global child nutrition
FOUNDATION

School Meal Programs Around the World

Results from the 2024 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 2024, 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.

Contact: info@gcnf.org. The full database can be accessed by completing the interest form at www.gcnf.org/survey-data

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The Global Child Nutrition Foundation (GCNF) provides governments and their partners the knowledge, tools, and connections so all children can access high-quality school meal programs that contribute to national educational, agricultural, economic, social protection, health and nutrition goals.

Acknowledgements

First and foremost, credit for this Global Survey of School Meal Programs © goes to each of the more than 140 people around the world who were designated by their governments as "focal points" to complete the Global Survey questionnaire and fulfilled that task. These focal points were our primary survey partners: They consulted numerous program records, government colleagues, and implementing partners to gather needed information and respond to the survey. We cannot thank them enough. If you served as a Global Survey Focal Point, please accept our deep gratitude.

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Idowu Koyenikan said "A community that is engaged and working together can be a powerful force." The members of the global community that engaged and worked together to complete this Global Survey of School Meal Programs © indeed form a powerful force—a force supporting nutritious school meals for children around the world. We thank you.

Dr. Ronald Kleinman
President of the Board

Arlene Mitchell
Executive Director

EXECUTIVE SUMMARY

SCHOOL MEAL PROGRAMS AND FOOD SYSTEMS TRANSFORMATION

School meal programs aim to address multiple objectives, most commonly to improve children's nutrition and health and to meet education goals by facilitating and incentivizing children's school attendance and learning. In addition to these foundational objectives, school meal programs also have potential to play an important role in food systems transformation. This follows from the aggregate scale of these programs, which reach at least 407.8 million children worldwide and are found in at least 148 countries. It also follows from the programs' multisectoral nature, with relevance for social protection, education, health and nutrition, agricultural and economic growth, and environmental sustainability. School meal programs touch on each of the key goals of food systems transformation.

1. Create Demand for Nutritious Foods

School meal programs aim to ensure access to healthy diets, addressing undernourishment in underprivileged populations, enhancing micronutrient sufficiency through provision of diverse foods, and shifting food preferences in a healthy direction to slow the global epidemic of child overweight/obesity.

2. Improve Food-Based Livelihoods

School meals have potential to support robust and equitable livelihoods across the food system. In particular, the use of locally produced foods can translate into income-generating opportunities for local farmers who benefit from having a reliable market for their produce. These programs also influence food system actors at other nodes of the food supply chain by giving business to wholesalers, transporters, and processors, and they directly employ a large labor force of school cooks/caterers, food handlers, and others.

3. Emphasize Climate-Smart Foods

As school meal programs procure food on a large aggregate scale and have scope to set their own procurement standards, they have immense potential to influence the environmental sustainability of food production. School meal programs can strategically select school menus to include products that are environmentally friendly; emphasize local sourcing to reduce the distance that food travels to reach the schools; take steps to minimize food loss and waste; and implement "clean cooking" methods that reduce emissions.

DATA

The Global Survey of School Meal Programs © was launched in 2019 to gather information about school meal programs in every country in a standardized manner, and it has been repeated every 2-3 years. The survey spans a broad set of topics of relevance to school feeding, bringing them together under one umbrella to spotlight their linkages. The survey is designed to be completed by a country "focal point" who is officially appointed by their government to liaise with the necessary entities to gather together the information for the survey.

The 2024 Global Survey of School Meal Programs © received a response from 142 country governments, which represents 73% of the 194 countries that were invited to participate in the survey. Among these, 125 countries reported that they had some large-scale school feeding activities, submitting detailed information on 207 individual school meal programs. For analysis of school feeding coverage and school feeding budgets, the set of countries for analysis has been expanded to 169, primarily by drawing on information submitted in earlier survey rounds.

COVERAGE

Across the 169 countries for which there is information on school feeding coverage, a total of 407.8 million students were reported (or estimated) to have received food through their schools in the 2022 school year. One quarter (25%) of all school-age children received some school food. This value varies monotonically with income level, extending from 13% in low-income countries to 24%, 26%, and 48% in lower middle-income, upper middle-income, and high-income countries, respectively.

The share of enrolled primary school students reached with school meal programs has recently been proposed by UNESCO as a new Sustainable Development Goal (SDG) indicator under the SDG4 framework. At the global level, this value was 39%, ranging from 25% in low-income countries to 62% in high-income countries.

Among the subset of countries that participated in the Global Survey of School Meal Programs © three times so far, there has been an upward trend over time in school feeding coverage for enrolled primary school students, rising from 25% in 2017 to 26% and 29% in 2020 and 2022. This coverage rate rose over time in all income groups except low-income countries where the school feeding coverage rate of primary school students dipped in 2020 and almost recovered in 2022. Within countries, variation over time in a country's school feeding coverage rate was positively (and statistically significantly) associated with variation in its enrollment rate, underscoring the potentially transformative impact of school feeding.

BUDGET

Across the 147 countries for which there is information on the school feeding budget, at least 67.2 billion USD was allocated to school meal programs in the 2022 school year. This number underscores the value that is widely placed on school meal programs, and further conveys the potential for school meal programs to shape food systems if they are strategically deployed toward this goal. Across all countries, an average of 73% of their school feeding budget came from government sources (summing over national, regional, and local governments). Countries in Sub-Saharan Africa sourced the smallest share of government funding with an average of 48% coming from government sources.

Across all countries for which this information was available, the aggregate budget allocated per child beneficiary per year was 137 USD (Table 8). Not surprisingly, there were very strong associations with income level, and while the aggregate investment in high-income countries was 611 USD per child beneficiary per year, this was just 8 USD in lower middle-income countries. Just under three quarters (72%) of countries with large-scale school feeding activities reported having a line item for school feeding in the national budget.

An analysis of trends over time in school meal funding in low-income, lower middle-income, and upper middle-income countries (LMICs) surfaces several interesting findings. The budget per beneficiary child (in nominal terms) saw an upward trend over time—with the exception of lower middle-income countries which saw a sharp drop from 29.9 USD/child in 2020 to 22.06 USD/child in 2022. However, an examination of "real" monetary values that account for the rapid pace of inflation in recent years tells a very different story. When the budget per child is adjusted by the consumer price index in each country, it is clear that in real terms the budget per child has fallen sharply—especially in low-income countries and lower middle-income countries. Across all LMICs, the budget per child was 35.7 USD/child in 2017 (in 2020 dollars) and 28.04 USD/child in 2022 (again in 2020 dollars). In a time of high inflation, particularly of food and oil prices, attention should be given to real (not only nominal) budgetary outlays. Moreover, there is a need for more complete and up-to-date data on the costs of school meal program implementation.

FOOD BASKET

In the 2024 survey round, the food categories probed in the questionnaire were mostly aligned with the Global Diet Quality Score. On average, school meal programs planned to serve foods from 6.8 different healthy food categories. Among these, both legumes and liquid oils were reported more often in lower-income settings, whereas fruits and dairy were much more commonly found on the school menu in higher-income settings. Specifically, fruits and dairy were included on the menu in 19% and 13% of programs in low-income countries, while these values were 94% and 96%, respectively, for programs in high-income countries. A large majority (71%) of programs reported refined/milled grains (considered to be an unhealthy food), and this was more common than the rate at which they planned to serve whole grains. In general, the planned provision of unhealthy foods (such as processed meat or deep-fried foods) was more common in higher-income settings. Further research is needed to understand the relationship between what is planned for the school menu, and what is actually implemented.

HEALTH AND NUTRITION

In the 2024 Global Survey of School Meal Programs ©, most programs cited an objective to meet nutritional and/or health goals, and this priority was salient across all income levels and regions. A slight majority (55%) of school meal programs pursued their nutrition-related objectives by serving some fortified foods. This was most common at lower income levels. Biofortified foods, such as orange fleshed sweet potatoes (OFSP) or other crops that were bred to contain high amounts of particular micronutrients, were planned to be included on the school menu in 22% of programs in low-income countries and 15% of programs in lower middle-income countries. Nutritionists were engaged in 69% of school meal programs, and this was most common in Latin America/Caribbean, where 89% of programs engaged some nutritionists in their design and management.

School meal programs can play a role in modeling healthy eating and cultivating healthy food preferences that can stay with children into their later years. Nevertheless, just 37% of school meal programs cited an objective to prevent or control overweight/obesity. This was most common in Europe/Central Asia/North America (at 57%) and Latin America/Caribbean (at 53%). Even though programs were hesitant to identify obesity prevention as an overall objective, many programs took at least some steps to prevent or mitigate overweight/obesity. For example, 73% of programs coupled the provision of food with nutrition education oriented toward teaching healthy eating, and 52% were paired with physical education to encourage exercise. School meal programs were very often paired with at least some complementary services or education programs to enhance the program's effectiveness and/or leverage on the program to extend its benefit beyond the provision of food. Food and nutrition education programs were particularly common, as they were found with 89% of school meal programs and were equally prevalent across all income levels.

ENVIRONMENT AND CLIMATE

Sustainability is increasingly prioritized in school meal programs, with countries implementing a variety of initiatives to both limit their environmental vulnerability and reduce their environmental impact. The Global Survey of School Meal Programs © captured various indicators of environmental sustainability in school meal programs. A large majority (81%) of school meal programs took some steps to limit food waste. This was generally more common in lower-income settings, where food tends to be less plentiful. A majority (67%) of school meal programs also took some steps to limit package waste. Most commonly, these included the re-use of bags/containers (followed by 57% of programs that took some step to limit package waste) and the recycling of packaging materials. Approximately 58% of school meal programs relied on wood stoves or charcoal stoves for food preparation, and among these, 78.5% took some steps to reduce the use of firewood/charcoal as fuel. Toward this end, the most common step taken was the use of fuel efficient (energy efficient) stoves.

As part of the food system, school meal programs are both affected by, and a driver of, climate change. Nevertheless, just 38% of programs targeted foods that were considered to be "climate-friendly". On the other hand, a large majority (79%) of programs took some steps to reduce the distance traveled by food from the site of production to consumption (i.e., the food miles/kilometers). Across regions, this emphasis on local procurement was most common in Sub-Saharan Africa, where 89% of programs aimed to reduce the distance traveled by food.

HOME-GROWN SCHOOL FEEDING

The home-grown school feeding (HGSF) label alludes to several characteristics of school meal programs. HGSF programs source at least some of their food from smallholder farmers, often in the vicinity of schools, and furthermore extend support to facilitate smallholders' engagement with the school meal market. Though there is not a universally agreed-upon definition of HGSF, programs can be understood to possess a range of characteristics that are in the spirit of HGSF, and the Global Survey of School Meal Programs © captured various relevant indicators. Over half (57%) of the programs reported that they had an explicit objective to enable small-scale (smallholder) farmers to gain access to a predictable and stable market and to maximize the benefits they derive from such access. This value was 80% among programs in low-income countries and 74% in lower middle-income countries. Beyond sourcing from smallholders, HGSF connotes some additional support extended to these farmers to strengthen their ability to serve as suppliers. In total, 43% of programs offered additional support to small-scale farmers, such as agricultural extension or school feeding-specific training. This was most common in low-income countries (67%) and in Sub-Saharan Africa (60%). The relative lack of support extended to these farmers in South Asia/East Asia/Pacific (39%) and Latin America/Caribbean (42%) is surprising and may indicate an opportunity that has not been pursued.

The number of HGSF traits exhibited by a program can indicate the "intensity" of HGSF values. Just under half (47%) of programs had at least four (out of 7) indicators, and there was a strong negative association with income level, whereby this value was 69% among programs in low-income countries and 56%, 32%, and 28% among programs in lower middle-, upper middle-, and high-income countries. Across regions, it was most common in Sub-Saharan Africa (66%) and South Asia/East Asia/Pacific (54%). The number of indicators of HGSF exhibited by a program is positively correlated with the diversity of both healthy and unhealthy foods, although the magnitude of this relationship is stronger for healthy foods.

EMERGENCIES

School meal programs were widely affected by emergencies during the 2022 school year. Specifically, 60% of programs reported being affected by at least one emergency during the reference period, and this was most common for programs operating in low-income countries, among whom 76% were affected by an emergency. By far, the most widely cited emergency of relevance to these programs was extreme food price inflation (at 37%), followed by closely associated supply chain disruptions (at 21%). For a large majority (72%) of programs that were affected by at least one emergency, the school feeding operations were not interrupted. This is a testament to the resilience and responsiveness of school meal programs, which often must find ways to reach children even under trying circumstances. An additional 18% of programs reported that school feeding ceased temporarily in some schools/regions, while 5% had to temporarily suspend feeding activities in all schools in which the program was active, and another 5% ceased activities up until the time of the survey in some (but not all) schools. Natural disasters, economic crises, and conflict were significantly associated with an interruption in school meal program operations. At the same time, some aspects of program design seemed to mitigate the impact of shocks. For example, government funding reduced the likelihood of disruption during a natural disaster, and the direct engagement of farmers similarly seemed to make programs more resilient during economic crises.

School meal programs employed a range of strategies to respond to emergencies and minimize their impact. One third of programs sought alternative food sources or suppliers, and 31% negotiated better prices with existing suppliers. A considerable share (28%) were able to expand the budget for the program in response to higher operating costs or a greater level of need, while it was less common (at 19%) for programs to source alternative foods to replace those that were newly expensive or scarce.

CONCLUSION

The value of this longitudinal survey increases the longer the survey is sustained. Since the first round of the Global Survey of School Meal Programs ©, we have seen improvement in the quality and quantity of data which countries are able to provide. Even if the tasks of collecting data, controlling for quality, and analyzing the results become significantly more challenging with each survey round, the data become richer, deeper, and more indicative of patterns as the survey is repeated and as the experience and knowledge of the Global Survey team broadens and deepens.

Government representatives, survey reviewers, researchers, donors, and other stakeholders around the world have shared resoundingly positive feedback on the Global Survey of School Meal Programs ©, confirming this as an extraordinarily unique and valuable resource whose value will continue to grow over time. We must, therefore, stay the course!

SECTION 1:
Introduction

1. INTRODUCTION

1.1 SCHOOL MEAL PROGRAMS IN AN ERA OF FOOD SYSTEMS TRANSFORMATION

For much of the past half century, the primary focus of food research, policy, programming, and advocacy has been on producing enough food to meet global demand. When merely increasing production failed to address global hunger and associated health challenges, the emphasis gradually shifted to ensuring food and nutrition security. This is attained when all people at all times have physical, social and economic access to food, which is consumed in sufficient quantity and quality to meet their dietary needs and food preferences, and is supported by an environment of adequate sanitation, health services and care, allowing for a healthy and active life (FAO, 1996).

Over time, those engaged in food research, policy, and advocacy have gained a deeper appreciation for understanding the food system in a holistic manner. A food system encompasses "all the elements (environment, people, inputs, processes, infrastructures, institutions, etc.) and activities that relate to the production, processing, distribution, preparation, and consumption of food, and the output of these activities, including socio-economic and environmental outcomes" (HLPE, 2017). This spans all processes—from farm to fork to landfill (Ingram, 2011).

Today, as awareness of environmental and social facets of the food system has grown, the focus of research, policy, and advocacy has further broadened to encompass the pursuit of food systems transformation. Such transformation entails a fundamental shift in the system's structure and orientation to ensure that food systems not only provide healthy diets and fair incomes along food value chains, but also achieve these outcomes in an environmentally sustainable manner (Dengerink et al., 2022). Thus, food systems transformation can be framed around five key goals (Ruggeri Laderchi et al., 2024): (1) ensuring access to healthy diets for everyone; (2) supporting robust livelihoods across the food system; (3) preserving intact lands while restoring degraded areas; (4) promoting environmentally sustainable food production; and (5) building resilient food systems that ensure food and nutrition security both in the immediate and long term.

School meal programs[1] —through which students are provided with meals, snacks, or take-home rations— aim to address multiple objectives, most commonly to improve children's nutrition and health and to meet education goals by facilitating and incentivizing children's school attendance and learning. In addition to these foundational objectives, these programs also have potential to play an important role in food systems transformation. This follows from the aggregate scale of these programs, which reach over 400 million children worldwide and are found in at least 148 countries. It also follows from the programs' multisectoral nature, with relevance for social protection, education, health and nutrition, agricultural and economic growth, and environmental sustainability (Bundy, 2009; Espejo et al., 2009; Fiese et al., 2020; IPES-Food, 2016; Oostindjer et al., 2017; Hunter et al., 2017). School meal programs therefore relate to each of the key goals of food systems transformation (Figure 1).

[1] *The terms "school meal programs," "school feeding programs," and "school food programs" are used interchangeably in reference to all school-based food programs.*

1.1.1 ACCESS TO HEALTHY DIETS

At their core, school meal programs aim to provide children with nourishment. They often function as a social safety net for vulnerable and marginalized populations, reaching children who otherwise would not access a healthy meal or snack during the school day. In some settings, children may consume up to half their daily calories at school (Cohen et al., 2021), underscoring the importance of school meals to children's welfare and health. For this reason, school meal programs usually aim to provide children with meals, snacks, or take-home rations that are balanced and healthy. Despite some scientific debate, there is broad agreement on the importance of diverse diets that include whole grains, fruits, vegetables, and nuts. It is increasingly accepted that consumption of animal-sourced foods (such as milk, meat, and yogurt) should decrease in high-income countries and increase in low-income countries to meet nutrient needs.

In addition to addressing undernourishment and ensuring micronutrient sufficiency through provision of foods containing critical vitamins and minerals, school meal programs also increasingly aim to reduce the risk of diet-related non-communicable diseases and address the global epidemic of child overweight/obesity. Specifically, programs have potential to emphasize healthy foods while avoiding ultra-processed foods and those that are high in fat, sugar, or salt. It is understood that healthy food habits are more easily acquired in childhood, and school meal programs have potential to shape food habits that can stay with children into their adulthood (Oostindjer et al., 2017). For this reason, programs are often paired with nutrition education. Moreover, by improving diets, school meal programs can help lower healthcare costs associated with malnutrition and obesity (Alaimo et al., 2001; Jackson et al., 2019; Tremmel et al., 2017).

1.1.2 SUPPORTING ROBUST AND EQUITABLE LIVELIHOODS ACROSS THE FOOD SYSTEM

The goal of achieving strong livelihoods across the food system focuses on improving incomes and job quality for the 1.2 billion people working in agri-food systems and the 3.8 billion people whose livelihoods depend on them (Davis et al., 2023). These livelihoods span various roles, from manual labor on farms to management in supermarket chains, with many workers engaged in the informal sector. School meal programs can influence livelihoods across the food system through the considerable power of public procurement. In particular, the use of locally produced foods can translate into income-generating opportunities for local farmers who benefit from having a reliable market for their produce. This is especially the case when programs work with smallholder farmers who do not otherwise have access to more distant markets. Through linkages with local/regional food producers and food distribution systems, school programs have considerable potential to enhance economic outcomes (Hunter et al., 2017; Marsden et al., 2000; Morgan & Sonnino, 2013), and this is the basis for the growing popularity of the home-grown school feeding modality. Nevertheless, it should be acknowledged that the realized impact of home-grown school feeding is likely to depend on the integration of local markets within and between countries, and there remains much to be learned about the performance of home-grown school feeding in different contexts.

In addition to serving as an opportunity for local food producers to serve as suppliers for school meal programs, these programs also support food system actors at other nodes of the food supply chain, i.e., at points along the chain where value is added. School meal programs give business to aggregators/wholesalers, procure food from processors, and contract with transporters to bring food to the schools. By designing procurement policies purposefully with the aim of supporting robust livelihoods across the food system, these programs therefore have potential to deliver reliable incomes and ensure fair working conditions. School meal programs also directly employ a large labor force of school cooks/caterers, food handlers, program managers, nutritionists, and quality inspectors. In some contexts, these programs can strategically set their employment policies to create jobs for youths, women, and other groups that may have difficulty finding employment.

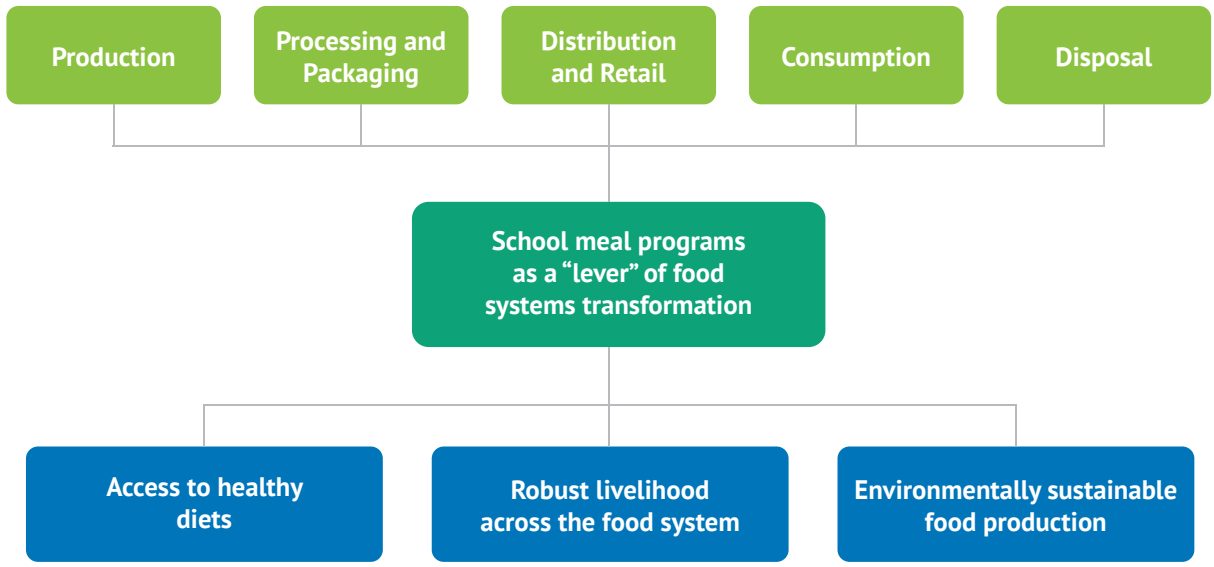
1.1.3 ENVIRONMENTALLY SUSTAINABLE FOOD PRODUCTION AND USE

Food systems contribute about a third of global greenhouse gas emissions and biodiversity loss, with agriculture playing a major role. Sustainable intensification, whereby yields are raised while protecting ecosystems, is essential to limit the negative impact of the food system on the environment. As school meal programs procure food on a large aggregate scale and therefore have scope to set their own procurement standards, they have immense potential to influence the environmental sustainability of food production. As noted by Ruge (2023), "changes to the world's national school meals programs can create demand-driven planet-friendly actions in local agriculture, with added benefits for the environment and the planet."

Programs can pursue environmental sustainability through various avenues. For example, they can strategically select school menus to include products that are environmentally friendly, as by (in some settings) decreasing the amount of ruminant meat and increasing the amount of protein derived from plants. Likewise, aquatic foods may be selected because they tend to be produced more sustainably than other animal-source foods (Ruge, 2023). In light of the rising frequency of climate extremes, school meals may also purposefully include crops that are drought-resistant or flood-tolerant, and can privilege crops that contribute to soil health, such as nitrogen-fixing legumes. Through use of seasonally-available products and local sourcing, school meal programs can reduce the distance that food travels to reach the schools. These programs are also sometimes in position to set standards for food production processes, such as insisting that foods be produced with limited use of environmentally-damaging agrochemicals. By using their substantial purchasing power judiciously, school meal programs can be "instruments of transformation, nudging markets towards more sustainable and equitable practices" (SFI, 2023).

School meal programs can also pursue environmental sustainability through efforts to minimize food loss and waste. Around 14% of the world's food is lost between harvest and retail (the midstream of the food value chain), and 17% is wasted at the point of food preparation and consumption (FAO, 2019b; UNEP, 2021). Reducing food loss reduces, in turn, the extent of food production needed to feed the world's population. School meal programs can combat food loss and waste by extending support to their suppliers to reduce post-harvest loss (such as with agricultural extension) and by carefully storing and treating food to limit the amount that is lost in school kitchens and storerooms. Yet another step toward sustainability comes in the form of "clean cooking" methods which protect health and environment by producing fewer harmful emissions.

Figure 1. School meal programs as a lever of food systems transformation



Source: Authors

1.2 OBJECTIVES OF THE GLOBAL SURVEY OF SCHOOL MEAL PROGRAMS ©

The Global Survey of School Meal Programs © was launched in 2019 in response to a global data landscape on school meals that was incomplete, inconsistent, and focused on programs that were implemented by international entities. Prior to the Global Survey, it was rather difficult to find information on school feeding activities at a global scale. Information was publicly available for some countries but not others, and information was more readily available for programs that were implemented by international entities, such as the World Food Program, Catholic Relief Services, or Mary's Meals. The scale of programs that were funded, managed, and implemented by national governments was less recognized, with information about such programs much less prominent. It was nearly impossible to gauge trends over time in school feeding at a global scale, as information in each country or for individual programs was published sporadically, if at all. Moreover, this information was scattered and disorganized—a state of disarray that inhibited monitoring, learning, and accountability.

