global child nutrition
FOUNDATION

School Meal Programs Around the World

Report Based on the Global Survey of School Meal Programs ©

This publication is based on country- and program-specific information provided by government officials or their designees in response to the Global Survey of School Meal Programs © conducted by GCNF in 2019, supplemented in limited ways with publicly available data, primarily from the United Nations and the World Bank. The data and the analysis and presentation thereof are provided in good faith and for general information purposes only. GCNF makes no warranty or representation as to the completeness or accuracy of the information.

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Section 1: Introduction

Preface

In late 2016, the Global Child Nutrition Foundation (GCNF) set out to fill a void. While school meal programs large and small have been implemented for decades in most countries, these were not documented in a consistent and comprehensive manner. There was no global database, no global repository of countrywide program information, and no systematic global description of what was happening with these programs.

We began to talk with partners about the concept of a global survey in early 2017. The response was very positive. The U.S. Department of Agriculture (USDA) Office of Capacity Building and Development indicated an interest in knowing what was happening beyond their grant activities in countries where they were investing in school feeding. They also said they would consider funding the survey. The World Food Program (WFP) asked if they could work with GCNF to ensure that the survey results could be ready and available for an update of their publication "State of School Feeding Worldwide" (WFP, 2013). Other partners (e.g., non-governmental organizations, academia, and private sector players) expressed interest in having access to such data for research or advocacy purposes.

Bolstered by the positive reactions, we undertook the task of designing a global survey that would use a common vocabulary and a non-evaluative approach in order to produce a comprehensive description of all the core aspects of large-scale school meal programs around the world. The idea was for the survey to be repeated every two to three years in order to encourage improvements in countries' data systems, to allow analyses of gaps and trends, and to help policy makers and program implementers to identify and advocate for needed improvements.

By early 2018, GCNF had drafted the core topics and questions for the survey, approached several universities to assess which ones could best assist in the survey design and implementation, and engaged more than 15 different organizations and individual experts in the field to review the proposed survey content.

We also enlisted teams of university students to dig through websites and documents that did exist regarding active school meal programs to put together the most up-to-date and comprehensive country-by-country profiles possible. This turned out to be a herculean and frustrating task, as documented by each wave of students enlisted and summarized in a report, "Filling the Knowledge Gap: The Global Survey of School Meal Programs," by a University of Washington Evans School of Public Policy and Governance Capstone team, presented in early June 2019.

Work on the survey design was well underway by August 2018, when USDA agreement number *FX18TA-10960G002* was approved. Under the agreement, USDA reimburses GCNF for some specific costs associated with conducting two rounds of the survey (in 2019 and 2021). USDA's support ensured the survey's implementation and also gave priority attention to countries that received, or were eligible to receive, support for school feeding under the McGovern-Dole Food for Education and Child Nutrition Program ("the McGovern-Dole Program') since 2013. The agreement included a matching requirement, requiring a commitment of a significant amount of additional funding from GCNF. GCNF has been able to meet the remaining needs thus far by tapping into a generous grant from the Stuart Family Foundation, funds generated from other donors to GCNF through its normal fundraising activities, and pro-bono services and reduced rates offered by some of the organizations and individuals involved.

The first round of survey data gathering, data cleaning, and analysis for the "McGovern-Dole countries" was completed in June 2020. The report—a key deliverable under the USDA agreement—was completed and submitted to USDA in mid-September, 2020.

This is the full report of the 2019 Global Survey of School Meal Programs ©. While this report summarizes the data received from around the world, it is still an overview. GCNF may pursue other research projects with the data and sincerely hopes that these first two reports will inspire others to request access to the data for additional studies.

We take this opportunity to extend special thanks to USDA Foreign Agricultural Service's Office of Capacity Building and Development, especially the entire Food Assistance Division and McGovern-Dole Food for Education and Child Nutrition Program team. Their early and ongoing support has been critical to the survey project.

We also extend our thanks to the World Food Program and its staff for their input to the draft survey, for help in translating the survey into multiple languages, and for the support of multiple WFP country offices and regional bureaus during the data collection phase.

We thank the International Food Policy Research Institute (IFPRI), especially Senior Research Fellows Harold Alderman and Aulo Gelli, for their help with the survey design, hosting of a survey-related seminar in 2019, and ongoing guidance and reviews.

We thank the Food and Agriculture Organization (FAO), especially its School Food and Nutrition Taskforce, for the thorough review of the draft survey and for ongoing support from their field and headquarters offices alike. Similarly, we thank the many partner non-governmental organizations, including Catholic Relief Services, Save the Children, and Nascent Solutions, who helped at country level to ensure that the survey was completed.

The University of Washington's (UW's) Evans School of Public Policy and Governance has assisted GCNF's survey work in a number of ways. Post-doctoral Research Associate Ayala Wineman has been with the project from very early stages. She was instrumental in fine-tuning the survey design and invaluable in the data cleaning, analysis and report writing stages. C. Leigh Anderson, Marc Lindenberg Professor for Humanitarian Action, International Development, and Global Citizenship and Founder and Director of the UW Evans School's Policy Analysis and Research Group has provided ongoing advice and support. Research Associate Federico Trindade gathered survey data from Spanish-speaking countries, and more than twelve UW Evans School graduate students assisted with early literature reviews, survey design, Chinese translation, and the very earliest stages of data gathering and cleaning. Students at Colby College, St. Mary's College, and Syracuse University have also contributed at various stages.

We also owe thanks for commenting on the draft survey questionnaire to: Boitshepo "Bibi" Giyose of the African Union Development Agency (AUDA, formerly known as NEPAD), Francisco Espejo (former head of School Feeding for WFP and of JUNAEB, the Government of Chile's school meal program directorate), Anne Sellers of Catholic Relief Services, Elizabeth Kristjansson of the University of Ottawa, Cindy Long and Yibo Wood of USDA's Food and Nutrition Service, Lesley Drake of the Partnership for Child Development, and Christiani Buani and Bruno Magalhaes at WFP Centres of Excellence.

We owe huge thanks to the survey data gathering teams. The Africa team was headed by Alice Martin-Daihirou, based in Cameroon, assisted by Liliane Bigayimpunzi in Burundi, Priscilia Etuge in Cameroon, and Olivier Mumbere, in the Democratic Republic of Congo. The Asia, Eastern Europe, Middle East, Pacific, "and Elsewhere" team was led by Mamta Gurung Nyangmi, based in Nepal and consisted of Mary Bachaspatimayum in India, Melissa Pradhan in Nepal, Zhanna Abzaltynova in Kazakhstan, and Kholood Alabdullatif in Seattle. WFP's Bruno Magalhaes (based in Brazil) helped with Lusophone countries, and UW's Federico Trindade (in Seattle) helped with Spanish-speaking countries. Interns Josephine Laing and Yale Warner assisted our office in Seattle with data reviews and the production of country-specific reports; Yale continued to assist from Scotland.

We thank the Governments of Benin, Nepal, Sao Tome and Principe, and the United States for their patient and most helpful participation in the piloting of the survey in late 2018 and the work that followed.

The primary author of this report is Ayala Wineman. GCNF Program Officer Ryan Kennedy was of great assistance with the massive data cleaning effort, with the help of other staff members and multiple volunteers.

We thank the experts who reviewed this report, in particular: Senior Researchers at IFPRI Harold Alderman and Aulo Gelli; Nobuko Murayama, PhD, Dean of the Faculty of Human Life Studies and Professor in the Department of Health and Nutrition, University of Niigata Prefecture in Japan; Lee Crawfurd Senior Research Associate at the Center for Global Development, and Boitshepo Giyose, Senior Advisor for Food and Nutrition Security at the African Union Development Agency (formerly NEPAD).

We thank the GCNF Board of Directors for their unflinching support and guidance, and the members of the GCNF Business Network and the Stuart Family Foundation for their generous support.

And finally, we thank the amazing network of survey focal points, implementing partners, and the whole myriad of people who worked hard to complete the 2019 survey and who work each day to ensure that schoolchildren are nourished, can learn, and thrive.

As noted in the Postscript to this report, the survey and the good work of all these actors can now serve as a baseline against which to examine the impact of, and actions in reaction to, the COVID-19 pandemic; the network of partners and focal points can serve as a resource to report, share knowledge, and mutually support efforts to mitigate the worst effects of the pandemic and its impact on school-age children.

It has been an honor to work with you all. We trust that this work has been of interest and benefit to you and your programs, and as we now prepare for a mid-2021 start for the second round of the survey, we look forward to working with you again.

Arlene Mitchell
Executive Director
Global Child Nutrition Foundation

Executive Summary

In 2019, the Global Child Nutrition Foundation (GCNF) conducted a Global Survey of School Meal Programs © in order to build a school meal[1] program database that gathers standardized information across all countries and sectors and covers a comprehensive set of school-based feeding activities. Responses were received from 103 countries, of which 85 had a large-scale school feeding program operating in their country and submitted a survey, and 18 stated that they had no large-scale program. The 85 participating countries and the 160 school meal programs operating within them are the focus of this report. While the countries from which responses were received represent 53% of the countries in the world, they contain 78% of the world's 2017 population.

The survey asked for data from "the most recently completed school year." One third (32%) of the countries reported data from the 2018/19 school year, 26% from the 2018 school year, and 42% from the 2017/18 school year.

Across the 85 countries, an estimated 297.3 million children of all ages received food through school meal programs in the most recently completed school year. The average coverage rate increases incrementally with rising wealth levels, ranging from 17% across low income countries to 37% across high income countries. This underscores the manner in which national coverage of school feeding programs tends to be lowest precisely where the needs are greatest. While less than half (47%) of the countries targeted secondary

[1] This report uses the terms "school meal" and "school feeding" interchangeably in reference to all programs that fall under such headings.

school students, all countries with school feeding programs reported providing food to those in primary school, reaching (in aggregate) 35% of primary school-age children and 38% of enrolled primary school students. School meals were also served to preschoolers in two-thirds of the countries, though this is more likely in higher-income settings. Just half (52%) of the school meal programs captured in this survey were able to report some gender-disaggregated numbers of students receiving food, with this value much higher in Sub-Saharan Africa and Asia.

Across the school meal programs captured in this report, and for the reported school year, in-school meals were by far the most common modality through which to deliver food to students. Specifically, 88% of programs serve meals in schools, 17% serve snacks, and 25% provide take-home rations. Some items, including grains/cereals, legumes/nuts, oil, and salt, were found on the school menu in almost all programs, while others, such as eggs, meat, and poultry, were found in 40-50% of the programs. Food basket diversity increases with rising wealth and also varies across different regions, with the highest average diversity found in Latin America & the Caribbean, and the lowest found in the Middle East & North Africa. School menus tended to include a greater diversity of food items when food was procured through domestic purchase, rather than foreign in-kind donations.

The most common avenue through which school meal programs reported procuring food was through domestic purchase, with 82% procuring some food through this avenue. The next most common avenue was the receipt of in-kind donations from domestic sources, followed by in-kind donations from other countries. Among the school feeding programs that purchased any food, 76% procured at least some of the purchased food from within the local community. Nevertheless, challenges associated with local procurement, such as limited production capacity in regions with low food security, were often raised by survey respondents.

Many countries across all income levels contributed a sizable share of the funding for school meal programs. In eight countries, the share contributed by government was 1% or less. At the other end of the spectrum, 33 countries (including some from every region) reported contributing 100% of the funding for their school meal activities. Funding was characterized as "adequate" by about half of the school meal programs, and as expected, this increased in wealthier settings. There is a strong correlation between school feeding coverage rates and having school feeding as a national budget line item; 26% of primary and secondary school-age children receive food through their schools in countries with a line item, while this value was 15% in countries with no line item.

In 62% of the programs summarized in this report, a government agency at some level was responsible for the school feeding program. Nearly one-third of the programs have experienced transitions in management, sometimes in the course of decentralization and sometimes when shifting from an implementing partner toward government management and ownership.

A large majority of school meal programs (87%) cited the goal of improving students' nutrition among their objectives. It was also common for programs to provide special nutrition training for cooks or caterers and to engage nutritionists. Sixty-eight percent of programs served fortified foods—such as oil, salt, grains/cereals, and corn-soy blend or biscuits—on the school menu, though it was less common for programs to provide students with micronutrient supplements (at 22%) or serve biofortified foods (at 12%). School meal programs were often paired with complementary services or programs related to health or hygiene, such as handwashing and deworming treatment. In total, 91% of programs offered nutrition education, and 78% paired the school meal program with school gardens. Less than one-quarter of school meal programs listed the reduction of obesity among their goals.

The most common type of job associated with school meal programs was the category of cooks and food preparers. These were overwhelmingly female: over three-quarters of the cooks were women in 78% of the school meal programs. However, 31% of programs reported that very few or no cooks receive payment for their work, and it was most common for cooks to work on a volunteer basis in low income countries. Farmers were directly engaged in some manner in school meal operations in 43% of the school meal programs, and targeted support (such as agricultural subsidies or training) was more commonly provided to small-scale farmers. The private sector was also involved in school meal operations in 40% of the programs.

Survey respondents were asked to summarize the strengths, weaknesses, successes, and challenges of the programs operating in their countries. Among the successes enumerated, respondents often highlighted the manner in which school meal programs are associated with improved schooling and health outcomes for students. Respondents also celebrated the inclusion of a wider diversity of food items on the school menu, and local procurement of food items (as in home-grown school feeding programs) are understood to raise the income of family farmers. Another common success story was the support received from parents and the local community, whether in the form of monetary or in-kind contributions or other forms of engagement.

Among the challenges associated with school feeding, inadequate and unpredictable budgets were emphasized across many countries, particularly in those without a budget line for their school feeding programs. Interviewees also noted difficulties related to supply chains and logistics, such pipeline breaks, food losses in transit, and poor access to some regions/schools. Another common challenge across most regions was inadequate human resources, with frequent turnover of personnel and insufficient budgets to retain skilled, committed professionals. Other reported issues related to weaknesses in monitoring and evaluation systems and different forms of mismanagement within school

feeding programs. The survey respondents delineated the research needed to improve their school feeding programs, with topics including (among others) the benefits and costs of local food procurement, nutritional assessments of specific school meal menus, and the mobilization of the private sector to finance school canteens.

This report concludes with a set of broad recommendations for policy makers. Where programs are managed by implementing partners and government capacity is not being engaged, GCNF recommends that such engagement be strongly encouraged to foster program sustainability. Observing that school meal programs tend to include a more diverse diet when food is procured through domestic purchase, GCNF recommends that more attention be given to the domestic purchase of food items. As school meal programs are more resilient when they create work, training, and other economic and status-enhancing opportunities in their communities, GCNF recommends that programs place emphasis on such activities—especially for women, youth, and marginalized groups. In addition, it is imperative to gather evidence regarding the extent to which programs are meeting their stated objectives, particularly with respect to those that have been introduced fairly recently, such as support for agriculture or obesity mitigation. Finally, acknowledging that survey respondents sometimes found it challenging to complete the survey, often because the data do not exist or were not accessible, GCNF recommends that development partners focus on capacity strengthening around data collection, monitoring, and evaluation of school meal programs, using consistent terminology and methods.

Background

RATIONALE FOR THE GLOBAL SURVEY OF SCHOOL MEAL PROGRAMS ©

School meal programs[2]—in which students are provided with snacks, meals, or other foods in or through schools—are common throughout the world. In 2018, the Global Child Nutrition Foundation (GCNF) undertook a systematic effort to collect information on the current state of school feeding in each country worldwide. GCNF surveyed both the academic and gray literature to glean a picture of the "landscape" of school meal programs in each setting, inclusive of their level of coverage (number of beneficiaries), food basket contents, and complementary programs, among other topics. Not surprisingly, we found that the quantity and quality of information available on school feeding is extremely inconsistent across countries and even across different programs within the same country. Furthermore, information is not collected and published regularly. This makes it impossible to refer to the currently available information to compare school feeding operations across different settings or to discern trends over time. This exercise underscored the need for a global school meal database that periodically gathers standardized information across all countries and sectors and covers a comprehensive set of school-based feeding activities within a given period of time.

[2] While aware of distinctions that may exist between the terms school meal, school feeding, and school nutrition (programs), we use school feeding and school meals interchangeably throughout this document, as we aim to capture information regarding all such programs.

In order to fill this gap, GCNF conducted a Global Survey of School Meal Programs © in 2019. The survey captures information on the scope of school feeding activities in each country during the most recently completed school year, with details on the characteristics (including age and gender) of beneficiaries. The survey also captures detailed information on the avenues through which school meal programs procure and distribute food; the extent and nature of government involvement with school feeding; job creation in school meal programs and engagement with farmers and the private sector; and related health and sanitation topics. The survey was administered to one "focal point"[3] from each country who was equipped to gather the necessary information and provide approval for its inclusion in a global database; this survey respondent also provided commentary on school feeding in their country and identified research needs.

The Global Survey of School Meal Programs © has multiple objectives. First, the responses to this country-level survey have been used to develop and periodically update a database on the current state of school feeding programs in many countries of the world. This survey database will enable a participating country to share information about its school meal programs with stakeholders around the world, identify trends, strengths and weaknesses within specific programs, and learn from the experiences of other countries. Another aim of the survey is to help countries recognize and remedy gaps in data collection and monitoring. Thus, wherever information is sparse in the 2019 survey, we encourage governments to gather information for a more complete understanding of their school feeding activities going forward. An example is the tabulation of jobs created in school meal programs, which is done meticulously by some countries but not at all by others. A final goal of the survey is to make the database available to the public for use by researchers and other interested parties.

In order to track how school meal programs evolve over time, GCNF plans to administer a second round of the survey in 2021, with the goal of repeating the survey every two or three years thereafter. Among the goals of this longitudinal study, GCNF intends to monitor whether school meal programs are reaching more or fewer children each year; the impact of crises (such as the COVID-19 pandemic) and more subtle developments (such as changes in countries' policies or economic status) on their programs; how the characteristics of these programs are changing; and how governments adjust their budgets and management responsibilities.

[3] A focal point is a representative appointed by the national government of a country to gather information and provide responses for this survey.

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METHOD

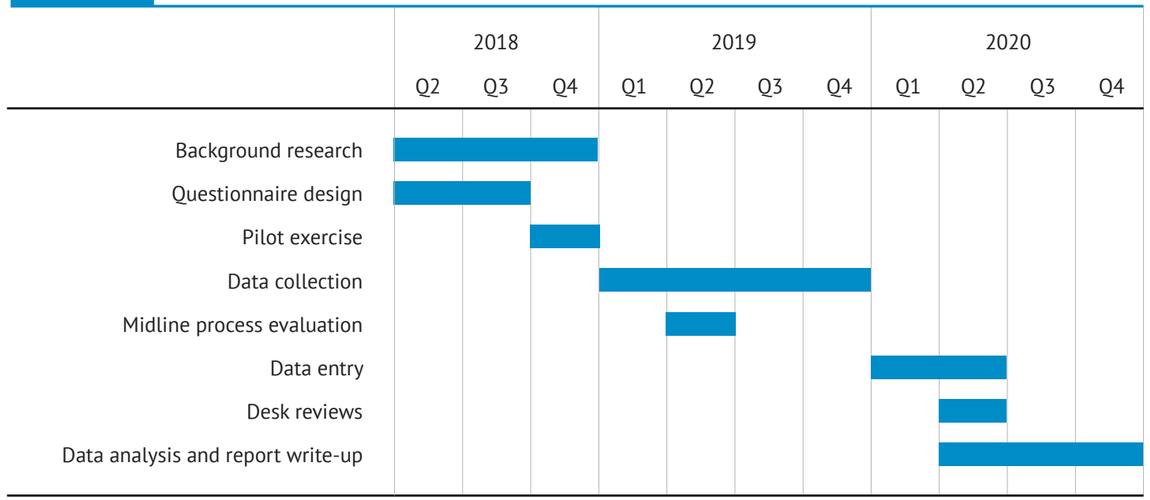
Building on the existing literature and studies undertaken by GCNF's partners, GCNF began the survey process by drafting a core set of topics and questions for a comprehensive survey of school meal programs. Between April and September 2018, GCNF solicited input on the proposed topics, questions, and survey design from 15 institutions and independent experts and received comments from some 25 individuals. After incorporating the feedback, GCNF translated the survey and called for countries to participate in a pilot round. Four countries (Benin, Nepal, Sao Tome and Principe, and the United States) volunteered to participate in a pilot exercise that was undertaken in December 2018, after which minor revisions were made and the survey was finalized.

Data collection for the Global Survey of School Meal Programs © took place throughout 2019 (Figure 1). Survey teams were positioned in Asia, Africa, and North America and were responsible for reaching out to the governments of countries in their respective portfolios to secure their cooperation. GCNF requested that each government designate as a "focal point" an individual who was knowledgeable about school feeding activities in the country and/or could gather needed information from other sources to complete the survey, and who could also obtain government clearance for the results to be included in the global database. While the survey was conducted at a global scale with outreach to almost all countries, priority was given to low income and lower middle income countries.

The survey was administered first as a PDF form (sent and returned by email), accompanied by a detailed glossary of terms used in the questionnaire. Both the survey and glossary are found in Annex C of this report. Subsequently, in a few cases, countries requested and were provided the survey in Word form. Additionally, a few countries that initially hesitated to complete the survey were provided with a shortened version with fewer questions. The survey submissions were reviewed by GCNF in order to ensure the clarity of survey responses to the greatest extent possible. The survey teams compared the information provided by a given country with the information gathered in the systematic literature review that preceded the survey (discussed above); published UNESCO or other United Nations data; or data from official government websites. There was often dialogue with the focal point (survey respondent) to confirm or amend responses. As an example, if the reported number of students receiving food through school meal programs was not consistent with the total number of students in the country, this would be raised with the focal point and perhaps identified as a typo. It was not possible to verify all parts of the survey or insist that the survey be filled in completely, particularly when information on a given topic did not seem to exist or was not accessible to the focal point.

Following data collection, the survey team conducted a set of "desk reviews" for additional countries that did not respond to the survey. This entailed consulting public resources for a given country in order to gather several key data points (for the most recent year available) that were addressed in the questionnaire. In this report, data collected from secondary sources through desk reviews will be treated separately from the main survey results.

FIGURE 1 **TIMELINE OF THE 2019 GLOBAL SURVEY OF SCHOOL MEAL PROGRAMS ©**



LIMITATIONS

Several limitations of the present survey merit mention. First, the survey was necessarily limited in how much detail could be captured regarding within-program heterogeneity, as when characteristics of a given school meal program vary across different states or districts within a country. Several of the larger programs in India, the United States, and elsewhere seem to exhibit such variation over space, and a "deeper dive" (or a state-level survey) would be needed to characterize these programs in a more comprehensive manner. Second, focal points (survey respondents) may have more familiarity with school feeding operations in public schools as compared to private schools. In countries where private schools are prevalent, as is the case in South Asia, this may present as a gap in the survey responses. This may particularly affect reporting on preschool coverage if

private preschools are relatively more common than private primary schools. It is our hope that survey responses will improve in their comprehensiveness as this survey is repeated in future years. Finally, the results reported here comprise an inventory of school meal programs and their key features. This report also presents the views of the focal points regarding the strengths and weaknesses of the current implementation. While these perspectives are necessarily subjective, this is intended to complement a large existing body of literature on impact evaluation which is seldom at a global scale.

RESPONSE RATE

GCNF worked from the United Nations listing of 194 countries. Of these, GCNF identified six that it chose not to approach due to political crises or natural disasters during the data collection period. Among the remaining 188 countries, GCNF attempted to make contact with every country for which it could identify a government agency or official contact. In total, some type of response was received from 116 countries, 85 of whom had a large-scale school feeding program operating in their country and submitted a survey (Figure 2). Eighteen countries responded that they had no large-scale school feeding program, and 13 countries responded but declined to participate in the 2019 survey (though sometimes specifying that they will participate in the next round).

