	**Meat** (n=57)	**SSB** (n=60)	**Sweet** (n=53)	**Salty** (n=48)	**Meat** (n=52)	**SSB** (n=43)
Likes taste	83	67	77	83	28	31	6	14
Likes smell, colors, appearance	2	0	5	3	0	0	0	0
Hunger/thirst	0	3	4	2	2	2	0	2
Fun, enjoyment	0	0	0	0	17	15	4	16
Easily available	0	2	0	2	15	10	2	16
Habit	3	5	2	2	9	4	10	5
Tired, needs energy	0	0	0	0	0	0	0	0
Sees friends consume	8	8	4	7	2	6	0	7
Sees other HH adult consume	3	12	7	0	11	13	10	9
Sees other HH child consume	0	0	0	0	0	0	0	2
Given to child	0	0	2	0	9	13	65	23
Likes attractive packaging	0	0	0	0	0	0	0	0
Cheap	0	3	0	2	0	0	0	0
Ads, promotions, media	0	0	0	0	2	2	2	0
Good for health	0	0	0	0	0	0	0	0
Quick to eat; easy to prepare	0	0	0	0	0	0	2	0

Figure A2. Percentage of Lao PDR caregivers reporting unhealthy foods/beverages available inside their child's school, by district

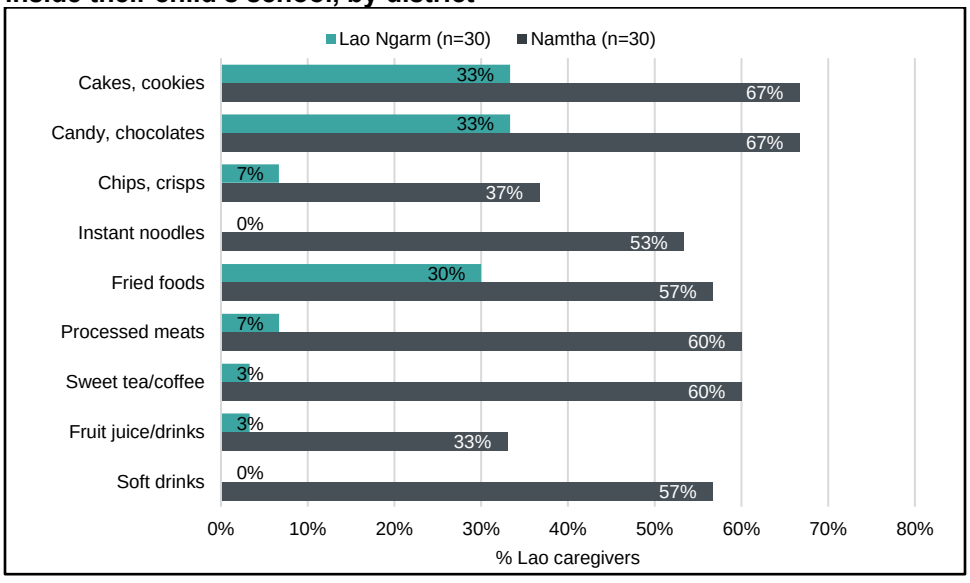


Table A4. Frequency of children usually receiving pocket money to buy foods/beverages, by child sex, child age, urban-rural location, and household wealth

	Lao PDR (n=60)				Philippines (n=60)			
	Every day	Most days	Once a week	No days	Every day	Most days	Once a week	No days
Child sex								
Male	50	21	29	0	17	7	17	60
Female	38	50	13	0	33	7	13	47
Child age								
6-8 years	45	32	23	0	14	4	11	71
9-11 years	41	41	17	0	34	9	19	38
Geography								
Urban	57	33	10	0	24	8	12	56
Rural	30	40	30	0	30	0	30	40
Household wealth								
Q1-3	36	36	28	0	24	6	24	47
Q4-5	50	38	13	0	26	7	12	56

Note: Due to rounding, percentages may not add up to 100%. Wealth quintile as compared to the national wealth quintile of the 2017 MICS (Laos) and 2017 DHS (Philippines). Q1-3=quintiles 1 to 3; Q4-5=quintiles 4 and 5. HH=household; Meat=processed meats

Table A5. Frequency of children usually taking snacks to school, by child sex, child age, urban-rural location, and household wealth

	Lao PDR (n=60)				Philippines (n=60)			
	Every day	Most days	Once a week	No days	Every day	Most days	Once a week	No days
Child sex								
Male	0	14	32	54	40	10	20	30
Female	0	19	13	69	43	10	17	30
Child age								
6-8 years	0	19	26	55	39	7	25	29
9-11 years	0	14	17	69	44	13	13	31
Geography								
Urban	0	13	30	57	42	12	18	28
Rural	0	20	13	67	40	0	20	40
Household wealth								
Q1-3	0	14	14	71	24	6	29	41
Q4-5	0	19	28	53	49	12	14	26

Note: Due to rounding, percentages may not add up to 100%. Wealth quintile as compared to the national wealth quintile of the 2017 MICS (Lao PDR) and 2017 DHS (Philippines). Q1-3=quintiles 1 to 3; Q4-5=quintiles 4 and 5. HH=household; Meat=processed meats