In 2019, the Global Survey was launched to gather information about school meal programs in every country in a standardized manner. The survey spans a broad set of topics of relevance to school feeding (e.g., health, nutrition, employment), bringing them together under one umbrella to highlight their linkages. The survey is designed to be completed by a "focal point" who is officially appointed by their government to liaise with the necessary entities to gather together the information for the survey. The governments' submission of data on their countries' program(s) strengthens government ownership of the data and centers the governments in the story of school feeding. From the start, the intention was to repeat the Global Survey every 2-3 years to build a longitudinal data set that could uncover trends over time in school feeding activities.

Since 2019, GCNF has been able to share with the world a standardized database of numerous indicators related to school meal programs. This database is rigorously documented, with indicators constructed in an identical manner for each country or each school meal program. The information is intended for use by governments (to track and become more aware of what is taking place in their countries, to make evidence-based policy decisions, and to advocate for their programs), donors and development partners (to identify areas in need of support), researchers (to access reliable data for research purposes), civil society (to hold leaders accountable and help improve school meal programs), and other school feeding stakeholders. The Global Survey data have also been incorporated into the World Food Program's periodic State of School Feeding Worldwide report (2020, 2022) as well as other databases.

1.3 LESSONS LEARNED FOR THE FIRST TWO SURVEY ROUNDS

The Global Survey of School Meal Programs © was conducted for the first time in 2019 and again in 2021. The questionnaire, glossary, and data collection process were developed from scratch in the lead-up to the 2019 survey round, with consideration of the rather unique structure of a survey that is administered to country governments to collect information on school feeding activities within the country. Several lessons learned in the course of administering the first two survey rounds have informed the design and implementation of the survey in 2024.

1.

The success of the survey hinges on the neutrality of GCNF. This is because country governments—particularly those seeking external support for school feeding—may feel uncomfortable when asked to provide information on the scale, nature, and cost structure of school meal programs. At the same time, a data collection effort led by a program funder or implementer may inadvertently color the data in a manner that strengthens the implementer's position. GCNF is neither an implementer nor a funder of school meal programs. Rather, its mission is to ensure that governments have the knowledge and tools they need to achieve their school feeding goals. As such, GCNF is widely regarded as neutral and non-judgmental in the course of data collection, and this neutrality is at least part of the reason country governments have been willing to share their data for inclusion in the global database on school meal programs. To date, 167 countries have participated in the Global Survey of School Meal Programs ©.

2.

The success of the survey also rests on the "human touch" extended by GCNF's survey team. This team is composed of individuals from (and based in) countries all over the world. In addition to being dedicated and tenacious, the team engages with country governments in a manner that is collegial and considerate. This facilitates the development of warm relationships with the individuals who may influence their government employers to participate in the survey and/or undertake the considerable work of completing the survey. The empathy and good nature exhibited by the GCNF survey team is a large part of what has made this initiative a success.

3.

Some important topics had not been accorded enough attention in the first two rounds of the survey. The questionnaire gave considerable attention to the primary aims of school meal programs, namely, to improve children's food security and nutrition and to meet educational goals. However, the way school meal programs are impacted by environmental factors and, in turn, have an impact on the environment had not been captured in adequate detail in earlier survey rounds. Yet the role of environmental stress in school meal program operations, along with the growing prioritization of sustainability in program design, was evident in the responses given to open-ended questions in the Global Survey of School Meal Programs ©. Programs are disrupted by both slow-moving crises, such as droughts, and by natural disasters, such as floods. Often, they also aim to emphasize local food sourcing and reduce food waste to mitigate climate change and limit their impact on the environment. This topic has gained prominence in recent years (School Meals Coalition 2023) and merited more space in the survey.

4.

Some aspects of data collection were revised over time to make the resulting data set more useful. While the first survey round asked countries to report on their most recently completed school year, subsequent survey rounds specified a precise school year for greater cross-country comparability. Earlier survey rounds were also more wholly accepting of responses submitted, giving considerable weight to the government's ownership of the data with limited questioning of the numbers received. Over time, however, a multi-stage process of data validation has incrementally emerged to better ensure that the survey team understands the survey responses and finds the overall story to be logical.

5.

The value of this longitudinal survey increases the longer the survey is sustained. The existence of a pre-Covid-19 baseline (collected in 2019 and mostly reflective of the school year that began in 2017) enabled the survey to later illuminate, in 2021, the effect that the global pandemic had on school meal program operations during the 2020 school year. These two points in time, however, could not on their own indicate a trend over time in school meal programs, especially given the jolt introduced by the pandemic. At least one more data point would be needed before the survey could present a trend over time in school meal program coverage, funding, and other topics. As the same countries participate repeatedly in the survey, and as the survey is sustained over additional rounds, the "story" that is revealed by this data resource will deepen and grow in value.

SECTION 2:
Data and Methods

2. DATA AND METHODS

2.1 GCNF DATA COLLECTION IN 2024

Prior to launching the 2024 round of the Global Survey of School Meal Programs ©, GCNF embarked on an inclusive process of refining and revising the survey questionnaire and the methodology of data collection. Toward this end, GCNF circulated an online feedback form and held multiple (virtual) stakeholder consultations with individuals from all over the world who have engaged with the survey in previous years. The input received through this process was used to improve the survey and best ensure it could meet the needs of its many users.

The 2024 survey collected information on the school year in each country that began in the year 2022 (hereafter referred to as "the 2022 school year" or "the reference period"). As in previous survey rounds, to maintain continuity and comparability across years, the survey gathered information on the scope of large-scale school feeding activities in the reference year; funding for school meal programs; the government's financing of and engagement in these programs; agricultural and private sector engagement; nutrition-, education-, and gender-related aspects of school feeding; related health and food safety topics; and jobs created. Information was gathered at the level of each country as well as each large-scale school meal program.

The 2024 survey round also included several new features. This round saw a greater focus on topics related to environment/sustainability/climate change. The module on the contents of the school food basket was revised so that the food categories are mostly aligned with those used in the newly developed Global Diet Quality Score (GDQS) (Bromage et al. 2021). The GDQS framework accounts for both healthy and unhealthy food consumption, addressing the dual imperatives to ensure diet adequacy and reduce the risk of diet-related non-communicable diseases. The survey also included some new questions on the school food environment, the impact of emergencies and strategies used in response, and the nature of home-grown school feeding (HGSF) programs. In addition, unlike in past survey rounds, the 2024 survey included an alternate module to be completed in countries that reported they did not have any large-scale school meal programs in the reference year. This module collected information on past history of school feeding activities and any future plans to introduce or restart large-scale school feeding programs.

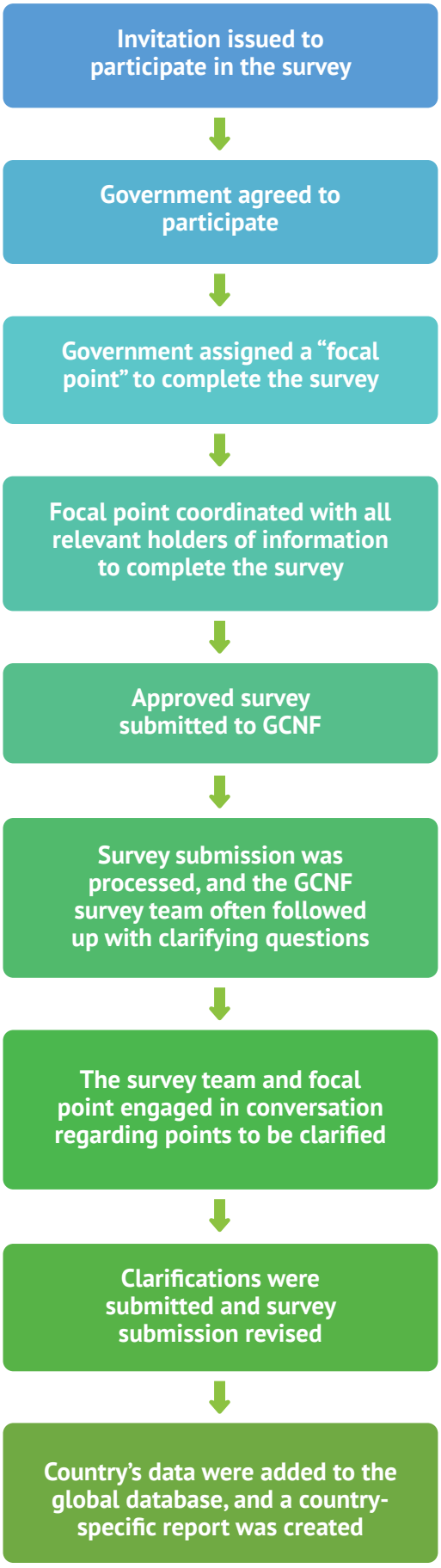
The 2024 survey was made available in several formats, including as a fillable PDF form, a Word document, and an online survey. Overwhelmingly, the fillable PDF format was preferred. The survey was made available in English and seven other languages, including Arabic, Chinese, French, Japanese, Portuguese, Russian, and Spanish.

GCNF's survey team was composed of individuals with diverse language skills who were each assigned the responsibility of engaging with a portfolio of countries. As in previous survey rounds, an invitation to participate in the survey was extended to all national governments. These include all countries with a seat in the United Nations, as well as those with observer status, summing to 194 countries. These invitations were issued through public calls for participation (via GCNF's newsletter and website, as well as other networks) and through individual outreach to contacts in each government.

If a country government was interested in participating in the survey, they initiated an internal procedure to secure and convey the official commitment to complete a survey. The survey process is illustrated in Figure 2. At this point, each government was asked to assign an individual "focal point" who was knowledgeable of school feeding activities and who would assume the responsibility of gathering together the information needed to complete the survey. This focal point often needed to communicate with multiple departments/ministries and program implementers in order to coordinate the survey submission. Given its complexity, the time needed to complete the survey could extend from several weeks to several months. Throughout this process, the GCNF survey team was available to answer any questions.

Once the Focal Point submitted a completed and approved survey for their country, the GCNF survey team reviewed the submission for any points that were not clear. At this point, the survey team would often return to the focal point with questions of clarification. When all points were clarified to the extent possible, the survey was considered 'final', and the country's survey was added to the global database on school meal programs.

Figure 2. A survey's journey



2.2 STEPS TAKEN TO ENSURE DATA QUALITY

Collecting data at the country level is often challenging, and gathering data in settings of limited resources or decentralized program management is particularly difficult. GCNF takes steps to validate the data received through the Global Survey of School Meal Programs © in a series of data quality checks.

1.

The survey was structured to touch on some key topics multiple times. In the course of reviewing each survey, this structure offered an opportunity to verify that the survey was internally consistent, and to probe the focal point's understanding of a given question from various angles.

2.

The survey team checked for outliers (unusually large, small, or odd values) relative to the global distribution of responses. Values that may potentially be typos were confirmed with the focal point in a back-and-forth dialogue before the survey was finalized.

3.

As this was the third round of the survey, a reference library of historical information has been developed to support this process. The survey team compared information received in 2024 to earlier responses submitted for a given country to ensure that the 'story', including the reason behind any unexpected discrepancies, made sense.

4.

Where feasible, information was triangulated with secondary sources of information, such as donor records or the publicly accessible monitoring reports of the EU School Fruit, Vegetables, and Milk Scheme.

5.

Each focal point was appointed by their government and was expected to clear the final submission with their respective ministry/office, in accordance with protocols (including data quality checks) within their own institutions.

6.

An easy-to-digest summary of each survey submission in the form of a "country report" was created and shared with the focal point. This served as another opportunity for the government to review their responses.

Since the first round of the survey, GCNF has seen progressive improvement in data quality. This trend is expected to continue as governments strengthen their data collection and reporting systems, claim stronger ownership of their data, gain a more comprehensive understanding of their own school meal programs, and become increasingly familiar with the Global Survey.

2.3 DATA COVERAGE

The 2024 Global Survey of School Meal Programs © received a response from 142 country governments, which represents 73% of the 194 countries that were invited to participate in the survey (Table 1, Figure 3). Twelve countries participated in the survey for the first time in this survey round, including Albania, Costa Rica, Djibouti, Dominica, Dominican Republic, Jordan, Japan, South Korea, Morocco, Marshall Islands, Papua New Guinea, and Tanzania. The percentage of participating countries varied by region, with the greatest participation rate seen in Sub-Saharan Africa (at 90%) and the lowest rate seen in the Middle East/North Africa (at 57%). This rate also varied across country income groups, with 88% of low-income countries and 81%, 69%, and 63% of lower middle-income, upper middle-income, and high-income countries, respectively, participating in the survey. In total, 68% of the world's population resides in the 142 countries that participated in this round of the survey. Again, this rate varies across region, with 96% of the population of Sub-Saharan Africa residing in the 43 countries that participated, and 80% of the population of Latin America & the Caribbean residing in the 19 countries that participated in the survey.

Among the 142 participating countries in this survey round, 125 countries reported that they had some large-scale school feeding activities taking place in the school year that began in 2022 (Table 2). Because it is common for multiple distinct school meal programs to operate within the same country, these countries reported on a total of 207 individual school meal programs. The vast majority of this report will be based on data from the 142 countries that responded to this survey round and the 207 individual school meal programs that were operating within them in the 2022 school year.

Table 1. Data coverage of the 2024 Global Survey of School Meal Programs ©

		Number of countries	Number of surveys	Share of countries with data (%)	Population share of countries with data (%)
Region	Sub-Saharan Africa	48	43	90	96
	South Asia, East Asia & Pacific	38	28	74	64
	Middle East & North Africa	21	12	57	38
	Latin America & Caribbean	33	19	58	80
	Europe, Central Asia & North America	54	40	74	59
Income Group	Low Income	26	23	88	89
	Lower Middle Income	54	44	81	46
	Upper Middle Income	54	37	69	85
	High Income	60	38	63	73
All		194	142	73	68

Note: The region groupings used in this report loosely match those employed by the World Bank. However, the South Asia and East Asia/Pacific categories are combined, and the North America and Europe/Central Asia categories are likewise combined to ensure a suitable number of countries in each group. The country income groups used in this report reflect the World Bank classifications in 2022 (World Bank 2023).

Table 2. Number of countries with data that had school meal programs in 2022

		Number of countries in database that have school meal programs	Number of school meal programs
Region	Sub-Saharan Africa	41	90
	South Asia, East Asia & Pacific	19	26
	Middle East & North Africa	10	13
	Latin America & Caribbean	19	20
	Europe, Central Asia & North America	36	58
Income Group	Low Income	23	54
	Lower Middle Income	37	61
	Upper Middle Income	29	34
	High Income	36	58
All		125	207

Figure 3. Data coverage for the 2024 Global Survey of School Meal Programs ©

For just a few select pieces of information, the set of countries for analysis has been expanded beyond this group of 142 in order to ensure a more comprehensive perspective. Specifically, for analysis of school feeding coverage (the number and share of children reached with school food) and school feeding budgets, the set of countries was expanded to 169 by alternately drawing on desk reviews of government-published information for the reference year (i.e., the 2022 school year) or by imputing the 2022 values with information submitted in previous rounds of the Global Survey of School Meal Programs ©. In total, desk reviews were conducted for 5 countries, information from the 2021 survey round (referencing the 2020 school year) was used for 17 countries, and information from the 2019 survey round (usually referencing the 2017 school year) was used for 5 countries. (For two countries, Haiti and Sudan, although information from prior survey rounds was available, this was not used as conditions in these countries had dramatically deteriorated by 2022.) It follows that, just for analysis of school feeding coverage and school feeding budgets, the data coverage for this report is more comprehensive, including 87% of the world's countries which together hold 94% of the world's population.

Table 3. Number of countries with key data on school feeding coverage and funding (with missing values for the 2022 school year imputed)

		Share of countries with data (%)	Population share of countries with data (%)
Region	Sub-Saharan Africa	92	100
	South Asia, East Asia & Pacific	92	99
	Middle East & North Africa	71	64
	Latin America & Caribbean	79	90
	Europe, Central Asia & North America	91	86
Income Group	Low Income	88	96
	Lower Middle Income	89	95
	Upper Middle Income	83	95
	High Income	88	89
All		87	94

2.4 DATA ACCCESS

The Global Survey of School Meal Programs © is a public good which broadly benefits all who are interested in school feeding, including governments, donor agencies, researchers, and other stakeholders. GCNF has purposefully ensured that the data can be accessed easily. As such, the survey data are made available to the public in several formats. Country-level reports (standardized fact sheets) based on the survey submissions are available on the GCNF website (gcnf.org/country-reports/). Some of these country reports have been translated to other languages. The full database, which maps directly onto the survey questionnaire, can also be downloaded from this same web page. This data package additionally includes a set of over 100 key variables that have been carefully constructed at country-level for each survey round. Finally, the GCNF website includes an interactive dashboard of findings based on the Global Survey of School Meal Programs © (gcnf.org/interactive-dashboard/). The latter is a tool through which the public can query the survey without working directly with the data.

SECTION 3:

School Meal Programs Around the World in 2022

3. SCHOOL MEAL PROGRAMS AROUND THE WORLD IN 2022

3.1 COVERAGE OF SCHOOL MEAL PROGRAMS AND CHARACTERISTICS OF BENEFICIARIES

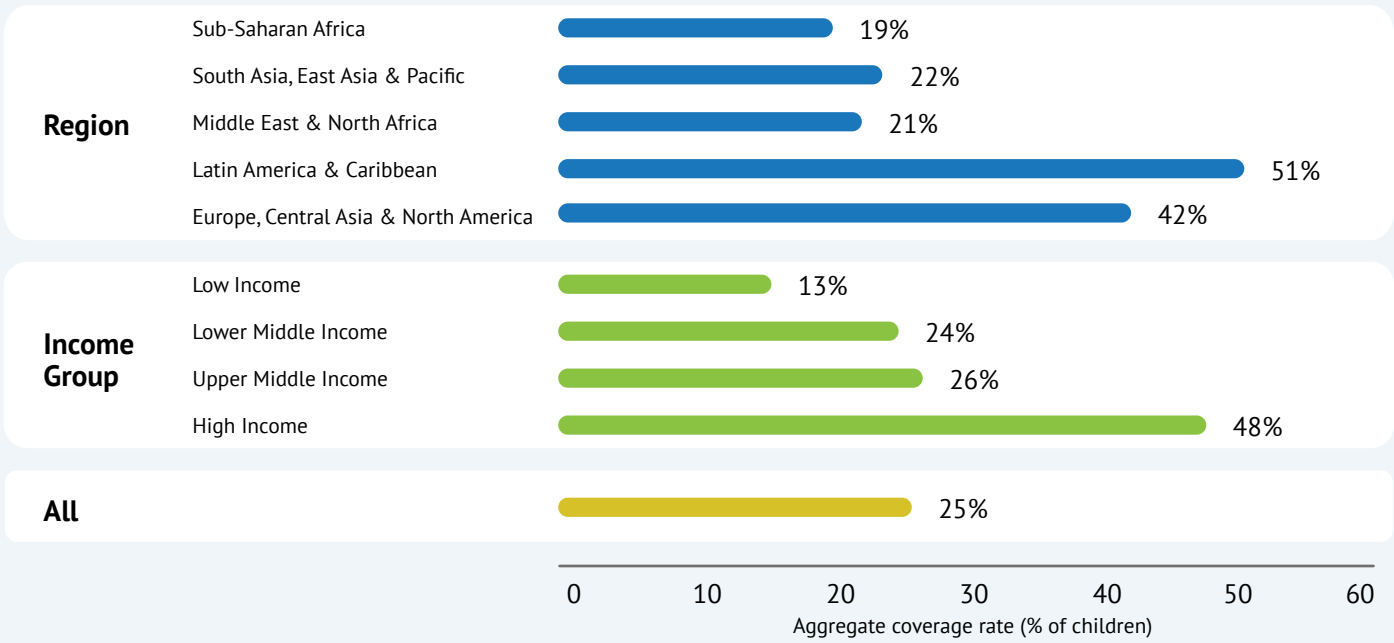
3.1.1 Number of children fed:

Across the 169 countries for which there is information on school feeding coverage, a total of 407.8 million students were reported (or estimated) to have received food through their schools in the 2022 school year. Among these, 180.1 million (44%) were in the South Asia/East Asia/Pacific region; 74.5 million (18%) were in the Europe/Central Asia/North America region; 67.9 million (17%) were in Sub-Saharan Africa; 66.5 million (16%) were in the Latin America/Caribbean region; and 18.7 million (5%) were in the Middle East/North Africa region. While it was not possible in every country to report the numbers by school level, at least 26.5 million preschool-age children, 279.0 million primary school-age children, and 100.4 million secondary school-age children received food through school meal programs in the reference year.

3.1.2 Coverage of primary and secondary school age children:

The school feeding coverage rate is the share of children that received food through their schools. This fraction can be constructed with all children in the denominator or, alternately, only enrolled students in the denominator. In this report, the main measure of school feeding coverage is the share of primary and secondary school-age children who received food in the 2022 school year. In the denominator, this includes both enrolled students and out-of-school children, and it includes children considered to be of age to attend school in each country. Across the 169 countries for which there is information, 25% of all school-age children received some school food (Figure 4). This value varies with income level, extending from 13% in low-income countries to 24%, 26%, and 48% in lower middle-income, upper middle-income, and high-income countries, respectively. There is strong variation across regions, with the greatest coverage rate seen in Latin America/Caribbean at 51% of all school-age children.

Figure 4. Aggregate school feeding coverage rates



Reminder: "Income group" refers to the World Bank classifications of country income levels in 2022 (World Bank 2023).

3.1.3 Coverage rates by age group:

As school meal programs are most commonly directed toward primary school children, the school feeding coverage rate varies by age group. Across the 169 countries for which there is information, 38% of primary school-age children received school food, while this value was 8% for preschool-age children and 13% for secondary school-age children. As expected, coverage rates for each age group varied by income level (Figure 5), with especially low rates of coverage seen for preschool-age children in low-income and lower middle-income countries and for secondary school-age children in low-income countries.

Notably, the pattern of greater coverage for primary school-age children was evident even among high-income countries where 61% of primary school-age children and 37% of secondary school-age children received school food. A similar disaggregation by region further reveals some interesting geographic patterns (Figure 6). For example, whereas other regions displayed much lower rates of preschool-age coverage, Latin America/Caribbean reached 47% of preschool-age children with school food. However, the same region achieved a much lower coverage rate (29%) for secondary school-age children.