A detailed breakdown of the response rate is provided in Table 1. Fifty-three percent of the 194 countries either submitted a survey or responded that they did not have any large-scale school meal programs. (In total, 62% of the 188 countries that were approached either submitted a response or declined to participate, with 55% submitting a response). Responses were received from 79% of the countries in the South Asia, East Asia & Pacific region and 79% of the countries in Sub-Saharan Africa. The response rate tended to decline with rising wealth levels. Thus, 85% of low income countries and 83% of lower middle income countries submitted a response, while this value was 53% for upper middle income countries and 32% for high income countries. We emphasize that the countries that responded to the survey do not comprise a representative sample, and summary statistics in this report are intended to reflect only the sample of respondents. Nonetheless, the countries from which responses were received contained 78% of the world's population in 2017. Efforts will be made to elicit a greater response rate from higher income countries in future rounds of the Global Survey of School Meal Programs ©.

As not all surveys were perfectly complete, this report and the analysis herein is based on the responses available for a given survey question. Sometimes, information was provided at the country level but not at the level of each school meal program, and we use all

information provided to generate this summary of the data. Where appropriate, we specify which countries are missing data or provide the number of observations used to generate a statistic. Because this was a new exercise for the focal points in 2019, we anticipate that the survey will be filled in more completely in the second round of the Global Survey of School Meal Programs © in 2021 and will further improve in subsequent rounds.

As noted earlier, the survey team additionally conducted a set of desk reviews for 23 of the countries that did not respond to the survey. This extra data allows us to provide a more complete picture of school meal programs, sometimes achieving close to perfect coverage across a given region. The maximum number of countries for which we have data (for a subset of data points) is therefore 126 (103 country responses plus 23 desk reviews). However, the countries for which GCNF conducted a desk review were not selected in a systematic manner. For this reason, this report summarizes data gathered through desk reviews separately from the main survey results.

FIGURE 2 **SURVEY RESPONSE STATUS FOR THE 2019 GLOBAL SURVEY OF SCHOOL MEAL PROGRAMS ©**

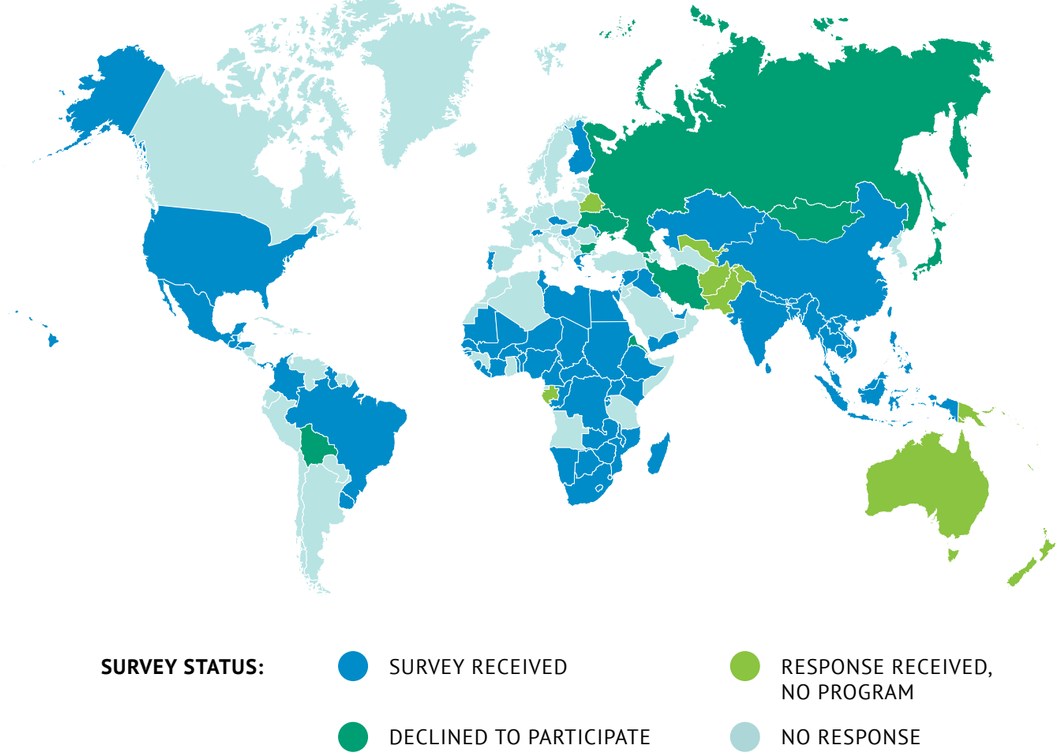


TABLE 1 **RESPONSE RATE FOR THE 2019 GLOBAL SURVEY OF SCHOOL MEAL PROGRAMS ©**

		Number countries	Number surveys received	Number responded, no program	Response rate (%)
Region	Sub-Saharan Africa	48	36	2	79
	South Asia, East Asia & Pacific	38	19	11	79
	Middle East & North Africa	21	7	2	43
	Latin America & Caribbean	33	10	0	30
	North America, Europe & Central Asia	54	13	3	30
Income group	Low income	34	26	2	82
	Lower middle income	46	28	8	78
	Upper middle income	55	18	5	42
	High income	59	13	3	27
All		**194**	**85**	**18**	**53**

Note: The region groupings used in this report loosely match those employed by the World Bank. However, North America is combined here with the Europe & Central Asia region to ensure a suitable number of countries in each group, and South Asia is combined with the East Asia & Pacific region for the same reason. The country income groups used in this report reflect the World Bank classifications in 2018 (World Bank 2020) and are based on gross national income (GNI) per capita in 2017.

DATA ACCESS

The responses received in the 2019 Global Survey of School Meal Programs © are summarized in a set of country reports that are available for download at survey.gcnf.org. The survey data will be made available to the public upon request. In addition, key elements of the survey submissions (i.e., those captured in the country reports) have been translated into English and summarized in an accompanying database. Data captured for additional countries through a desk review following the survey data collection are also included in this database, with an indicator for the mode through which these data were gathered. Further information on how to access this resource is available at survey.gcnf.org.

Section 2: Overview of School Meal Programs Around the World

CHAPTER 1

Coverage of School Meal Programs

Focal points (survey respondents) reported detailed information about each large-scale school meal program that had been operating in the country in the most recently completed school year.[4] In total, the 85 countries that are the primary focus of this report shared information on 160 school meal programs. Sixty-one percent of countries had one program, 24% had two programs, 11% had three programs, and 5% had four school meal programs on which to report. The average number of programs was greatest in Sub-Saharan Africa and the South Asia, East Asia & Pacific region, with an average of 1.8 and 1.7 programs, respectively.

Across these 85 countries with large-scale programs, an estimated 297.3 million children of all ages received food through school meal programs (Table A1 in Annex A).[5,6] In absolute terms, the five countries with the greatest number of student beneficiaries include Egypt (with 11,201,245 children), the United States (with 30,000,000 children), China (with 38,190,000 children), Brazil (with 41,846,552 children), and India (with 90,414,536 children).

[4] A large-scale school feeding program may take the form of a program that is managed and/or administered by the national government; a large program that is managed and/or administered by regional or local governments, or by a non-governmental entity in coordination with the national government; or any large program that does not involve the government but reaches a substantial proportion of students in the country or covers a substantial geography.

[5] Discussion of the number of students receiving food excludes Vietnam, for which we did not receive student numbers.

[6] Information on the number of student beneficiaries for five additional countries captured via desk review is provided in Table A2. For most desk review countries, insufficient data were found on student numbers.

Across 85 countries with large-scale programs, an estimated 297.3 million children of all ages received food through school meal programs.

The Global Survey of School Meal Programs © captured each country's coverage rate, defined here as the share of children of primary and secondary school age that received food through school meal programs. Across the 103 countries that submitted a survey response (including 18 countries with no large-scale school feeding activities), the average coverage rate in the most recently completed school year was 24%. [7,8]

The average coverage rates disaggregated by income groups are presented in Figure 3, showing that coverage increases incrementally with rising levels of wealth. Thus, the average was 17% across low income countries and 37% in high income countries. This pattern is similar when the aggregate coverage rates are calculated with consideration of the number of children in each country (i.e., the population sizes), with the aggregated coverage rates being 15%, 22%, 28%, and 57% in low, lower middle, upper middle, and high income countries, respectively.[9] As expected, the level of moderate or severe food insecurity in the population is inversely correlated with income, such that low income countries have an average of 31% food insecurity, while this is 2% in high income countries.[10] Bundy et al. (2009) also note that national coverage of school feeding programs tends to be lowest precisely where the needs are greatest. Across regions, the average coverage rate was lowest in the South Asia, East Asia & Pacific region (at 16%) and in the Middle East & North Africa region (at 18%). However, when the numbers of children are aggregated across countries within each region, Sub-Saharan Africa is seen to have the lowest coverage rate (at 19%), followed by the South Asia, East Asia & Pacific region (at 20%) and the Middle East & North Africa region (at 31%).

Program coverage tended to be lowest where needs were greatest.

Average coverage across low income countries

17%

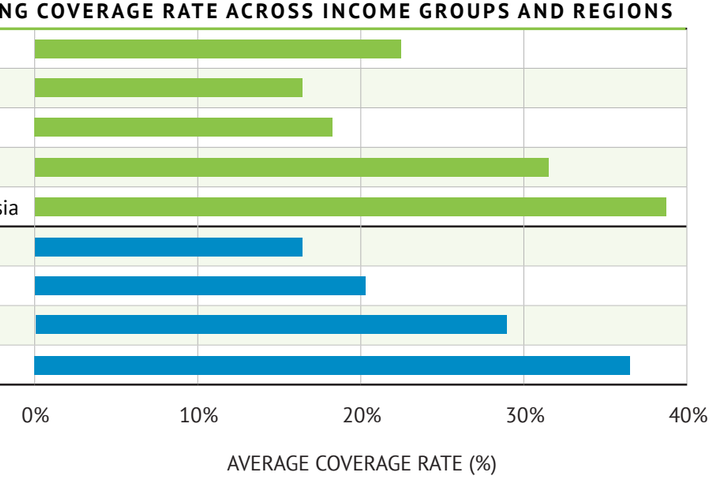
Average coverage across high income countries

37%

While most countries did not target secondary school students, all countries with school feeding programs provided food to those in primary school. Across countries, the average coverage rate specifically for primary school-age children was 34.5% (or 35% when accounting for differences in population size).[11] When focusing only on enrolled primary school students (i.e., excluding out-of-school children from the denominator), the average country-level coverage rate for primary school students was 39%. Fourteen countries reached at least 95% of their enrolled primary school students, including Botswana, Burkina Faso, Czech Republic, eSwatini, Finland, Guatemala, Kyrgyzstan, Moldova, Mongolia, Nauru, Palau, Panama, Sao Tome and Principe, and Sierra Leone. Five countries (Czech Republic, eSwatini, Finland, Nauru, and Palau) reported reaching at least 95% of enrolled secondary school students.[12]

The positive correlation between income level and coverage rate is evident for both primary and secondary school-age children. However, it is stronger for coverage of secondary school-age children, with a particularly low coverage rate in low income and lower income countries (Figure 4). Additional information on the school levels targeted will be provided in **Chapter 2: Characteristics of Beneficiaries.**

FIGURE 3 **AVERAGE SCHOOL FEEDING COVERAGE RATE ACROSS INCOME GROUPS AND REGIONS**



Note: Average values in this figure are not weighted by population size. These calculations are inclusive of countries with no large-scale school meal programs (N = 103).

[7] Discussion of the coverage rate for primary and secondary school-age children excludes Guinea-Bissau and Libya (for which denominators could not be found) and Vietnam (which lacks a numerator).

[8] Inclusive of five additional desk review countries, this average rate was 25%.

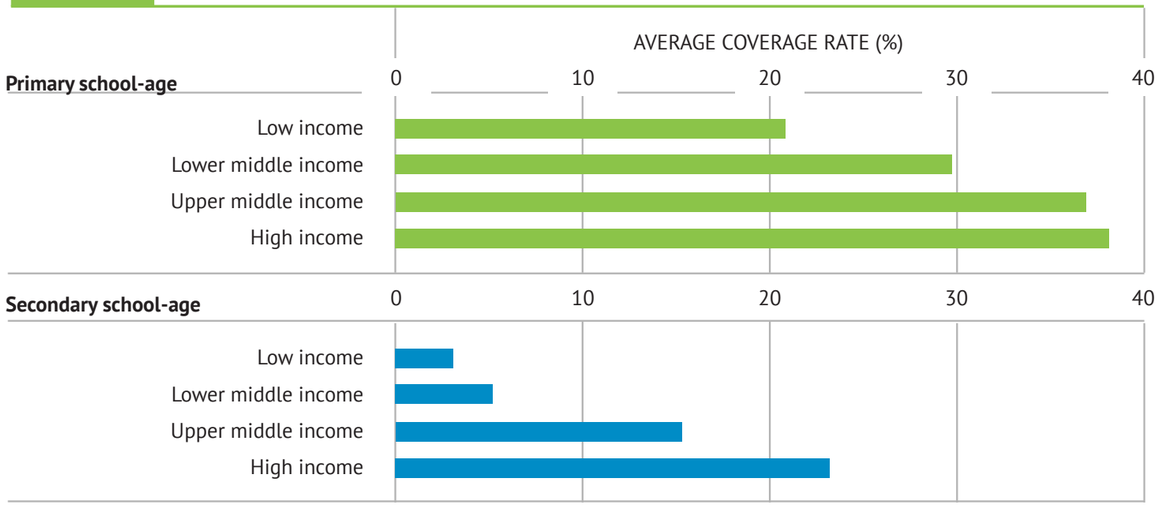
[9] As a simple example, if country A has a population of 100 children and a coverage rate of 30%, and country B has a population of 1,000 children and a coverage rate of 10%, the cross-country average coverage rate would be 20%. However, when we aggregate the numbers across these two countries, 120 out of 1,100 children receive food. Thus, the aggregated or weighted coverage rate would be 12%.

[10] Information on recent levels of food insecurity is obtained from the Food and Agriculture Organization of the United Nations (FAO 2020). The values reflect the year 2017 or the most recent year with information available in a given country. Information could be found for 57 of the countries covered in this report.

[11] This calculation excludes Benin, Cambodia, Iraq, Libya, Myanmar, the United States and Zimbabwe, for which we received total numbers fed but not age-disaggregated estimates.

[12] Some additional countries that could not provide age-disaggregated numbers may have also reached near-universal coverage for either primary- or secondary school-age children.

FIGURE 4 AVERAGE SCHOOL FEEDING COVERAGE RATE ACROSS INCOME GROUPS, DISAGGREGATED BY AGE



A majority (70%) of the countries with school feeding programs reported stable numbers or growth in the number of primary and secondary students receiving food in the most recently completed school year, compared to one year earlier (Figure 5).[13] Forty-nine countries exhibited steady numbers, with changes ranging from -10% to +10%, while 28 countries exhibited rapid growth (>10%) in their program size. For example, Ethiopia and Malawi saw their school meal programs grow by 43% between the 2016/17 and 2017/18 school years, and eight countries in Sub-Saharan Africa and the Middle East & North Africa region had growth rates over 100%.[14] However, these countries had relatively small programs, such that a small increase in absolute numbers translated into a sizable growth rate. Four countries seem to have experienced a considerable decline (of more than 10%) in the number of students receiving food, including Chad, Cameroon, Mali, and Niger. It is noteworthy that these West African countries had recently experienced instability and conflict, leading to population displacement and the disruption of school feeding operations.

Interestingly, there is a positive correlation between the school feeding coverage rate and the estimated number of years that school feeding has been implemented in the country (as loosely gauged based on the year of commencement of the oldest school feeding program that was still operating at the time of the survey) (Figure 6). Specifically, another year of operation is associated with an additional 0.27% of the school-age population receiving food through schools (P-value = 0.02). The average start year was 1996 in low income countries and 1977 in high income countries.

FIGURE 5 HISTORICAL TRAJECTORY OVER PREVIOUS YEAR OF NUMBER OF CHILDREN RECEIVING FOOD

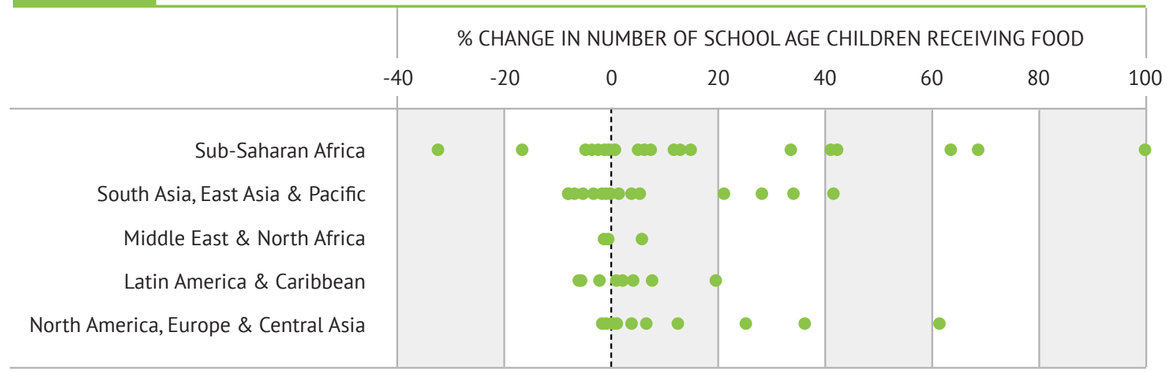
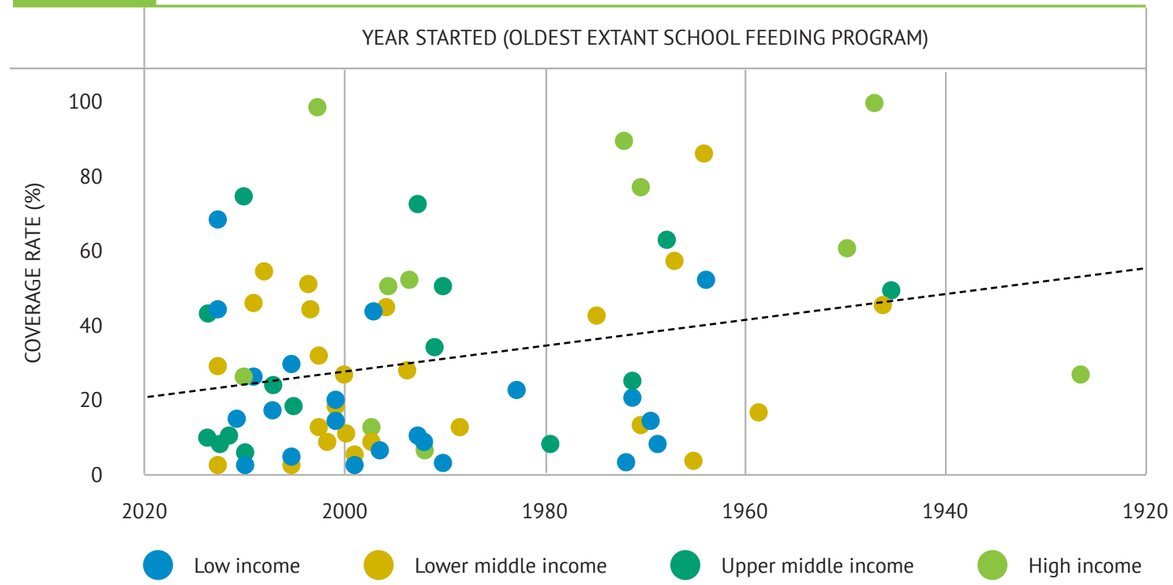


FIGURE 6 HISTORY OF SCHOOL FEEDING ACTIVITIES AND CURRENT NATIONAL COVERAGE RATES



[13] This discussion of trajectories in student numbers excludes Kyrgyzstan, Nauru, Syria, and Vietnam, for which we do not have student numbers from the previous year.

[14] The National Home-Grown School Feeding Program (NHGSFP) in Nigeria grew by 35% between 2017/18 and 2018/19. However, it expanded at an even faster pace over a slightly longer time horizon. While school feeding was found in just a few states before 2016, the program grew to cover nearly 10 million children by 2018/19.

CHAPTER 2

Characteristics of Beneficiaries and Components of the School Meal Programs

The school meal programs covered in this report exhibit a range of objectives (Table 2). Almost all programs (at 93%) were designed to meet educational goals, and 88% aimed to meet nutritional and/or health goals. It was also fairly common, at 73%, for programs to serve as a social safety net, ensuring food access for poor or vulnerable children. It was far less common, at 35%, for programs to directly incorporate agricultural goals into their work, and very few programs specifically aimed to prevent obesity (as will be discussed in detail in **Chapter 6: Health and Nutrition**). Programs in higher income countries were less likely than others to cite education or agricultural goals. Note that some of these objectives had been introduced to the school meal "landscape" fairly recently, and there remains much to be learned about the extent to which they are achieved.

Beyond the objectives enumerated in Table 2, school meal programs sometimes play an even wider role in society. They are understood to strengthen social cohesion and solidarity in Greece and to build students' character in Indonesia. In Finland, school canteens serve as a setting for students to learn teamwork and entrepreneurship and to cultivate civic engagement.

TABLE 2 OBJECTIVES OF SCHOOL MEAL PROGRAMS

Objective	Share of programs (%)
To meet educational goals	93
To meet nutritional and/or health goals	88
To provide a social safety net	73
To meet agricultural goals	35
To prevent or mitigate obesity	25

As noted, among the 85 countries with some school feeding activity, every country targeted the primary school level (Table 3). In 18 countries, primary school students were the only beneficiaries of school meals. In two-thirds of the countries, school meals were also served to preschoolers; this was more likely in higher income countries, with

preschool students included in 58%, 64%, 67%, and 85% of low, lower middle, upper middle, and high income countries, respectively. It was less common (at 47%) for countries to provide food for secondary school students. Students of vocational or trade schools benefited from school meal programs in 12 countries, and only Kazakhstan reported that university students were included in their school meal program. The student numbers for all countries, disaggregated by school level, are provided in Table A1 in Annex A of this report.

The size of school meal programs tended to differ by the school levels targeted, with programs that operate in primary schools typically being the largest. The median number of primary school students receiving food, among those programs that targeted the primary level, was 203,073 students. (Because the size distribution is skewed towards the high end, the average value is far larger than the median at 1.8 million students). For programs that operated in secondary schools, the median number of secondary students receiving food was 63,483 (average = 937,361), and for programs that operated in preschool, the median number of preschool students receiving food was 28,279 (average = 242,967).

TABLE 3 SCHOOL LEVELS RECEIVING FOOD THROUGH SCHOOL MEAL PROGRAMS

		Share of countries (%) serving food in...					
		Preschools	Primary schools	Secondary schools	Vocational/Trade schools	University/Higher education	Other levels
Region	Sub-Saharan Africa	58	100	42	8	0	6
	South Asia, East Asia & Pacific	63	100	28	0	0	11
	Middle East & North Africa	43	100	43	16	0	14
	Latin America & Caribbean	90	100	70	30	0	30
	North America, Europe & Central Asia	85	100	75	38	8	0
Income group	Low income	58	100	46	12	0	8
	Lower middle income	64	100	30	4	0	11
	Upper middle income	67	100	44	17	6	11
	High income	85	100	92	38	0	8
All		**66**	**100**	**47**	**14**	**1**	**9**

Just half (52%) of the school meal programs captured in this survey were able to report some gender-disaggregated numbers of students receiving food (Figure 7). However, this varied across income groups and regions. While 64-68% of programs in low income and lower middle income countries reported gender-disaggregated numbers, just 31% in upper middle income countries and 16% in higher income countries did so. This value was much higher in Sub-Saharan Africa and Asia than other regions. Information on gender was also not captured uniformly across school levels. Thus, 56-57% of programs that

provided food for preschool or primary school-age children reported separate numbers for male and female students, while this value was 38% for those serving secondary school students (Figure 8). The collection of more complete gender-disaggregated data is necessary to better monitor the activities and impacts of school meal programs at all levels. Note that gender-disaggregated numbers of students receiving food may not align with the gender breakdown in school enrollment, as some programs specifically targeted regions with low levels of girls' schooling, and take-home rations (discussed in the next paragraph) were often targeted individually at girls. Among those programs that reported gender-specific numbers, girls comprised 49% (and boys, 51%) of the students receiving food.