Figure 5. Aggregate school feeding coverage rate across income groups, disaggregated by age group

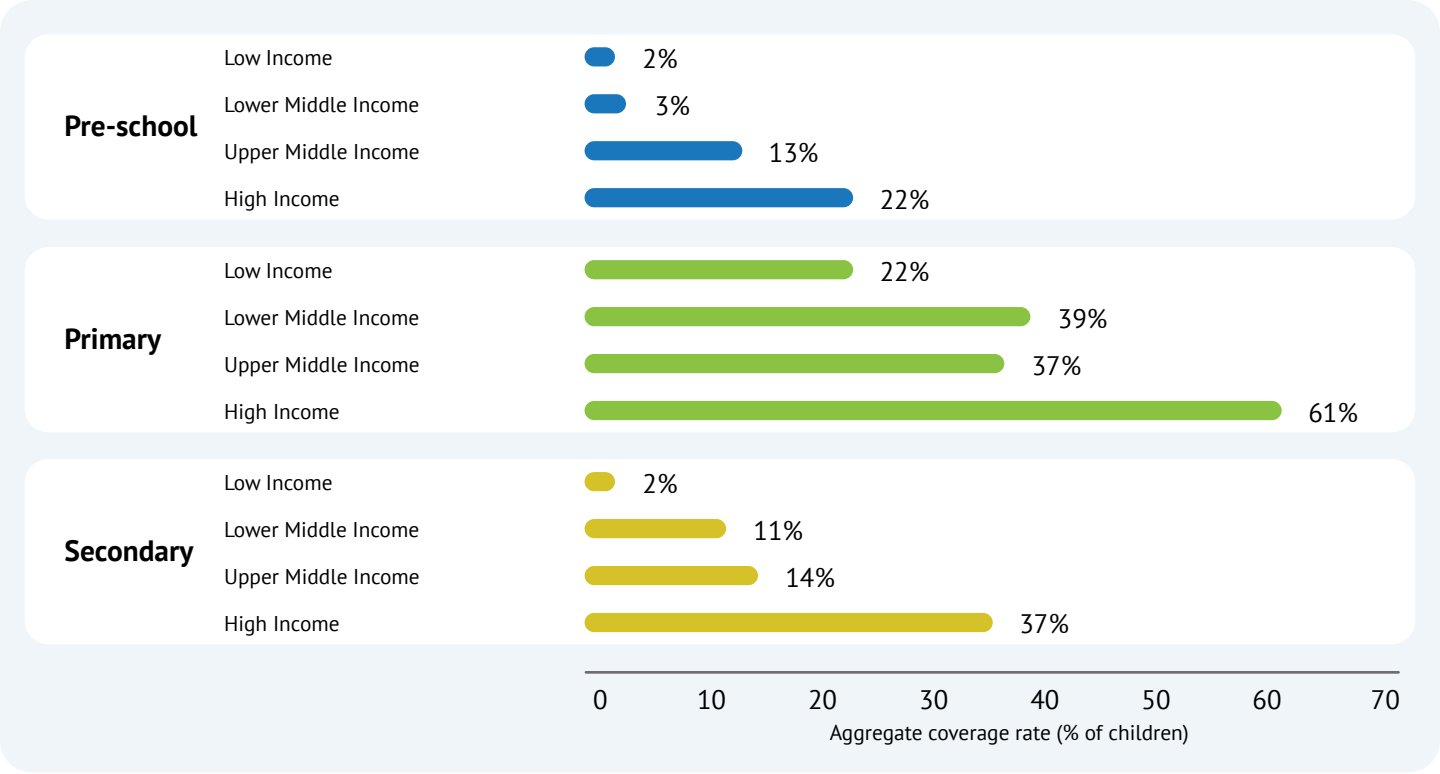
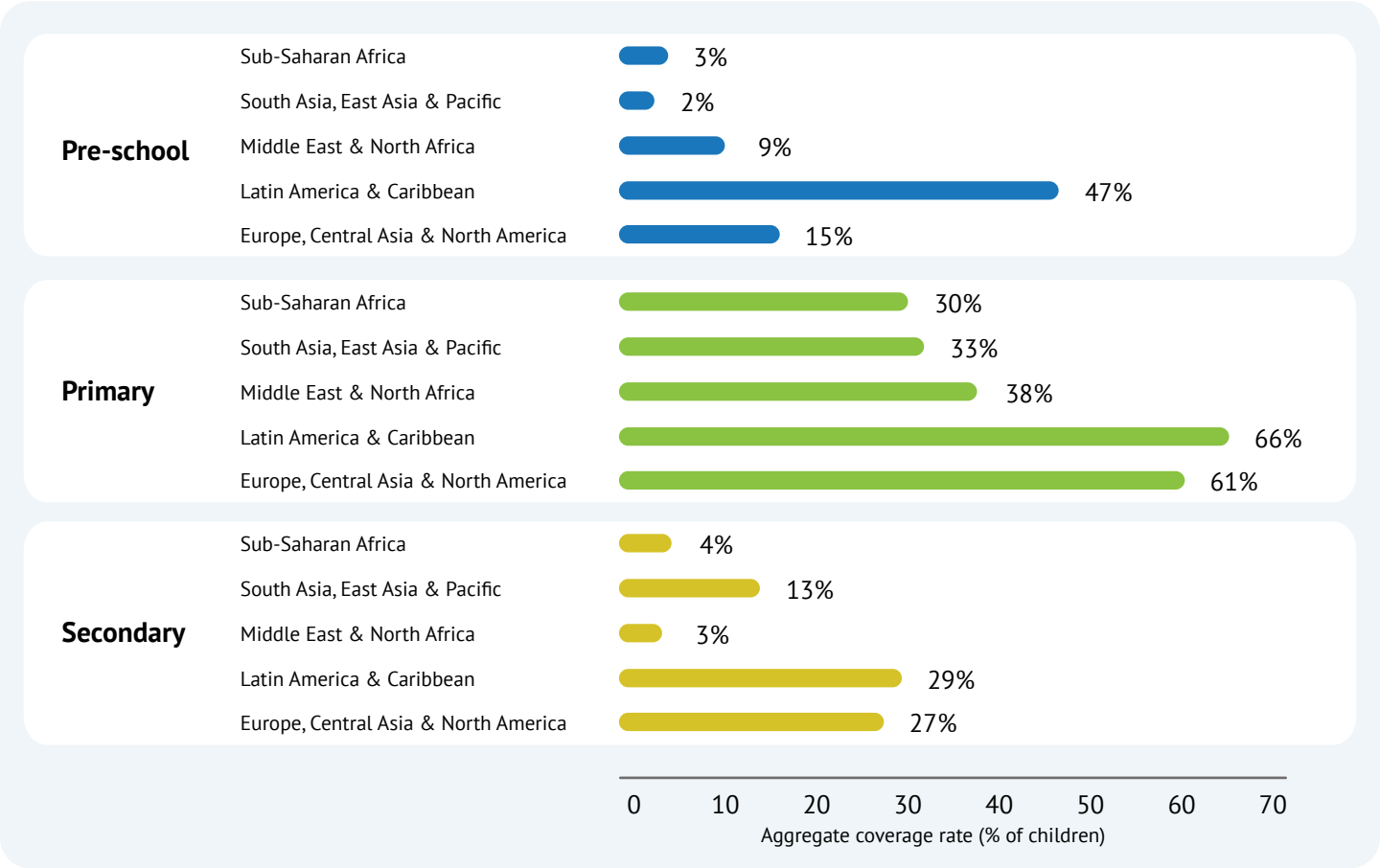


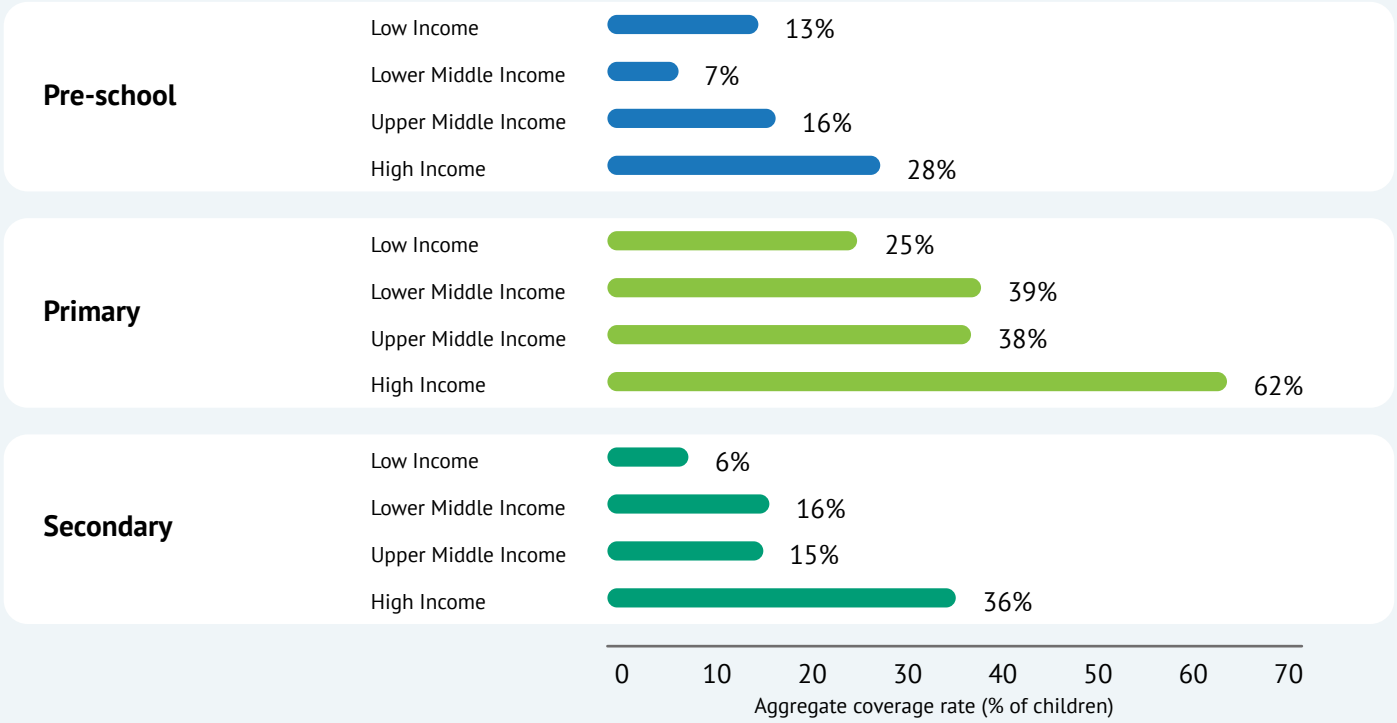
Figure 6. Aggregate school feeding coverage rate across regions, disaggregated by age group



3.1.4 Coverage rates for enrolled students:

Because school meal programs, by definition, operate in schools, they generally only reach enrolled students. As some children are not in school (especially at the secondary level), this means that the coverage rate is higher for enrolled students than for all children. Indeed, the global coverage rate for enrolled primary school students was 39% (a difference of one percentage point), while the global coverage rate for secondary school students (including those enrolled in vocational/trade schools) was 18% (a difference of 5 percentage points). Using enrolled students as a denominator makes a particularly big difference at the preschool level, where, for example, 2% of all preschool-age children in low-income countries received school food, whereas this value was 13% for enrolled preschool students (Figure 7). Note that the share of enrolled primary school students reached with school meal programs has recently been proposed as a new Sustainable Development Goal (SDG) indicator (UIS 2022).

Figure 7. Aggregate school feeding coverage rate across income groups, disaggregated by enrolled school level

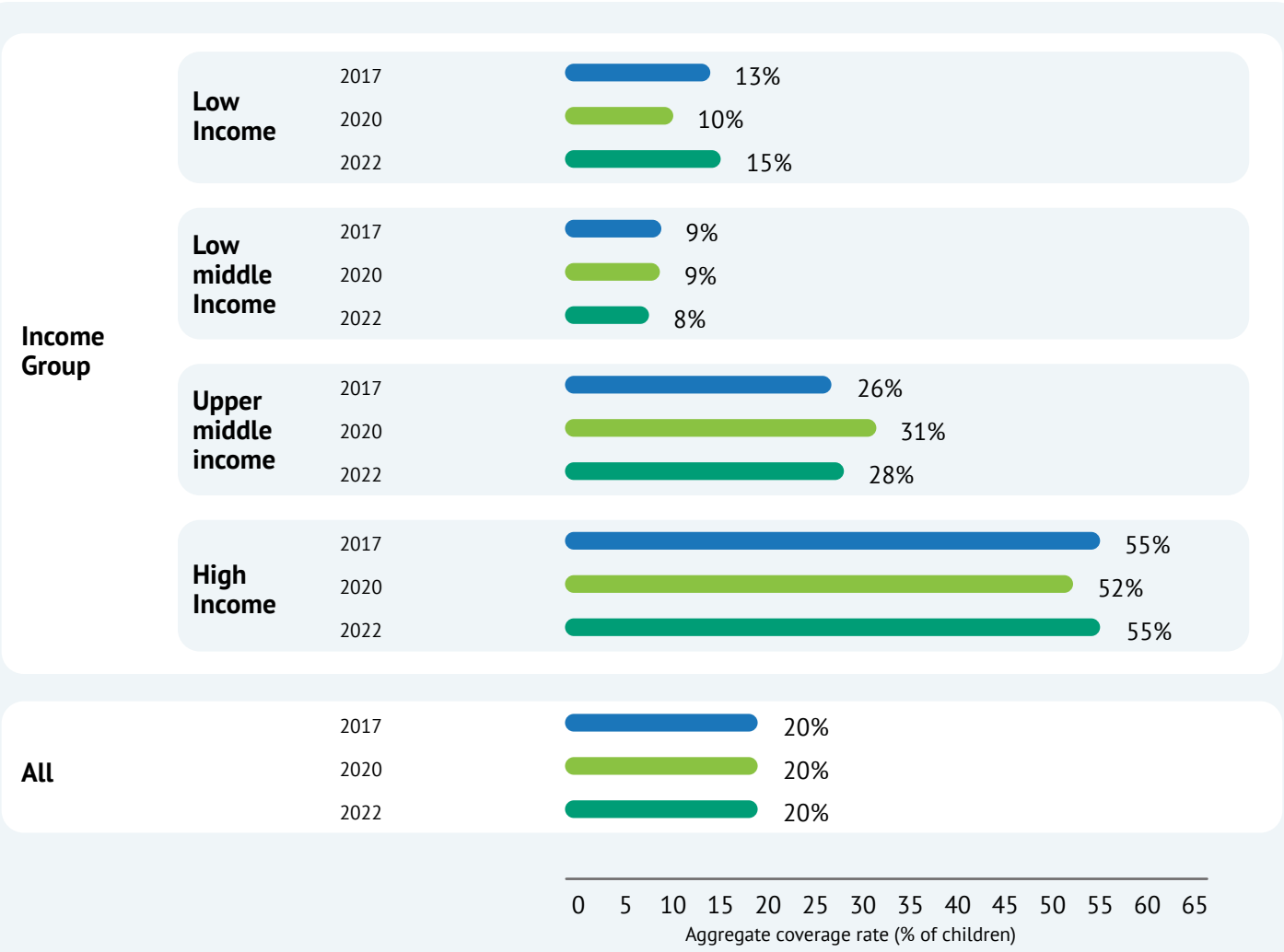


3.1.5 Trends over time in coverage:

The Global Survey of School Meal Programs © has now been conducted three times, capturing information about the school years that began in 2017, 2020, and 2022. This time span overlapped the Covid-19 pandemic, the establishment of the School Meals Coalition (SMC n.d.), and various other events in different regions of the world that could alternately destabilize or bolster school meal programs. In total, 81 countries participated in the survey three times, 59 countries participated twice, and 27 countries participated once (among which 12 participated for the first time in the 2024 survey round). For the subset of countries that participated three times, it is possible to track whether school feeding coverage has expanded or contracted over time. Across these countries, the aggregate coverage rate remained remarkably consistent at 20% in each year (Figure 8). The coverage rate in each income group varied somewhat over time, but without showing any monotonic trend.

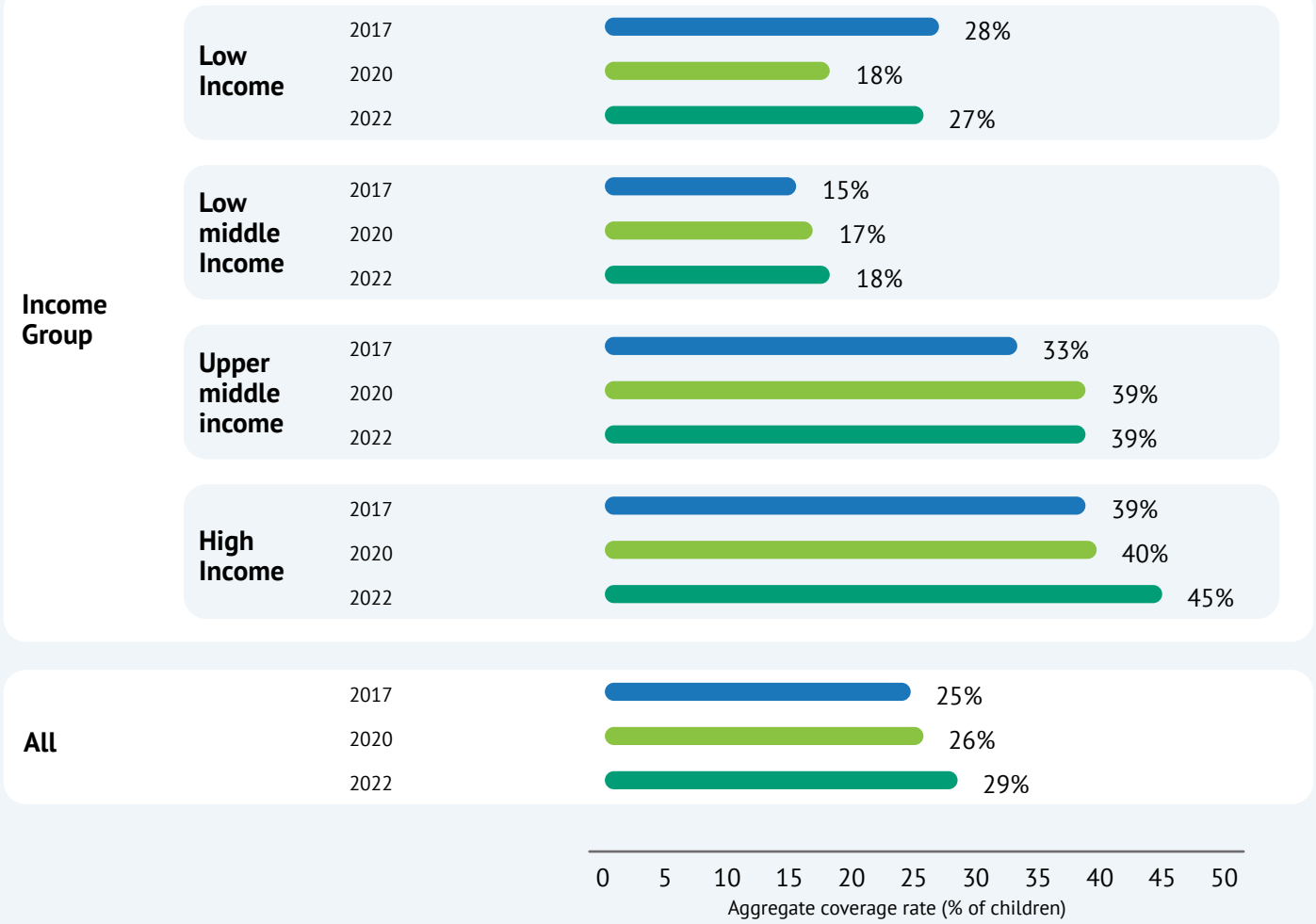
A somewhat more promising story emerges when attention is limited to the coverage of enrolled primary school students, in line with the recently proposed SDG indicator (UIS 2022) (Figure 9). Specifically, among these same countries, there has been an upward trend over time in school feeding coverage for this population, rising from 25% in 2017 to 26% and 29% in 2020 and 2022, respectively. This coverage rate rose over time in all income groups except low-income countries where the school feeding coverage rate of primary school students dipped in 2020 and almost recovered in 2022. It should be noted that the total number of primary school students reached in these low-income countries did increase in 2022, growing from 90 million to 97 million to 102 million. However, the denominator in this measure of coverage grew at a similar rate as the numerator as low-income countries experience relatively high population growth and a "youth bulge" in their population structure.

Figure 8. Aggregate school feeding coverage rate across income groups (2017–2022)



Note: This figure is limited to the 74 countries that participated in the survey three times and have information for both the numerator and denominator of this coverage measure.

Figure 9. Aggregate school feeding coverage rate among enrolled primary school students (2017–2022)



Note: This figure is limited to the 75 countries that participated in the survey three times and have information for both the numerator and denominator of this coverage measure.

3.1.6 Link between school feeding coverage and school enrollment:

As will be discussed in section 3.2, a key objective of school meal programs is to reduce barriers to education and increase rates of school enrollment, particularly in settings where enrollment rates are low. The data set produced by the Global Survey of School Meal Programs © can be used to explore the relationship between the national-level school feeding coverage rate and the national school enrollment rate. Results of linear regressions used to explore this relationship in a cross-section (for the year 2022) are reported in Table 4. In column 1, the primary enrollment rate is regressed on the primary school-age coverage rate, as well as several other factors that may be associated with enrollment, including the country population, gross domestic product (GDP) per capita, and region. Among the 130 countries with complete information, there is a positive and statistically significant association between the primary school-age school feeding coverage rate and the primary enrollment rate. Specifically, a 1 percentage point increase in the school feeding coverage rate is associated with a 0.001 percentage point increase in enrollment. Column 2 repeats this analysis at the secondary level, and column 3 repeats this at the combined primary and secondary levels, again revealing a positive and statistically significant association. While these are associations and not necessarily causal relationships, this is at least suggestive that school feeding can improve national rates of enrollment.

In Table 5, this regression analysis is expanded to take advantage of the longitudinal nature of the data set resulting from this survey. The first and third rounds of the survey are analyzed, this time using country fixed effects to control for time-invariant country characteristics that may also be associated with enrollment. This shows whether variation over time in a country's school feeding coverage rate is associated with variation over time in its enrollment rate. The second round of the survey is omitted from this analysis in order to avoid the confounding factor of the Covid-19 pandemic, through which school closures could simultaneously affect both enrollment and school feeding coverage. Results in column 1 show a positive but statistically insignificant relationship at the primary school level. However, results in columns 2 and 3 reveal a relationship that is much stronger than what was revealed in a cross-sectional analysis. Specifically, a 1 percentage point increase in the school feeding coverage rate is associated with a 0.205 percentage point increase in enrollment at the secondary school level, and a 0.195 percentage point increase in enrollment for primary and secondary school levels combined. This again underscores the potentially transformative impact of school feeding.

Table 4. Relationship between school feeding coverage rate and school enrollment rate (cross-sectional OLS regressions for the 2022 school year)

	(1) Primary enrollment rate (%)	(2) Secondary enrollment rate (%)	(3) Primary + secondary enrollment rate (%)
Primary school-age coverage rate (%)	0.001**	-	-
Secondary school-age coverage rate (%)	-	0.001**	-
Primary + secondary school-age coverage rate (%)	-	-	0.001***
Country population (10s millions)	0.000	0.001	0.000
Country GDP per capita[a]	0.001	0.002***	0.001*
Region			
Latin America & Caribbean	-0.053	-0.052	-0.058*
Middle East & North Africa	0.021	0.015	0.033
South Asia, East Asia & Pacific	0.043*	-0.038	0.005
Sub-Saharan Africa	-0.039	-0.322***	-0.140***
Constant	0.892***	0.801***	0.839***
Observations	130	125	124
R-squared	0.146	0.548	0.414

*Only coefficients are shown; robust standard errors; *** p<0.01, ** p<0.05, * p<0.1*

[a]GDP per capita (thousands of dollars) reported in purchasing power parity using constant 2017 international $ in 2022

[b]Europe, Central Asia & North America as base group

Table 5. Relationship between school feeding coverage rate and school enrollment rate (linear regression with country fixed effects, 2017–2022)

	(1) Primary enrollment rate (%)	(2) Secondary enrollment rate (%)	(3) Primary + secondary enrollment rate (%)
Primary school-age coverage rate (%)	0.038	-	-
Secondary school-age coverage rate (%)	-	0.205***	-
Primary + secondary school-age coverage rate (%)	-	-	0.195***
Country population (10s millions)	0.827	-0.095	0.797
Country GDP per capita[a]	-0.054	1.322	0.799
Year (2017=1, 2022=5)	0.504	-0.611	-0.005
Constant	85.985***	53.010**	61.920***
Observations	250	240	240
Number of unique countries	159	154	154
Country fixed effects	yes	yes	yes
Within R-squared	0.035	0.032	0.049

*Only coefficients are shown; *** p<0.01, ** p<0.05, * p<0.1*

[a]GDP per capita (thousands of dollars) reported in purchasing power parity using constant 2017 international $ in 2022

3.2 COMPONENTS OF SCHOOL MEAL PROGRAMS

3.2.1 Objectives:

School meal programs balance various objectives that span the multitude of areas in which these programs have impact. Across all programs in the world, the most common objective cited in the 2022 school year was to meet nutritional and/or health goals (Figure 10), and this value was fairly consistent across all income groups (Figure 11). The next most commonly cited objective was to meet educational goals, which was reported by 85% of programs. This objective, however, was strongly associated with income, with nearly all programs in low-income countries understanding their role in support of the education system, whereas this was the case for just 66% of programs in high-income countries. The role of school meal programs in reducing hunger was also noted, though again, this had a strong association with income. A majority (65%) of programs also served as a social safety net to cover the needs of vulnerable segments of the population.

Over half (61%) of programs in the world cited an objective to enable smallholder farmers, though this was much more common in lower- and lower middle-income countries, likely reflecting these countries' position at the start of the process of structural transformation whereby the economy evolves from one oriented around agriculture to one focused on other sectors. Under half (41%) of programs cited an objective to address gender-specific challenges, such as barriers that especially prevent girls from attending school or continuing their education past the primary level. Again, this imperative was more salient in lower- and lower middle-income countries where gender imbalances in school enrollment are greater. Overall, the least cited objective of school meal programs was to prevent or mitigate overweight/obesity. Unlike many of the other objectives, this priority is most common at higher income levels. Specifically, while 26% of lower middle-income countries cited an objective of reducing obesity, this value was 53% among upper middle-income countries.

Figure 10. Objectives of school meal programs.

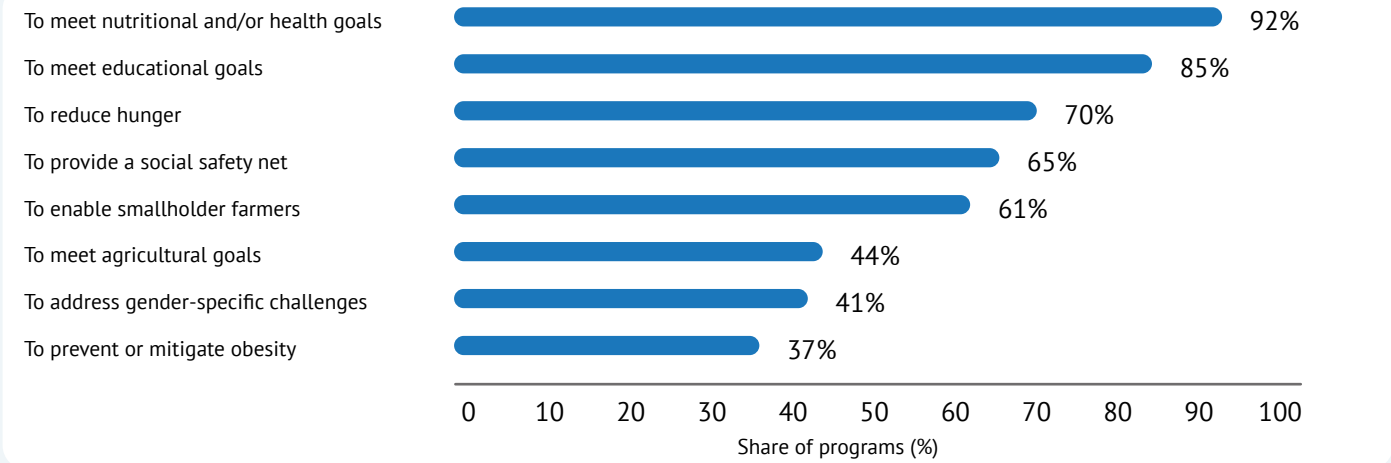
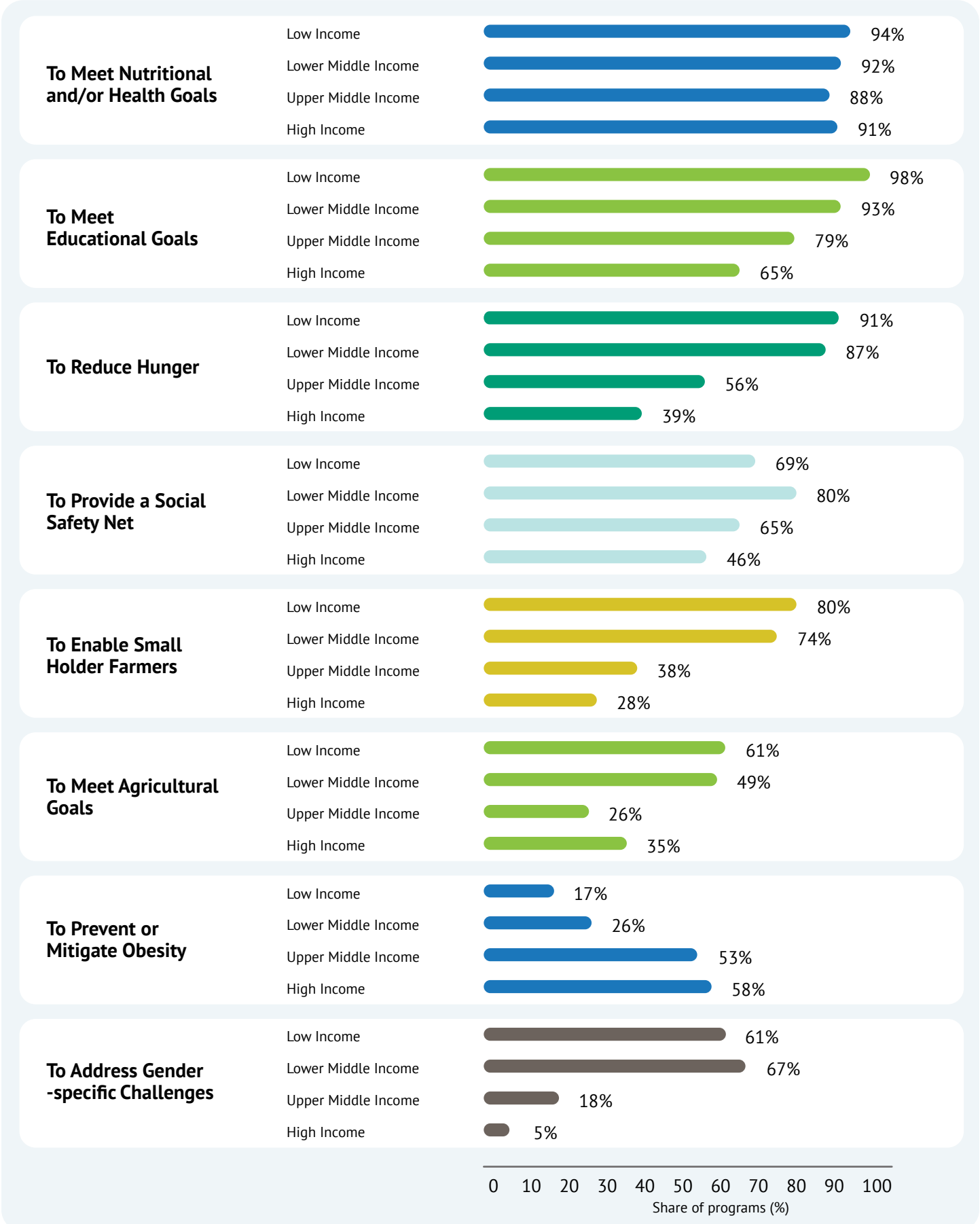


Figure 11. Objectives of school meal programs, disaggregated by income group



3.2.2 School levels:

Nearly all countries with school meal programs reached some primary school students with school food (Table 6). It was less common, however, for countries to reach students at other levels. Specifically, 73% of countries reached some students at the pre-school stage, and even fewer (60%) reached some students at the secondary school level. Just 46% of countries in Sub-Saharan Africa and 50% of countries in the Middle East and North Africa reached some secondary school students with school food, highlighting an important gap in the reach of these programs. Programs also sometimes operated in other schools, such as in special education schools. However, this was more common at higher income levels.

Table 6. School levels receiving food through school meal programs (% of countries)

		Pre-school	Primary school	Secondary school	Vocational/ trade school	Other levels
Region	Sub-Saharan Africa	68	100	46	15	12
	South Asia, East Asia & Pacific	47	95	53	11	16
	Middle East & North Africa	50	90	50	10	0
	Latin America & Caribbean	89	100	83	39	28
	Europe, Central Asia & North America	89	100	69	28	17
Income Group	Low Income	74	100	52	26	9
	Lower Middle Income	62	97	35	3	5
	Upper Middle Income	72	100	66	24	21
	High Income	83	97	86	34	26
All		73	98	60	21	15

3.2.3 Gender-disaggregated data:

The Global Survey of School Meal Programs © gathers gender-disaggregated data on the number of children that received school food. However, not all programs could report numbers broken down by gender. Specifically, 51% of all programs reported some gender-disaggregated numbers, with great variation across regions and income groups. A large majority of programs in Sub-Saharan Africa (72%) and South Asia/East Asia/Pacific (69%) collected gender-disaggregated information. This value was much lower in other regions such as Latin America/Caribbean (40%) and Europe/Central Asia/North America (17%). The extent to which programs collected gender-disaggregated numbers seemed to correlate with their self-reporting an objective to address gender-specific challenges.

3.2.4 Modalities of food delivery:

The most common modality through which school meal programs provided food to students was in the form of in-school meals (reported by 84% of programs), and this was followed by in-school snacks (at 33%). The survey focal points determined whether the programs served either a meal or a snack. However, this distinction may not be universally agreed upon, with some foods potentially regarded as a meal in some settings and a snack in others. About 19% of programs served take-home rations, usually in the form of ingredients that were intended to be prepared into meals in students' homes. However, it was rare for programs to only provide take-home rations, and across the 207 programs in the survey database for the 2022 school year, just three programs were centered solely around take-home rations. Over 34% of programs reported operating through multiple modalities.

BOX 1. TARGETING OF BENEFICIARIES

Programs adopted a range of approaches to target beneficiaries, often reflective of their different objectives and necessarily shaped by their resource constraints.

- In Sierra Leone, school feeding beneficiaries were targeted based on a vulnerability index survey, conducted every five years by the Ministry of Agriculture, WFP, and FAO, to identify communities in urgent need of government assistance.
- In Bosnia and Herzegovina, school feeding programs focused on specific grade levels. Organized meals were provided to children in public and private pre-schools, as well as students in the first, second, and third grades of primary school who attend before- or after-school programs.
- In Mexico, targeting was based on the marginalization level of localities and municipalities, as determined by the National Population Council's most recent census. This census captures economic and social development levels, allowing sub-governments to prioritize the most vulnerable populations.
- In Morocco, targeting accounted for geographic factors (distance between residence and school), individual characteristics (with priority given to girls and younger students and with additional focus on health and family social situations), and school type (primarily rural and semi-urban schools).
- In Trinidad and Tobago, targeting was directed toward students in public schools from low-income households or whose parents or guardians receive public grant assistance.

3.3 FOOD BASKET AND FOOD SOURCES

3.3.1 Content of food baskets (healthy foods):

In the 2024 survey round, the food categories probed in the questionnaire were mostly aligned with the Global Diet Quality Score, which lays out over two dozen food groups that are alternately considered to be healthy, unhealthy, or unhealthy in excess. In the Global Survey of School Meal Programs, these categories were sometimes combined, such as the categories of deep orange vegetables and deep orange tubers, or high-fat dairy and low-fat dairy. In addition, the two items that are considered to be unhealthy in excess, namely red meat and high-fat dairy, are treated here as healthy with an assumption that school meal programs are unlikely to serve an amount of these products that would be considered in excess. It should be emphasized that respondents reported on what the school meal programs planned to serve, and this may not always align with what was served in practice. The gap between planning and implementation in school menu composition is yet another area that is ripe for further research. Nevertheless, the rate at which different healthy food categories were (planned to be) served in school meal programs is reported in Figure 12. The most common category here was legumes, such as soy, served in 76% of programs. This was followed by liquid oils (73%), dark green leafy vegetables (69%), and whole grains (64%). It was less common for programs to report serving dairy, fish, or cruciferous vegetables, among other categories.

Strong patterns emerge when the provision of healthy foods is analyzed across programs that were found in relatively low-income or high-income countries (Figure 13). Both legumes and liquid oils were reported to be served more often in lower-income settings, whereas fruits and dairy were much more commonly found on the school menu in higher-income settings. Specifically, fruits and dairy were reported in 19% and 13% of programs in low-income countries, while these values were 94% and 96%, respectively, for programs in high-income countries. Cruciferous vegetables, such as broccoli, were reported in 11% of programs in low-income countries, while this value was 23%, 55%, and 63% for programs in lower middle-income, upper middle-income, and high-income countries, respectively. This underscores an important gap in the manner in which children in poorer settings are not being reached with diverse foods through their school meal programs.

3.3.2 Content of food baskets (unhealthy foods):

The same analysis is presented for unhealthy food categories in Figure 14. Please note that the categorization of "unhealthy" foods is not universally agreed upon, and other metrics, such as the Diet Quality Questionnaire (Uyar et al. 2023), offer a different list of foods that should be limited which differ from the categorizations found in the Global Diet Quality Score (Bromage et al. 2021). For example, while white roots and tubers are considered unhealthy in the Global Diet Quality Score, the Diet Quality Questionnaire does not regard these are foods that should be limited. The present analysis is based on the categories that form the Global Diet Quality Score.

A large majority (71%) of programs reported that they served refined/milled grains (considered to be an unhealthy food), and this was more common than the rate at which they planned to serve whole grains. Nevertheless, it was fairly uncommon for school meal programs to report serving other foods that were considered unhealthy, such as deep-fried foods (19%) or sugar-sweetened beverages (14%). This seems to reflect the manner in which school meal programs were understood to aim for nutritional and/or health goals or, less commonly, to prevent or control overweight/obesity (Figure 10). Interestingly, the provision of unhealthy foods through school meal programs was much more common in higher-income settings (Figure 15). For example, sweets (such as sugary baked goods or sugar added to beverages) were served in 31% of programs in high-income countries but just 4% of programs in low-income countries. Another interesting insight revealed in Figure 15 is the manner in which programs in upper middle-income countries were most likely to serve unhealthy foods, whereas this was less common in high-income countries. This may indicate that more attention to menu quality is needed in upper middle-income countries, and furthermore that programs in upper middle-income countries may be able to learn positive lessons from those in high-income countries.

3.3.3 Beverages:

While the contents of beverages were taken into account in the preceding discussion on food categories, beverages are presented on their own in Figure 16. Milk was the most common non-water beverage served in school meal programs, followed by yogurt drinks. While it was more common for milk to be served in unsweetened form, 10% of programs served milk that was sweetened with sugar or other sweeteners. Overall, this suggests that beverages may be an important avenue through which sugars are introduced into school meals. Programs also served other beverages, such as the Mavitrika Mianatra (MaMi) project in Madagascar which served boiled rice water.

Figure 12. Healthy food categories served in school meal programs

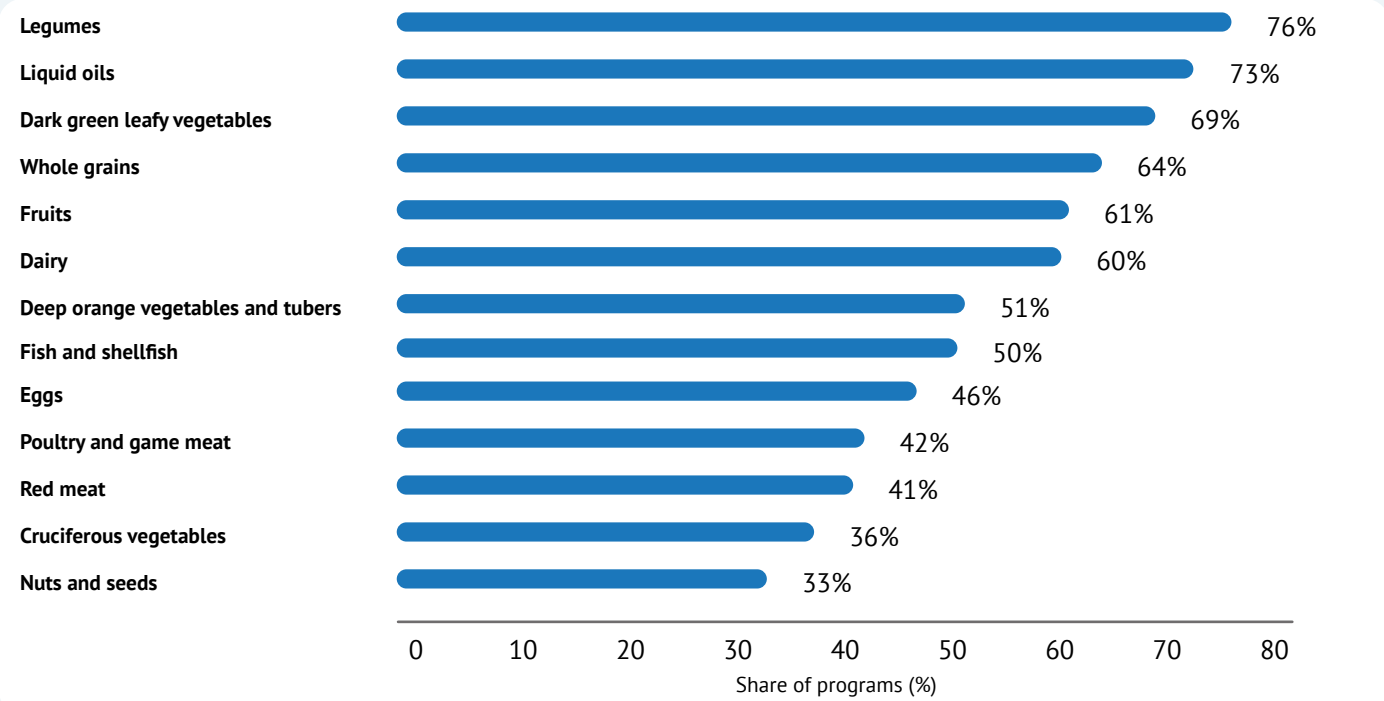
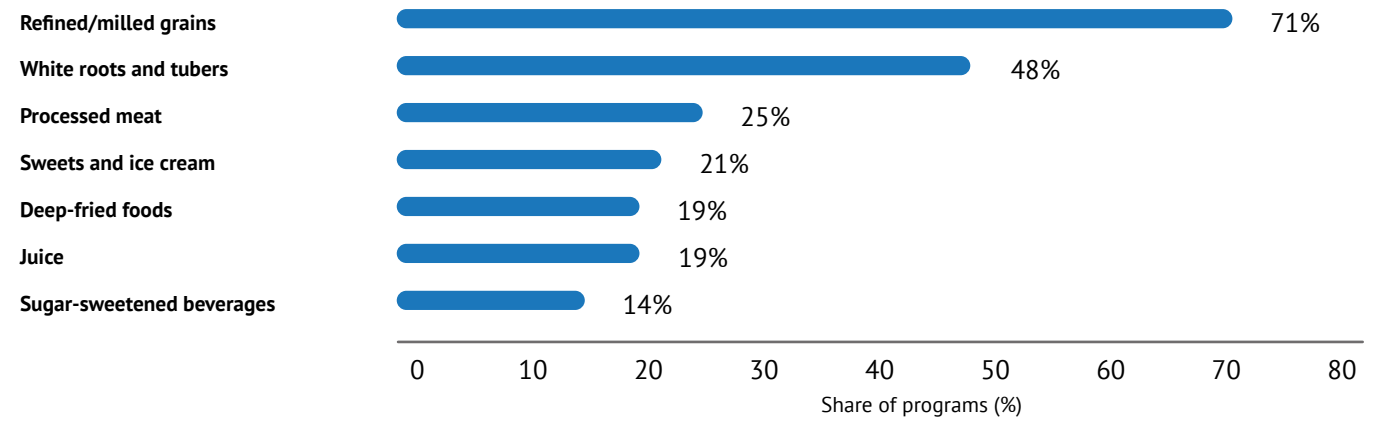


Figure 13. Share of programs serving each healthy food category, by income level

	Low income	Lower middle income	Upper middle income	High income
Legumes	83	82	79	59
Liquid oils	89	80	70	52
Dark green leafy vegetables	74	59	73	72
Fruits	19	52	91	94
Whole grains	68	64	58	63
Dairy	13	51	91	96
Deep orange vegetables and tubers	40	41	58	69
Fish and shellfish	28	61	67	48
Eggs	17	52	70	52
Poultry and game meat	15	41	70	54
Red meat	17	38	64	54
Cruciferous vegetables	11	23	55	63
Nuts and seeds	17	33	39	46

Figure 14. Unhealthy food categories served in school meal programs

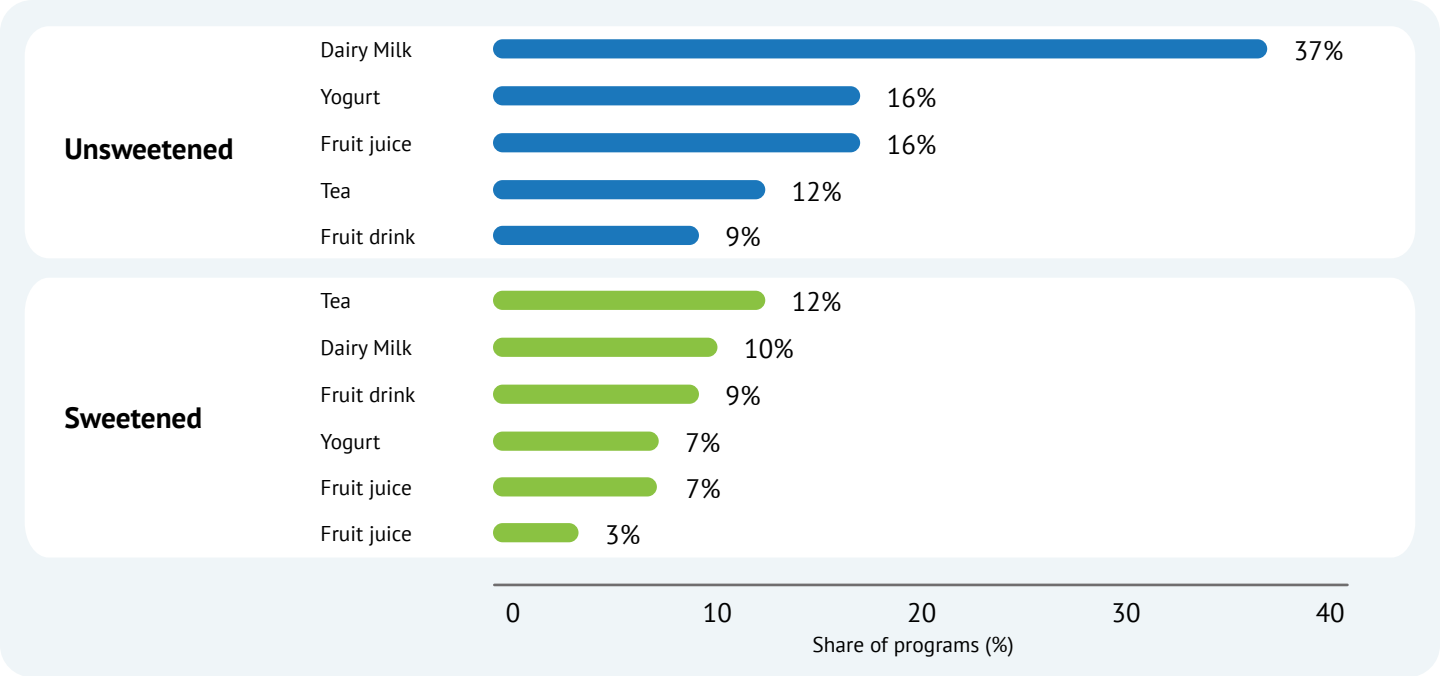


Notes: Sugar-sweetened beverages include soda, fruit drink, and sugared energy drinks. If other beverages, such as milk or tea, were served with sugar, this sugar was treated here as the "sweets" category, following the guidance of Bromage et al. (2021). Blended grain products, such as corn-soy blend, were assumed to contain refined/milled grains.

Figure 15. Share of programs serving each unhealthy food category, by income level

	Low income	Lower middle income	Upper middle income	High income
Refined/milled grains	68	70	85	65
White roots and tubers	34	36	67	63
Processed meat	9	8	45	46
Sweets and ice cream	4	16	39	31
Juice	2	7	38	36
Deep-fried foods	4	21	27	28
Sugar-sweetened beverages	4	18	32	10

Figure 16. Beverages served in school meal programs



3.3.4 Food diversity:

On average, school meal programs served foods from 6.8 different healthy food categories and 2.1 unhealthy food categories (Figure 17 and Figure 18). Not surprisingly, there was variation by region and income group. Programs in Latin America/Caribbean served the most diverse meals with an average of 8.9 healthy food categories, as well as 3.4 unhealthy food categories. Programs in the Middle East/North Africa served much less diverse meals with an average of 5.4 healthy food categories and 1.8 unhealthy food categories. In general, the level of diversity seems to be mirrored among healthy and unhealthy foods, such that programs either have high or low levels of diversity for both groups. As this analysis does not account for quantities served or even the frequency at which foods were served, it may not indicate that programs with a wide variety of unhealthy foods were altogether unhealthy. Nevertheless, this suggests that in the course of diversifying their offerings, programs should focus more on diversifying those foods considered to be healthy.