School feeding programs may target students based on geography (for example, serving schools in regions with especially high poverty rates) or individual characteristics (for example, targeting female students or children residing in poor households). It was more common for students to be targeted based on geographic considerations (in 71% of programs), rather than individual characteristics (in 31% of programs). For example, the Home-Grown School Meals Program in Kenya implemented geographic targeting towards food insecure areas, serving all schools in arid areas and targeted schools in semi-arid areas. In Togo, the National School Feeding Program targeting was based on a poverty map of the country. The prevalence of geographic targeting in school meal programs was also noted by Bundy et al. (2009, p. 15) and was more common in lower-income settings. Specifically, the rate at which programs targeted based on geography was 92% in low income countries and 70%, 53%, and 20% in lower middle, upper middle, and high income countries, respectively. Targeting based on individual characteristics was more common for food distributed in the form of take-home rations. Specifically, 74% of the cases of take-home rations targeted them individually, often based on gender, status as an orphan, or record of school attendance. In Mongolia, for example, the National School Feeding Program for Special Schools reported providing meals for disabled children.

FIGURE 7 SHARE OF PROGRAMS THAT REPORT GENDER-DISAGGREGATED STUDENT NUMBERS

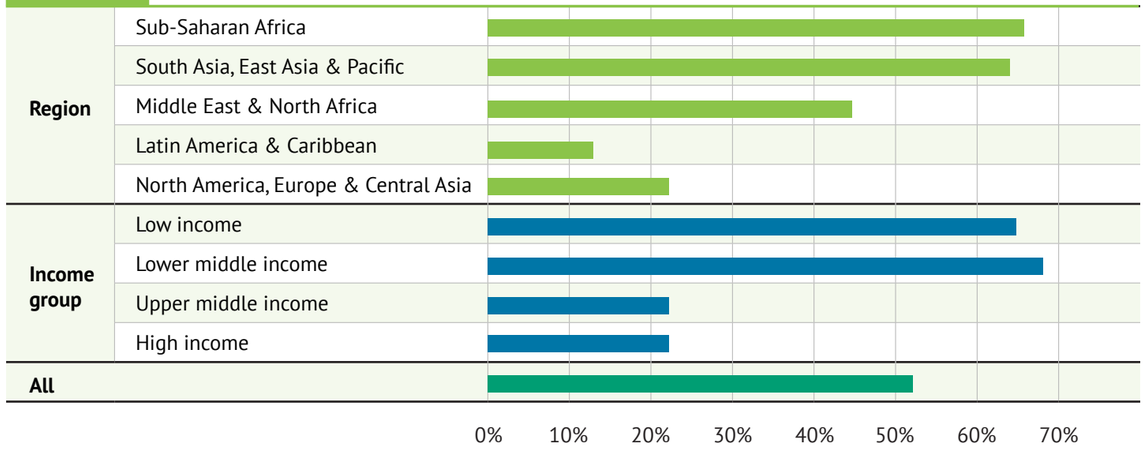


FIGURE 8 SHARE OF PROGRAMS THAT REPORT GENDER-DISAGGREGATED NUMBERS, BY SCHOOL LEVEL

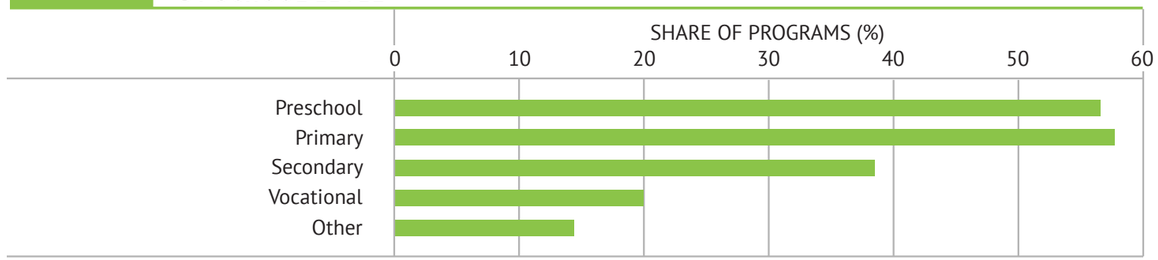
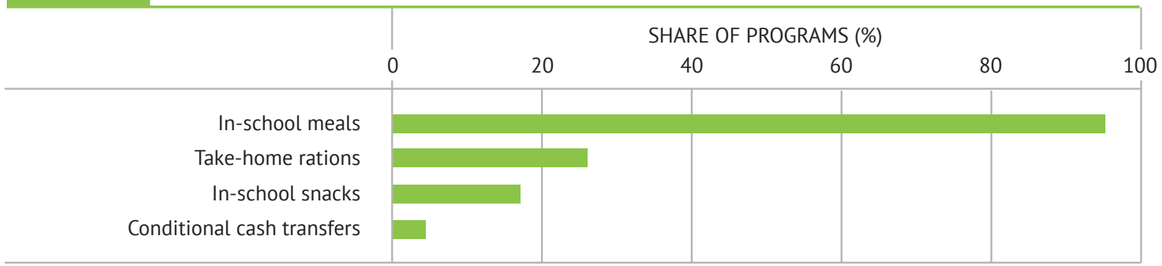


FIGURE 9 MODALITIES OF FOOD DELIVERY ACROSS PROGRAMS



Across the 160 programs captured in this report, in-school meals were by far the most common modality through which to deliver food to students (Figure 9). Specifically, 88% of programs served meals in schools, 17% served snacks (per the survey respondents' classifications of what constitutes a "snack" versus a "meal"), and 25% provided take-home rations. Take-home rations were more common at lower income levels. In addition, 5% of programs indicated that they provided students with cash transfers; however, this was almost never the sole avenue through which a program improved food access for students. Indeed, programs often provided food through multiple modalities. While some offered meals only (57%) or snacks only (10%), the remaining programs had multiple modalities, the most popular combination being meals/snacks and take-home rations (in 14% of programs).

88%
of programs served meals in schools

17%
served snacks

25%
provided take-home rations

Lunch, the most common meal served in schools, was part of school meal programs in 82% of the countries. Breakfast was served in 40% of the countries, while an evening meal (dinner) was served in three countries (specifically in programs that operate in boarding schools).[15] Food was provided only during the school year in most cases, though programs in Cameroon, Hungary, India, Portugal, and Uruguay also offered food to students during the school break.

According to survey responses, in-school meals were served five or six times per week in 89% of the programs and two to three times per week in another 7%. Snacks were served at a similar frequency. (Note that it is not known how often there is a discrepancy between the planned or "official" frequency of meals and actual implementation). As will be discussed in **Chapter 10: Program Sustainability**, 31% of countries that experienced an emergency in the previous year had decreased the frequency of school feeding. Take-home rations were made available less frequently, often at monthly intervals or at other frequencies, such as quarterly, biannually, or during the lean season.

CHAPTER 3

Food Basket and Food Sources

A diverse menu, containing food items with essential micro- and macronutrients, is an important component of any school feeding program. The content of food baskets is presented in Figure 10. Some items, including grains/cereals, oil, salt, and legumes/nuts were found in almost all programs, while others (such as eggs, meat, and poultry) were found in 40-50% of the programs. School menus were often designed with input from nutritionists. In Honduras, the menu varies by geography; in some parts of the country, children received only dry rations, while elsewhere they also received perishable products (dairy and fresh fruits and vegetables). School menus in Brazil and Colombia also accounted for some regional dietary differences.

The typical school meal menu varied across programs in low income and high income settings (Figure 11). While programs in all countries tended to serve grains/cereals, there was considerable dispersion across income groups when it came to the share of programs that served green vegetables (with a difference of 44 percentage points between high and low income countries) or meat (with a difference of 64 percentage points). While 100% of programs in high income settings served dairy products, this value was 78%, 39%, and 20% in upper middle, lower middle, and lower income settings, respectively.

[15] Generally, food served in boarding schools is not considered to be part of a school meal program if the cost is covered by the students' families.

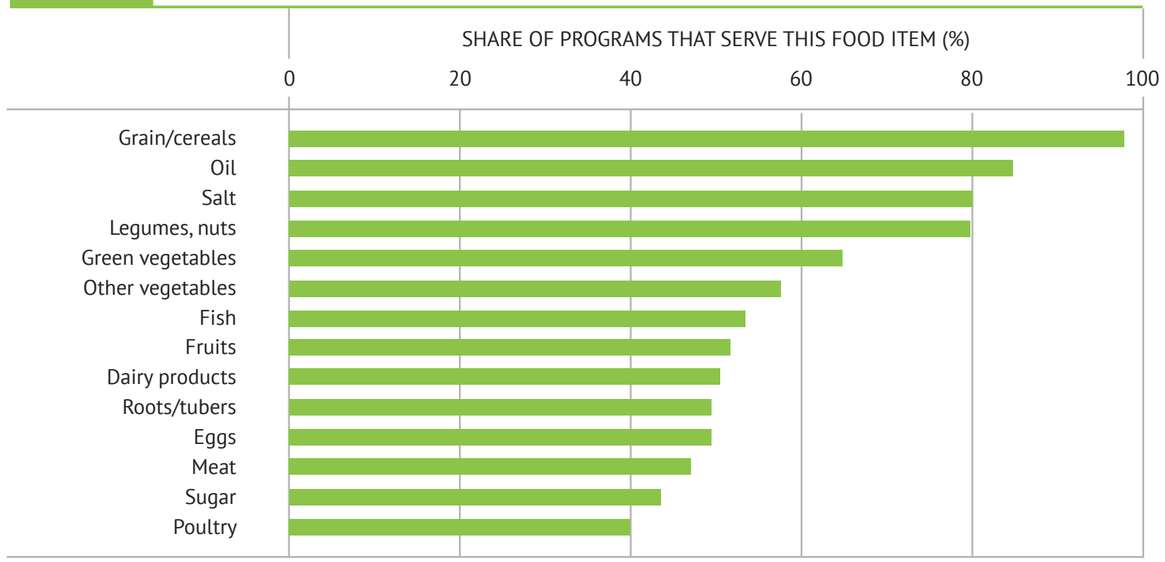
Food basket diversity increased with rising wealth.

Out of 14 broad food categories (eggs, dairy, fruit, etc.), the food baskets of school meal programs contained an average of seven categories (Figure 12).[16] As expected, this diversity measure increased with rising wealth and also varied across different regions. The highest average value of 10 categories was found in Latin America & the Caribbean region. The National School Feeding Program of Brazil (Programa Nacional de Alimentação Escolar (PNAE) specifically served "unconventional crops." Programs in the South Asia, East Asia & Pacific region served an average of eight food categories, while those in Sub-Saharan Africa served an average of six. The lowest diversity tended to be found in the Middle East & North Africa, with an average of four food categories in the food basket. Several of these countries, including Egypt and Libya, served date-filled bars/pastries as an in-school snack. This has implications for menu planning if school meal programs in the Middle East also have nutrition goals.

The contents of a school meal program's food basket tended to vary by the modality through which children received food. In 95% of programs that served in-school meals, the meal included grains (Table 4). The least common components of school meals were meat and poultry. In-school snacks—which take the form of school milk programs in Fiji, Portugal, Rwanda, Sri Lanka, and Thailand—included dairy on 53% of the snack menus. The most common components of take-home rations were grains or oil.

[16] A parallel analysis of the school feeding menu at the country level, inclusive of 20 additional desk review countries, is provided in Figure A1 in the Annex A.

FIGURE 10 FOOD ITEMS SERVED IN SCHOOL MEAL PROGRAMS



Note: Because sugar is commonly included in many food items, such as baked goods, fruit "juices", and sauces, it is likely that the inclusion of sugar on school meal menus is underreported.

FIGURE 11 FOOD ITEMS SERVED IN SCHOOL MEAL PROGRAMS, BY INCOME GROUP

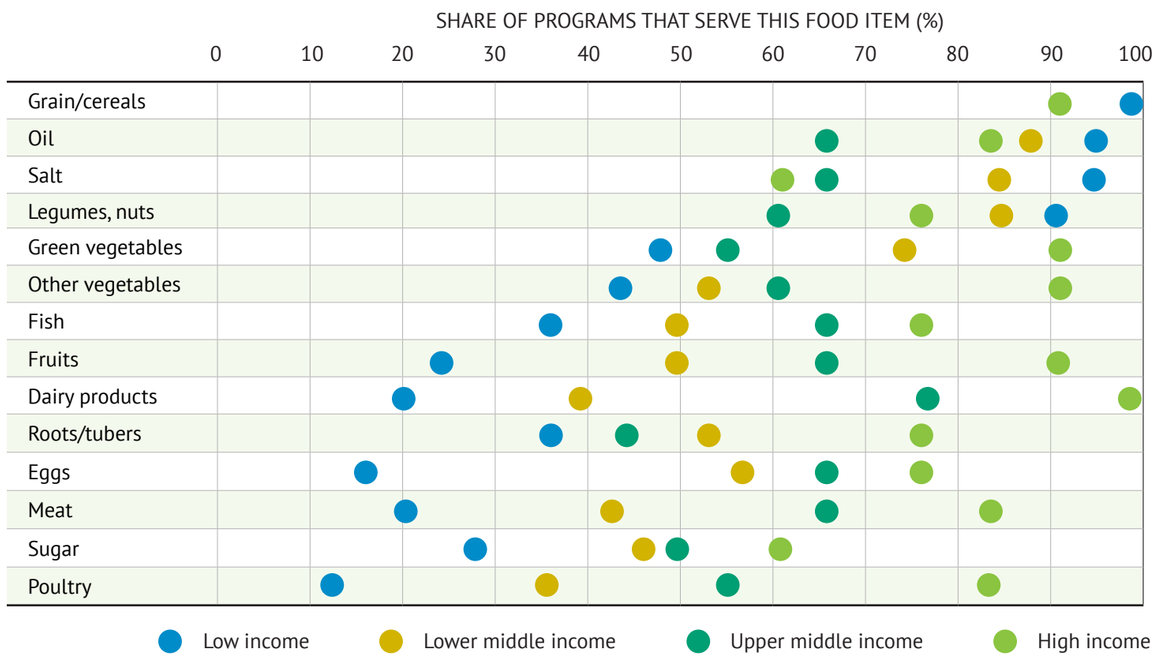


FIGURE 12 FOOD BASKET DIVERSITY ACROSS PROGRAMS

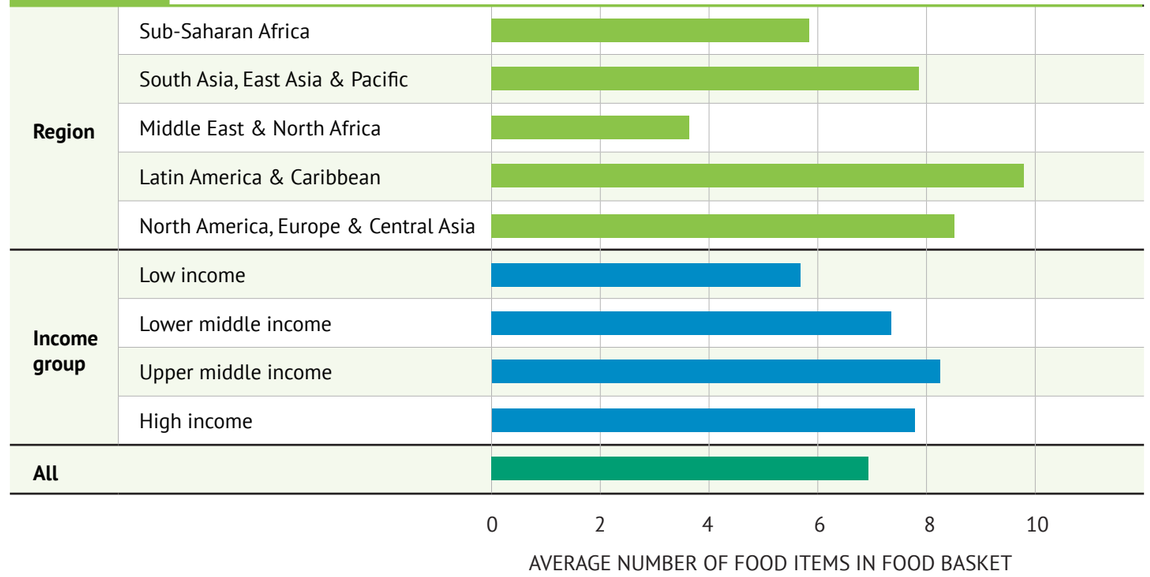


TABLE 4 FOOD BASKET CONTENTS AND MODALITY OF FOOD DELIVERY

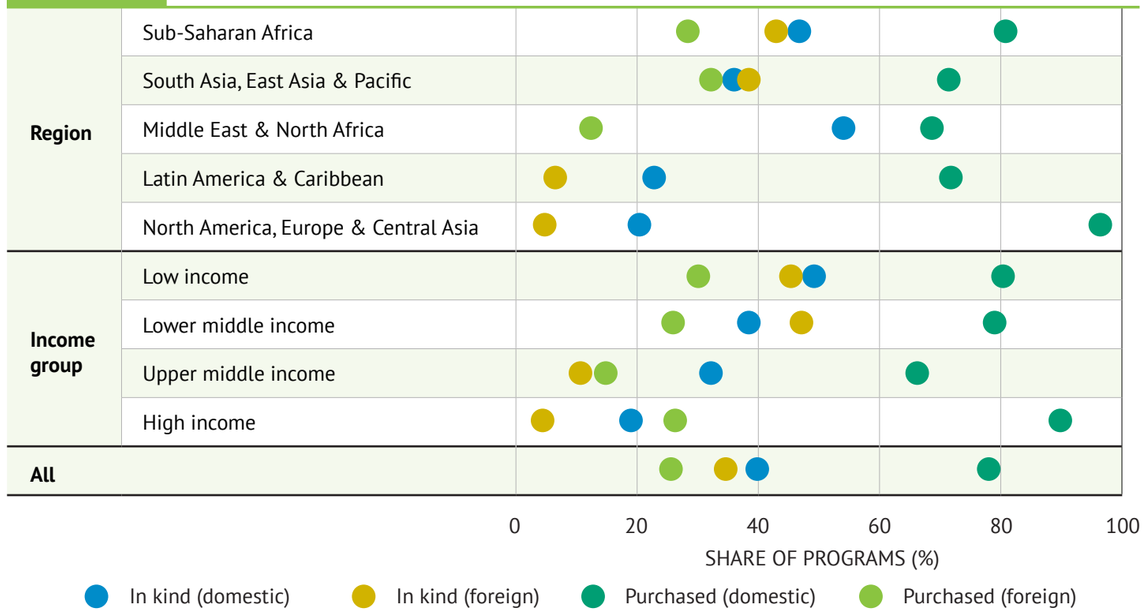
	% OF PROGRAMS (BY MODALITY) CONTAINING FOOD ITEMS		
Food Item	In-school meals	In-school snacks	Take-home rations
Grain/cereals	95	71	85
Oil	89	29	60
Legumes, nuts	80	35	35
Salt	72	18	25
Dairy products	35	53	10
Green vegetables	47	24	20
Other vegetables	46	24	15
Other	30	35	15
Roots/tubers	46	18	15
Fish	41	18	15
Eggs	38	24	10
Fruits	34	24	10
Sugar	36	18	10
Meat	39	18	5
Poultry	32	12	5

Observations: In-school meals (113), in-school snacks (17), take-home rations (20)

The most common avenue through which school meal programs procured food was through domestic purchase, with 82% of programs accessing some food through this avenue (Figure 13). (Note that this value does not capture the amount of food procured through these channels but is rather a count of whether these channels are used at all). The next most common avenue was the receipt of in-kind donations from within the country (in 42% of programs), followed by in-kind donations from other countries (in 38% of programs). Foreign purchases were the least common procurement choice (in 28% of programs). It was rare for programs in higher income settings to receive in-kind donations, particularly from foreign sources. In contrast, 48-50% of programs in low income and lower middle income settings did. Across regions, the Middle East & North Africa were most likely, at 57% of programs, to have secured some food through in-kind foreign donations.

In-kind donations from foreign countries tended to come from faraway countries (in 78% of programs) rather than nearby countries (which occurred in 25% of programs that received such donations)[17]. In-kind donations from domestic sources tended to come from within the local community (in 78% of cases), often taking the form of parents supplying ingredients to their children's schools. Thus, parents in Laos, Liberia, and Senegal (among other countries) contributed condiments for school meal preparation. In 23% of programs that received in-kind donations from within the country, this came from private businesses. For example, the National School Nutrition Program (NSNP) in South Africa was supplemented by private sector (in-kind) investments in school breakfasts.

FIGURE 13 **SOURCES OF FOOD FOR SCHOOL MEAL PROGRAMS**



76% of programs that purchased any food procured at least some food locally.

Among the school feeding programs that purchased any food, 76% procured at least some of the purchased food from within the local community.[18] Overall, across the 110 programs that could provide a numeric estimate of the share of food procured through various channels, an average of 36% of food seemed to be locally purchased.[19] In Egypt and Syria, in-country processors produced baked goods for school snacks. There was a strong emphasis on engaging with small-scale family farms in Brazil, with a requirement that 30% of the food for the National School Feeding Program be purchased from local sources. Similarly, in Guatemala and Honduras, 40-50% of food for the school meal programs must be purchased from family farmers. Local procurement was also highlighted in programs across Sub-Saharan Africa. In the National School Feeding Program of Mali, 95% of the food was purchased from local sources (generally within the community). In the Home-Grown School Feeding Program in Ethiopia and the National School Feeding Program in Burundi, food was procured from smallholders through competition among farmer cooperative unions. In the Mary's Meals Program in Malawi, maize and soy were procured from small-scale farmers, and the corn-soy blend included in the food basket was then processed in-country. Domestic purchase, primarily from local farmers, and the domestic origin of supplies were also highlighted in Namibia and Nigeria.

At the same time, challenges around local procurement were often raised by the survey respondents. The Home-Grown School Meals Program in Kenya reported local procurement of agricultural products to be particularly challenging in arid regions (where the program operates). Similarly, in Mauritania, the School Feeding Program operates in food insecure and vulnerable areas where there is little or no agricultural production, and this is precisely where purchasing from local farmers may not be an option. In Guatemala and Brazil, procurement from family farmers is limited by their productive capacity, and in Liberia, it was noted that there is limited production even at the national level to meet school feeding needs. In Malawi, the dependence on rain-fed agriculture, combined with a once-a-year growing cycle, presents a challenge to produce a consistent food supply for the school meal programs. In addition to domestic sources, purchases also came from nearby countries

[17] In the glossary that accompanied the survey, a faraway country is defined as a country that is not readily accessible, and/or does not share a border with this country, and/or is not considered to be in the same economic community or "neighborhood." The glossary can be found in Annex C.

[18] In some cases, as in Nepal, schools buy food in local markets, though it may not have been locally produced.

[19] "Local" here refers to an administrative level more narrowly focused and localized than regional (state/province), hence at the district, county, municipality/town, or community level.

(in 15% of programs that purchased any food) or faraway countries (in 26% of cases).

Across programs that purchased food, 77% employed open-bid procedures in procurement, and among those that did, small farmers or companies were given preferential treatment in 34.5% of cases. This was most common in the Latin America & Caribbean region and the South Asia, East Asia & Pacific region (at 42-44% of cases). In Côte d'Ivoire, the Integrated Program for Sustainable School Canteens gave preferential treatment to smallholder farmers in the process of procurement, and much of the food for the program was sourced from women's groups. At the same time, in 16% of cases, small farmers or small companies seem to be effectively excluded from competing or being selected to provide for school meal programs. For example, in the National School Lunch Program of Laos, although this program uses a competitive tendering process for procuring food items, smaller companies have tended to be unsuccessful at competing for bids (according to the survey response).