Figure 17. Average number of healthy food categories served in school meal programs

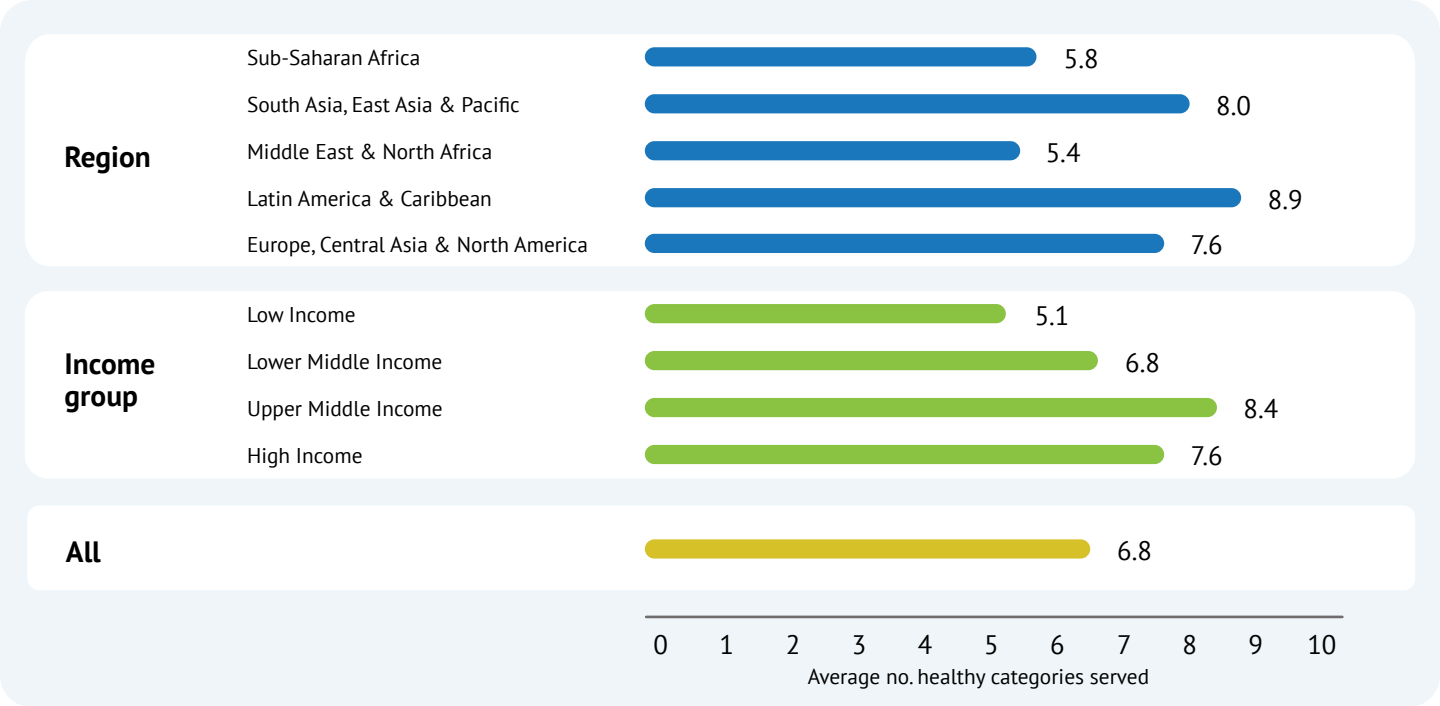
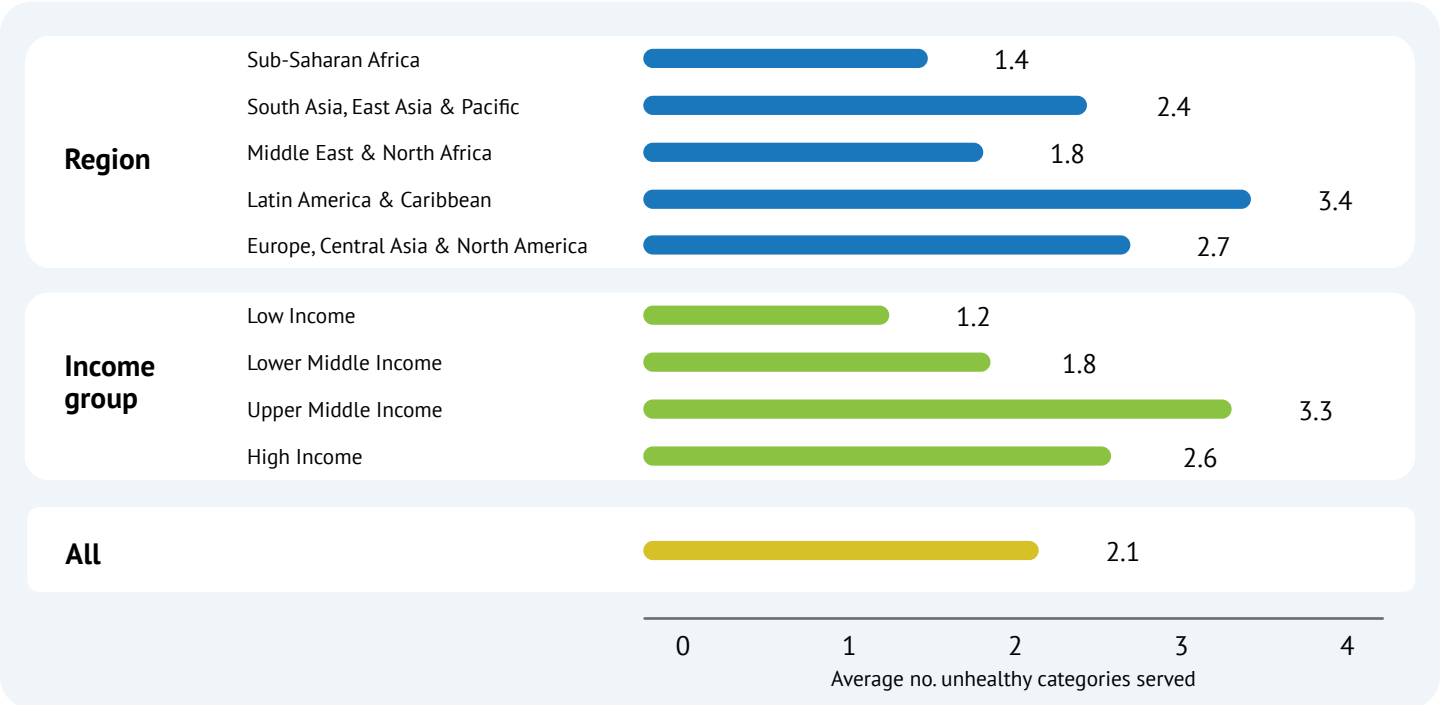


Figure 18. Average number of unhealthy food categories served in school meal programs



BOX 2. DIVERSIFYING THE SCHOOL MENU

In various countries, efforts have been made to diversify school meal menus, sometimes by incorporating students' preferences into menu development. This often takes the form of introducing animal-source products or a wider selection of vegetables and fruits into the meals.

- Recent amendments to nutritional norms in Latvia required educational institutions to diversify their meal offerings by providing vegetarian options and specialized diets for students with medically confirmed allergies, lactose intolerance, diabetes, celiac disease, or other conditions. Additionally, the "Free Meals" program now includes items such as sour milk products, kefir, and homemade berry drinks.
- Uruguay developed school lunch and cup-of-milk recipe books to enhance school meal options. Similarly, the Slovak Republic introduced new recipes for school meals, increased the use of fresh fruits and vegetables, and created new formulas for children with specific dietary needs.
- In Estonia, schools and kindergartens served more fresh vegetables such as carrots, cucumbers, and cabbage.
- In Honduras, the National School Feeding Program provided fortified foods such as rice-based horchata, with a pilot program also introducing biofortified beans.
- In Kyrgyzstan, the McGovern-Dole Food for Education and Child Nutrition Program included kefir in its meals.
- In Laos, the School Lunch Project (WFP) served canned fish, while the Promoting Schools Lunch Program (Government) and Learning and Engaging All in Primary School (LEAPS) Phase III (CRS) served canned fish and semi-sweetened soymilk.
- Burundi's National School Food Program (PNAS) included nutritious greens such as cassava leaves, zucchini leaves, and spinach.
- Mexico's School Breakfast Program offered whole grain drinks such as atole. In Tajikistan, students were served dried fruit compotes, while in Dominica, school children enjoyed fresh fruit juices. The school meal program in Ecuador offered fruit nectar, while in eSwatini, fermented maize drinks were also part of the school menu.
- In Lesotho, children received eggs once per week.

3.3.5 Avenues of food procurement:

School meal programs can access food through at least four main avenues. They can purchase food on the domestic market, they can import food from other countries, they can receive in-kind donations of food from communities or entities within the country, or they can receive in-kind donations from foreign actors in the form of food aid. Figure 19 shows that it was most common, by far, for school meal programs to access food through domestic purchases, with 93% of programs taking this path. Domestic purchases are an important way through which school meal programs can support the domestic economy and, when accessing foods that were produced within the country, these programs particularly support the domestic agricultural sector. The next most common avenue of food access was foreign purchase, used by 38% of programs. Receipt of in-kind food donations from domestic sources was most common in lower middle-income countries and in Sub-Saharan Africa, where communities are often tapped to support local programs through food donations. Receipt of in-kind food donations from abroad was somewhat common in lower-income settings but never observed in high-income countries. Forty-two percent of programs in South Asia/East Asia/Pacific received some food donations from abroad.

Figure 19. Sources of food for school meal programs

		In kind (domestic)	In kind (foreign)	Purchased (foreign)	Purchased (domestic)
Region	Sub-Saharan Africa	38	35	34	88
	South Asia, East Asia & Pacific	25	42	46	96
	Middle East & North Africa	8	8	38	100
	Latin America & Caribbean	16	11	42	100
	Europe, Central Asia & North America	20	8	41	98
Income group	Low Income	30	35	37	91
	Lower Middle Income	39	44	31	88
	Upper Middle Income	28	9	34	100
	High Income	12	0	51	98
All		28	24	38	93

3.4 BUDGET

3.4.1 Global budget for school feeding:

Across the 147 countries for which there is information on the school feeding budget, a total of at least 67.2 billion USD was allocated to school meal programs in the 2022 school year. This number underscores the value that is widely placed on school meal programs, and further conveys the potential for school meal programs to shape food systems if they are strategically deployed toward this goal.

3.4.2 Government share of funding:

The country average share of funding from various sources is displayed in Figure 20. This shows that across all countries, an average of 73% of their school feeding budget came from government sources (summing over national, regional, and local governments). Countries in Sub-Saharan Africa sourced the smallest share of government funding with an average of 48% coming from government sources. While private sector funding was uncommon, countries in Europe/Central Asia/North America sourced the largest share of private sector funding, with an average of 3% coming from private sector sources. Domestic NGOs were also most commonly a source of funding in Europe/Central Asia/North America, though this accounted for just 1% of funding, on average.

The extent to which programs are supported by governments rather than foreign aid can be a strong indicator of the durability and national ownership of programs. Because relatively larger or more resourced programs tended to be funded by government rather than other sources, an analysis of aggregate (not average) values tells a somewhat different story. Across all countries, 99% of the total funding for school meal programs came from government sources. This value varied strongly across income groups. In low-income countries, 42% of all funding came from government sources, while for lower middle-income countries, this value was 76%. At total of 99.9% of funding in Latin America/Caribbean came from government sources, underscoring this region's strong commitment to school feeding.

Figure 20. Sources of funding for school meal programs (cross-country averages)

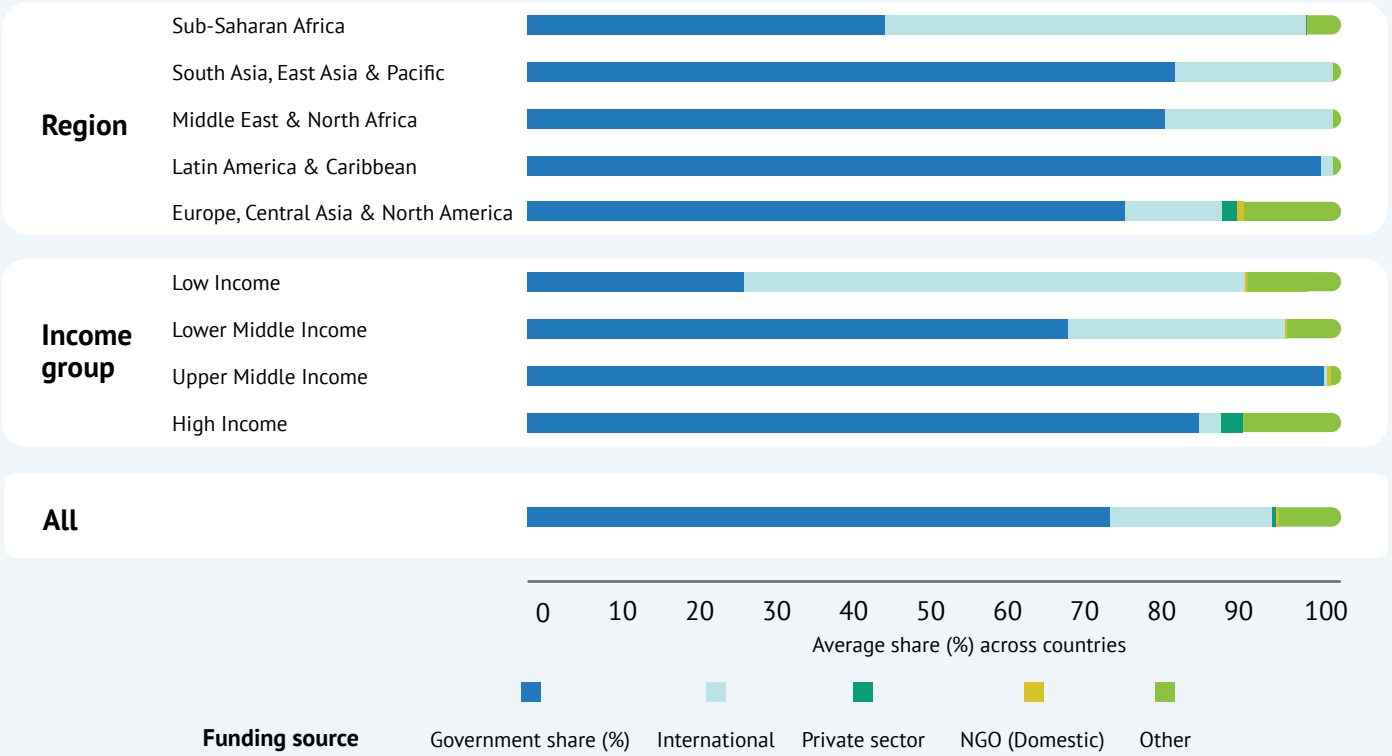


Table 7. Share of funding from government sources (aggregate values)

		Government share (%)
Region	Sub-Saharan Africa	70
	South Asia, East Asia & Pacific	99
	Middle East & North Africa	88
	Latin America & Caribbean	100
	Europe, Central Asia & North America	100
Income Group	Low Income	42
	Lower Middle Income	76
	Upper Middle Income	100
	High Income	100
All		99

3.4.3 BUDGET PER CHILD BENEFICIARY:

Across all countries for which this information was available, the aggregate monetary amount allocated per child beneficiary per year was 137 USD (Table 8). Not surprisingly, there were very strong associations with income level, and while the aggregate investment in high-income countries was 611 USD per child beneficiary, this was just 8 USD in lower middle-income countries. It should be noted that some programs did not account for the monetary value of in-kind donations provided by local communities, such that these budgets per child should be regarded as a lower bound estimate. Nevertheless, the low budget per child seen in the lower middle-income class is alarming, particularly as the school feeding budget per child is associated with other traits of school meal programs, such as the quality of the food basket. Across regions, the lowest per-child budget was seen in the Middle East/North Africa at 14 USD.

A simple conversion to USD does not account for the varying price landscape (and therefore the varying purchasing power of a dollar) in each country. To account for these differences and to better compare budgets across different settings, the second column of Table 8 reports the aggregate budget per child per year in international dollars using purchasing power parity (PPP) conversion factors. This alternate metric reveals a somewhat different pattern across regions. Whereas the budget per child as reported in USD was much lower in South Asia/East Asia/Pacific than Latin America/Caribbean, the budget per child as reported in international dollars was quite close across these two regions (at 172 and 182 Int$, respectively). Whereas the values in USD had indicated that investments in the Middle East/North Africa were lower than Sub-Saharan Africa, this ordering changed when accounting for local purchasing power (at 125 and 84 Int$, respectively). Nevertheless, the overall pattern across income groups remained in place, with the lowest budget per child (at 73 Int$) observed in lower middle-income countries, and much higher values at higher income levels.

To further probe the relative sizes of these budgets, it is also possible to calculate how many healthy lunches can potentially be purchased using the reported budget, along with the cost of a healthy diet as measured in each country. The latter metric is drawn from the FAOSTAT (2024) database, with the cost of a healthy lunch estimated as one-third the cost of a healthy diet per capita per day. The budget per child per year (in PPP) in each country is then divided by the local cost of a healthy lunch. This calculation is possible for 114 countries. This exercise reveals that, on average, high-income countries are able to extend their school meals budget to potentially provide a much higher number of healthy lunches to each student beneficiary, as compared to countries at lower income levels. Specifically, while low-income countries would be able to stretch their current school feeding budget to cover 72 healthy lunches per year, on average, for each of their current beneficiaries, this value is 88, 209, and 343 healthy lunches in lower middle-, upper middle, and high-income countries, respectively. (Note that the cost of a healthy lunch does not include any administrative and logistics expenditures that are necessarily observed in school meal programs.) Along with other pieces of evidence, this again points to an urgent lack of adequate funding in lower-income countries.

Table 8. School feeding budget per child per year (aggregate values)

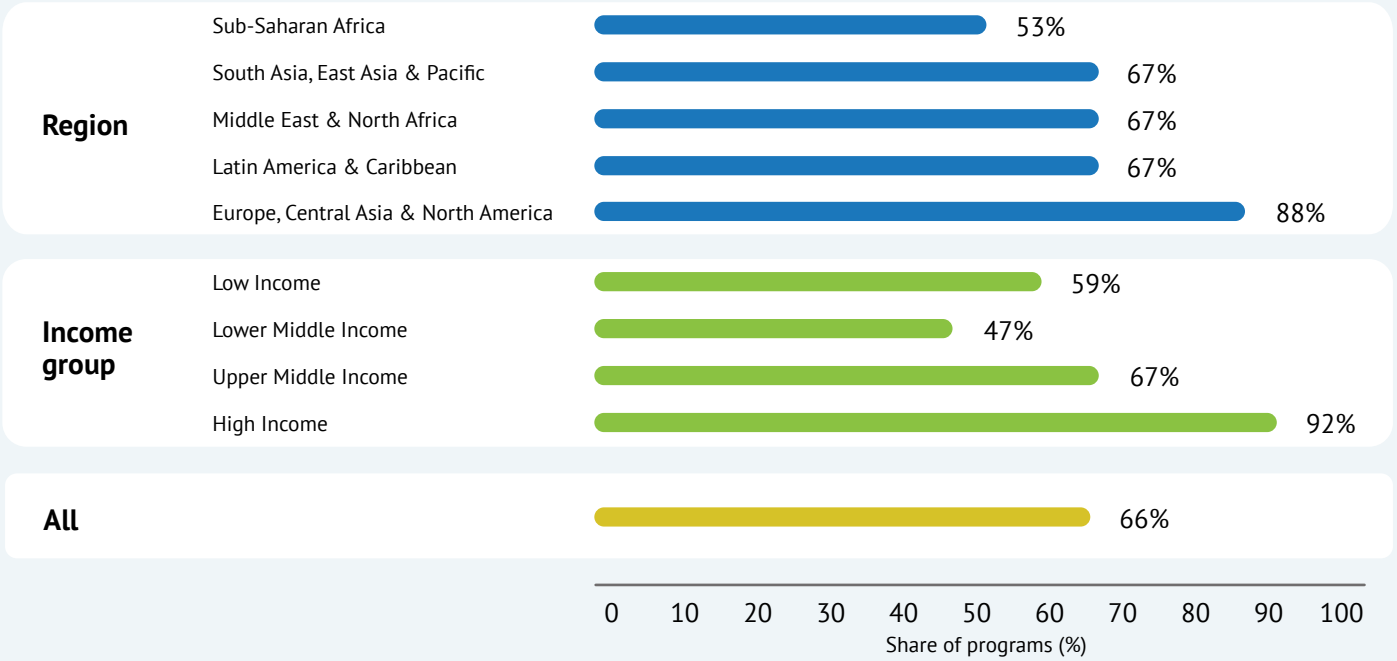
		Budget per child (USD)*	Budget per child per year (PPP)
Region	Sub-Saharan Africa	26	84
	South Asia, East Asia & Pacific	36	172
	Middle East & North Africa	14	125
	Latin America & Caribbean	76	182
	Europe, Central Asia & North America	567	744
Income Group	Low Income	18	94
	Lower Middle Income	8	73
	Upper Middle Income	39	209
	High Income	611	897
All		137	261

Note: Values reported in USD account for the exchange rate to USD that existed during the 2022 school year in each country.
**These values do not account for purchasing power parity.*

3.4.4 Adequacy of budget:

Survey respondents were asked to report whether the program budget was "adequate" to achieve the program's targets, with the definition of adequacy left to interpretation. Overall, 66% of programs reported that their budget in the 2022 school year was adequate to achieve their targets (Figure 21). Not surprisingly, it was much more likely for programs in high-income countries to report having an adequate budget (at 92%). It seems to be programs in lower middle-income countries that struggled the most in terms of budget adequacy, with just 47% of such programs reporting an adequate budget. This is far lower than the share (59%) reported among programs in low-income countries. Together with the observation that the aggregate school feeding budget per child was just 8 USD in this income group (Table 8), this suggests that programs in lower middle-income countries were in the greatest need of support.

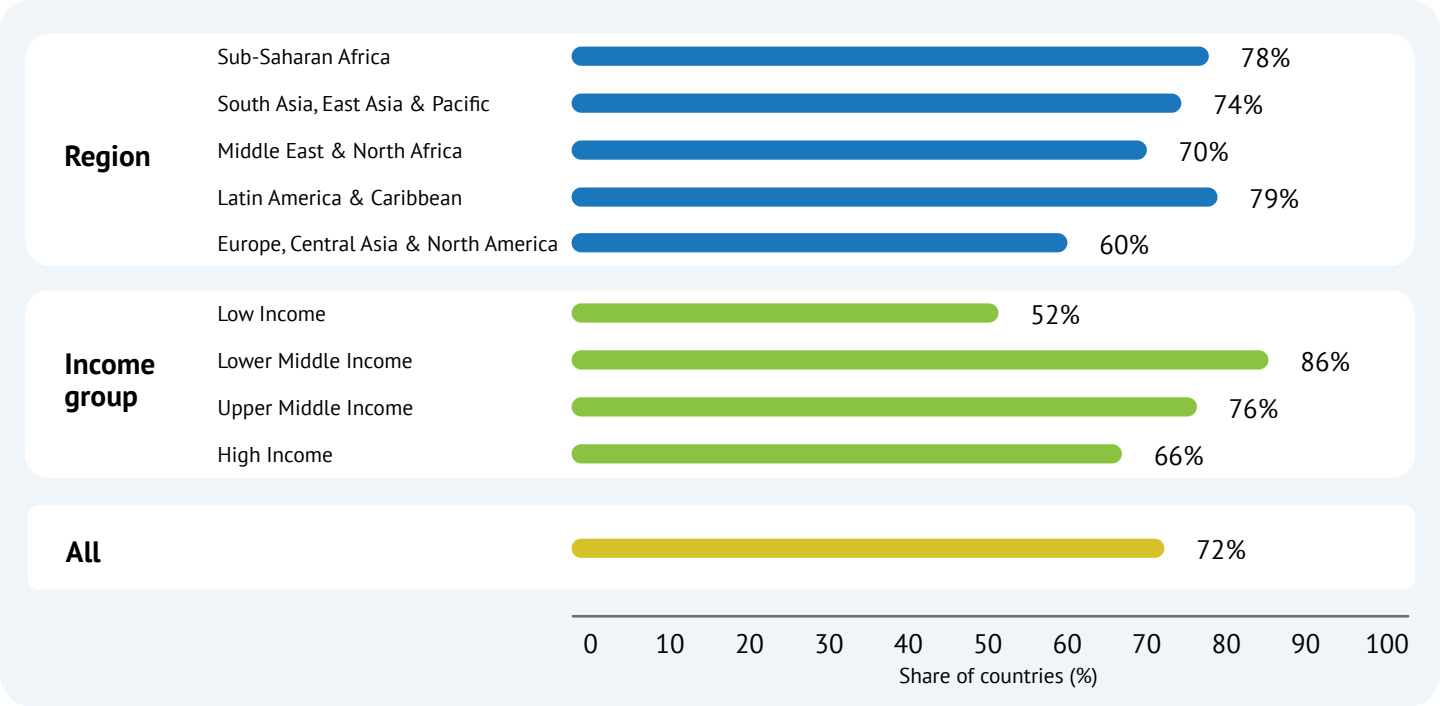
Figure 21. Share of programs that reported adequate funding



3.4.5 Line item in national budgets:

Just under three quarters (72%) of countries with large-scale school feeding activities reported having a line item for school feeding in the national budget. This is regarded as another indicator of the durability of school meal programs, as funding is more predictable with a line item. Interestingly, lower middle-income countries were most likely to report a line item (at 86%), though this does not seem to have translated into an adequate budget in many cases. Low-income countries were least likely to report having a line item for school feeding.

Figure 22. Share of countries with a line item for school feeding in the national budget



3.4.6 Family contributions:

Worldwide, a majority (60%) of school meal programs were characterized by some type of family contribution to support the program operations. Most commonly, students' families offered in-kind contributions on a voluntary basis, often providing firewood, staple foods, or condiments. This sort of contribution was most common in Sub-Saharan Africa (in 56% of programs) and Latin America/Caribbean (in 35% of programs). The next most common type of family support was for families to pay a partial price for school meals, as occurred most often in Europe/Central Asia/North America (in 30% of programs). Families also sometimes paid a full price for school meals (most commonly in Latin America/Caribbean and Europe/Central Asia/North America), and they sometimes also were required to make in-kind donations (most commonly in Sub-Saharan Africa). Some programs were almost entirely built around family contributions. For example, in Tanzania, the "Community-Led School Feeding for Public Day Schools" program had a budget that was provided entirely by school communities (under the instruction of a national school feeding guideline). Similarly, the budget for the "Gulu Parents-Led School Feeding Program" in Uganda was 95% sourced from parents.

3.4.7 Trends over time in funding:

Noting that the Global Survey of School Meal Programs © has now been conducted three times, there is an opportunity to track trends over time in aggregate budgets and funding per child. This section focuses specifically on funding in low-income, lower middle-income, and upper middle-income countries (LMICs). For this analysis, country income categories were held at their 2017 levels. This analysis is further limited to the countries that participated in the survey three times and provided all necessary budget-related information (n=48), such that this is not a global analysis. Across this subset of countries, total funding for school meal programs has generally risen over time (Figure 23). However, this is not quite the case across lower middle-income countries, in particular.

Trends in funding per beneficiary child (in nominal terms) are presented in Figure 24. While the trend is not always consistent, there was generally an upward trend over time in this value, with the exception of lower middle-income countries which saw a sharp drop from 29.9 USD/child in 2020 to 22.06 USD/child in 2022. However, an examination of "real" monetary values that account for the rapid pace of inflation in recent years tells a very different story. When the budget per child is adjusted by the consumer price index in each country, it is clear that in real terms the budget per child has fallen sharply—especially in low-income countries and lower middle-income countries (Figure 25). Across all LMICs, the budget per child was 35.7 USD/child in 2017 (in 2020 dollars) and 28.04 USD/child in 2022 (again in 2020 dollars). This alarming trend indicates that attention should be given not only to nominal budgetary outlays. In a time of high inflation, particularly of food and oil prices, attention should be given also to real values.

Trends in the budget share from government sources are shown in Figure 26. The share of aggregate funding from government increased over time in low-income countries, rising from 45% to 49% to 55% in 2017, 2020, and 2022, respectively. This is a noteworthy development given the potential significance of government funding for program durability. At the same time, however, the aggregate share of funding from government sources bounced around in lower middle-income countries, shifting from 91% to 94% to 88% in 2017, 2020, and 2022, respectively. While just three data points cannot indicate long-term trends, this at least raises an alarm that lower middle-income countries may be in trouble.

Figure 23. Trends in total funding for school meal programs in LMICs (2017–2022, nominal values)

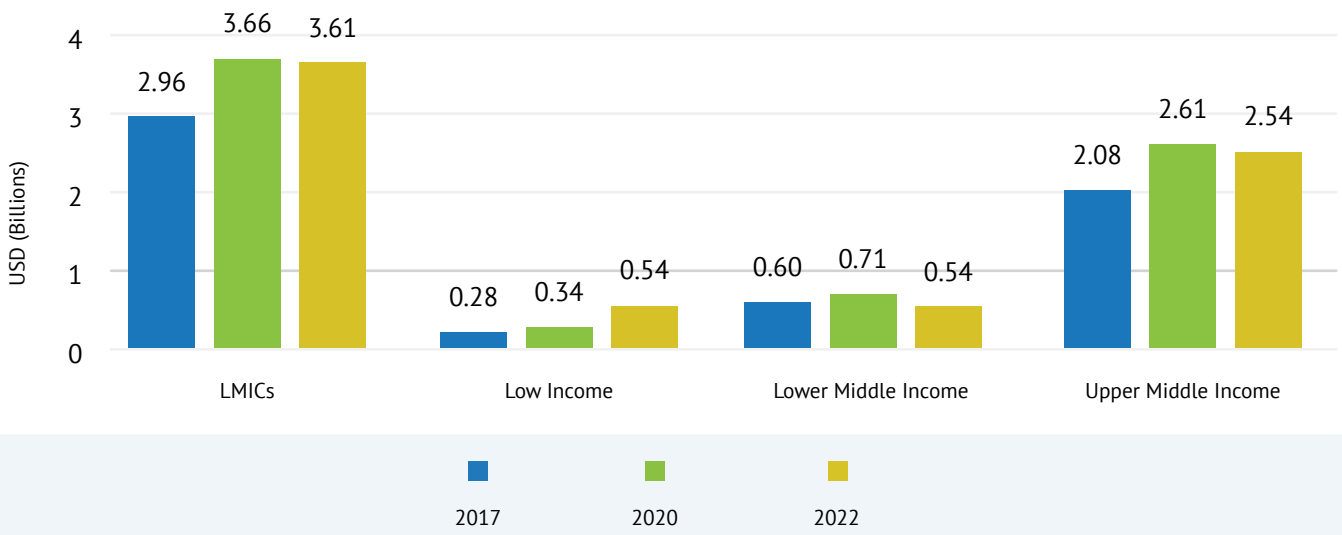


Figure 24. Trends in funding per beneficiary child in LMICs (2017–2022, nominal values)

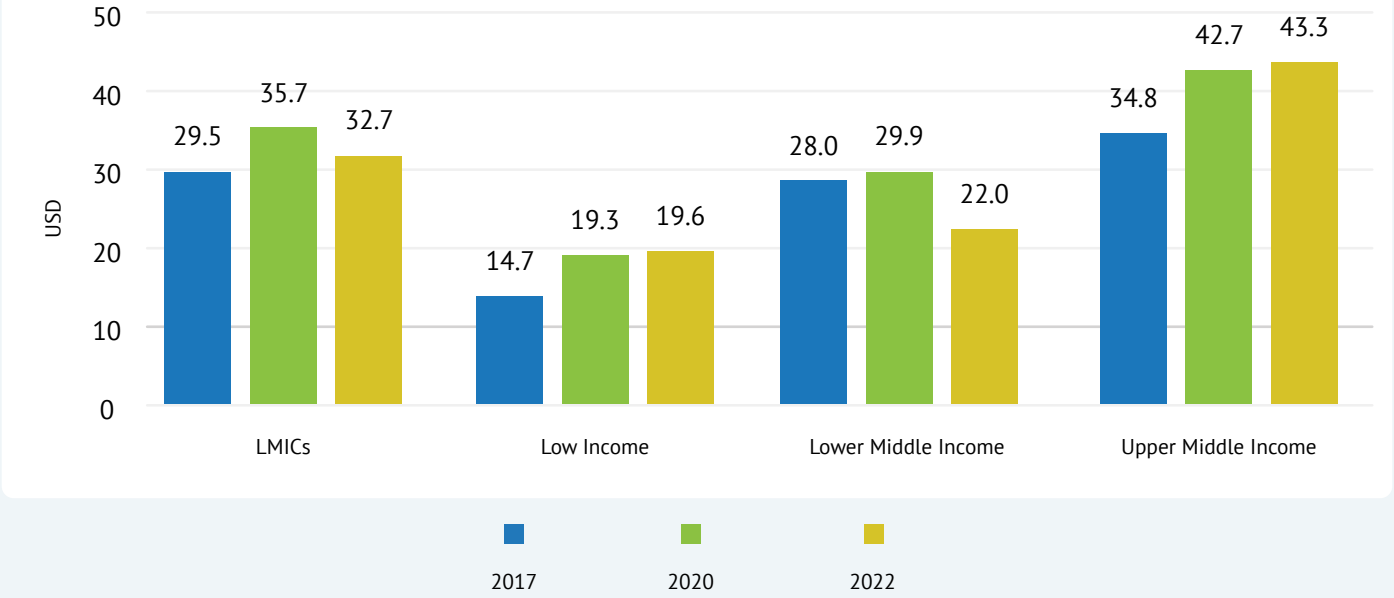


Figure 25. Trends in funding per beneficiary child in LMICs (2017–2022, real 2020 values)

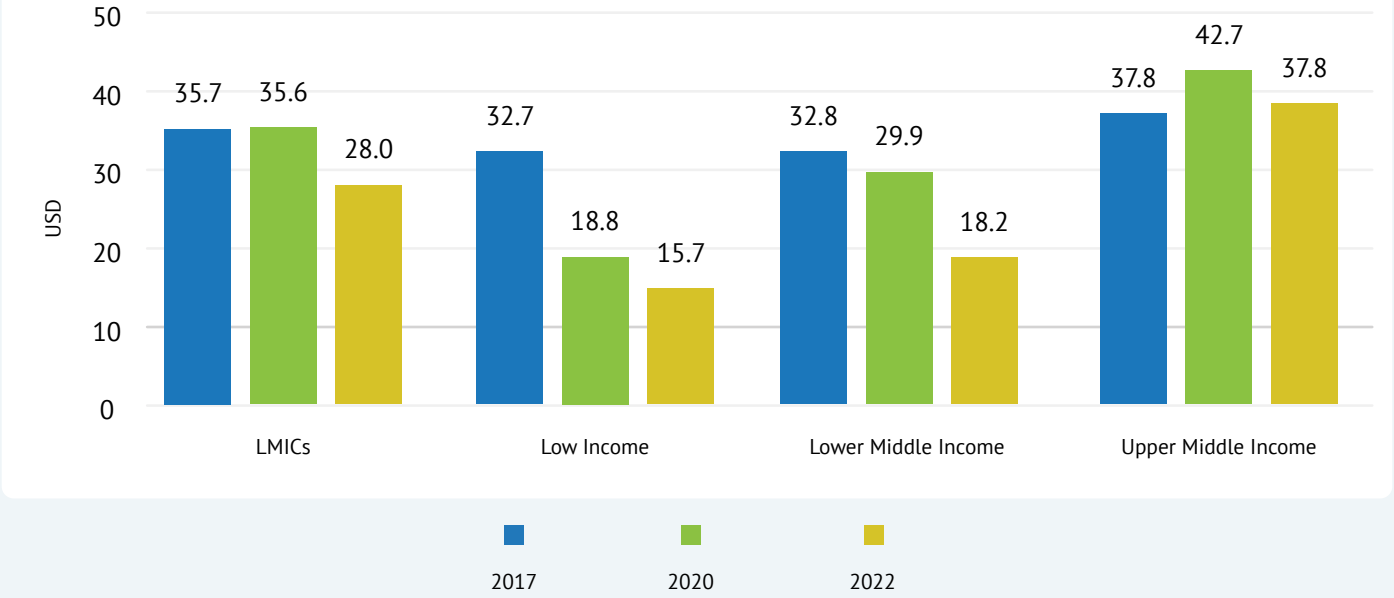
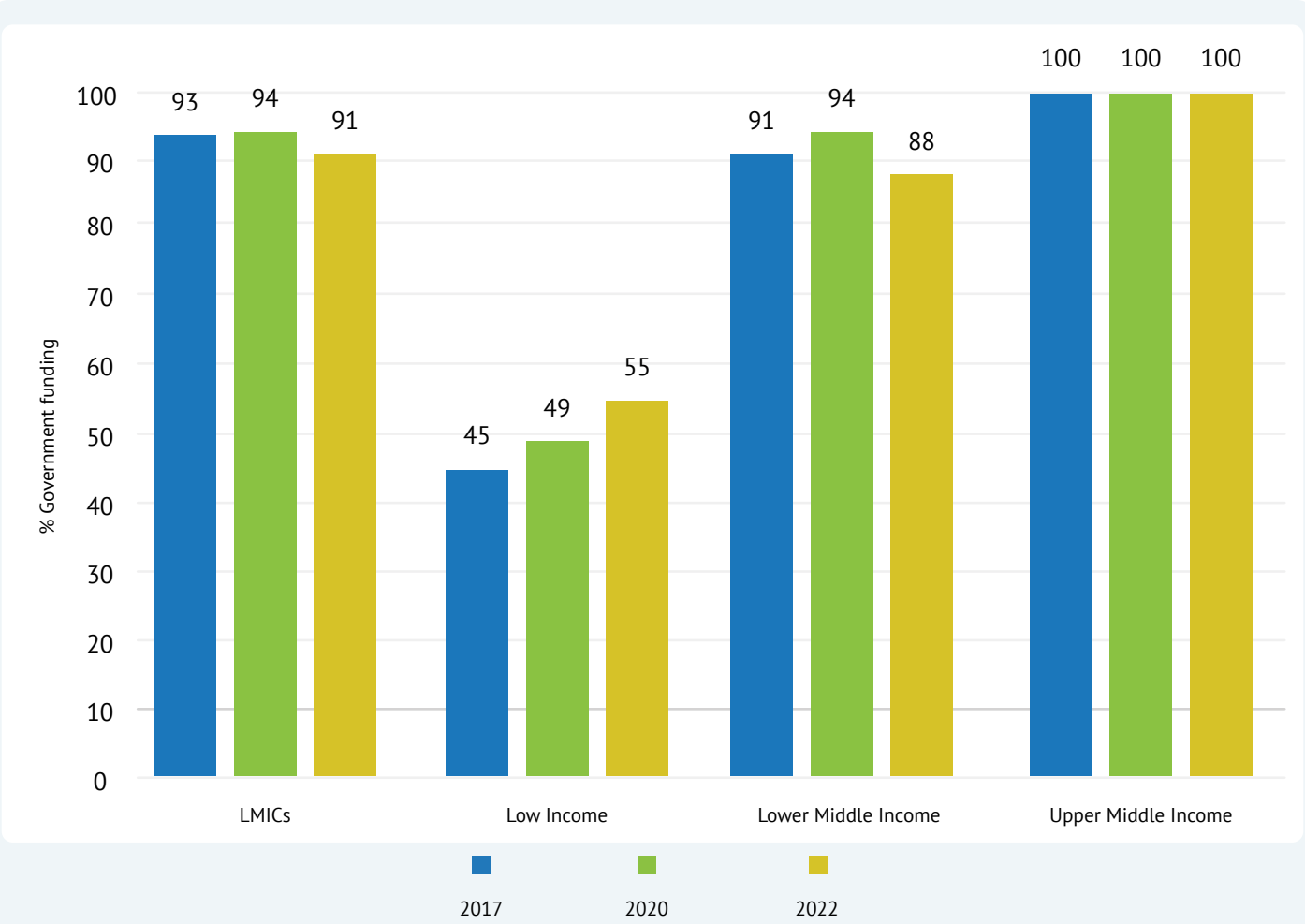


Figure 26. Trends in government share of school meal funding in LMICs (2017–2022)



3.5 MANAGEMENT AND IMPLEMENTATION

3.5.1 Governing policies, laws, and standards:

The policy enabling environment for school meal programs is understood (or at least assumed) to be another determinant of program success and durability. The share of countries with various laws, policies, or standards of relevance to school meal programs is shown in Table 9. In total, 76% of countries with large-scale school feeding activities reported that they had a national school feeding policy. Several focal points (main survey respondents) shared that their countries had very recently introduced, or were in the process of developing, national school feeding policies. As one example, Tanzania launched a National School Feeding Guideline in 2021. There is a positive and statistically significant relationship between the existence of a national policy and the school feeding coverage rate within a country (defined as the share of school-age children reached with school food). Specifically, countries with a national policy attained a coverage rate that was, on average, 10 percentage points higher than countries with no national policy. (This difference was 21 percentage points when the analysis is expanded to countries with no school feeding and therefore no national school feeding policy.)

It was also common for countries to have some law/policy/standard that was specific to nutrition in the context of school meal programs. While this was the case for 71% of countries, this variable had a strong association with income level, extending from 57% in low-income countries to 65%, 79%, and 81% in lower middle-income, upper middle-income, and high-income countries, respectively. (Recall from Figure 17 that there was also a positive correlation between income level and the extent of food basket diversity.) In total, 60% of countries had a law/policy/standard specific to health in the context of school meal programs, and this value was 58% for the topic of food safety, 33% for agriculture, and 18% for the environment. Just 14% of countries had a law/policy/standard specific to the non-farm private sector's engagement with school meal programs. Some countries had a law/policy/standard that was specific to the subpopulation of smallholder farmers, and this was most common in Latin America/Caribbean (at 26%) and South Asia/East Asia/Pacific (at 21%).

Table 9. National laws, policies, or standards related to school feeding (% of countries)

		National school feeding policy	Nutrition	Health	Food safety	Smallholders	Agriculture	Enviroment	Private sector	Other
Region	Sub-Saharan Africa	90	66	54	49	15	37	17	20	29
	South Asia, East Asia & Pacific	79	58	53	53	21	37	21	21	26
	Middle East & North Africa	70	60	50	50	10	40	20	10	0
	Latin America & Caribbean	53	79	63	84	26	21	21	16	37
	Europe, Central Asia & North America	72	83	72	61	8	31	17	6	19
Income Group	Low Income	74	57	48	43	9	30	13	13	13
	Lower Middle Income	92	65	57	51	19	41	19	22	32
	Upper Middle Income	66	79	66	76	21	28	24	14	38
	High Income	69	81	67	61	11	31	17	8	14
All		76	71	60	58	15	33	18	14	25

3.5.2 Program management:

School meal programs were most commonly managed by national governments with centralized decision-making (Table 10). This was especially the case in Latin America/Caribbean (at 80%) and in upper middle-income (62%) and high-income (59%) countries. Notably, however, this was the case for just 11% of programs operating in low-income countries. At the same time, in these countries, 35% of programs were managed by an international donor agency or other implementing partner. Programs were also sometimes managed in a semi-decentralized manner with both centralized (at the national level) and decentralized (at the regional or local level) decision-making. A number of programs have shifted over time toward decentralization. For example, the Ministry of National Education in Djibouti transferred the canteens to the regions in 2017, with co-management now in place between the regional councils (representing civil society) and the regional inspection units.

Table 10. Characterization of program management (% 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	Both centralized and decentralized decision-making (Semi-decentralized)	In transition between centralized and decentralized decision-making	An international donor agency or other implementing partner managed the program	The program was managed by a private company or a group of private companies	Other
Region	Sub-Saharan Africa	23	2	7	17	8	29	0	14
	South Asia, East Asia & Pacific	42	0	8	23	8	8	4	8
	Middle East & North Africa	46	8	0	15	0	8	0	23
	Latin America & Caribbean	80	0	0	20	0	0	0	0
	Europe, Central Asia & North America	52	9	18	9	2	5	0	5
Income Group	Low Income	11	4	2	19	7	35	0	22
	Lower Middle Income	38	2	11	15	7	18	2	8
	Upper Middle Income	62	3	9	18	3	0	0	6
	High Income	59	7	13	13	2	4	0	4
All		40	4	9	16	5	16	0	10

BOX 3. TRANSITIONS IN PROGRAM OWNERSHIP

In numerous countries, school meal programs that were initially managed by international organizations have gradually transitioned to government ownership.

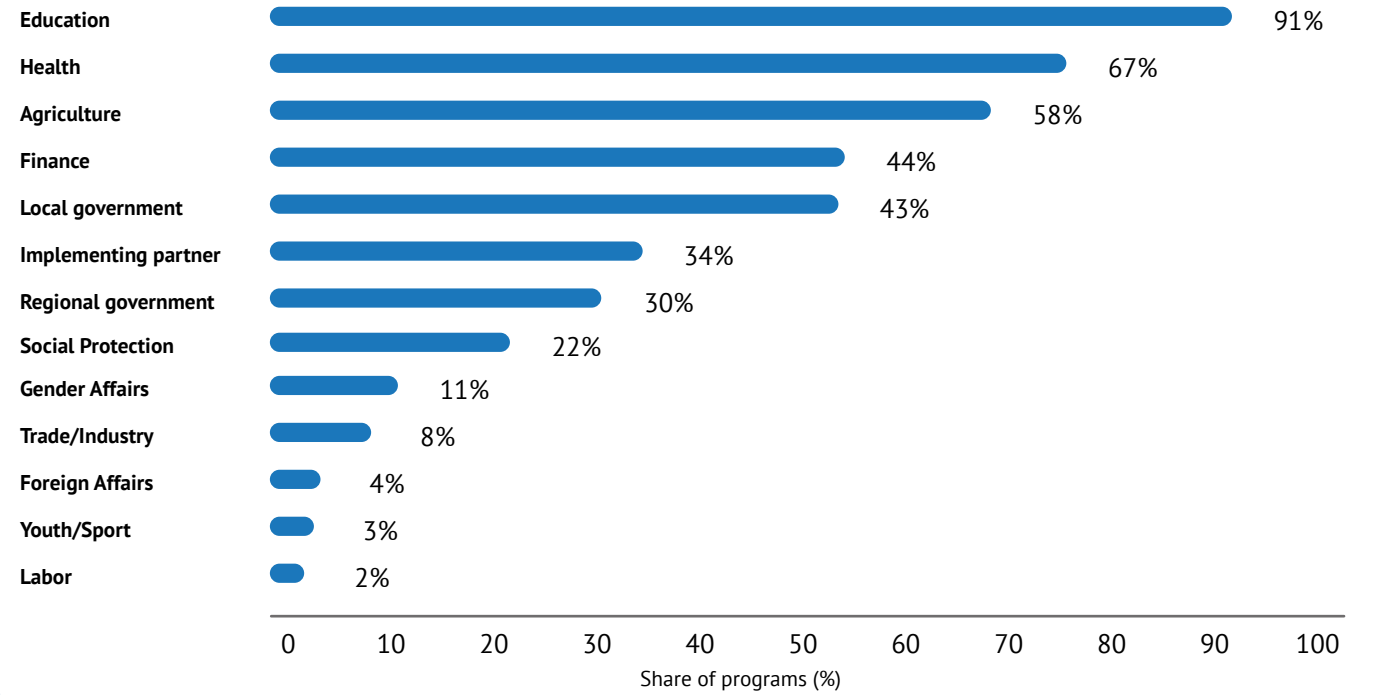
- In Armenia, the School Feeding National Program started under the UN World Food Programme (WFP) and was gradually transferred to the Government of Armenia beginning in 2014. Over time, regions were incrementally shifted to full national government oversight.
- Similarly, in Bangladesh, the School Feeding Programme in Poverty-Prone Areas was initially launched by WFP in 2001. The government began its own school feeding program in 2010, with technical assistance from WFP, and over time, WFP successfully handed over multiple sub-districts to the government-supported program.
- In Mali, the McGovern-Dole Food for Education and Child Nutrition Project - Jigiya IV outlines that by year three of the project, one quarter of schools should transition to state budget management. To date, 67 schools have come under state control.
- In Mauritania, over five years, the McGovern-Dole International Food for Education and Child Nutrition program successfully transitioned the management of 21 out of 209 schools (10%) to government control. These schools are now part of the national school canteen program.
- In Belize, the National Healthy Start School Feeding Program began as a pilot, managed partially by the Food and Agriculture Organization (FAO). In May 2023, the program was handed over to the Ministry of Education, Culture, Science, and Technology (MoECST), marking a key milestone in national ownership.

- In Cambodia, the Home-Grown School Feeding Program has transitioned 205 schools to government management since 2019, following a strategic plan between WFP and the Ministry of Education, Youth, and Sports (MoEYS). Full government management is targeted for 2028.
- In Ecuador, the School Food Program (Programa de Alimentación Escolar - PAE) transitioned from the World Food Program to full national government oversight in 1999.
- In Laos, the Learning and Engaging All in Primary School (LEAPS) Phase III began transitioning to national government oversight starting in late 2023. Meanwhile, the School Lunch Project, supported by the USDA McGovern-Dole program and WFP, has already transferred the management of approximately 1,423 schools to the government and local communities.
- **Not all attempts at ownership transition have been successful.**
  The school meal program in Cabo Verde has been transferred back and forth multiple times, with an unsuccessful transition attempt made in 2006 before a more effective transition to the Government of Cabo Verde began in 2010.

3.5.3 Inter-agency engagement:

It was most common for school meal programs to engage the National Ministry/Department/Agency of Education as a key government decision maker. Specifically, this was the case for 91% of programs worldwide. The next most common government decision maker to be involved was the Ministry/Department/Agency of Health, followed by Agriculture. The Ministry/Department/Agency of Finance was a key decision maker in 43% of programs. This underscores the imperative to effectively communicate the benefits of school meal programs to these finance entities who are often in position to determine whether a program is adequately resourced or not. The engagement of regional and local governments as decision makers is also notable, with 30% and 43% of programs engaging regional and local governments, respectively. To empower the relevant policy makers with knowledge and support, it is not enough to reach only those stakeholders at the national level.

Figure 27. Key decision makers responsible for functions of school meal program management



Note: Many bars refer to the relevant national government ministry/department/agency such as the Ministry of Education.

3.6 HEALTH AND NUTRITION

3.6.1 Relevance to nutrition:

School meals can play a role in addressing all three types of malnutrition, namely undernourishment, micronutrient deficiency, and overweight/obesity. For individuals that are undernourished, school meals can be an important source of calories, contributing to children's weight gain. For individuals that are experiencing micronutrient deficiencies, school meal programs can also fill key nutrient gaps by providing diverse, nutritionally-balanced school meals, and by including fortified or biofortified products in school meals and snacks. For individuals that are experiencing overweight/obesity, unhealthy school meals could potentially contribute to the problem. On the other hand, healthy school meals have potential to cultivate healthy eating habits, which children can carry with them into their later years. In the 2024 Global Survey of School Meal Programs, most programs cited an objective to meet nutritional and/or health goals, and this priority was salient across all income levels and regions (Table 11).