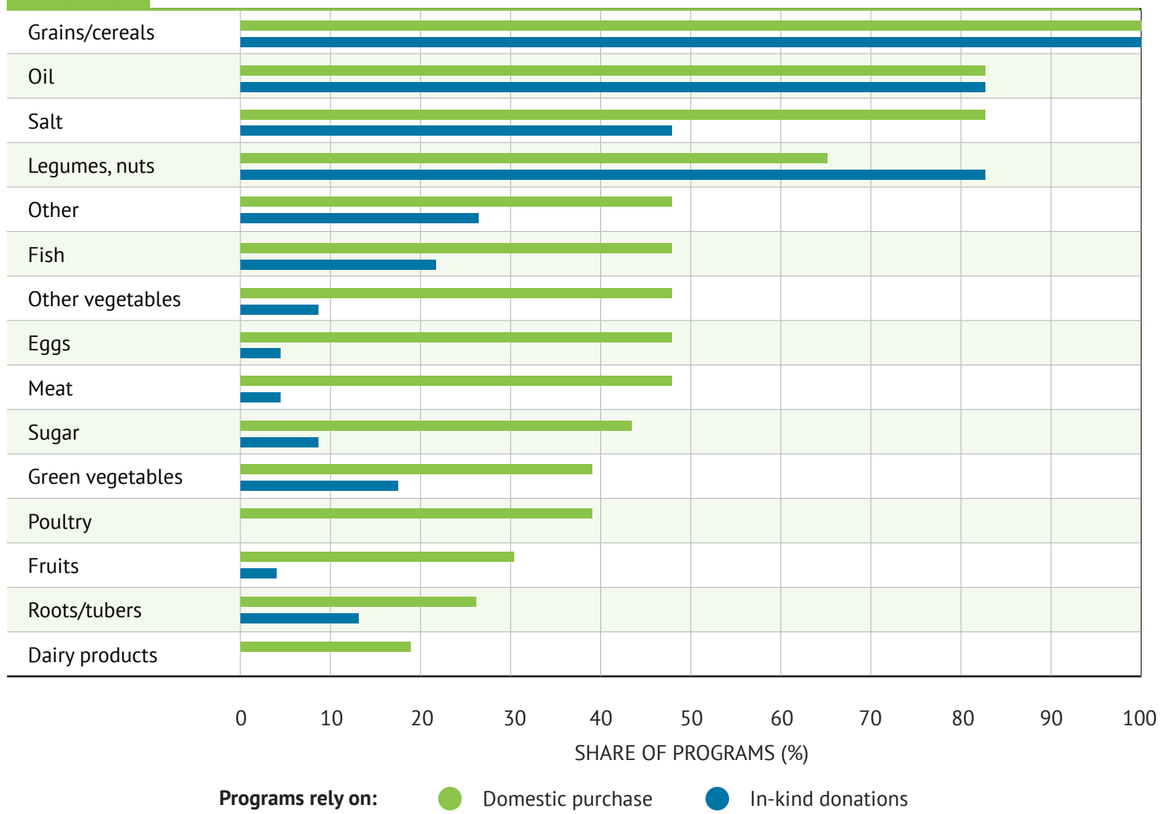
The contents of a school meal program's food basket tended to be correlated with the avenue through which food was procured. Among the programs captured in this survey, 25 programs relied on domestic purchase as defined by drawing at least 70% of food through purchase and purchasing only from domestic sources (including from local communities but also from within the region or elsewhere in the country). Fifteen other programs obtained food through a very different mechanism, namely by relying on foreign in-kind donations. In this exercise, reliance on foreign donations is defined as drawing at least 70% of food through in-kind donations, at least some of which came from "faraway" countries.

The food basket contents across these two categories are presented in Figure 14. Menus tended to include a greater diversity of food items when food was procured through domestic purchase, rather than foreign in-kind donations. A majority of programs in both categories included grains and oil, and programs that relied on foreign in-kind food donations were more likely to include legumes (perhaps in the form of corn-soy blends). However, it was much more common for the menu in programs that relied on domestic purchase to include green vegetables (39%), fish (48%), meat (33%), poultry 39%), and eggs (48%), among other items. In contrast, the menus in programs that relied on foreign in-kind food donations tended to be more limited, with few programs including green vegetables (17%), fish (22%), meat (4%), poultry (0%), or eggs (4%). These two program categories are not exhaustive, and others that received some in-kind donations but did not rely on them tended to have menus similar to those that relied on domestic purchases. Nevertheless, it seems that reliance on foreign food donations is correlated with having a less diverse school meal menu.

SECTION 1 SECTION 2 SECTION 3 SECTION 4

A number of programs reported on recent, ongoing, or anticipated transitions toward a home-grown school feeding approach to food procurement. The Namibian School Feeding Program (NSFP) aims to broaden its food diversity through a new home-grown school feeding model, and the Traditional School Feeding Program in Cambodia is also in the process of transitioning toward local procurement from Cambodian farmers. The Home-Grown School Feeding Program in Cambodia procures 80% of commodities from within the commune (comprised of approximately 7-10 villages) and is managed at the school level by school staff and local authorities. In Guinea-Bissau, the school meal program began in 2000, and the purchase of local agricultural products for the canteens was introduced in 2014. Liberia also listed among its recent positive developments a shift in priorities in favor of home-grown school feeding by development partners and the government.

FIGURE 14 FOOD BASKET CONTENTS AND AVENUE OF FOOD PROCUREMENT



Observations: Programs that rely on domestic purchase (25) or foreign in-kind donations (15)

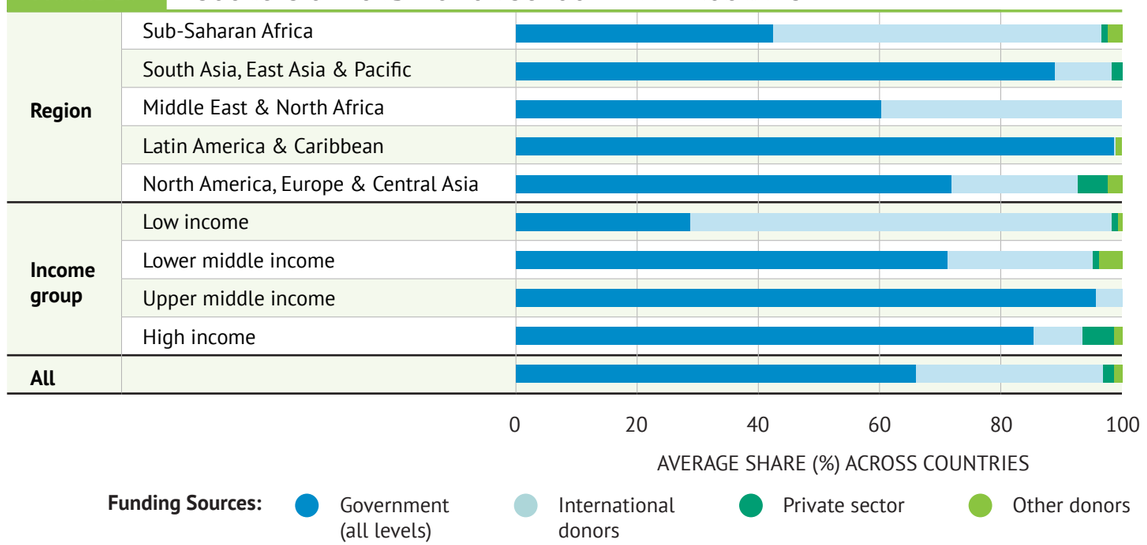
CHAPTER 4

Funding and Costs

Many countries across all income levels contributed a sizable share of the funding for school meal programs in the country (Figure 15). (This discussion does not account for the contributions of students' families or other community members, though 86.5% of the school meal programs involve some community engagement, and this often takes the form of remuneration for cooks or in-kind donations of food or other supplies. In some countries, including Colombia, Switzerland, and the United States, contributions of local governments also were not captured.)[20]

Across the 85 countries covered in this report, the summed total budget for school feeding activities in the most recently completed school year was USD 45 billion.[21] Across countries in Sub-Saharan Africa, the average share contributed by government was 42%. This was 60% in the Middle East & North Africa; 72% in North America, Europe & Central Asia; 89% in the South Asia, East Asia & Pacific region; and 99% in the Latin America & Caribbean region. In eight countries, including Cameroon, the Republic of Congo, Liberia, Malawi, Mozambique, South Sudan, Syria, and Yemen, the share contributed by government was 1% or less. At the other end of the spectrum, 33 countries (including some from every region) reported contributing 100% of the funding for their school meal activities.

FIGURE 15 SOURCES OF FUNDING FOR SCHOOL MEAL PROGRAMS



[20] Future rounds of the Global Survey of School Meal Programs © may capture the contributions of students' families in more detail.

[21] For five additional desk review countries for which sufficient information on school feed budgets could be found, an additional USD 605 million is spent on school meal programs. These countries are Bolivia, El Salvador, Jordan, Nicaragua, and Peru.

Table 5 presents a summary of the budgeted cost per year per child receiving food. Note that this coarse measure does not account for the frequency with which children receive food, nor the quantity of food received. Across countries, the average amount spent per child was $91 per year. This value was $40 per year in low income countries, which is within the range of standardized costs estimated by Gelli et al. (2011). However, the average cost rises to $44, $124, and $242 in lower middle income, upper middle income, and high income countries, respectively. In low income countries, larger operations tended to have lower costs per child. When accounting for the differences in operation size (in other words, when aggregating the numbers across countries rather than computing a cross-country average), the budget per child in low income settings was $20 per year.[22]

Funding was characterized as "adequate" by about half of the programs, and this value increases with greater wealth.

Funding was characterized as "adequate" by about half of the programs (Figure 16), and as expected, this value increases with greater wealth. At 17% and 25%, programs in the Middle East & North Africa region and the Latin America & Caribbean region were least likely to regard their funding as adequate. As will be discussed in **Chapter 11: Successes and Challenges**, inadequate and unpredictable budgets were a common challenge for school feeding activities.

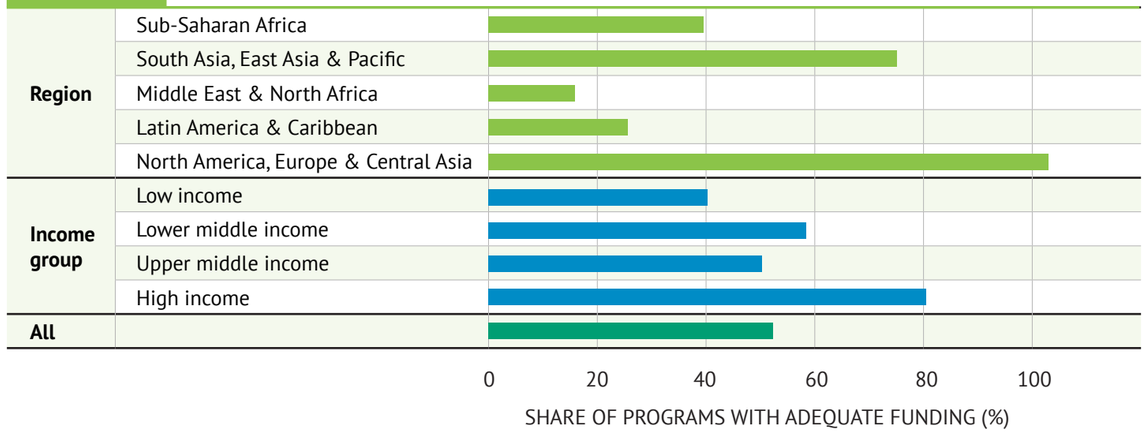
TABLE 5 BUDGET PER CHILD PER YEAR RECEIVING FOOD THROUGH SCHOOLS

		Budget per child (USD) (average across countries)	Budget per child (USD) (weighted average across countries)
Region	Sub-Saharan Africa	41	26
	South Asia, East Asia & Pacific	136	152
	Middle East & North Africa	45	15
	Latin America & Caribbean	101	40
	North America, Europe & Central Asia	167	501
Income group	Low income	40	20
	Lower middle income	44	17
	Upper middle income	124	209
	High income	242	552
All		**91**	**152**

Note: Monetary values are converted to USD using the exchange rate from the reporting period (the most recently completed school year, often 2018/19). These have not been converted into purchasing power parity international dollars. The values for the Latin America & Caribbean region are very similar when we include budget information from several additional desk review countries, including Bolivia, El Salvador, Nicaragua, and Peru.

[22] As a simple example, if country A budgets $100 to feed 100 children, and country B budgets $500 to feed 1,000 children, the cross-country average budget per child is $0.75. However, when we aggregate the numbers across these two countries, $600 is budgeted to feed 1,100 children. Thus, the aggregated or weighted budget per child would be $0.55.

FIGURE 16 **SHARE OF PROGRAMS THAT REPORT ADEQUATE FUNDING**



One of the more striking findings to emerge from the 2019 Global Survey of School Meal Programs © is the correlation between school feeding coverage rates and having school feeding as a national budget line item (correlation coefficient=0.2, P=0.077). School feeding is a line item in the national budget in 66 (80%) of the 83 countries with school meal activities that responded to this question. This value was 65% in low income countries. Across the countries with no line item, 15% of primary and secondary school-age children received food through their schools (accounting for differences in population size), while across the countries *with* a line item, this value was 26%.

There was a strong correlation between coverage rates and having school feeding as a national budget line item:

26%

of primary and secondary school-age children received food through their schools in countries with a line item

15%

of children in this age group received food through their schools in countries with no line item

The average school feeding budget per year per child was $160 in countries with a line item and $41 in countries without a line item. On average, these governments also were responsible for a greater share of the total budget (73% in countries with a line item and 37% in countries without a line item). While these differences partly reflect the correlation between having a line item and a country's income level, the same pattern is evident within the set of low income countries. This underscores the importance of government commitment to school feeding, with policy implications for policy makers aiming to increase the rate at which students receive food through their schools.

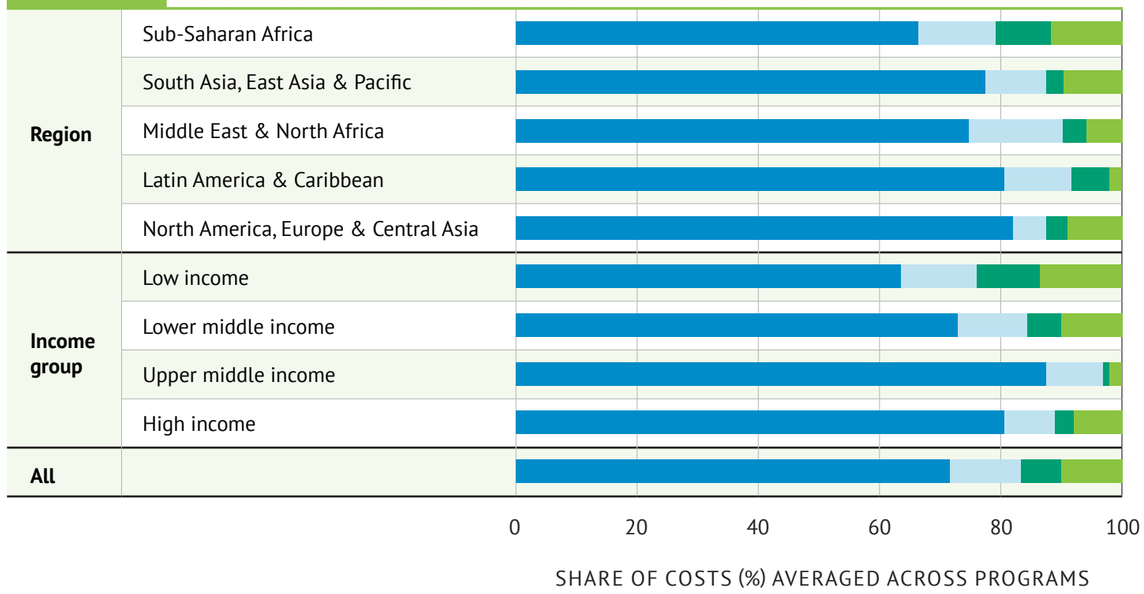
Across the programs captured in this report, funding for the program was part of the national budget in 62% of the cases. It was most common (at 65%) for the Ministry/Department of Finance to decide on the amount of funding within the national budget, although it was also common (at 50%) for the Parliament/Congress/Legislative body to make this decision. The Office of the President/Prime Minister was involved in 26% of the cases.

Some support for school feeding programs also came from student families, as was the case in 92% of the programs captured in this report. Among these, it was rare for families to pay the full price for a meal (at 9.5%), or even a partial price (at 17%), although this was more common in high income countries. For example, student families in Hungary, Tunisia, and the United States sometimes pay the partial or full price, depending on ability; all participating students in the public school canteens program in the United Arab Emirates seem to pay the full price[23]; and school lunches in Saint Lucia were made available at a low price for all students. However, especially in lower income countries, families commonly contributed through in-kind donations, including the provision of home-grown food items, the donation of fuel wood, and the allocation of labor for cooking. Families also sometimes contributed to the cooks' salaries.

On average, among the 89 programs that were able to report a breakdown of their expenditures, 72% of costs went toward food; 11% toward handling, storage, and transportation; 7% toward one-time fixed costs (such as kitchen construction); and 10% toward other expenses (Figure 17).

[23] In the United Arab Emirates, government support for the school canteens program includes paying half of the canteen workers' salaries and funding nutrition awareness activities, though the price of meals is otherwise not subsidized.

FIGURE 17 DISTRIBUTION OF COSTS IN SCHOOL MEAL PROGRAMS



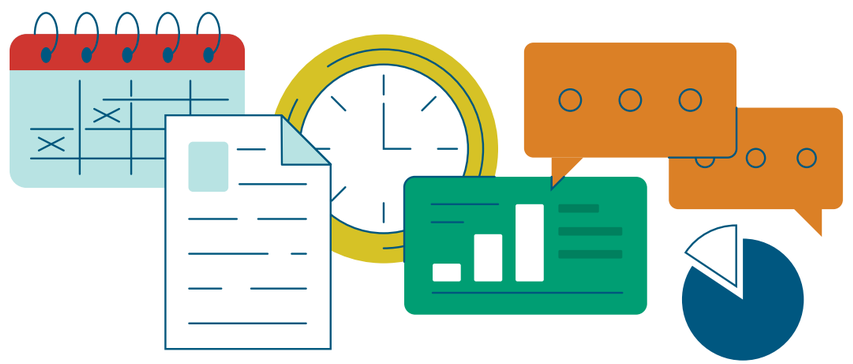
CHAPTER 5

Management and Implementation

The Global Survey of School Meal Programs © aims to track how programs are managed and implemented. Four-fifths of the countries covered in this report have a national school feeding policy, law, or standard (Table 6). It is also fairly common for countries to have a policy related to school feeding regarding nutrition (at 66%). However, just over half of the countries report having a policy regarding food safety, and 33% had a policy regarding agriculture linked to school feeding. Only 11% seem to have had a policy in place related to private sector involvement, although the private sector was reported as being involved in school meal programs in at least 48 countries (or 59%).

TABLE 6 NATIONAL LAWS, POLICIES, OR STANDARDS RELATED TO SCHOOL FEEDING

		% OF COUNTRIES WITH POLICIES RELATED TO SCHOOL FEEDING (BY TOPIC)				
		National school feeding policy	Nutrition	Food safety	Agriculture	Private sector
Region	Sub-Saharan Africa	75	67	44	56	14
	South Asia, East Asia & Pacific	79	79	63	16	11
	Middle East & North Africa	71	29	29	0	0
	Latin America & Caribbean	80	60	60	30	0
	North America, Europe & Central Asia	100	69	77	15	15
Income group	Low income	73	73	35	50	15
	Lower middle income	82	50	54	25	4
	Upper middle income	72	61	67	28	17
	High income	100	92	77	23	8
All		**80**	**66**	**54**	**33**	**11**



The most common management system across the school meal programs captured in this survey was one of centralized decision-making (managed by the national government) (Table 7). Regional and local governments were involved in a (decentralized) management capacity in 20% and 24% of cases, respectively. Often, multiple entities were involved, and some level of government managed the program in 62% of cases. An international donor agency or implementing partner was involved in program management in 35% of the programs; this was the case for half of those operating in low income settings.

In 31% of programs, management had shifted from one level or entity to another; this seems to have been more common (at 54%) in the South Asia, East Asia & Pacific region. In some cases, this took the form of transitioning from management by an implementing

partner toward government management, a pattern also documented by Bundy et al. (2009). For example, in Kenya, the largest school meal program had been operating since 1980, but it became a home-grown school meal program in 2009 when the World Food Program began transferring responsibilities to the government. In Bhutan, school feeding began in 1974 under the World Food Program's management; however, caseloads have gradually been handed over to the government's National School Feeding Program, such that the Government of Bhutan had complete ownership, funding, and management of the program by 2019. Similarly, in eSwatini, school feeding began in 1962 with the support of Save the Children, the World Food Program, and other partners; however, the Government of eSwatini has been primarily responsible for the program since 2010. In the National School Lunch Program of Laos, management responsibilities were expected to shift from the development partner (World Food Program) to the national government in June 2019, and in Guinea-Bissau, while the school feeding program was managed by the World Food Program, the intention is for this responsibility to someday be assumed by the government.

In Mali, in the context of decentralization, Territorial Communities are responsible for managing the schools and the school canteens. Burkina Faso is also undertaking a gradual decentralization of school canteen management, with the transfer of resources to local communities for the establishment of canteens and the procurement of food. In Nepal, however, a prolonged transition to a federal form of government and related decentralization efforts were among the reported recent challenges associated with school feeding.

Among the government ministries, departments, or agencies that might be involved in school meal programs, and across the programs covered in this report, the Ministry of Education (or department/agency) was most commonly responsible for every function, ranging from the request for funding to the provision of clean water to monitoring responsibilities (Table 8). Local and regional government, and the Ministry of Health, were also commonly cited as responsible for inspections and menu design (among other responsibilities) in about one-third of the programs. Interestingly, it was rare for an agency of social protection to be listed as involved, even for the selection of schools.

The various agencies listed by survey respondents worked "mostly together" in 33% of the cases, "sometimes together and sometimes independently" in 49.5% of the cases, and "independently" in 16% of cases. In 79% of the countries covered in this report, there was an inter-sectoral coordination body or committee for school feeding at the national level. In Cambodia, the Home-Grown School Feeding Program reported that numerous entities had a hand in program management. The program was managed at the school level by local authorities; NGO partners offer complementary activities (nutrition, school gardens, etc.); the World Food Program provided technical assistance; and the Ministry of Education, Youth and Sport was responsible for high-level management and coordination, as well as strategy development.

TABLE 7 CHARACTERIZATION OF PROGRAM MANAGEMENT

		SHARE OF PROGRAMS (%)				
		National government managed the program (Centralized decision-making)	Regional governments managed the program (Decentralized decision-making)	Local governments managed the program (Decentralized decision-making)	In transition between centralized and decentralized decision-making (Semi-decentralized)	An international donor agency or other implementing partner managed the program
Region	Sub-Saharan Africa	37	19	25	24	46
	South Asia, East Asia & Pacific	68	24	24	20	20
	Middle East & North Africa	50	17	0	33	33
	Latin America & Caribbean	50	25	38	25	13
	North America, Europe & Central Asia	71	14	21	21	29
Income group	Low income	33	18	24	14	50
	Lower middle income	63	29	26	34	32
	Upper middle income	56	13	31	31	13
	High income	67	8	8	17	17
All		**50**	**20**	**24**	**23**	**35**

TABLE 8 KEY GOVERNMENT DECISION MAKERS RESPONSIBLE FOR FUNCTIONS OF SCHOOL MEAL PROGRAM MANAGEMENT

	% OF PROGRAMS IN WHICH THIS FUNCTION IS THE RESPONSIBILITY OF...							
	Education	Agriculture	Health	Finance	Social protection	Regional government	Local government	Other
Provide clean water	55	4	32	1	4	22	46	21
Conduct inspections	52	15	40	4	4	17	25	24
Decide schools	75	3	1	2	7	30	32	17
Design menu	54	10	33	2	4	12	24	22
Manage bathrooms	61	3	26	1	4	16	44	17
Manage food sourcing	44	12	4	3	5	21	29	27
Manage private sector	27	4	2	3	4	10	20	11
Monitor program	83	15	25	10	9	34	47	28
Request funding	65	7	6	37	12	14	19	15

CHAPTER 6

Health and Nutrition

A large majority of school meal programs (87%) cited the goal of improving students' nutrition among their objectives (Table 9). To promote their health-focused agendas, it was common for programs to involve nutritionists in the program and to provide special training in nutrition for cooks or caterers. Among the 59 programs that reported the contributions of nutritionists, an average of 16 nutritionists were involved. It was most common for these nutritionists to be paid by the national government (in 60% of cases) or by an implementing partner (in 41% of cases), and less common to be paid by regional or local levels of governments (in 14-15% of cases).