Table 11. Prevalence of nutrition-related components of school meal programs (% of programs)

		Objective to meet nutrition goals	Objective to reduce obesity	Fortified foods	Biofortified foods	Micronutrient supplements	Nutritionists involved	Training for cooks/ caterers in nutrition
Region	Sub-Saharan Africa	93	21	74	25	29	77	48
	South Asia, East Asia & Pacific	92	31	77	10	27	72	80
	Middle East & North Africa	92	46	54	8	17	54	56
	Latin America & Caribbean	85	50	63	11	6	95	21
	Europe, Central Asia & North America	91	57	22	0	2	65	83
Income Group	Low Income	94	17	79	24	45	67	53
	Lower Middle Income	92	26	75	16	17	73	62
	Upper Middle Income	88	53	41	15	4	97	36
	High Income	91	57	27	2	2	67	67
All		92	37	58	14	19	73	56

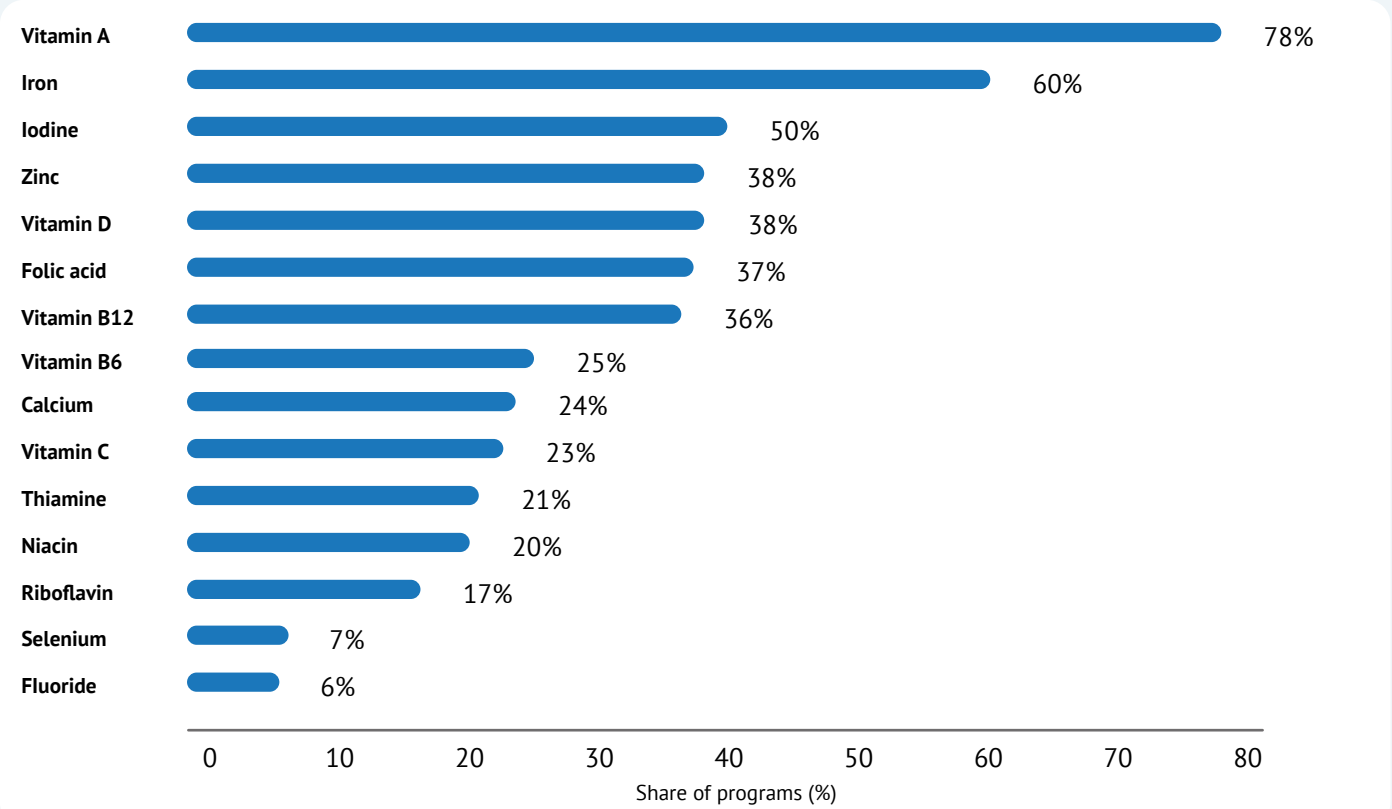
3.6.2 Fortification, biofortification, and micronutrient supplementation:

A slight majority (55%) of school meal programs pursued their nutrition-related objectives by serving some fortified foods (Table 11). This was most common at lower income levels, with 78% of programs in low-income countries serving fortified foods, while this value was 74%, 35%, and 26% for programs in lower middle-income, upper middle-income, and high-income countries, respectively. The fortificants used in fortified foods in school meal programs are presented in Figure 28. Most commonly, school foods (such as oil, salt, and maize or wheat flour) are fortified with vitamin A (78% of programs that served any fortified foods), iron (60%), and iodine (50%).

It was less common for school meal programs to serve any biofortified foods (crops that were bred to contain high amounts of particular micronutrients). However, such products were served in 22% of programs in low-income countries and 15% of programs in lower middle-income countries (Table 11). The inclusion of biofortified foods was much more common in programs in Sub-Saharan Africa (at 23%) than those in South Asia/East Asia/Pacific (at 8%). This may indicate a gap in the design of programs in South Asia/East Asia/Pacific, and an area for potential improvement. The most common biofortified crop to be included on the school meal was OFSP (at 61% of programs that served any biofortified products), followed by iron beans (at 43%), vitamin A-rich maize (at 25%), and vitamin A-rich cassava (at 21%). For example, in Malaysia, the Pre-School Program provided bio-fortified beans (iron), bananas/plantains (vitamin A), and maize (vitamin A). In Cameroon, Malawi and Mozambique, the school menu included iron-rich beans, vitamin A-enriched cassava, and orange-fleshed sweet potatoes.

Micronutrient supplements, which can be mixed into foods as powders or supplied directly to children as drops or pills, are another means of improving the nutritional benefits of school meals (beyond menu diversification). These supplements were most commonly served in low-income countries (at 43% of programs), and they were somewhat more common among programs in in Sub-Saharan Africa (at 28%) than those in South Asia/East Asia/Pacific (at 23%). When micronutrient supplements were provided, these were more commonly mixed into the food being prepared (in 71% of cases) than given directly to students (in 51% of cases).

Figure 28. Fortificants used in fortified foods



Note: This analysis is limited to those programs that served any fortified foods (n=114).

3.6.3 Involvement of nutritionists:

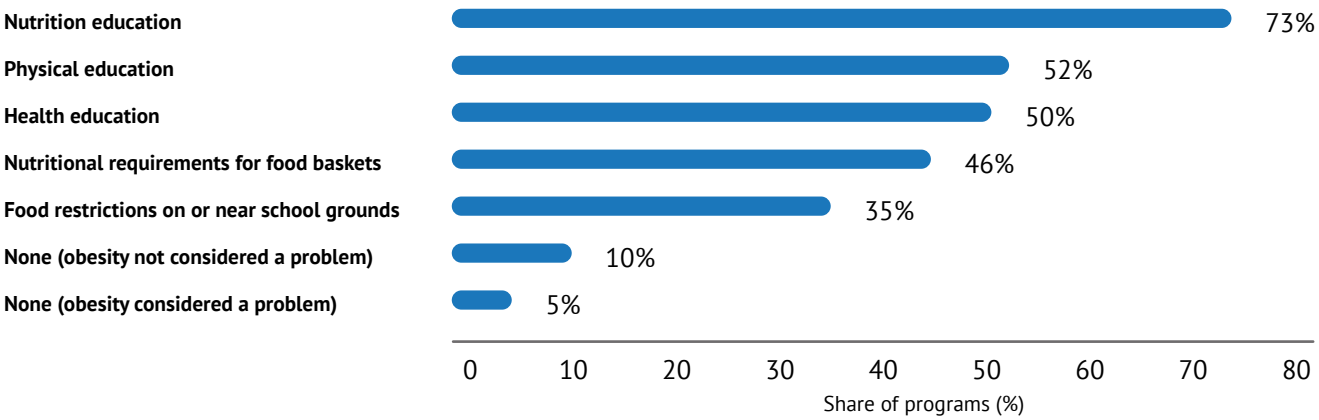
Nutritionists play a key role in overseeing menu planning, food handling, staff training, and nutrition education (Kitaoka, 2018), which becomes even more essential during emergencies when food quality is at risk. According to Ferrero et al. (2023), programs with nutritionist involvement were less likely to face interruptions in feeding operations during the Covid-19 pandemic compared to those without, even when controlling for a country's income level. According to the 2024 Global Survey of School Meal Programs, nutritionists were engaged in 69% of school meal programs (Table 11). This was most common in Latin America/Caribbean, where 89% of programs engaged some nutritionists in their design and management. The inclusion of nutritionists was least common in the Middle East/North Africa, where just 54% of programs engaged nutritionists. However, this was also relatively uncommon in Europe/Central Asia/North America, where 57% of programs engaged nutritionists.

3.6.4 Obesity:

The prevalence of overweight and obesity among children has risen dramatically over the past few decades. Overweight is defined as having a measure of body mass index (BMI)-for-age greater than 1 standard deviation above the WHO Growth Reference median, while obesity is defined as being greater than 2 standard deviations above the same reference (WHO, 2024). Whereas 8% of children and adolescents of ages 5–19 were classified as overweight in 1990, this value was 20% by 2022. Obesity rates similarly increased from 2% in 1990 to 8% in 2022, affecting 160 million young people (WHO, 2024). Excess weight and obesity represent significant public health concerns, contributing to chronic illnesses, disabilities, and early mortality (Hayes et al., 2018). Schools can play a pivotal role in addressing this issue by offering healthier, more balanced meals, and by providing information on healthy food choices.

School meal programs can play a role in cultivating healthy food preferences that can stay with children into their later years (Cohen et al., 2021). Nevertheless, just 37% of school meal programs cited an objective to prevent or mitigate overweight/obesity (Table 11). This was most common in Europe/Central Asia/North America (at 57%) and Latin America/Caribbean (at 53%) and was uncommon in Sub-Saharan Africa (at 21%) or South Asia/East Asia/Pacific (at 31%). Even though programs were hesitant to identify obesity prevention as an overall objective, many programs took at least some steps to prevent or control overweight/obesity (Figure 29). For example, 73% of programs coupled the provision of food with nutrition education oriented toward teaching healthy eating, and 52% were paired with physical education to encourage exercise. Nutritional requirements for food baskets were enforced in 46% of programs, and 35% of programs had food restrictions on or near school grounds to reduce students' access to unhealthy (obesogenic) foods. A small share of programs (5%) acknowledged that obesity was a problem in their contexts but did not take any steps to address the problem through the program design.

Figure 29. Approaches to prevent or mitigate overweight/obesity



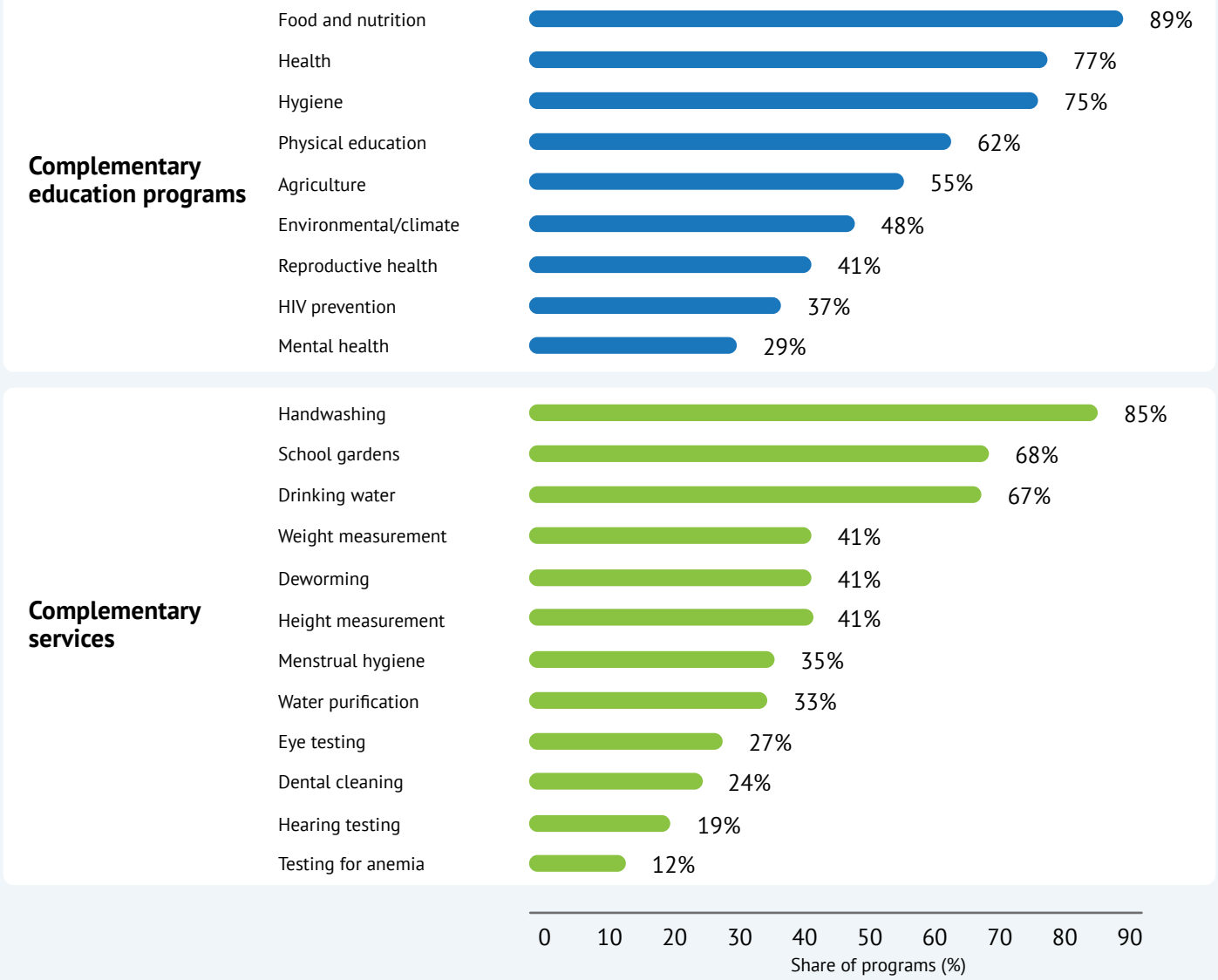
3.6.5 Complementary programs and services:

School meal programs were very often paired with at least some complementary services or education programs to enhance the program's effectiveness and/or leverage on the program to extend its benefit beyond the provision of food. According to the results of the Global Survey of School Meal Programs ©, the most commonly offered complementary service was handwashing facilities, which were made available together with the school meal program in 85% of cases (Figure 30). Deworming treatment was provided with 41% of school meal programs and in 65% of those programs found in low- and lower middle-income countries. Some efforts to track health outcomes, such as height measurement or anemia testing, were not as common as other services.

School gardens were particularly common—especially in low- and lower middle-income countries, where 84% of programs were paired with some school gardens (Figure 30). These gardens were most often used to produce products for students' consumption, which was done in 92% of the programs with gardens. Less commonly, produce from gardens was sold to raise revenue for the programs (in 44% of programs with gardens). In some cases, the produce from gardens was directed to other purposes, such as to support students' home consumption, to reward teachers, to serve as a teaching aid for lessons on nutrition or agriculture, and/or to transform organic waste (such as fruit peels and uneaten food) into fertilizer. The extent to which schoolchildren themselves maintain the gardens during school hours is another topic in need of further study.

The most commonly offered complementary education program was food and nutrition education, which was provided in 89% in school meal programs. Note that this may incorporate school gardens as a pedagogical tool. This was followed by education on health (77%) and hygiene (75%). Just under half (48%) of programs provided some environmental/climate change/sustainability education alongside the school meals. This sometimes included a focus on food waste mitigation or organic food production. This was offered in 56% of programs in high-income countries but just 28% of programs in low-income countries. In addition, school meal programs offered a wide and creative array of other education programs, including cooking workshops; food/nutrition-related competitions and games; education on how to be an informed consumer; trainings and activities for teachers, as well as parents/guardians; remedial classes to help struggling students; farm visits to orchards or dairy farms; and supply chain education through visits to milk processing plants.

Figure 30. Prevalence of complementary services and education programs



3.6.6 School food environment:

The school food environment spans all the ways school children access or are exposed to different foods within or in the vicinity of their schools. A healthy school food environment would expose children mostly to healthy foods and to messages about healthy eating, whereas an unhealthy school food environment would include advertisements for unhealthy foods and would introduce ways for children to access products such as sugar-sweetened beverages. This extends beyond the components of the school menu. As shown in Table 12, most focal points reported that food was generally available for purchase on (or near) school grounds in their country. This broadens the exposure children may have to unhealthy foods. At the same time, 52% of countries had some national-level prohibitions on foods that were permitted on (or near) school grounds. This was most common in lower middle-income countries. The survey also asked about any national-level limitations on marketing. Across all countries that participated in the survey, 72% reported some limitations on food marketing on school grounds, while 66% reported broader limitations on food marketing targeted at children. Interestingly, these aspects of school food environment policy do not generally show clear patterns across income groups.

Table 12. Types of school food environment policy (% of countries)

		Food available for purchase on (or near) school grounds	Any foods prohibited on (or near) school grounds	Limitations on food marketing on school grounds	Limitations on food marketing targeted at children
Region	Sub-Saharan Africa	77	73	83	76
	South Asia, East Asia & Pacific	89	53	53	58
	Middle East & North Africa	70	40	90	80
	Latin America & Caribbean	100	26	68	53
	Europe, Central Asia & North America	75	46	67	64
Income Group	Low Income	73	65	83	74
	Lower Middle Income	86	76	78	70
	Upper Middle Income	90	38	55	52
	High Income	75	40	72	69
All		81	52	72	66

3.7 ENVIRONMENT AND CLIMATE

3.7.1 Sustainable food system:

While numerous studies highlight the multi-sectoral benefits of school meal programs in regard to food security, health, and educational outcomes, much less is known about how school meals can contribute to climate adaptation and mitigation (Fanzo & Miachon, 2023). Nevertheless, environmental sustainability is increasingly prioritized in school meal programs (Ruge 2023), with countries implementing a variety of initiatives to both limit their environmental vulnerability and reduce their environmental impact. The Global Survey of School Meal Programs © captured various indicators of environmental sustainability in school meal programs, spanning the topics of local sourcing/efforts to reduce food miles, targeting of climate-friendly foods, food waste and packaging waste, and steps taken to reduce use of firewood such as the use of energy-efficient stoves.

Table 13. Indicators of environmental sustainability (% of programs)

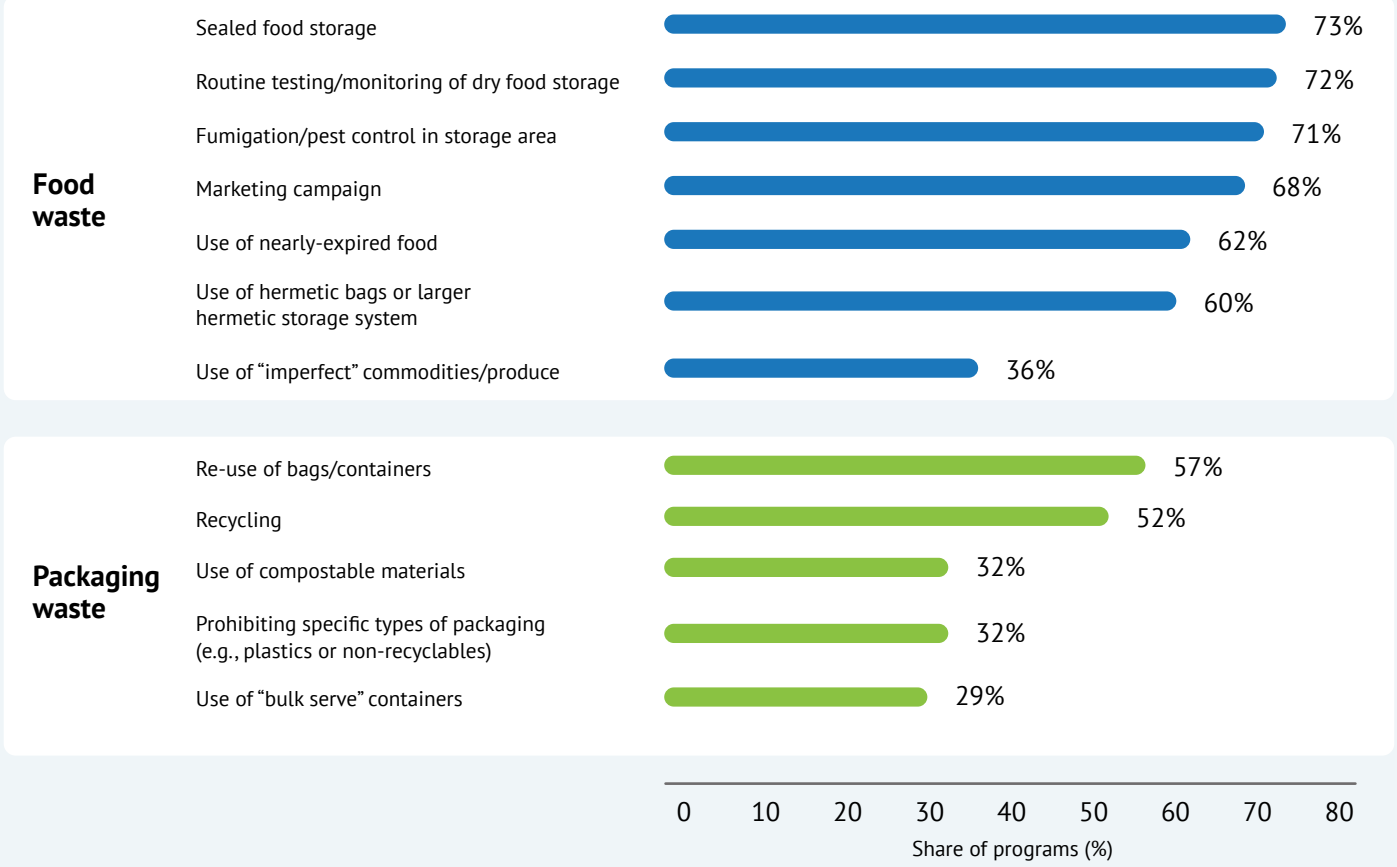
		Steps Taken to Limit Food waste	Compost uneaten/ unusable food	Used anaerobic biodigester	Steps Taken to limit package waste	Targeted climate-friendly foods	Effort made to reduce food miles/ kilometers
Region	Sub-Saharan Africa	92	22	8	74	43	89
	South Asia, East Asia & Pacific	79	48	8	60	32	67
	Middle East & North Africa	91	18	0	62	33	67
	Latin America & Caribbean	72	28	11	61	39	68
	Europe, Central Asia & North America	63	9	0	61	32	76
Income Group	Low Income	96	26	10	81	44	87
	Lower Middle Income	83	23	5	54	39	88
	Upper Middle Income	69	30	11	59	27	60
	High Income	70	13	0	73	36	74
All		81	22	6	67	38	79

3.7.2 Food and packaging waste:

A large majority (81%) of school meal programs took some steps to limit food waste (Table 13). This was generally more common in lower-income settings, where food tends to be less plentiful. Specifically, 96% of programs in low-income countries, and 70% of programs in high-income countries, took steps to limit food waste. These steps are delineated in Figure 31. Across all programs worldwide, the most common steps to limit food waste were the use of sealed food storage, the routine testing/monitoring of dry food storage, and fumigation/pest control in storage areas. A less common step took the form of marketing campaigns to nudge children as well as food preparers to limit food waste. In addition, 22% of all programs (and 48% of programs in South Asia/East Asia/Pacific) composted their uneaten/unusable foods (Table 13). In South Africa, dry foods (such as milled grains and legumes) that were not used for in-school meals during the school term were packaged as take-home rations for needy learners to consume at home outside of the school year.

A majority (67%) of school meal programs also took some steps to limit package waste. Most commonly, these included the re-use of bags/containers (followed by 57% of programs that took some steps to limit package waste) and the recycling of packaging materials. Not surprisingly, recycling tended to be more common in higher-income settings. Roughly one third of programs reported that they used compostable materials, prohibited some types of packaging materials that were less environmentally friendly, or used "bulk serve" containers in place of "single serve" containers.

Figure 31. Practices to limit food waste or packaging waste

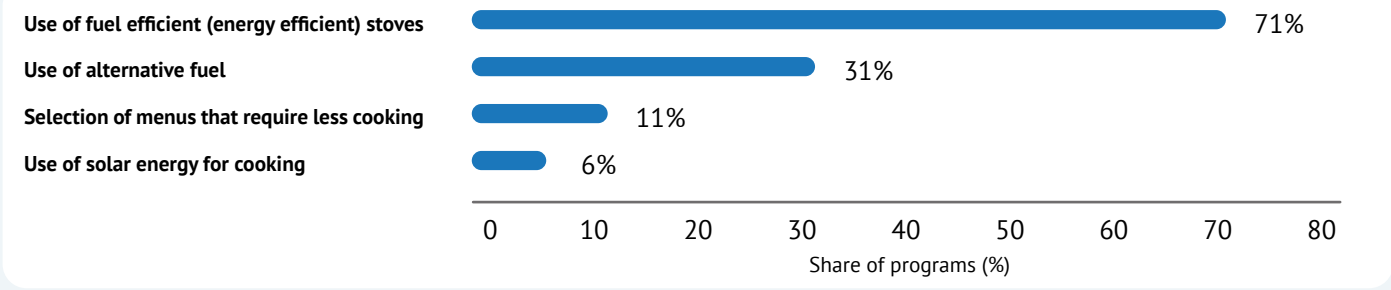


Note: This figure is limited to those programs that either took steps to limit food waste (n=152) or took steps to limit packaging waste (n=127).

3.7.3 Fuel alternatives:

Approximately 58% of school meal programs relied on wood stoves or charcoal stoves for food preparation, and among these, 78.5% took some steps to reduce the use of firewood/charcoal as fuel. Toward this end, the most common step taken was the use of fuel efficient (energy efficient) stoves (Figure 32). It was very uncommon for programs to aim for lower use of wood/charcoal by selecting menus that required less cooking, and it was even less common to use solar energy for cooking. Perhaps the capital-intensive nature of solar cooking, which requires specialized infrastructure beyond the budget of most school meal programs, deters programs from pursuing this option. Biogas was used as fuel in the few instances (6% of programs) where anaerobic biodigesters were used to manage organic waste (Table 13).