87%

of school meal programs cited the goal of improving students' nutrition among their objectives

68%

of programs served fortified foods on the school menu

Sixty-eight percent of programs served fortified foods on the school menu; common fortified food items included oil, salt, grains/cereals (including rice), and corn-soy blend or biscuits. The most common micronutrients added to these fortified food items included vitamin A (included in 34% of all programs and 75% of those with some fortification), iron and iodine (each included in 27.5% of all programs), and zinc (included in 16% of all programs), among other nutrients. In Bhutan, for example, schools that participated in the school meal programs were supplied with fortified oil and rice. It was less common, at 22%, for programs to provide students with micronutrient supplements,[24] and it is even less common for programs to serve biofortified foods (at 12% of programs, spread across 11 countries). Vitamin A-rich orange flesh sweet potatoes were served in Gambia, Malawi, Mozambique, and Nigeria.

[24] Supplements are manufactured pills, powders, or liquids intended to provide vitamins and/or minerals that may otherwise not be consumed in sufficient quantities.

Most countries (65%) reported some limitations on food items that can be provided to students in school feeding programs, and most of these countries (at 87%) attributed the rule to health considerations. (The remaining countries cited religious or cultural reasons). Common examples of prohibited food items included packaged / preserved / processed foods; foods with low nutritional value or high levels of sugar and salt; soda and other foods containing sweeteners; and fried food items. In Trinidad and Tobago, for example, sugar-sweetened beverages have been banned from school cafeterias since 2017.

TABLE 9 PREVALENCE OF NUTRITION-RELATED COMPONENTS OF SCHOOL MEAL PROGRAMS

		% OF PROGRAMS THAT INCLUDE						
		Objective to meet nutritional goals	Nutritionists involved	Fortified foods	Special training in nutrition for cooks / caterers	Objective to reduce obesity	Micronutrient supplements	Biofortified foods
Region	Sub-Saharan Africa	88	65	67	58	9	27	15
	South Asia, East Asia & Pacific	83	64	73	81	23	25	19
	Middle East & North Africa	100	71	50	50	43	33	0
	Latin America & Caribbean	78	100	89	86	44	0	0
	North America, Europe & Central Asia	89	71	56	78	56	0	0
Income group	Low income	90	60	68	62	6	25	15
	Lower middle income	85	71	69	67	21	34	6
	Upper middle income	76	75	74	73	29	7	28
	High income	94	85	53	86	76	0	0
All		**87**	**69**	**68**	**67**	**23**	**22**	**12**

Less than one-quarter of school meal programs listed the reduction of obesity among their goals (Table 9). However, there is a correlation between the prevailing level of child and adolescent obesity in a country (WHO 2017) and the likelihood that school meal programs were viewed as a tool to mitigate obesity (Figure 18). Among countries with low obesity levels (<5%), 20% of programs cited this objective, while among the five countries with especially high obesity levels (>15%), 80% cited this objective. Although it was uncommon for school meal programs to prioritize the reduction of obesity among their program objectives, some did operationalize this goal (Figure 19).[25] Thus, 47% of programs had

[25] In total, 107 programs filled out this question on the survey; these summary statistics refer to the programs for which we have information.

nutritional requirements for food baskets that are intended to address obesity. Nutrition education, health education, food education, and physical education were incorporated in 65%, 53%, 51% and 49% of programs, respectively.[26] Many schools in India also had introduced yoga into the school curriculum.

Less than 25% of programs listed the reduction of obesity as a goal.

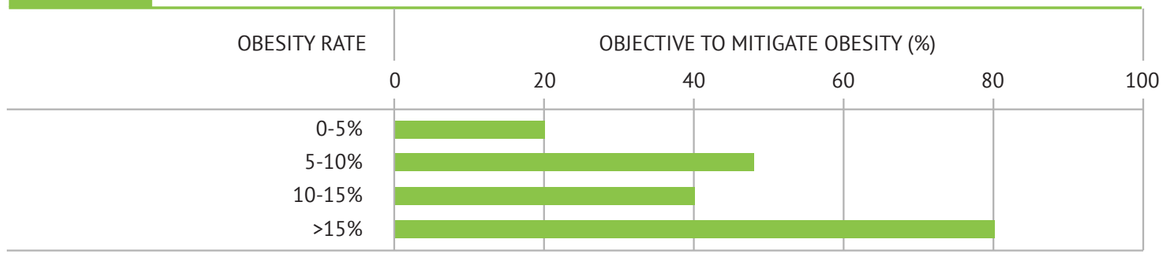
In the United States, the imperative to improve children's food choices and eating behaviors was cited as the greatest challenge associated with school meal programs. Similarly, in Mexico, it was noted that the school environment tends to inhibit progress toward fostering a healthy food culture. However, some countries reported successes on this front. In Greece, it was reported that the number of overweight and obese children (as well as the number of underweight children) has decreased in schools where the Food Aid and Promotion of Healthy Nutrition Program (DIATROFI) is implemented, and in Hungary, fewer school kitchens now employ the traditional practice of frying food items in fat.

A few programs (in Bangladesh, Burkina Faso, Mongolia, and Namibia) acknowledged that obesity was a local problem even though they did not report specific actions being taken to address it. On the other hand, 23% of the programs reported that obesity was not considered a problem and that there was no need for efforts aimed at mitigation. These were found in Cameroon, Chad, China, Ethiopia, Laos, Libya, Malawi, Mali, Nepal, Nigeria, Sierra Leone, South Sudan, Sudan, Timor Leste, Uganda, and Yemen. Across these countries, the rate of child/adolescent obesity ranges from 1.1% to 14.6% (average = 4.2%). (Ref note in Figure 8).

The entities responsible for nutrition-related efforts within school meal programs varied across the 85 countries. In Côte d'Ivoire, the National Nutrition Council (CNN), attached to the Prime Minister's Office, coordinates all nutrition-related activities in the country. In Bangladesh, the government received support from the World Food Program to identify nutritional requirements for school meals. In Cambodia, World Food Program nutritionists provided technical support both through analysis of the food basket and design of the Social Behavioral Change Communication activities. Cooks and caterers frequently received some training related to health and nutrition. Thus, 81% of programs reported that they offer training in food safety/hygiene, 67% offer training in nutrition, 58% offer training in portions/measurement, and 55% offer training in menu planning. (Additional training is sometimes offered in business/management, as well as cooking skills and food preservation and processing).

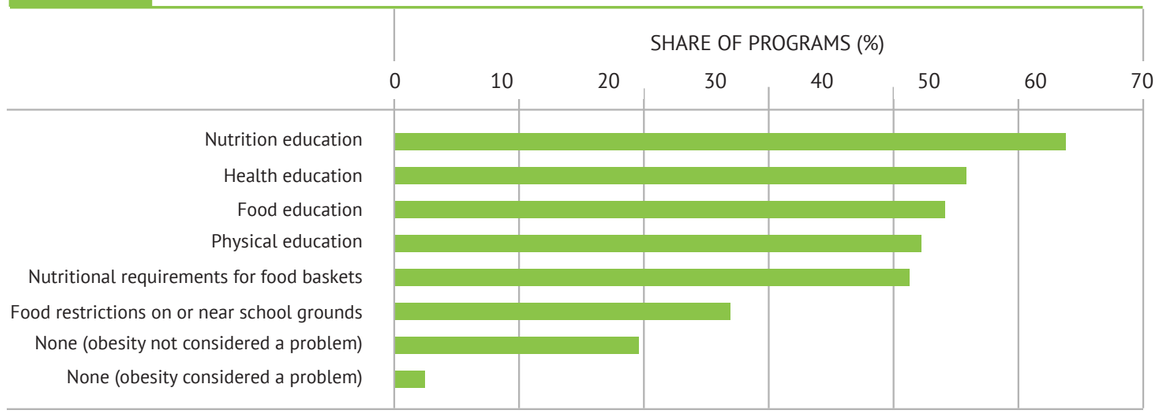
[26] Food education is focused on facilitating the consumption of food that contributes to one's health and well-being. Nutrition education is closely related but is focused on nutrition and nutrition-related behaviors.

FIGURE 18 LEVEL OF CHILD AND ADOLESCENT OBESITY AND FREQUENCY OF SCHOOL MEAL PROGRAM OBJECTIVES TO MITIGATE OBESITY



Note: Information on obesity rate reflects the year 2016 (source: WHO 2017). This value represents the prevalence of obesity among children and adolescents among children ages 5-19 years.

FIGURE 19 APPROACHES TO MITIGATE OVERWEIGHT/OBESITY



Noting that school feeding is but one component of school health, and that the effects of school meals are mediated by other aspects of health (Bundy et al. 2018), the Global Survey of School Meal Programs © also gathered information on complementary health programs and services offered in schools. It is common for school meal programs to be paired with complementary services or programs related to health or hygiene (Figure 20). Across the programs covered in this report, 97% incorporated handwashing into the school feeding activities. (Handwashing with soap was reported as mandatory in 74% of the countries from which this information was gathered). The provision of potable drinking water was the next most common accompaniment to school meals (in 83% of programs), followed by deworming treatments (in 61% of programs). Menstrual hygiene programs were available with 29% of school meal programs, while other services such as dental cleaning or eye testing were offered less often. It is noteworthy that the rate at which a service was reported as mandatory tracks closely with the rate at which it was cited as being offered, indicating that policy is a driver of complementary programming.

FIGURE 20A **PREVALENCE OF COMPLEMENTARY SERVICES**

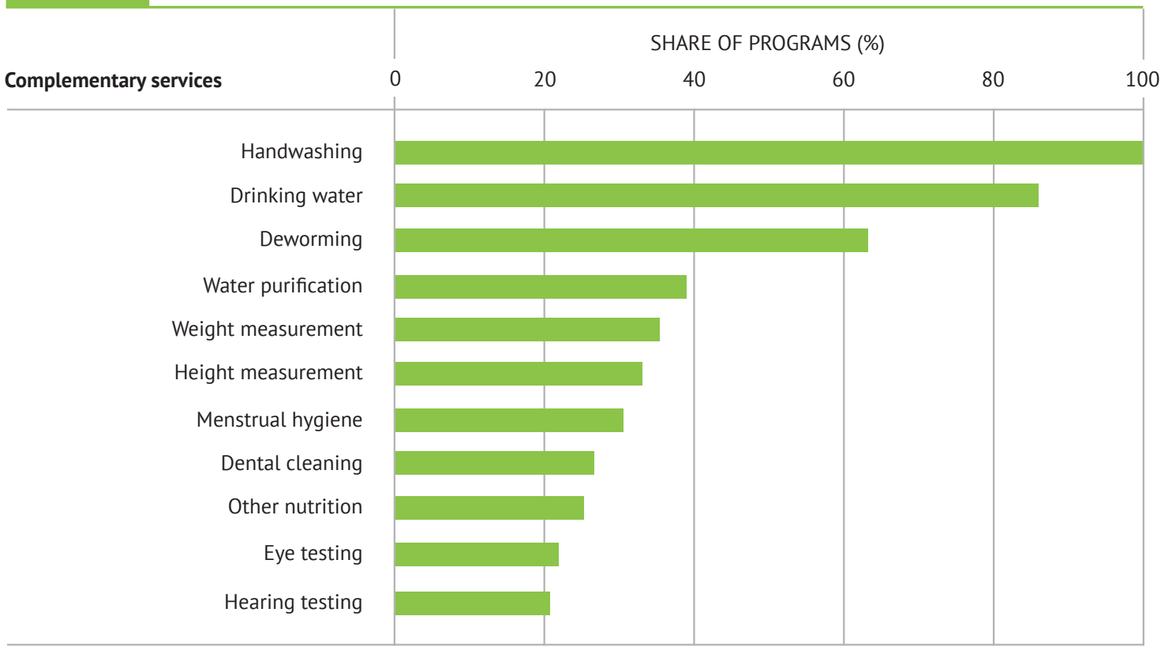
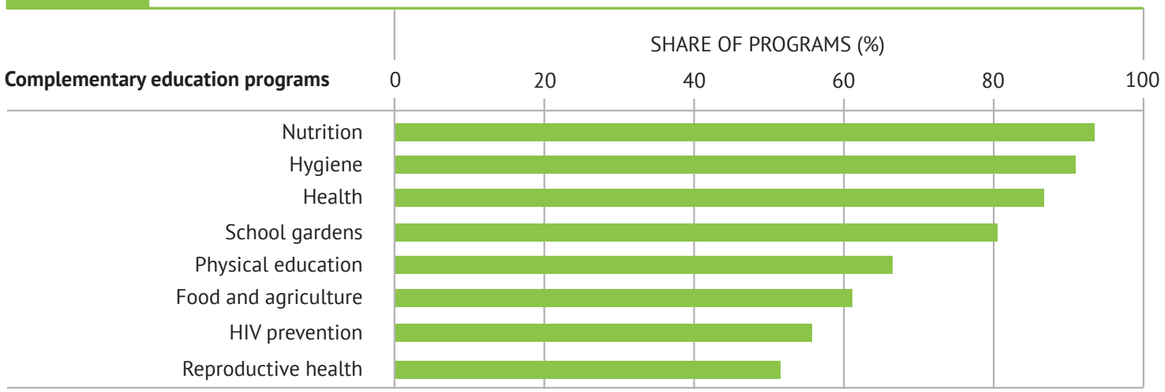


FIGURE 20B **PREVALENCE OF EDUCATION PROGRAMS**



It is similarly common to find complementary education programs offered within the school feeding "package" (Figure 20). Thus, 91% of programs reported that they offered nutrition education. Note that the structure and curriculum of these programs can vary a great deal, such that their impact is likely to be very context-specific. Over three quarters (78%) of school meal programs were paired with school gardens. Among the 77 programs that included school gardens, the garden products were consumed by students in 95% of the cases and are also sold in 44% of the cases. In Tunisia, a common arrangement is for one-third of garden production to be used in the school meals program, while the remainder is sold.

CHAPTER 7

Infrastructure

As will be discussed in **Chapter 11: Successes and Challenges**, a lack of adequate infrastructure sometimes presents a challenge to the functioning of school meal programs. Two-thirds of the countries that responded to this section reported that all or most schools have clean water, while 8% reported that few or no schools had clean water. The likelihood of finding clean water in schools rises incrementally with higher wealth levels (Figure 21). All or most schools had cafeterias or other dedicated eating spaces in 31.5% of the countries, while 42% reported that very few or no schools had cafeterias. Just over one quarter of the countries reported that very few or no schools had electricity. Again, the likelihood of finding cafeterias or electricity in schools increases with rising wealth levels. Specifically, among low income countries, 65% reported that very few schools had electricity; this has implications for the ability of schools to refrigerate or preserve food items.

65% of low income countries that responded said very few schools have electricity, with implications for the preservation of food.

Gender-private latrines or toilets in schools (i.e., separate facilities for girls and boys) are especially important for the retention of female students, and this becomes even more important when girls reach the age of puberty. Across the 76 countries that responded to the survey question on this topic, 67% reported that all or most schools had gender-private facilities, 26% reported that this was the case in some schools, and 7% reported that very few or no schools had such arrangements. As with other amenities, gender-private toileting facilities are less common in lower income settings.

Across programs, most school meals or snacks were prepared on school grounds, with an average of 85% of the schools in these programs having on-site kitchens. In addition, 20% of programs brought in food from off-site private kitchens, and 12% prepared food in centralized (not private) kitchens (Figure 22). The Breakfast Program in Guyana is an example of the latter. In some settings, the absence of on-site infrastructure stems from an explicit policy choice in favor of off-site preparation. Meanwhile, 11% of programs reported that they only served food items that were purchased in processed form and require no preparation. An example is the School Feeding Program in Poverty Prone Areas in Bangladesh, which serves high-energy biscuits purchased in processed form. These are centrally procured by the Directorate of Primary Education from enlisted biscuit manufacturers and delivered to primary schools by various NGOs. Overall, however, the provision of processed food items is more common in higher income settings. Few programs seem to distribute food items in unprocessed form.

Across programs with kitchens, the typical kitchen in almost all (89%) programs had utensils for serving and eating, as well as storage facilities (89%) (Figure 23). Many programs noted that they include both open and closed kitchen setups, though open cooking areas were much more common in lower income countries. Among the 72% of programs that use charcoal/wood stoves, students were expected to provide fuel in 46% of the cases. In Burundi, it was cited as a challenge to find clean energy for cooking, while in Chad, improved stoves are promoted for use in school canteens in order to combat environmental degradation. In low income settings, it is uncommon for typical kitchens to have electricity, refrigeration, or gas or electric stoves. In some cases, the presence or absence of amenities is a key determinant of how students received food. Thus, in Kyrgyzstan, while 215,000 school children received hot meals, another 380,000 students received basic buns and tea as a snack because their schools do not have adequate kitchen infrastructure to independently prepare hot meals.

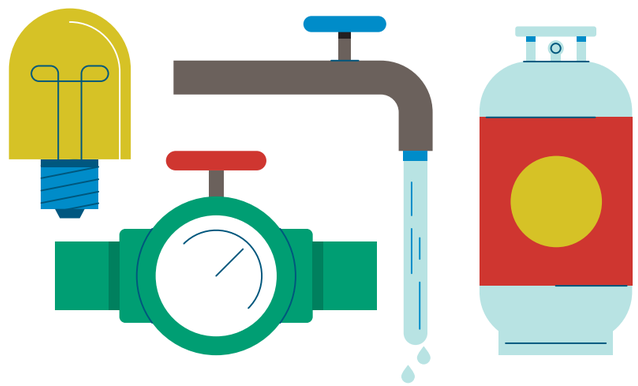


FIGURE 21 PRESENCE OF SCHOOL INFRASTRUCTURE

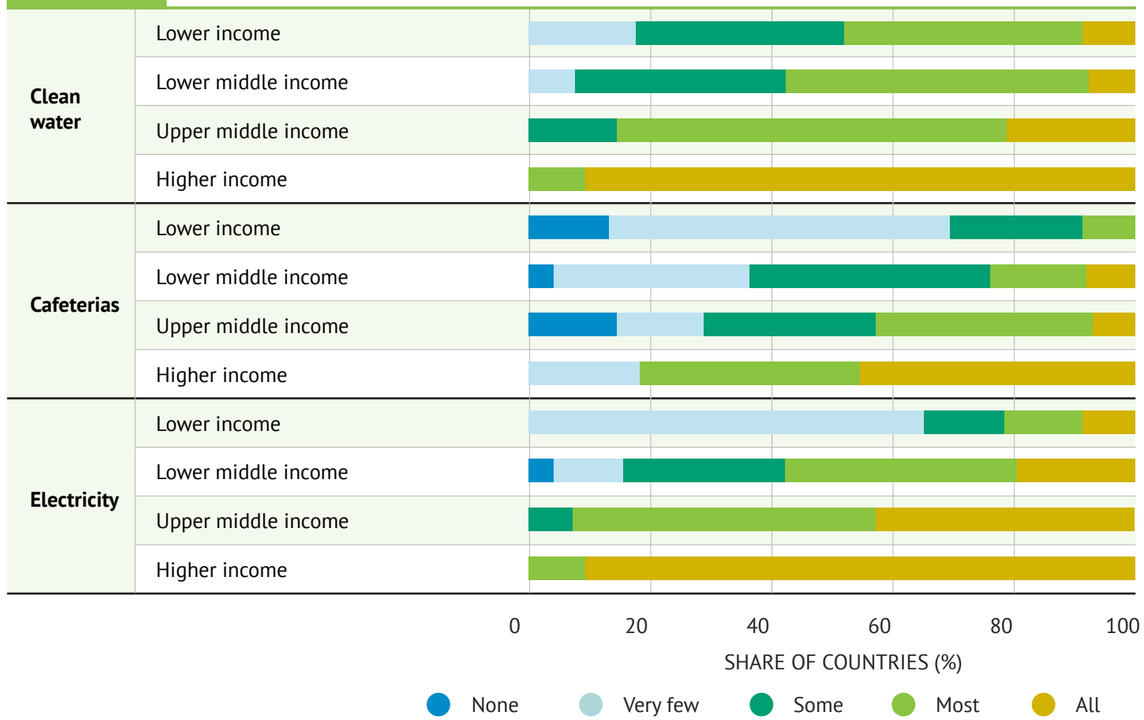
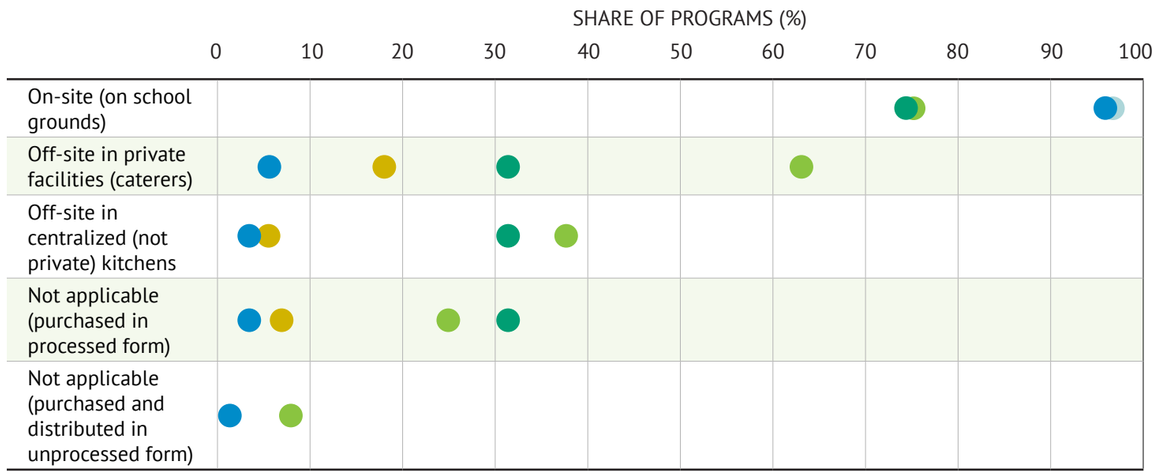
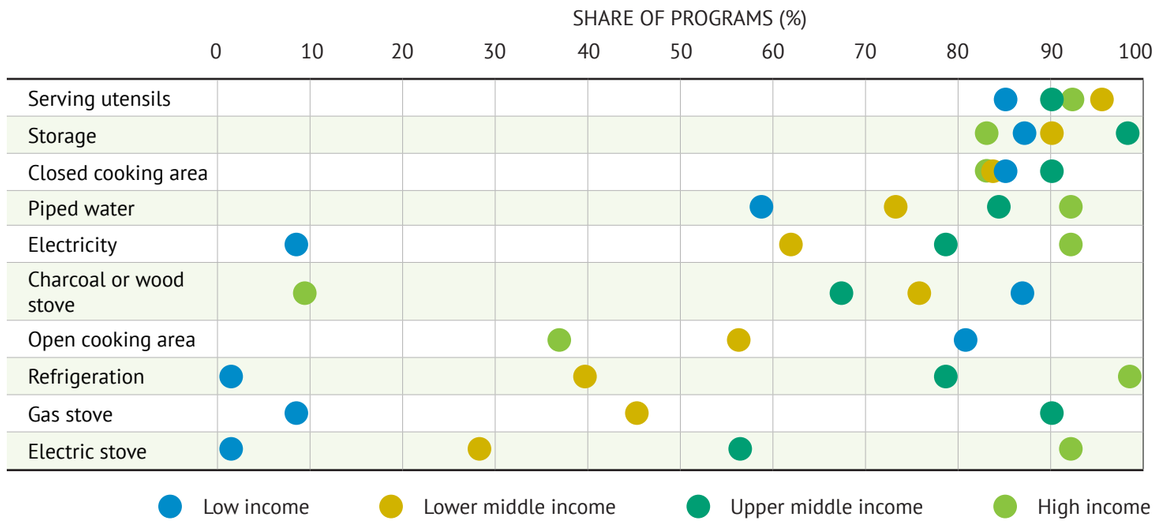


FIGURE 22 LOCATION OF SCHOOL MEALS/SNACKS PREPARATION



Note: These values do not sum to 100% as each program could list multiple locations.

FIGURE 23 KITCHEN AMENITIES



Over four-fifths (82%) of programs reported that they have a mechanism to limit food waste. Among these, the most common steps taken include the use of sealed storage and pest control (at 73% and 61%), while it was less common to use nearly expired food items (at 41%). Very few of these programs reported that they make use of usable but "imperfect" commodities or produce (at 11%). This latter fact may, in some settings, represent a missed opportunity for reducing food losses. Finland pairs its Kouluruokailu school meal program with a marketing campaign to reduce how much food is discarded. Some two-thirds of programs (66%) have a mechanism for limiting packaging waste. Among these, it is most common to reuse bags or containers (81%), but less common to recycle or use compostable materials. As an example, in Bangladesh, biscuit cartons used in the biscuit-based school feeding program are commonly sold and re-used at the local level.

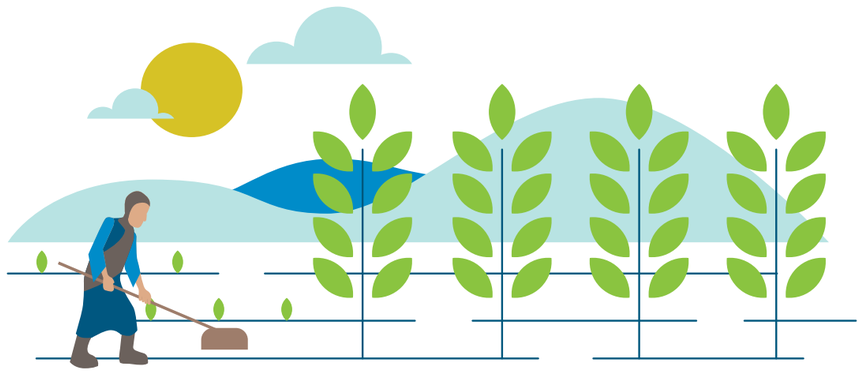
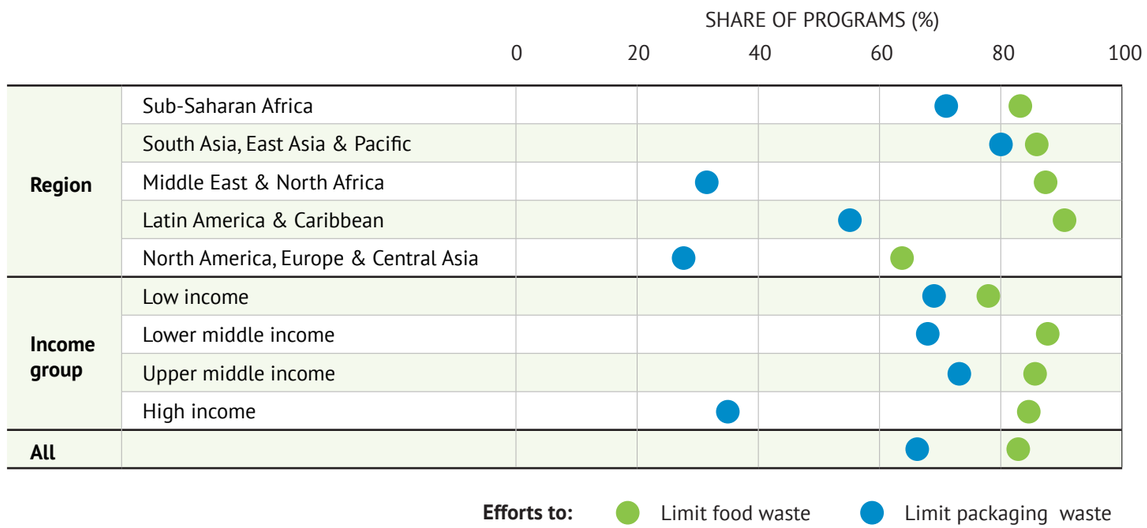


FIGURE 24 EFFORTS TO LIMIT FOOD WASTE OR PACKAGING WASTE



CHAPTER 8

Agriculture, Employment, and Community Participation

School meal programs often aim to reinforce the rural economy through the local purchase of food items or more direct engagement with farmers. Among the programs captured here, 43% reported involving farmers directly in some manner in school meal operations (Table 10). Not surprisingly, programs whose objectives included meeting agricultural goals were more likely (at 71%) to directly involve farmers, while this value was 28% among programs without an explicit agricultural objective. Engagement with farmers was most common in the Latin America & Caribbean region (at 64% of programs) and least common in the Middle East & North Africa, where no program reported direct engagement with farmers.

Among programs that involve farmers directly, it was more common for small farms to receive targeted support (Figure 25). This does not necessarily imply that small farmers are more likely to provide food for the school feeding program, but rather that there is an effort to assist them to become involved. Over three-quarters (77%) of these programs offered agricultural extension to small farmers, 52% offered training related to school feeding, and 60% provided agricultural subsidies, including inputs. It was less common for these programs to implement purchase agreements (at 44%) or offer mobile or electronic payments (at 20%).

Survey respondents recounted numerous instances of farmer engagement. Farmers in Nigeria receive subsidies, extension, and mobile or electronic payments, and small-scale farmers receive preferential treatment in the program's competitive procurement processes. The World Food Program's Purchase for Progress (P4P) model is employed in the Democratic Republic of the Congo, with competitive procedures and forward contracts for commodity purchases that ensure smallholder farmers can participate. In Lesotho, trainings for youths are led by the Ministry of Agriculture and Food Security with a focus on meeting the needs of the school feeding market. In Brazil, both small- and medium-scale farmers are involved in the National School Feeding Program by selling directly to the program. They receive support in the form of agricultural subsidies, extension, mobile or electronic payments, school feeding-specific training, and purchase agreements set prior to harvest. In the United States, the "Farm-to-School" program forges links between individual schools and local producers and brings fresh food into school cafeterias.

The private sector was also reported to be involved in some manner in school meal operations in 36% of the programs. For example, the National School Nutrition Program (NSNP) in South Africa is supplemented by private sector (in-kind) investments in school breakfasts. Private sector engagement seems to be incrementally more common at lower income levels (Table 10). Among programs reporting private sector engagement, it was most common for national-scale companies to be involved (in 75% of the cases), rather than those operating at a subnational level (in 42% of the cases) or a larger (multi-country or global) scale. The dominance of companies that operate at a national or subnational scale was found across all activities associated with school feeding (Figure 26). Among the programs in which private sector companies are engaged, they were most often reported to be involved in transport and the supply of utensils (in 38% and 30% of the cases), but somewhat less likely to be involved in food trading, food processing, or catering.

TABLE 10 INVOLVEMENT OF FARMERS AND THE PRIVATE SECTOR

		Farmers involved (%)	Private sector involved (%)
Region	Sub-Saharan Africa	49	40
	South Asia, East Asia & Pacific	46	36
	Middle East & North Africa	0	38
	Latin America & Caribbean	64	31
	North America, Europe & Central Asia	8	27
Income group	Low income	46	40
	Lower middle income	41	36
	Upper middle income	58	34
	High income	14	32
All		**43**	**36**

FIGURE 25 TYPES OF SUPPORT PROVIDED TO FARMERS (AMONG PROGRAMS THAT ENGAGE WITH FARMERS)

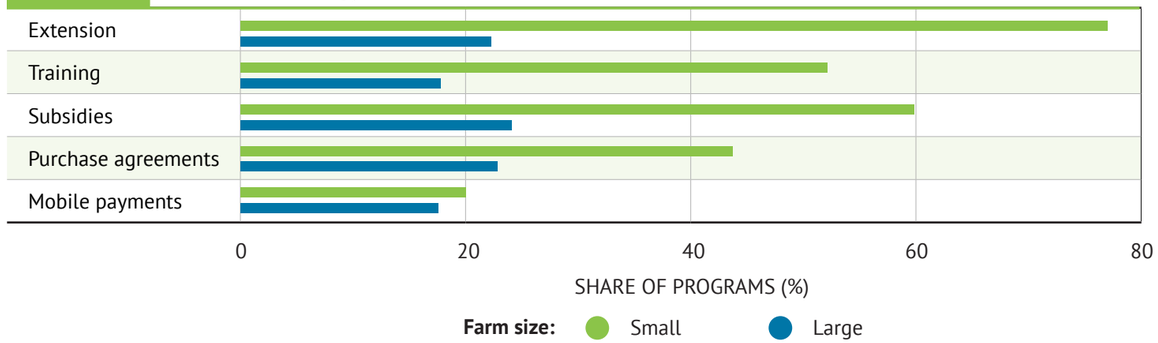
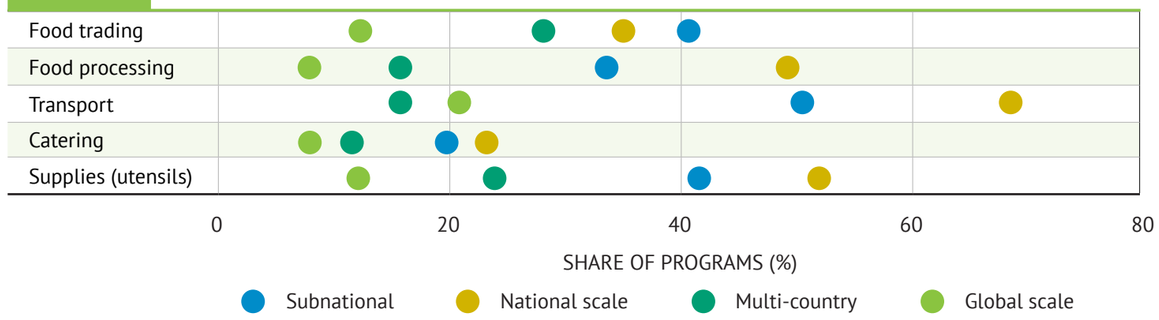


FIGURE 26 ENGAGEMENT OF PRIVATE SECTOR ACTORS IN SCHOOL FEEDING



Cooks and food preparers are overwhelmingly female: Over three-quarters of the cooks were women in 78% of the school meal programs that answered this question, and over half were women in 86% of the programs. Eighty-eight programs were able to report on the number of cooks (including paid and unpaid workers) who were involved in the school meal activities. Among these, the median value was 1,210 cooks per program, and the mean value was 41,695 cooks (with large outliers at the high end in the larger school meal programs, such as India). However, 31% of programs reported that very few or no cooks received payment for their work, and it was most common for cooks to work on a volunteer basis in low income countries.

31%

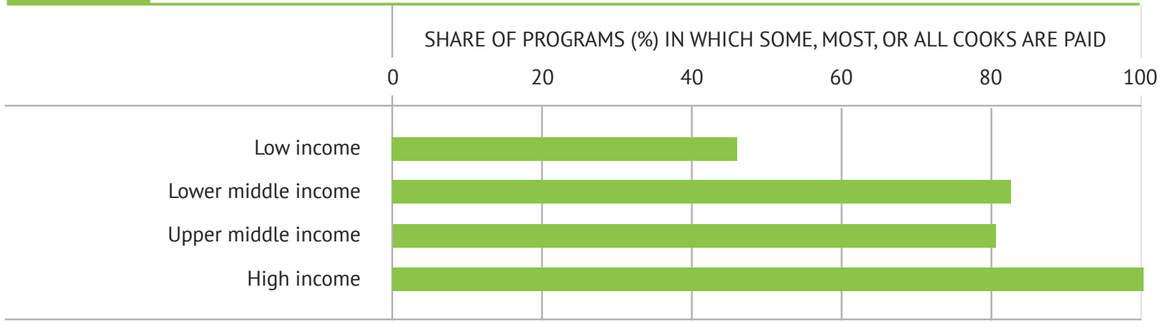
of programs reported that very few or no cooks received payment for their work

78%

of programs reported that 75% or more of food preparers are women

Specifically, 53% of programs in low income countries reported that very few or no cooks received payment, while this value was zero among the high income countries (Figure 27). Among those cooks that did receive payment, they were paid in cash (in 76% of the cases) and in kind (in 33% of the cases).[27] It was about equally common for these payments to come from the local community (in 44% of the cases) and the national government (at 40%). An implementing partner was cited as the source of cooks' payments in 20% of cases.

FIGURE 27 RENUMERATION OF COOKS ACROSS INCOME GROUPS



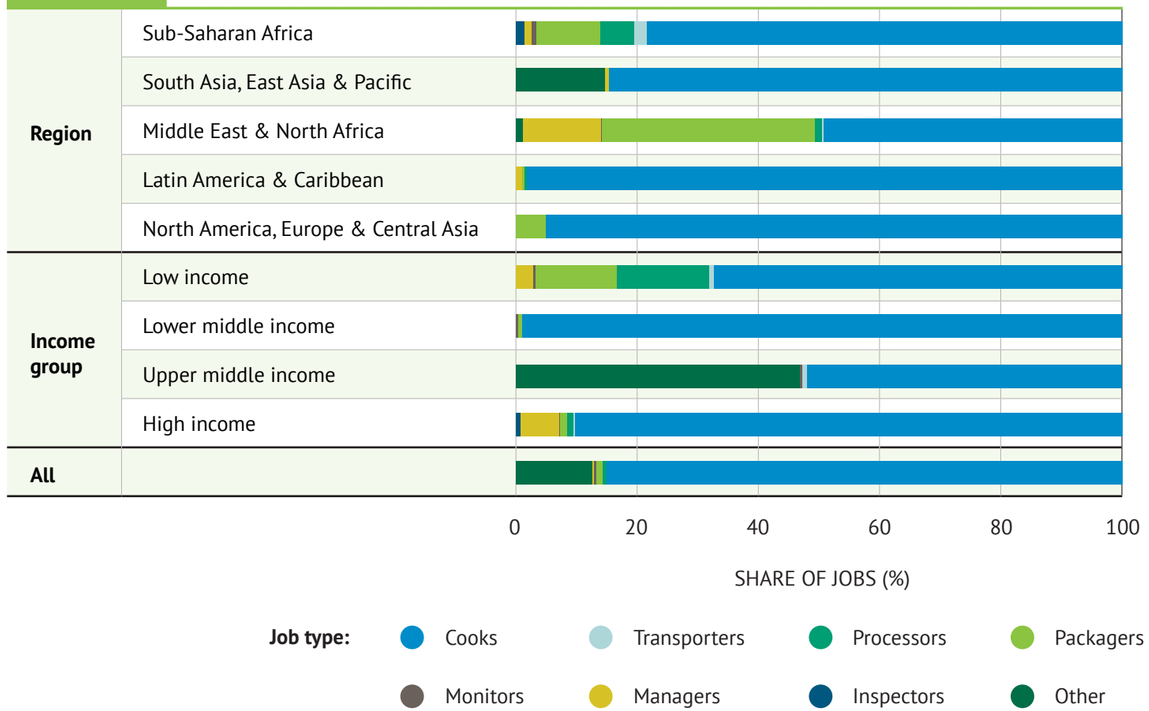
[27] Twelve programs report paying their cooks both in cash and in kind.

Survey responses reveal a wide diversity in how cooks are remunerated. Thus, in Moldova, all cooks received a salary paid for by the national and local governments. Nigeria reported that cooks have individual bank accounts and are paid via bank transfer. In Nepal, most cooks are school assistants who are paid a bit more by the government, school, or community to expand their responsibilities. In Indonesia, cooking groups receive a percentage of the budget per student meal, to be divided among the group members. In the Republic of the Congo, cooks are not paid (either in cash or in-kind) but are provided training. In the Central African Republic, Madagascar, and Malawi, most cooks are women, and few or none are paid.

A focus on creating jobs or leadership opportunities for women was reported in 67% of the programs, for youths in 30% of the programs, and for other groups (such as indigenous groups) in 32% of the programs. In Côte d'Ivoire, the Integrated Program for Sustainable School Canteens has established micro-agricultural projects linked to school canteens and led by women's groups, with 70% of the production sold to benefit these groups. In Niger, priority in hiring cooks is given to women; women's groups receive training in self-reliance and capacity strengthening; and food purchases are sometimes made from women farmers' organizations. In Senegal, school meal programs support women for leadership positions in the parent-school committees; in Cambodia, each school support committee contains at least one woman; and in Laos, the Lao Women's Union at the village level leads the daily cooking for the National School Lunch Program. In Burundi, women comprised 60% of the cooperatives from which cereals and pulses were purchased, and gender balance on the cooperatives' boards is a requirement. Most employees of Iraq's National School Feeding Project are women.

In Kyrgyzstan, the food storage system of the School Lunch Program is under the responsibility of village youth organizations. In Nigeria, employment opportunities related to the school meal program exist for women (as cooks and aggregators) and also for youths (as program monitors). Youths in Niger are engaged in school gardening and animal husbandry linked to the school meal programs, and youths in Zambia are encouraged to form groups and undergo skills trainings in agricultural value and supply chains prior to being provided with soft loans associated with the school meal program. In China, efforts are also made to employ people with disabilities.

FIGURE 28 DISTRIBUTION OF JOB TYPES ASSOCIATED WITH SCHOOL MEAL PROGRAMS



In total, 58% of programs were able to provide estimates of the number of paying jobs created around their school feeding operations. Thirty-two countries were unable to provide any job numbers. Given that not all programs could provide estimates, country-level aggregations for the number of jobs in school meal programs are necessarily a lower bound estimate. Estimates for the number of jobs at the country level, disaggregated by the type of job, are provided in Table A3 in Annex A. In most countries, the most common job associated with school meal programs is the category of cooks and food preparers. In fact, when aggregating the number of jobs across all countries that reported numbers, 85% are of cooks and food preparers (Figure 28). One exception is Bangladesh, with a school feeding program built largely around factory-produced biscuits that require more off-site processors than cooks. Cooks claim an especially large share of the jobs in the Latin America & Caribbean region, while packagers are more prevalent in the Middle East & North Africa region.

There was community engagement with school meal programs in

86.5%
of programs

90%
of countries

There was community engagement (among parents or others) with school feeding programs in 86.5% of the programs and 90% of the countries. In 13% of the cases, such engagement was only voluntary (not required). In Kenya, students' parents provide water, firewood, and utensils and are encouraged to assist with kitchen construction. In Mauritania, parents cover some of the cooks' wages and the costs of supplemental food items. In Niger, parents specifically provide food in the event of a break in the food supply. In Sierra Leone, community members provide local materials and/or labor to construct kitchens, latrines, and storage facilities. In 43% of the programs covered in this report, students themselves participate in the operation by preparing food, serving food, or cleaning up.

In Guatemala, parent organizations in the schools are responsible for food purchase decisions, preparing and distributing food, and overseeing/monitoring the program. Among other goals, this is intended to improve the nutritional quality of the school meal menu. Along these lines, in Liberia, the Parent-Teacher Associations are encouraged to pay the cooks and contribute condiments for food preparation in schools. In Switzerland, school catering activities are partly run by parent associations.

Civil society was reported to be actively involved in school feeding in just under half of the programs. In Bangladesh, the school feeding program includes an essential learning package, in which one focus area is Social and Community Mobilization Activities for implementation and monitoring of the program. Similarly, in Benin, national NGOs and facilitators are used for community mobilization and engagement, and civil society groups help with the formation of school canteen management committees and program monitoring. In Togo, civil society takes an active part by providing the schools with resources and periodic oversight. In Tunisia, a set of national non-governmental

organizations and rural women's development groups have been identified to participate in the establishment and management of school gardens. A School Feeding Council in Brazil—comprised of civil society representatives, teachers, parents, and students—oversees the transfer of public resources by the National Fund for the Development of Education for the purchase of food for school meals.

CHAPTER 9

Monitoring and Evaluation

A country-wide system for monitoring school feeding programs was reported in 88% of the countries covered in this report. Among the countries with a national system in place, 100% incorporated school visits in their monitoring system, 89% also relied on paper-based reporting, and 64% used electronic means of monitoring. Across most methods, it is common for monitoring to be done on a monthly or quarterly basis, although electronic monitoring (as with data entered on a website) was also done on a continual basis in some cases (Table 11). For example, Namibia maintains a system of data capture through the Namibian School Feeding Information System (NaSIS)–though consistency in data entry remains a challenge. Among government agencies, it was most commonly reported that the Ministry of Education was responsible for monitoring, although regional and local governments were also involved. In 17% of cases, another entity, such as the World Food Program, was reported as responsible for monitoring.

TABLE 11 **FREQUENCY OF MONITORING OF SCHOOL MEAL PROGRAMS**

	Share of programs (%)				
	Annually	Biannually	Quarterly	Monthly	Other
School visits	7	12	25	50	20
Paper-based	17	7	34	51	20
Electronic	22	7	20	49	33
Other	17	0	22	21	53

Systematic record keeping within the school system is an important component of (and requisite for) monitoring and evaluation. Across the countries covered in this report, student enrollment was recorded in 100% of the national education systems, while attendance was being tracked in 95% of the systems. Gender-disaggregated data were collected for enrollment in 89% of the countries and for attendance in 81% of the countries that recorded attendance. Student achievement was being tracked in 97% of the

countries, with achievement very often monitored through achievement tests, progression from one grade to the next, and graduation rates. Furthermore, data on student achievement are reportedly disaggregated by gender in 81% of the countries. Countries said they are often, but not always, able to link measures of achievement to individual students who received school feeding.

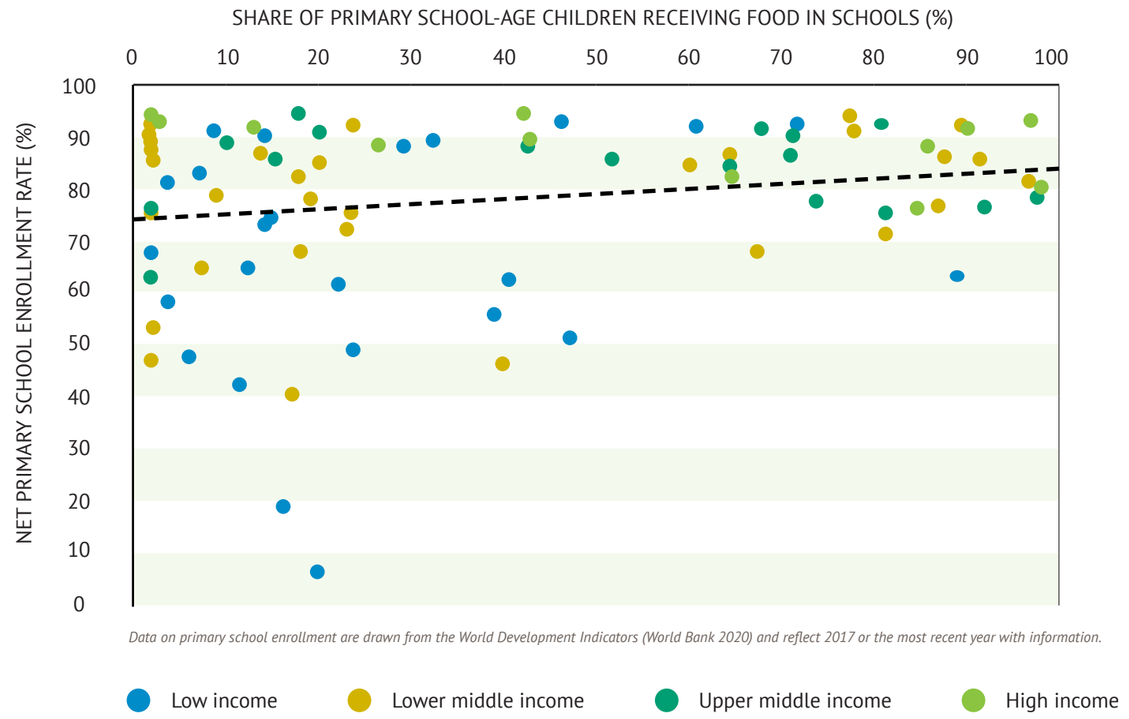
A cross-country analysis of the data collected in the Global Survey of School Meal Programs © reveals a positive and statistically significant correlation between primary school feeding coverage rates and net primary school enrollment rates (Figure 29). In a regression that controls for region and gross domestic product (GDP) per capita, each additional percent of the primary school-age population that receives food through schools is associated with an additional 0.07 percentage points in the country's primary school enrollment rate (P-value = 0.04). A parallel analysis reveals a positive (though not statistically significant) correlation between the share of enrolled primary school students that benefit from school meal programs and the rate of primary school completion. Yet another regression reveals that the Gender Parity Index at the primary school level (i.e., the ratio of girls to boys enrolled in primary schools) is positively correlated with the share of the primary school-age population that receives food through schools, and this positive relationship is statistically significant specifically among low income countries (Coefficient = 0.1, P-value = 0.09). While these correlations should be viewed as descriptive (as they do not account for the manner in which governments that are most supportive of school feeding programs may also have superior education programs), they indicate the potential for more empirical evaluations of school meal programs.

Almost all school meal programs captured in this report (with the exception of Vietnam) were able to report some student numbers. These numbers did not always align perfectly across different parts of the survey, suggesting that there is room for improvement in how data are gathered and stored. At the same time, just 52% of programs were able to report at least some student numbers disaggregated by gender.

Only 52% of programs were able to report numbers disaggregated by gender.

One key area in which focal points (survey respondents) had difficulty completing the Global Survey of School Meal Programs © was around the number of jobs associated with school feeding. As noted in **Chapter 8: Agriculture, Employment, and Community Participation**, just 58% of programs were able to provide employment numbers. This seems to be an area of weakness in record keeping and centralized data collection regarding school feeding in these countries.

FIGURE 29 **SCHOOL FEEDING COVERAGE AND PRIMARY SCHOOL ENROLLMENT RATES**



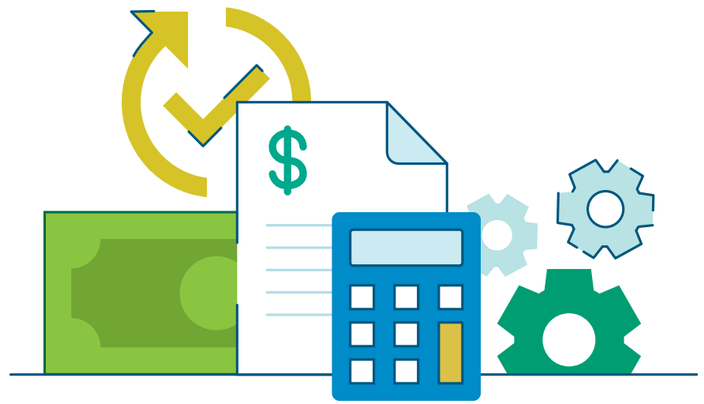
Data on primary school enrollment are drawn from the World Development Indicators (World Bank 2020) and reflect 2017 or the most recent year with information.

CHAPTER 10

Program Sustainability

Across the programs captured in this report, there were some promising indications of program sustainability, with secure funding streams and growing government engagement or ownership of the program. Many of these points were noted in earlier sections. At the same time, there were also indications that programs in lower income countries are vulnerable to shocks, such as conflict or weather events, and were not yet able to meet their targets, such as the number of students receiving food through schools.

The share of funding for school meal programs provided by national, regional, and local governments varies across income groups. The average value is 29% in low income countries, though this increases to 71%, 96%, and 86% in lower middle income, upper middle income, and high income countries. Even among low income countries, there was strong dispersion in the share of government funding; just over half of low income governments in the data set provided up to 25%, while 12.5% contributed over 75% of the budgeted cost of school meal programs in their country. Another indication of program stability is the inclusion of school feeding as a line item in the national budget, and this was the case in 80% of the countries with school feeding activities covered in this report. For example, school feeding was included as a line item in eSwatini, where the stability of a consistent budget was specifically cited as a strength of their school meal program.



Government involvement, particularly in a managerial role, in school feeding is another indicator of program sustainability. As noted in **Chapter 5: Management and Implementation**, most countries reported having a national school feeding policy, law, or standard, and it was fairly common for some level of government to manage a school feeding program, including in low income and lower middle income countries. Within this subset, the national government was involved in 46% of programs, regional governments were involved in 23% of programs, and local governments in 25% of programs. At the same time, implementing partners were also very involved, managing (whether solely or jointly) 42% of the programs operating in lower income settings.

When school meal programs create jobs in the communities in which they operate, it can be considered an indicator of program sustainability, increasing the likelihood that the program will be maintained and supported by government. Across the 85 countries with large-scale school feeding activities that responded to the survey, over four million jobs were noted as being linked to school meal activities. Given the under-reporting of jobs numbers, this is surely an under-estimate.

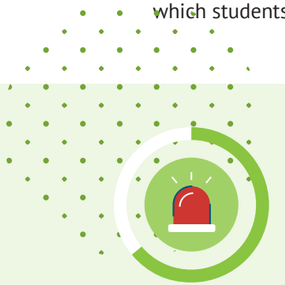
Over four million jobs were linked to school feeding across 85 countries (and given under-reporting of jobs, this is surely an under-estimate).

Another indicator of program sustainability is the procurement of food through avenues other than in-kind donations (Bundy et al. 2009, p. 45). As discussed in Chapter 3: Food Basket and Food Sources, 85% of programs acquired some food items through purchase, whether domestic or foreign. At the same time, 56% of programs and 64% of countries received some food through in-kind donations. In low income settings, 70% of programs and 92% of countries received in-kind donations. This may be less sustainable than a market-based procurement strategy, as it leaves the programs vulnerable to foreign aid shocks or at the mercy of private sector donors.

A large majority of the school feeding programs reported that they either achieved their targets or "mostly achieved" their targets across several goals (Table 12). The other options were to report that the goals were "slightly achieved" or not achieved. Thus, 87-88% of programs mostly achieved their goals for the numbers of students and schools receiving food, and 88% mostly achieved their goals for the ration size given to each student. However, 29% of programs were not satisfied with the level of food basket variety, and it was more likely for programs to miss their food diversity targets in low and lower middle

income countries, especially in the Middle East & North Africa. Programs in this region, some of which reported serving date-filled bars/pastries as an in-school snack, were also least likely to meet their target for ration size. This indicates that programs are not entirely stable and/or have room to improve.

Compared to one year earlier, 70% of these countries reported either having maintained student numbers or experienced growth in the size of their school meal programs in the most recently completed school year. This, too, can be considered an indication of program sustainability. However, several countries in West and Central Africa also experienced marked declines in the number of students reached. These countries identified insecurity, violent conflict, and weather shocks as impeding their ability to reach students and maintain their access to food through the schools. For example, the Republic of the Congo reported that a recent financial crisis had led to insufficient funding for the school feeding program. Both the financial situation and a bout of post-electoral violence meant that the frequency with which students received food was reduced.



63.5% of the surveyed countries were affected by some type of emergency in the most recently completed school year.

Across the countries covered in this report, 63.5% reported that they were affected by some type of emergency in the most recently completed school year. Twenty-six percent were affected by a slow-onset emergency, such as drought, and 27% were affected by a natural disaster or conflict (Table 13). Among the countries with emergencies, 32% reported that the emergency did not impact the school feeding programs. However, emergencies caused a decrease in the number of students receiving food in 33% of the cases; a decrease in the feeding frequency in 31% of the cases; and a decline in the level of food basket variety in 20% of the cases. It should be noted that emergencies can also result in an increase in the number of students receiving food wherever the school feeding program serves as an effective safety net. Thus, the coverage rate increased after floods and tornados in Uruguay; after drought in northern Uganda; after an influx of immigrants in Colombia; and after conflict in the Central African Republic. In Botswana, a drought and an economic crisis meant that fewer children were fed through their schools, but those who were affected received more robust rations.

Some countries reported that emergencies have impacted their targeting approach or the modalities through which food is delivered, and 18% of countries that experienced an emergency noted that some school feeding operations ceased in response. Sixty percent of the 63 countries that responded to this section of the survey reported that they have preparation measures in place related to school feeding for future emergencies.

TABLE 12 ACHIEVEMENT OF TARGETS IN SCHOOL FEEDING

		SHARE OF PROGRAMS (%)					
		Feeding frequency	Level of food basket variety	Number of school levels receiving food	Number of schools receiving food	Number of students receiving food	Ration size
Region	Sub-Saharan Africa	76	64	82	80	85	86
	South Asia, East Asia & Pacific	96	75	91	92	88	91
	Middle East & North Africa	80	57	60	86	71	71
	Latin America & Caribbean	100	100	86	100	100	100
	North America, Europe & Central Asia	100	100	92	100	100	100
Income group	Low income	80	65	80	78	81	86
	Lower middle income	82	65	89	89	89	89
	Upper middle income	94	93	88	94	95	94
	High income	100	86	83	100	100	91
All		**85**	**71**	**84**	**87**	**88**	**88**

TABLE 13 PREVALENCE AND IMPACT OF EMERGENCIES

Type of emergency	Prevalence across countries (%)
Natural disaster	27
Conflict	27
Slow onset	26
Economic crisis	15
Health epidemic	8

Impact of emergency/ emergencies	Countries that experienced a decrease (%)
Number of students	33
Frequency of school feeding	31
Level of food basket variety	20
Size of rations	16

CHAPTER 11

Successes and Challenges

The Global Survey of School Meal Programs © sought to capture countries' successes and challenges around the topic of school feeding. Toward this end, survey respondents were asked to summarize the strengths of the programs operating in their countries, the challenges they face, any positive developments related to school feeding within the previous five years, and any setbacks experienced over the same time period.

Among the successes enumerated, respondents often highlighted their views as to the manner in which school meal programs are associated with increased student enrollment, retention, and school performance, as well as improved student health. Nepal and Benin (among other countries) reported that school feeding activities have contributed toward achieving gender parity in primary education and reducing socio-cultural discrimination, and Chad said that school feeding is used to combat the practice of early marriage for girls. Wherever school feeding activities had recently expanded, as in Bangladesh, Nigeria, and Saint Lucia (among other countries), this development was viewed as a success.

Respondents celebrated school meal programs for raising awareness of healthy diets and building appreciation for locally produced foods.

Respondents also celebrated the inclusion of a wider diversity of food items on the school menu in Hungary, Portugal, and Uruguay. School meal programs are described as raising awareness of healthy diets and, especially among home-grown school feeding programs, increasing appreciation for the consumption of locally produced foods. Guatemala, in particular, noted the cultural relevance of its school feeding program. Burundi had recently introduced farm-sourced dairy products to schools; South Africa ushered in sardines; and Palau replaced canned products with frozen or fresh meats.

Local procurement of food items, as in home-grown school feeding programs, were reported to increase the income of family farmers in Ethiopia, Mozambique, Timor Leste, and Zambia (among others). Another commonly cited success story was the support received from parents and the local community, whether in the form of monetary or in-kind contributions or other forms of engagement. Along these lines, Malawi noted that its school feeding programs are "community-owned" with the communities (parents) preparing meals for the students. School Feeding Committees in Colombia also serve as vehicles for community engagement and citizen participation.

Several survey respondents mentioned complementary activities or services when asked about positive developments around school feeding. For example, Benin noted a pilot project of supplying water to primary schools by the Fire Brigade Group, and Zambia emphasized that students who received school meals also benefited from education on food safety, nutrition, and Water, Sanitation and Hygiene (WASH). In South Africa, the deworming program for primary school students is tied to school feeding operations.

Some countries, such as Bangladesh, Cameroon, eSwatini, Kenya, Mozambique, and Namibia, emphasized the support for school meal programs demonstrated by the national government. Several countries—including Benin, Cambodia, Namibia, Nepal, and Zimbabwe, among others—listed the recent passage of national legislation or other policies in support of school feeding programs. For example, Timor Leste noted that school feeding now has a separate line in the national budget. In Côte d'Ivoire, the institutional home for school feeding activities had recently been re-established in the Ministry of National Education following a period of civil strife in the country.

Some countries, such as Guinea-Bissau, emphasized the technical support offered by development partners as a positive development in school feeding. Public-private partnerships were also celebrated in Kazakhstan and Thailand. Côte d'Ivoire discussed the new Centre of Excellence against Hunger and Malnutrition in West and Central Africa that has been established in Abidjan. Countries that have hosted the Africa Day of School Feeding, including Côte d'Ivoire and Niger, noted this as a positive development, and program assessments through a Systems Approach for Better Education Results (SABER)

workshop were another common development regarded as a success.

Every country was able to list some successes and positive developments related to school feeding. Nevertheless, the challenges associated with school feeding were also abundant.

Inadequate and unpredictable budgets were identified as a challenge in many countries, including Côte d'Ivoire, Liberia, Niger, and Sao Tome and Principe. Unpredictable funding from local authorities and communities was reported as an obstacle in Cambodia, and the program budget in Timor Leste is contingent on the overall state of the national budget. In Zambia, where the World Food Program ended its support for the Home-Grown School Feeding program, the remaining government budget was deemed inadequate. Countries that lack a budget line for their school feeding programs (including Cameroon, Guinea-Bissau, Mozambique, and Tajikistan) noted this as a problem.

Difficulties related to supply chains and logistics were also acknowledged in many countries. In Kenya, food losses occur in transit from food suppliers to the schools. The rainy season introduces challenges around school access in Benin, Nepal, and Sudan, while winter weather inhibits access to remote schools in Tajikistan. Niger and Cameroon reported that some parts of the country were difficult to access due to conflict and socio-political upheaval. Similarly, in Mali, security crises in the north and center of the country led to large population displacements that disrupted school feeding programs. In the Food for Education Program in Nepal, in-kind food donations arrived late, causing a five-month break in the provision of school meals in that school year.

Strained infrastructure and inadequate resources hindered the operation of school feeding programs, as well as their expansion to resource-poor areas. This pattern was noted in Guatemala and Zimbabwe. In Cambodia, insufficient infrastructure (e.g., kitchens, stoves, and eating halls) was reported as a challenge, and schools particularly lacked clean water during the dry season. Canteen facilities at most schools in Tajikistan were said to require renovation. In Kenya, poor storage facilities sometimes resulted in food spoilage, with food being condemned by public health officials.

Insufficient or inadequate human resources were cited as a challenge in countries such as Botswana, Brazil, Liberia, and Sierra Leone. Frequent turnover was cited as a concern in Madagascar and Guinea-Bissau, where the continual "churn" of school feeding personnel resulted in inefficiencies and the allocation of scarce resources toward redundant training. Honduras reported that the school feeding program had difficulty retaining skilled, committed professionals, and a lack of personnel was attributed to low salaries in the Czech Republic.

Several countries noted weaknesses in their monitoring and evaluation systems, including Mozambique and Madagascar. Timor Leste reported that there is no system in place for regular monitoring, while in Honduras, there were inadequate staff for monitoring activities. The survey respondent from Guinea-Bissau identified a need to develop a database for gathering information about school meals. Sierra Leone noted that completing the survey was difficult due to a lack of data stemming from poor record-keeping (although this situation is expected to improve with a new school feeding secretariat).

Survey respondents were asked to comment on the existence and nature of mismanagement or corruption within school feeding programs. Mozambique noted concerns related to the procurement of items from suppliers who were not eligible for participation. There were issues such as weak oversight, mismanagement, inadequate security of food supplies, and diversion of food and funds reported by Burundi, Mali, Saint Lucia, South Africa, and Zambia (among other countries). In Honduras, the need to remove political influence from their school feeding program was recognized. Some success stories could also be found around the topic of mismanagement. Corruption levels were reported to have decreased in Gambia with the introduction of a code of conduct in school feeding, and in India, the introduction of a system of unique 12-digit identity numbers (Aadhaar) helped to reduce the number of "ghost students" (i.e., inflated student numbers).

Additional challenges, though less common, were also raised in the survey responses. Some countries, such as Ethiopia and Honduras cited the lack of a school feeding law or a similarly strong document to bolster the school feeding program. A lack of coordination in the management of school feeding programs was observed in Cambodia and Ethiopia; cumbersome bureaucratic processes were cited as a challenge in Panama; and school offices in Uruguay were weighed down by administrative burdens associated with managing the food services. Although community support was often cited as a strength of school meal programs, Benin and Cambodia identified the halfhearted commitment of some communities as a weakness of their programs. The United Arab Emirates cited parents displaying a lack of interest in food and nutrition, and in the United States, the need to improve children's food choices and eating behaviors was characterized as a significant challenge. For a school meal program with individual-level targeting criteria, Cyprus cited the difficulty in identifying which children are in the most need. The vulnerability of school meal programs to natural disasters was lamented in Vietnam, Madagascar, and Nepal. Finally, the survey respondents from Malawi and Niger noted a growing concern related to environmental degradation (deforestation) stemming from the use of firewood for the preparation of school meals.

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Respondents emphasized the need for more research on the impact of school feeding on students' health, school performance, and the local economy.

To understand how to best design and improve school meal programs, survey respondents listed their research needs, or the topics they would like to study or see examined by other analysts. Sometimes these were country-specific, with implications for the design of programs in one setting, and sometimes these touched on broad themes that would be globally relevant. The survey respondents in many countries emphasized the need for more research on the impact of school feeding on students' health and school performance, as well as the local economy. Nepal stated a need to better understand the impact of school meals, along with other nutrition interventions, on the prevalence of anemia in adolescent girls. In Portugal, research was encouraged regarding the enduring impacts of the school meal program on the future habits of beneficiaries. Several countries, including Benin and Liberia, cited a need to explore the impact of different management modalities (systems of food sourcing) on local agriculture.

More research was also requested on the cost and funding of school meal programs, as noted in Moldova and Liberia. In Niger, there was a request to examine the mobilization of the private sector to finance school canteens, while in Zambia, there was a desire to understand how school feeding could be profitable for private sector actors. South Africa similarly cited the need to identify a cost-effective delivery model. The feasibility of national coverage of school feeding merits examination in the Republic of the Congo, while Benin said the feasibility of a home-grown school feeding approach needs to be explored.

In addition, several countries expressed a desire to see nutritional assessments of their school meal menus, particularly when they feature local foods. In Sierra Leone, there was a specific request for dietary recommendations for meal planning, and in Laos, there was a similar request to study the eating habits and nutrition requirements of different age groups. In Liberia, there was a desire to understand the differences in nutritional content and availability of locally produced versus imported foods.

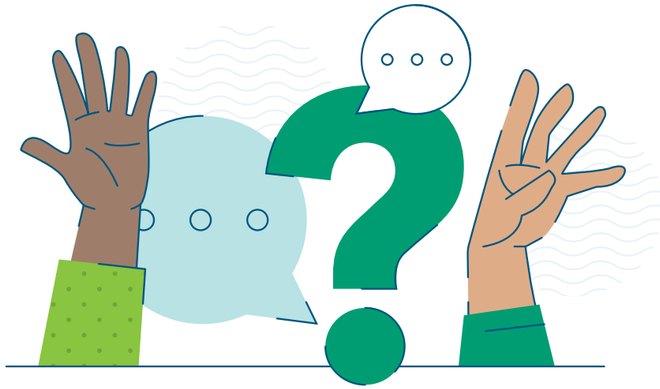
Section 3: Conclusion

CHAPTER 12

Conclusions, Discussion, and Questions for Further Study or Action

The Global Survey of School Meal Programs © provides a view of the "landscape" of school feeding from multiple angles. We have strived to ensure that the survey itself and the analysis in this report are non-judgmental in nature. In this section, though, we reflect on what the survey is telling us through a lens of current development evidence and good practice.

While the survey provides answers to some important questions, the picture it paints is at a fairly high level. Most topics beg for more in-depth examination –or even action– based on what we are seeing. We pose here a set of questions that seem relevant to us; however, we encourage readers to add their own questions that can be explored beyond what is in this report.



SOCIAL SAFETY NETS AND COVERAGE

School meal programs constitute a massive, popular, and important social safety net for vulnerable children and their families all around the world. Coverage is particularly strong for primary school-age children. The main coverage issue, underscored by data from this survey, is that coverage is weakest precisely where the need is greatest.

Nearly 60% of the low income countries surveyed reported that they served preschoolers, and the percentage increases with wealth to 85% in high income countries. This would seem to indicate increasing attention to the nutritional needs of preschoolers. Attention to this cohort has been lacking in the past, as large-scale maternal and infant nutrition programs focused on the first 1,000 days of a child's life, and school meal programs focused on primary schoolchildren, leaving a potentially harmful gap in coverage.

For further study or action:

Which low income countries are the "positive deviants" that have achieved high coverage rates? How have they done so? What lessons can be drawn that would be useful for other countries that aspire to reach more children?

What do we know about how preschool programs are implemented? Is the feeding of preschoolers directly linked to, or separate from, school feeding programs? How are preschool programs funded and managed? How is their short- and long-term impact measured?

GOVERNMENT INVESTMENT

A highlight of the survey results is the extent to which governments are investing human and financial resources in their school meal programs, even in the poorest countries. Financing remains a challenge in many countries, but it is clear that programs benefit most when funding is "ring-fenced," earmarked specifically for school meal programs and listed separately as a line item in national budgets. In addition, the survey results show that there is need to strengthen laws, policies, and standards in many cases, and to improve the recruitment, training, and retention of program staff.

For further study or action:

Are governments harnessing economies of scale to achieve the greatest cost-effectiveness? For example, are they looking holistically at their food buying needs—for preschools, schools, jails, militaries, hospitals, and national food reserves—and purchasing power?

POLITICAL RESILIENCE

The survey results demonstrate the durability of school meal programs, once begun. Country after country cited start dates for their programs that go back decades, and there is a correlation between the longevity of the programs and their coverage rates. Specifically, another year of operation is found to be associated with an additional 0.27% of the school-age population receiving food through schools.

For further study or action:

Where has the scale-up of programs been most rapid, and what are the factors that made that possible?

MANAGEMENT AND COORDINATION

School meal programs require coordination across sectors and at all levels, from the local farm and school levels up to the national and international levels. Countries are at different levels of experience, but all indicate some challenges. These include stresses due to centralized versus hybrid or de-centralized management systems; difficulties with inter-ministerial cooperation; varying degrees of success in public-private partnerships; poor record keeping and reporting; or struggles in attaining desired levels of community involvement. In 40% of the surveyed countries, another factor adding to management and coordination challenges is that they have two or more large-scale programs underway at the same time. The average is highest in Sub-Saharan Africa and in the South Asia, East Asia & Pacific region.

For further study or action:

Can stakeholders identify and promulgate the aspects of successful management and coordination that are good practices in the broadest sense, and isolate what contextual factors determine where practices need to be uniquely tailored to the specific situation?

Do multiple programs within the same country offer benefits that offset the management and coordination challenges? Is the phenomenon of having multiple programs linked to the receipt of foreign support for school feeding activities? Have countries successfully combined or consolidated programs or brought their multiple programs under one umbrella? What has been learned in the process that might be helpful to others with similar challenges?

NUTRITION AND HEALTH

The survey uncovered multiple points of interest regarding nutrition and health, and these are outlined by subtopic below.

Obesity

There is a disconnect between school feeding program objectives and the global obesity epidemic, despite the correlation between those countries that have the highest and lowest rates of obesity and their having and not having, respectively, program goals to address obesity.

For further study or action:

How can the prevention and mitigation of obesity be prioritized in school feeding programs globally? What lessons can be drawn from countries with the most experience in addressing obesity through their school meal programs? What interventions are most effective and scalable? Can the costs and benefits of obesity-mitigation and prevention activities linked to school meal programs be quantified?

Diversity of food basket

This survey has shown a clear link between local food purchase and the diversity of food items used in school meal programs. There are dramatic patterns related to countries' economic status and some of the food items provided (particularly green vegetables, meat, and dairy). The survey also reveals some patterns around the diversity of school food across geographic regions. Countries appear to prefer diversifying their school food baskets, though this is particularly challenging in food-insecure areas.

For further study or action:

Are local purchase programs taking full advantage of nutritious, indigenous, and locally available foods? Can local purchase for school meal programs drive investments in, and production of, more nutritious foods? Are more diverse, locally-sourced school food baskets cost-competitive with less diverse foods used in the programs? If not, what would it take to make them cost-competitive? How do advertising, social norms, costs, or other factors influence the desirability of nutritious and/or local and/or indigenous/traditional foods as compared with imported, processed, and fast-food options?

Fortification and biofortification

School meal programs are a somewhat underutilized channel for providing key micronutrients to children. Ideally, children would have access to all needed micronutrients via diversified diets; however, that is not an option in many environments, which makes school meal programs an attractive avenue for providing needed micronutrients to large numbers of children. Though a majority of programs reported using some fortified foods, almost a third did not; and very few reported using biofortified foods (understandably, as biofortification is a relatively new option that is not available everywhere).

For further study or action:

Are those responsible for the implementation of school meal programs knowledgeable about fortification and biofortification options and benefits? What kind of cross-sectoral collaboration is required if fortification programs are to be initiated or scaled up? Where are some fortification success stories, and what can be learned and shared from those experiences?

Complementary interventions

School meal programs pair well with complementary services and programs related to health and hygiene such as nutrition education, deworming treatments, and school gardens—particularly when they are required as national policy.

For further study or action:

What infrastructure conditions are most critical to these interventions? Are these activities achieving behavior change? Do interventions that are most important for girls receive the attention needed, and do they have the desired impact? Can best practices be replicated and scaled up? Are the costs and benefits quantified?

Food safety and quality

The survey asked few questions about food safety and quality practices, but responses indicate that these may be areas that deserve more attention. Just over half of the countries reported that they have food safety policies related to school feeding, and 81% of programs train cooks in food safety/hygiene. However, given that roughly one quarter of food purchasing decisions are managed at the regional or local level where inspection systems are likely to be the weakest and an apparent trend toward greater de-centralization, food safety and quality are of concern.

For further study or action:

Are adequate systems and controls in place to ensure the safety and quality of school food in most countries? What are the minimum standards and controls needed to protect the safety of school food? What actions are needed to ensure they are in place?

GENDER

Gender issues are of great significance in the context of sustainable development. They are also complex to sort out. The survey asked a number of questions of relevance to gender, and to girls in particular. The key learnings and some new questions are highlighted below.

Data

Despite decades of effort, there is still a lack of data to monitor progress. Only half of the school meal programs reported gender-disaggregated numbers of students receiving food, with significant variation between countries of different income levels and different geographic regions. More disaggregated information was provided by low and lower middle income countries, and from programs in Asia and Sub-Saharan Africa. Gender-disaggregated data were more often reported at the preschool and primary levels, dropping off at the secondary level.

Coverage

School feeding has a well-documented track record of improving school enrollment, attendance, and retention, as well as supporting student learning. Unfortunately, the survey demonstrates that program coverage is lower in regions where literacy rates are low and early marriage and pregnancy are high, as compared with regions where these factors are not as problematic. Each additional level of a girl's education beyond primary school is particularly important as a deterrent to early marriage and pregnancy. Unfortunately, the survey results show that coverage of secondary school students is lowest in those regions where such problems are most acute.

Take-home rations and program objectives

Take-home rations are an effective incentive for school attendance and are generally used in response to poor attendance among certain students/groups. They involve providing some quantity of food (generally monthly or quarterly supplies of grain or oil) to the students who meet certain attendance goals to take home for their families. While the survey does not allow for a more granular examination of this topic, one quarter of the surveyed school meal programs reported using take-home rations, and most (74%) of those were specifically targeted to "individual characteristics" (based on gender, status as an orphan, or individual rate of school attendance).

Interventions and infrastructure targeted to girls

Two thirds of the responding countries reported that gender-private bathrooms/latrines (separate facilities for girls and boys), which are important for retaining girls, are available in most or all schools. However, less than a third of programs reported that they incorporate menstrual hygiene, although there is evidence that girls sometimes drop out of school at puberty due to a lack of menstrual hygiene supplies and facilities. Half of the programs reported teaching students about reproductive health; just over half of the programs provide HIV prevention education.

Women

The situation regarding women and school meal programs is complicated, as women are both burdened by, and benefit from, involvement in school meal programs. While most cooks are women, and they receive training and perhaps improved status in their communities, school food service work is a low-paid profession even in high income countries. A third of programs surveyed reported that few or no cooks are compensated. The incidence of volunteer cooks was most common, understandably, in low income countries, and the survey seems to indicate that as countries' economic status improves, higher portions of the cooks are paid. Two thirds of the programs reported that they have a purposeful focus on either creating (paid or unpaid) jobs or leadership positions for women. Finally, while not explicitly explored in the survey, other studies indicate that school feeding programs attract more women to become involved in schools, in school management (e.g., through parent-teacher organizations), and in their children's education, while also alleviating some of the household food and labor burden on students' mothers.

For further study or action:

What incentives are needed to elicit better, gender-disaggregated data regarding school feeding and education?

How can school food programs best, and most cost-effectively, reach adolescents? How can countries—already struggling to mobilize the resources needed to ensure maternal and infant nutrition and to feed their preschoolers and primary schoolchildren—support the nutrition and retention of secondary school students, especially girls? How effective and scalable are menstrual hygiene programs? What can be learned and shared from those with experience in these areas?

Do volunteer cooks feel that they are benefiting from the role? Does trend data support what the survey appears to indicate—that as countries progress economically, more cooks get paid (in cash) for their work?

AGRICULTURE AND LOCAL PURCHASING

The survey points to multiple opportunities to strengthen program engagement with agriculture and to use local purchasing, especially from small-scale farmers, as a tool for economic development. Most programs (82%) reported purchasing school food domestically; several low income countries viewed this as a positive and new form of sourcing food for their programs. However, only a third of countries reported having laws, policies, or standards for agriculture linked to school feeding; very few countries reported that their ministries of agriculture have decision-making responsibility for key functions related to school feeding; less than half of the surveyed programs reported involving farmers; and the levels of engagement with farmers varied significantly across geographic regions.

Nonetheless, there are efforts to support the involvement of smallholder farmers in many countries; some tools (such as extension, training, and subsidies) are used more frequently than others (such as mobile payments and purchase agreements).

The survey showed strong links between local purchasing and the diversity of the school food basket, but no information was captured regarding whether school meals programs have an impact on the cost or nutritional quality of what farmers produce. Issues of droughts, floods, climate change, and the inability to produce adequate amounts of food locally were raised by multiple survey respondents, as well.

For further study or action:

What local economic stimuli linked to school meal programs are possible in areas unable to produce adequate amounts of food? What are the barriers to involving the agriculture sector in program implementation, and how can they be overcome? Which school feeding-related laws, policies, and standards are most necessary and helpful in the agriculture sector? Which tools are most effective for engaging smallholders, and under what conditions? Can public sector food purchasing be a driver of higher production and/or lower cost of nutritious foods? Can school menus and purchases be tailored to emphasize foods that are resilient to climate change?

JOBS AND THE PRIVATE SECTOR

School feeding programs create jobs, but very few programs keep track of how many and what kinds of jobs are involved. The sole exception is that most programs reported large numbers of (paid and unpaid) cooks employed in their programs. Meanwhile, the lack of employment opportunities—particularly in rural areas, and particularly for women and youth—is a significant global problem, with the most severe cases being in low income countries, where education levels are relatively low and there are high numbers of unemployed youth. School feeding presents opportunities for a variety of relatively low-skilled jobs. Yet just 30% of programs reported a special focus on creating opportunities for youth, and just 32% reported a focus on creating opportunities for other groups.

On a related note, school meal programs create opportunities for economic development through the private sector, but few programs seem to count or to leverage opportunities to strengthen their private sector through program engagement. Excluding farmers (which—though businesspeople—were treated separately in the survey), the most commonly reported types of private sector involvement were for transport and supply of utensils. Less than 20% of countries reported school feeding-related national laws, policies, or standards focused on the private sector; and very few programs reported private sector job numbers.

For further study or action:

Can repeating the survey every two to three years lead to improved data and reporting of job types and numbers? Are there particular impediments to involving relevant government agencies (labor, women's affairs, youth employment, etc.) in school meal programs? What can be learned from the experience of countries that do report training and employment numbers regarding how to mount and maintain training and employment programs specifically linked to school feeding? Which countries have success stories with public-private partnerships that might serve as models for those aspiring to strengthen their private sectors? Do job creation and private sector engagement contribute to a country's tax base, returning at least a portion of the cost back to public coffers? How important are job creation and successful private sector engagement in terms of program sustainability?

COMMUNITY AND CIVIL SOCIETY ENGAGEMENT

The survey results demonstrate that community engagement with schools—which is known to have positive consequences for students and schools alike—is very high in school meal program schools. Parents and/or other community members are engaged in their school feeding programs in about 90% of programs and countries, and engagement is generally a requirement. Examples of how such engagement is manifested range from fairly basic tasks such as contributing cash, food, fuel, materials, and/or labor to offset program costs and improve school infrastructure, to more managerial responsibilities such as serving on school management committees, monitoring program implementation, and making local food purchases for the schools. Civil society involvement was reported in only about half of the programs, but the roles described for civil society organizations were quite substantive and managerial in nature.

For further study or action:

Are school feeding programs requiring too much/too little of parents and other community members? What factors encourage and support involvement, and what factors discourage involvement? What learning can be gleaned, and what good practices can be promulgated, regarding community and civil society engagement?

ENVIRONMENTAL AND WASTE ISSUES

Survey results show that much more could—and should—be done in this area. Post-harvest food loss is a very serious problem, and such losses average about 30% globally; in Africa, losses are estimated to be up to 20% for cereals, 30% for dairy and fish, and 40% for fruits and vegetables (FAO 2019). Yet most countries and programs reported taking only the most basic steps to limit food waste (through sealed storage and pest control) and limit negative environmental impacts of packaging waste (by reusing bags and containers). In the survey, other options in each category were rarely selected. Additionally, almost three quarters of programs reported using wood or charcoal for food preparation, sometimes even acknowledging that this had a negative impact on the environment.

For further study or action:

What affordable, scalable options exist for school meal programs to mitigate food losses and any negative environmental impacts from food preparation methods and packaging? Does local purchasing have a measurable and net positive effect on reducing the carbon footprint for the transportation of school food? Are any educational interventions or complementary activities effective at supporting school children to be good stewards of food and the environment?

EMERGENCIES

The survey documents that school feeding is considered extremely important in emergency situations. A stunning 63.5% of countries reported experiencing an emergency during the reporting year. Among those, a third maintained the programs and reported no impact, and some even increased the programs in some way to mitigate the impact of the emergency. That said, emergencies exacted a toll in many of the affected countries, requiring program reductions, or—in 18% of the cases—compelling some of the school feeding programs to cease operations. The survey asked whether measures were in place to prepare the school feeding program for future emergencies; 60% of the (60) countries that answered this question reported that they do have measures in place.

For further study or action:

Which—if any—preparedness measures have proven useful so far for dealing with the COVID-19 pandemic? Were countries that had experienced health-related emergencies or epidemics (such as Ebola) better prepared to handle the COVID-19 pandemic? How do programs secure financial support to address emergencies that require immediate attention? How can school meal programs be used to reach large numbers of vulnerable people during crises, and what factors support or inhibit their effectiveness in "pivoting" in the course of such emergencies?

CHAPTER 13

Postscript

There was little inkling that a global pandemic caused by a novel coronavirus loomed when GCNF embarked on the 2019 Global Survey of School Meal Programs © in mid-January 2019. The data collection had wrapped up and 70 summary country-specific reports had already been shared at the December 2019 Global Child Nutrition Forum in Siem Reap, Cambodia before news of the virus took over the airwaves and brought business as usual to a screeching halt.

The COVID-19 pandemic slowed the data cleaning, analysis, and final production of this report, but that was the least of GCNF's worries.

Much more importantly, the pandemic wreaked havoc on school systems and disrupted school meal programs around the world, depriving vulnerable children of a daily meal at school, causing new levels of child hunger, and globally throttling education for nearly all children.

COVID-19 disrupted school meal programs around the world, depriving vulnerable children of a daily meal at school.

Program implementers worked desperately to adjust their programs to safely serve the most vulnerable despite the closure of schools, borders, travel and transport options, and most businesses. Funding for school meals was also taxed, as governments and donors alike focused their resources on health care, safety measures, and finding a cure. GCNF captured some of the early stories of how school meal programs recalibrated and shared what we were learning about what was working and not working on our website and via webinars.

As this is written, programs continue to struggle to reach vulnerable children. The pandemic persists in threatening children, teachers, and food providers, requiring them—even where schools have reopened—to practice social distancing, wear protective equipment, and otherwise operate quite differently than pre-pandemic.

We fear for this generation, beset by arguably unparalleled challenges, and pledge to do our best to both document and help to mitigate the negative effects of the hunger, damage to their schooling, and the psychological toll of the pandemic.

In mid-2021, we will embark on the second round of the Global Survey of School Meal Programs ©. We are scheduling the survey to capture the impact of the pandemic for at least one full school year. For countries whose school years are the calendar year, this will likely be school year 2020; for the remaining countries, it will be school year 2020/2021. The 2019 survey (covering school year 2017/2018 or 2018 in most cases) will serve as the baseline against which we can begin to measure the toll of the pandemic on the school food ecosystem. We also hope to document the resilience and creativity of school meal programs in the face of such dramatic challenges.

To quote Gene White, beloved GCNF co-founder and long-time school nutrition leader,

> **"Peace begins when the hungry are fed; the future begins when the hungry are educated."**

The pandemic has made it harder but has not changed our resolve to ensure that school-age children around the world are nourished, can learn, and can thrive.

On behalf of the whole GCNF team,

Arlene Mitchell
Executive Director
Global Child Nutrition Foundation

Section 4: References and Annex

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Annex A: Additional Analysis

TABLE A1 NUMBER OF STUDENTS RECEIVING FOOD THROUGH SCHOOL MEAL PROGRAMS

Sub-Saharan Africa	Preschools	Primary schools	Secondary schools	Vocational/ Trade schools	Other	Total
Benin	✓	460,063				460,063
Botswana		358,854				358,854
Burkina Faso	✓	3,206,060	90,681	4,772		3,301,513
Burundi	11,657	614,475				626,132
Cameroon	4,158	18,315				22,473
Central African Republic		238,393				238,393
Chad		43,788				43,788
Comoros						0
Congo		67,618				67,618
Cote D'Ivoire		987,704				987,704
eSwatini		243,283	121,806			365,089
Ethiopia	152,657	2,539,386				2,692,043
Gabon						0
Gambia	✓	144,946	20,476			165,422
Guinea-Bissau		173,395				173,395
Kenya		1,600,000				1,600,000
Lesotho	56,752	330,171				386,923
Liberia	108,758	176,756	29,100			314,614
Madagascar	✓	507,948	2,228	1,704	2,432	514,312
Malawi	49,639	2,726,365				361,066
Mali		333,627	27,439			361,066
Mauritania		46,566				46,566
Mozambique		119,835	19,291			139,126
Namibia	✓	365,854				365,854
Niger		150,811	42,490			193,301
Nigeria		9,829,603				9,829,603
Republic of Congo	639	57,656				58,295
Rwanda	✓	183,857	490,801			674,658
Sao Tome and Principe	10,106	36,660				46,766
Senegal	25,199	587,540	452,333			1,065,072
Sierre Leone		806,000				806,000
South Africa	✓	6,071,170	2,874,439			8,945,609
South Sudan	✓	445,000	12,000			457,000
Sudan	✓	1,321,789	34,000			1,355,789
Togo	✓	91,666				91,666
Uganda	✓	2,516,107	645,425	✓		3,161,532
Zambia	57,844	1,032,250	103,902			1,193,996
Zimbabwe		3,218,924				3,218,924

Note: Numbers indicate the number of students receiving food in each country. For preschools, vocational schools, and other levels, these estimates are derived from program-level data and may therefore double-count students if multiple programs operated in a given school. For example, a snack-based program and a meal program may provide food to the same students. The numbers for primary and secondary school students were provided at the national level. Check marks indicate numbers that were not reported or were aggregated with numbers in another column. University level not shown, as only Kazakhstan reports providing food at the university level.

Annex A: Additional Analysis

TABLE A1 NUMBER OF STUDENTS RECEIVING FOOD THROUGH SCHOOL MEAL PROGRAMS

South Asia, East Asia & Pacific	Preschools	Primary schools	Secondary schools	Vocational/ Trade schools	Other	Total
Afghanistan						0
Australia						0
Bangladesh	419,608	3,000,000				3,419,608
Bhutan		17,137	57,589			74,726
Cambodia	31,610	283,172				314,782
China		19,100,000	18,090,000		1,000,000	38,190,000
Fiji	✓ 19,449	20,629			✓	40,078
India		90,414,539				90,414,536
Indonesia		100,136				100,136
Kiribati						0
Laos	32,150	163,396				195,546
Malaysia		500,000				500,000
Micronesia					✓	0
Mongolia	✓	309,355				309,355
Myanmar						430,000
Nauru	285	2,526	422			3,233
Nepal	113,900	483,600	38,500			636,000
New Zealand						0
Pakistan						0
Palau		1,729	535			2,264
Philippines	461,001	1,838,765				2,299,766
Samoa						0
Solomon Islands						0

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TABLE A1 NUMBER OF STUDENTS RECEIVING FOOD THROUGH SCHOOL MEAL PROGRAMS

South Asia, East Asia & Pacific	Preschools	Primary schools	Secondary schools	Vocational/ Trade schools	Other	Total
Sri Lanka		1,467,465				1,467,465
Thailand	✓	4,081,643				4,081,643
Timor Leste	21,832	302,447				324,279
Tonga						0
Tuvalu						0
Vanuatu						0
Vietnam	✓	✓				
Middle East & North Africa						
Egypt	873,163	9,769,528	393,655		164,899	11,201,245
Iraq	83,351	550,000				633,351
Kuwait						0
Libya		18,038				18,038
Palestine						0
Syria	✓	967,841				967,841
Tunisia		260,000	100,000			360,000
United Arab Emirates	38,903	191,126	287,725	✓	26,885	544,639
Yemen		600,000				600,000
Latin America & Caribbean						
Brazil	6,948,007	23,462,268	10,528,068		908,206	41,846,552
Columbia	562,286	2,732,534	2,092,684			5,387,504
Guatemala	475,487	1,983,566				2,459,053
Guyana	✓	13,539				13,539

Note: Numbers not available for Vietnam.

TABLE A1 NUMBER OF STUDENTS RECEIVING FOOD THROUGH SCHOOL MEAL PROGRAMS

Latin America & Caribbean	Preschools	Primary schools	Secondary schools	Vocational/ Trade schools	Other	Total
Honduras	200,000	900,000	200,000			1,300,000
Mexico	134,093	1,190,887	154,025		11,353	1,490,358
Panama	100,400	399,991				500,391
Saint Lucia		6,574	250	✓		6,824
Trinidad and Tobago	6,534	54,915	80,035			141,484
Uruguay	67,103	201,309	5,320			273,732
North America, Europe & Central Asia						
Armenia	2,831	100,270				103,101
Belarus						0
Cyprus	1,175	7,642	4,800	1,100		14,717
Czech Republic	364,000	577,000	410,000	✓		1,351,000
Finland	50,000	360,000	441,900	250,000		1,101,900
Georgia						0
Greece	1,262	3,110	1,758			6,130
Hungary	363,402	570,728	70,246			1,004,376
Kazakhstan	✓	1,333,375	1,725,372	✓		3,058,747
Kyrgyzstan	5,000	595,000				600,000
Moldova	149,200	137,200	2,000	16,900		305,300
Portugal	387,889	1,002,828	314,478			1,705,195
Switzerland		66,000	15,000			81,000
Tajikistan		410,000				410,000
United States	✓	✓	✓			30,000,000
Uzbekistan						0

Note: University students also receive food in Kazakhstan.

TABLE A2 COVERAGE OF SCHOOL MEAL PROGRAMS FOR ADDITIONAL DESK REVIEW COUNTRIES

	Number of primary and secondary school age children	Number of primary and secondary students receiving food	Coverage rate (%)
Antigua and Barbuda	21,538	3,000	14
Bolivia	2,926,125	2,383,408	81
Iran	14,804,540	3,300	0.02
Jordan	2,283,918	412,349	18
Peru	6,392,741	3,736,005	58

FIGURE A1 FOOD BASKET DIVERSITY AT COUNTRY LEVEL (INCLUSIVE OF ADDITIONAL DESK REVIEW COUNTRIES)

Note: N = 103, inclusive of 18 additional desk review countries for which sufficient information on the school meal menus could be found.

TABLE A3 JOBS IN SCHOOL MEAL PROGRAMS (LOWER-BOUND ESTIMATES)

Sub-Saharan Africa	Cooks and food preparers	Transporters	Off-site processors	Food packagers and handlers	Monitors	Management	Safety and quality inspectors	Other
Benin	5,113	14		175	28	42	16	37
Botswana	3,296			500	30	2		
Burkina Faso	19,980	3		38			1	
Cameroon		9		15				
Congo	670							
Cote D'Ivoire	10,758			20				
eSwatini	856	8			5		10	
Ethiopia	15,380	122	16,620	15,140				
Gambia	1,220	7		6	12	195,546	10	
Kenya	4,300	300		20,000	2,000		5,000	
Lesotho	2,409	40	3	3			2	
Liberia	2,785	98		48	143		5	
Malawi		16	150		28		4	
Mali	8,102	18			6	1		52
Mauritania	288	8						
Namibia	1,958							
Niger	3,504	75		160		3,787		
Nigeria	107,000							
Republic of Congo	3,180	8		60		1,500	1	
Rwanda	5,447	180	3,499					
Sao Tome and Principe	374							
Senegal	8,685							
Sierra Leone	1,100	15			60			2

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TABLE A3 JOBS IN SCHOOL MEAL PROGRAMS (LOWER-BOUND ESTIMATES)

Sub-Saharan Africa	Cooks and food preparers	Transporters	Off-site processors	Food packagers and handlers	Monitors	Management	Safety and quality inspectors	Other
South Africa	55,000	5,000						
South Sudan	3,000							
Sudan	4,306	20			30			
Togo	2,000							
Uganda	1,665			10				
Zambia	6,354	39		156	28			
South Asia, East Asia & Pacific	Cooks and food preparers	Transporters	Off-site processors	Food packagers and handlers	Monitors	Management	Safety and quality inspectors	Other
Bangladesh	180	600	1,600		700		15	
Bhutan	1,003	55		20	61	10	1	4
Cambodia	3,000			1				
China	305,000				3,357		515	512,000
Fiji	300							
India	2,500,000							
Laos	4,150	12		8	83	1,845	3	52
Nepal	5,300	6				1		
Palau	31	2				1		2
Philippines	56,323				1,500	1	1	
Sri Lanka	12,000							
Timor Leste	1,108						64	
Vietnam	40							

TABLE A3 JOBS IN SCHOOL MEAL PROGRAMS (LOWER-BOUND ESTIMATES)

Middle East & North Africa	Cooks and food preparers	Transporters	Off-site processors	Food packagers and handlers	Monitors	Management	Safety and quality inspectors	Other
Iraq			20	300		250		
Syria	80	4			4	3		
Tunisha	900			400		250		26
Latin America & Caribbean								
Brazil	160,000							
Colombia	25,509							
Guyana	109	20			3		2	
Mexico	13,838					32		
Panama					50			
Saint Lucia	120	3						9
Trinidad and Tobago	375	150		375		13	34	
Uruguay	2,200		380			2,300	300	
North America, Europe & Central Asia								
Cyprus	195							
Czech Republic	30,000							
Kyrgyzstan	1,082				20			
Moldova	1,300							
Tajikistan	3,917			1,939	59			

Annex B: Questionnaire

The Global Survey of School Meal Programs questionnaire is available in several languages including Arabic, Chinese, English, French, Portuguese, Russian, and Spanish. They can be found at survey.gcnf.org.