Figure 32. Practices to reduce the use of firewood or charcoal



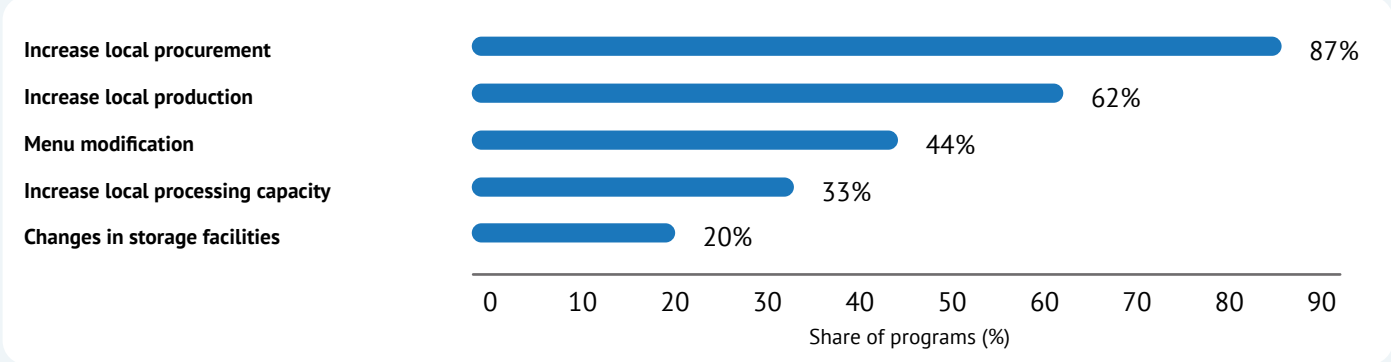
Note: This figure is limited to those programs that took steps to limit the use of firewood or charcoal as fuel (n=86).

3.7.4 Climate change:

As part of the food system, school meal programs are both affected by, and a driver of, climate change. Nevertheless, just 38% of programs targeted foods that were considered by the survey focal points (respondents) to be "climate-friendly" (Table 13). These are foods whose production improves or does no harm to the environment, or which substitute for foods that are more harmful to the environment. Climate-friendly foods may be resilient to climate-related challenges such as pests or drought, or they may be selected to avoid deforestation. Given the link between climate and food systems, it is noteworthy that the concept of a "climate-friendly" menu is not more widely adopted.

On the other hand, a large majority (79%) of programs took some steps to reduce the distance traveled by food from the site of production to consumption (i.e., the food miles/kilometers). Across regions, this emphasis on local procurement was most common in Sub-Saharan Africa, where 89% of programs aimed to reduce the distance traveled by food. Practices to reduce this distance are shown in Figure 33. In 87% of cases, programs purposefully aim to increase local procurement, while efforts are extended to increase local production in 62% of cases. Just under half (44%) of cases involve some menu modification to accommodate the priority of reducing food miles/kilometers. The optimization of meal planning to meet environmental goals (in addition to other program objectives) is yet another topic worthy of more research attention.

Figure 33. Practices to reduce food miles (distance traveled by food)



Note: This figure is limited to those programs that took steps to limit food miles/kilometers (n=155).

BOX 4. MAKING SCHOOL MEALS MORE SUSTAINABLE

School meal programs around the world took various creative steps to become more environmentally sustainable.

- In Finland, most or all schools incorporated environmental, climate, and/or sustainability education into daily activities. Students received home economics lessons focused on reducing food waste and reusing uneaten food, and some schools weighed food waste to show students the results. Additionally, certain municipalities, through local initiatives, included "climate-friendly" foods in their school menus.
- In Dominica, schools adopted a "Grow What We Eat & Eat What We Grow" approach, maintaining backyard gardens. The produce grown in these gardens was used in student meals and sold to the community to generate funds for the school.
- In The Bahamas, compostable materials were used for food packaging, while certain types of packaging, such as plastics and non-recyclables, were prohibited to minimize waste. Additionally, the national government implemented a ban on Styrofoam products.
- In Rwanda, uneaten food was composted on-site to reduce food waste. Schools used anaerobic biodigesters to treat waste, and the biogas produced was occasionally used for cooking at the school.

BOX 5. SCHOOL MEAL PROGRAMS AS A PLATFORM TO TEACH SUSTAINABILITY

Because school meal programs are so entwined with issues of environmental sustainability, they can serve as platforms to pass along environmental values and teach children about sustainability.

- In Morocco, produce from school gardens was used to anchor an environmental education program.
- In Romania, educational materials distributed through the school meal program presented information about healthy eating habits, agriculture, supply chains and local products, organic production, sustainable production, and combating food waste.
- In Bulgaria and the Slovak Republic, educational visits to farms/dairies, fruit orchards, and processors were included in the curriculum to introduce children to the agricultural processes that bring food to their plates.
- In Sweden, national school meal guidelines promoted "eco-smart" meals that align with environmental goals. The Swedish Food Agency's handbook offered practical tips to reduce waste, with schools reporting waste data biennially to help monitor progress.

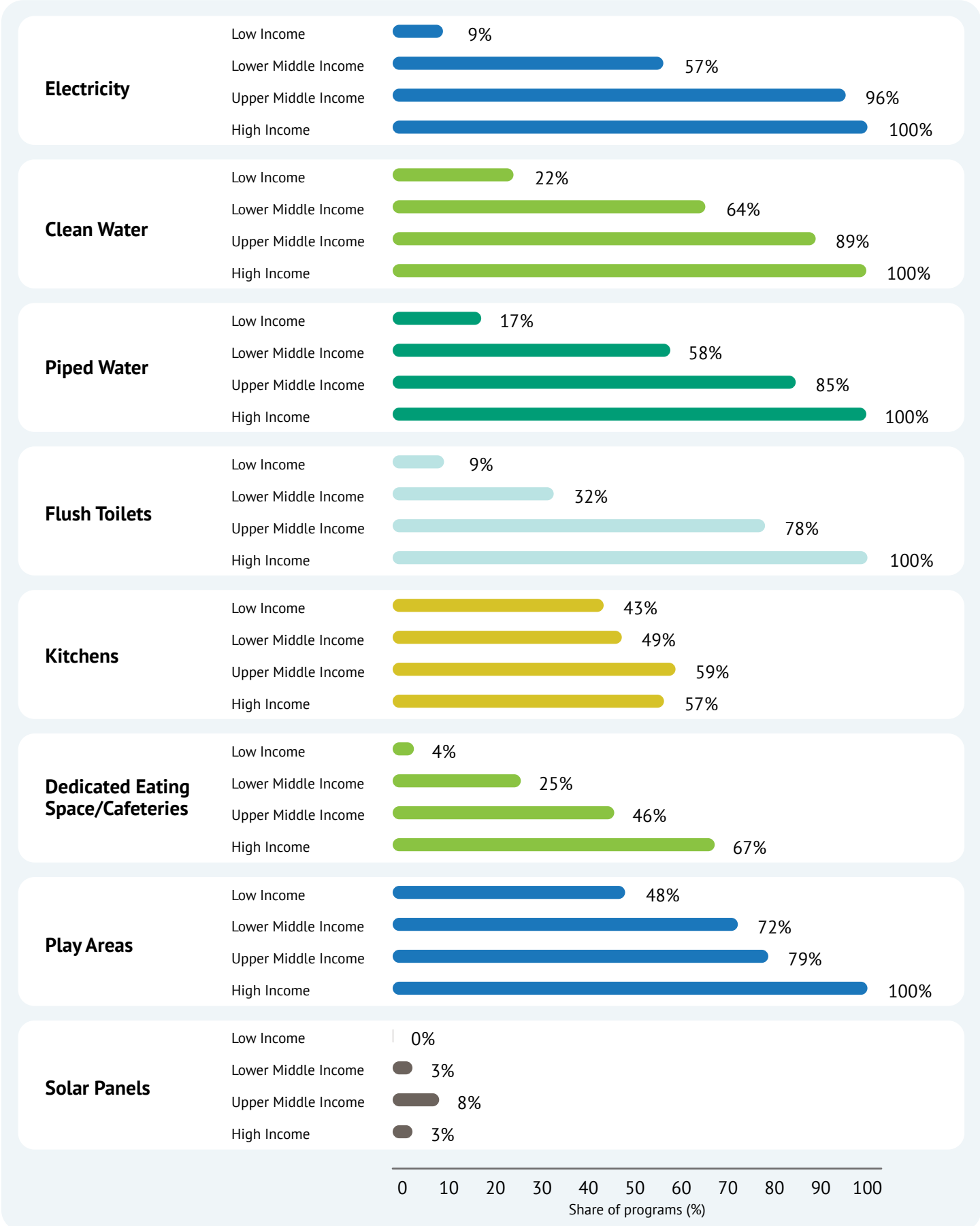
3.8 INFRASTRUCTURE

3.8.1 School infrastructure:

School meal programs require various types of infrastructure to operate effectively. Kitchens are sometimes used for on-site food preparation, cafeterias are sometimes used for eating, and electricity is sometimes needed for refrigeration. The rates at which countries report that "all" or "most" schools contain different types of infrastructure are shown in Figure 34. In almost all cases, the presence of infrastructure incrementally increased with rising country income levels. For example, electricity was found in "all" or "most" schools in 9% of low-income countries, 57% of lower middle-income countries, and 96-100% of upper middle-income and high-income countries. Flush toilets, of relevance for school hygiene, were found in "all" or "most" schools in 9% of low-income countries, while this value was 32%, 78%, and 100% of lower middle-income, upper middle-income, and high-income countries, respectively. In-school kitchens were far from universal at any income level. Assuming that kitchens are often used for school meal preparation, this would presumably limit the extent to which school meal programs can be scaled up to approach universal coverage. Dedicated eating spaces were also more common at higher levels of income, though this was not universal even in high-income countries.

In the survey's open-ended questions regarding challenges faced by school meal programs, many focal points reported a need for significant investments in infrastructure to improve program operations. This was the case in Afghanistan, Benin, Cabo Verde, Colombia, Democratic Republic of Congo, Guatemala, Iraq, Malawi, Mozambique, Nigeria, and Togo. Solar panels were very rarely reported to be found in "all" or "most" schools in a country (Figure 34). However, they were found in at least "some" schools in 27% of countries. In section 3.7.3, it was noted that school meal programs very rarely used solar energy for cooking as a way to reduce their reliance on firewood or charcoal. It seems clear that solar energy, in general, has not made significant inroads into school meal programs.

Figure 34. Rate at which infrastructure was found in "all" or "most" schools



BOX 6. IMPROVEMENTS IN SCHOOL FEEDING INFRASTRUCTURE

While many focal points noted a need for significant investments in infrastructure, others reported on recent improvements in school feeding-related infrastructure.

- In Burkina Faso, Mali, Mozambique, Rwanda, Togo, and Cambodia, families and communities contributed to building kitchens and storage rooms for school canteens.
- In Liberia and Niger, new storage facilities were constructed, and existing ones expanded. In Palau, kitchen facilities were upgraded when funding for the school feeding program was increased. Reconstruction of school kitchens is also underway in Bosnia and Herzegovina.
- In Burundi, monthly food deliveries reduced the need for large storage capacities in schools, minimizing food loss due to inadequate infrastructure.
- In Zimbabwe, school borehole drilling was included in the Presidential Borehole Drilling Scheme, enhancing potable water access for school programs.
- In Tajikistan, a pilot program funded by the state included kitchen upgrades and equipment improvements, with decisions made collaboratively by school management, parent committees, and teaching staff.
- In Belize, the National Healthy Start program began in 2022 with 6 primary schools and was scaled up to 8 by May 2023 as infrastructure and the capacity of cooks were gradually improved.
- In Romania, efforts have been underway to equip schools with cold storage for fresh products, allowing for longer storage of fruits, vegetables, milk, and yogurt. In Sweden, school kitchens have implemented refrigerated storage and measures to limit food waste.
- In Israel, some utensils have been upgraded to recyclable options.

3.8.2 Sites of food preparation:

At the program level, the location of school meals/snacks preparation is presented in Figure 35. Across all income levels, it was most common for school food to be prepared on-site (on school grounds). However, this was incrementally less common with greater income, such that 94% of programs in low-income countries prepared food on-site, while this value was 61% for programs in high-income countries. Instead, programs in higher-income settings were more likely to prepare food off-site in either centralized (not private) kitchens or in private facilities. It was also most common at higher income levels for school meal programs to serve food that was distributed in unprocessed form, as with the provision of fresh fruits, vegetables, or milk. This was especially common in the European Union, where the EU-sponsored school fruit, vegetables and milk scheme operated in many countries (often under different names and with program designs that varied). Programs found in countries of higher income levels were also more likely to serve food that was purchased in procured form, such as ready-made sandwiches.

Figure 35. Location of school meals/snacks preparation (% of programs)

	On-site (on school grounds)	Off-site in centralized (not private) kitchens	Off-site in private facilities (caterers)	Not applicable (purchased and distributed in unprocessed form)	Not applicable (purchased in processed form)
Low Income	94	4	2	2	6
Lower Middle Income	95	14	12	0	10
Upper Middle Income	87	30	20	7	17
High Income	61	54	30	30	29

3.8.3 Kitchen amenities:

Among the programs that prepared food either on-site or off-site, the amenities found in "typical" kitchen facilities are presented in Figure 36. It was very common for kitchen facilities to have secured storage facilities. Conversely, it was less common to have unsecured storage facilities. However, unsecured storage was relatively more common in lower-income settings, suggesting this may still be a concern in some places. Some amenities showed strong associations with country income level. For example, refrigeration and electric stoves were very uncommon in kitchens in low-income countries while being very common at higher income levels. Gas stoves were most common in upper middle-income countries, but their use declined among programs in high-income countries. Meanwhile, charcoal or wood stoves were more common at low-income levels and never reported in high-income countries.

Figure 36. Kitchen amenities (% of programs)

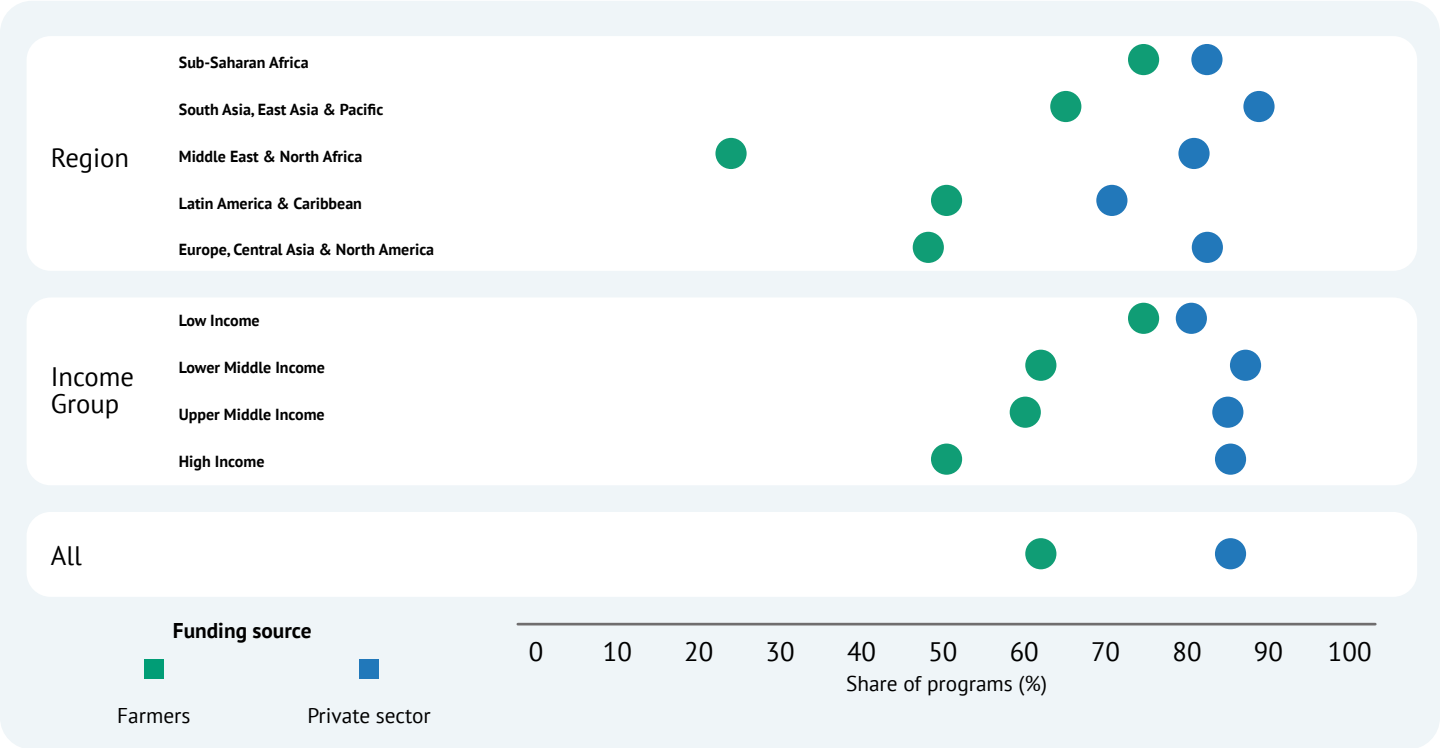
	Low Income	Lower Middle Income	Upper Middle Income	High Income
Secured storage facilities	86	84	88	85
Serving utensils	82	84	88	79
Refrigeration	8	29	80	85
Gas stove	14	36	84	56
Electric stove	2	19	52	76
Charcoal or wood stove	90	79	28	0
Open cooking area	57	76	44	9
Unsecured storage facilities	16	19	12	3

3.9 AGRICULTURE, EMPLOYMENT, AND COMMUNITY PARTICIPATION

3.9.1 Links with farms and other private sector firms:

The linkage between school meal programs and the agricultural sector is widely valued. Over half (57%) of programs cited an objective to enable small-scale farmers to gain access to a predictable and stable market, while 44% indicated that the program aimed to meet agricultural goals, more broadly (Figure 10). These programs also have linkages to the nonfarm private sector through the various services and products that are sourced in the process of providing school meals. The extent to which school meal programs directly engaged farms (with farms selling directly to the program or the schools or selling through their farmer organization) or involved the private sector is shown in Figure 37. Across all programs, 61% engaged farmers and 84% engaged the private sector. Across regions, the engagement of farmers was most prevalent in Sub-Saharan Africa (75%) and South Asia/East Asia/Pacific (65%) and was least widespread among programs operating in the Middle East/North Africa (25%). Across income levels, there was a negative correlation between income and the likelihood of engaging farmers, reflecting the agricultural orientation of economies at the lower end of the income spectrum and the value of tying school meal programs to priorities of agricultural development. On the other hand, the likelihood of engaging the nonfarm private sector is similar across all income levels and, across regions, is only markedly lower in Latin America/Caribbean (at 75%).

Figure 37. Involvement of farmers and the private sector



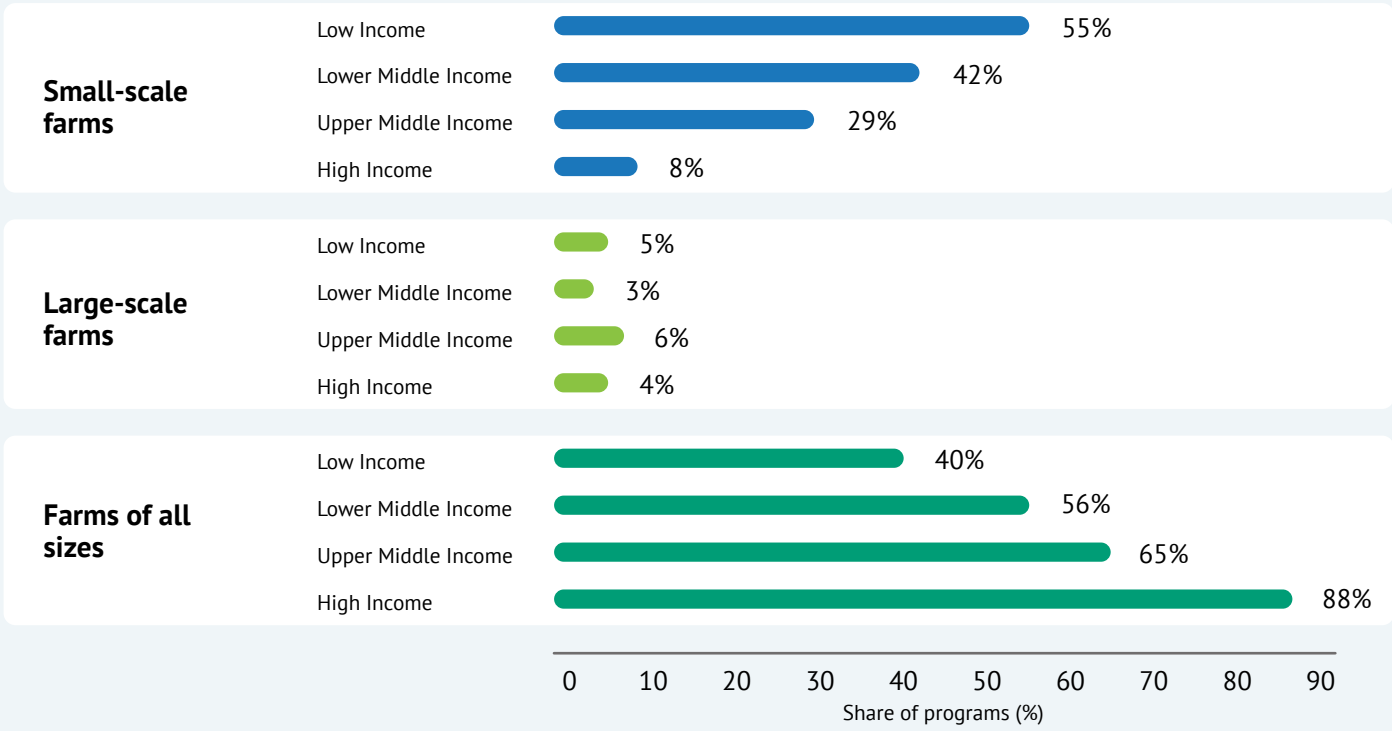
3.9.2 Agriculture, farmers, and school meals:

School meal programs may engage with farms that are exclusively small-scale (in an effort to be inclusive), exclusively medium/large-scale (in an effort to ensure a predictable supply), or of any size. The sizes of farms engaged with programs (among those that involved any farmers) are shown in Figure 38. Programs in low-income countries were most likely to focus exclusively on small-scale farms (at 55%), and this value falls sharply with higher levels of wealth. On the other hand, programs in high-income countries were most likely to engage with farms of all sizes (at 88%). This underscores both the dominance of small-scale farmers in the agricultural landscape of lower-income settings and the openness of programs everywhere to at least engage with (if not prioritize) small-scale farms.

In the course of purchasing food, many programs followed open-bid (competitive tendering) procedures. The extent to which small-scale farms or firms were able to compete for these bids is shown in Figure 39. In 29% of cases, small-scale farms or firms did receive preferential treatment, such as quotas to ensure they were the suppliers of some or all food. In 45% of cases, no preferential treatment was extended, though small-scale farms or firms were considered to be successful in competing for bids. However, in another 22% of cases, it was reported that small-scale farms or firms were not successful at competing for bids on the open market. This may be because they were not able to ensure an adequate supply to meet the needs of the program, or perhaps because they could not meet food safety/hygiene standards that are sometimes onerous for small farms or small processors.

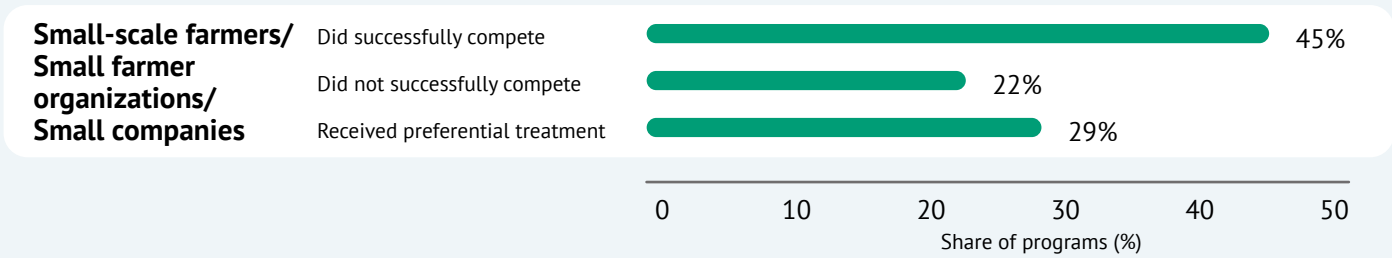
School meal programs extended various types of support to farmers (Figure 40). Most commonly, the programs offered advice, seeds, or tools to promote production of specific crops/foods. A similar share of programs (41% of those programs that engaged farmers) offered advice or tools to prevent post-harvest losses, while 37% offered school feeding-specific training, and 34% offered other agriculture extension services. Interestingly, purchase agreements set prior to harvest (forward contracts) were relatively uncommon at 30%. The reasons for this lack of forward contracts merits investigation, particularly as school meal programs often specifically aim to provide small-scale farmers with a reliable market. The challenges associated with contracting for regular and adequate food supply is yet another rich topic for future research. Note that the extent to which the budget behind these various agricultural support services (beyond the cost of food procurement) is reflected in the reported school meal budgets is unclear.

Figure 38. Farm sizes engaged with school meal programs



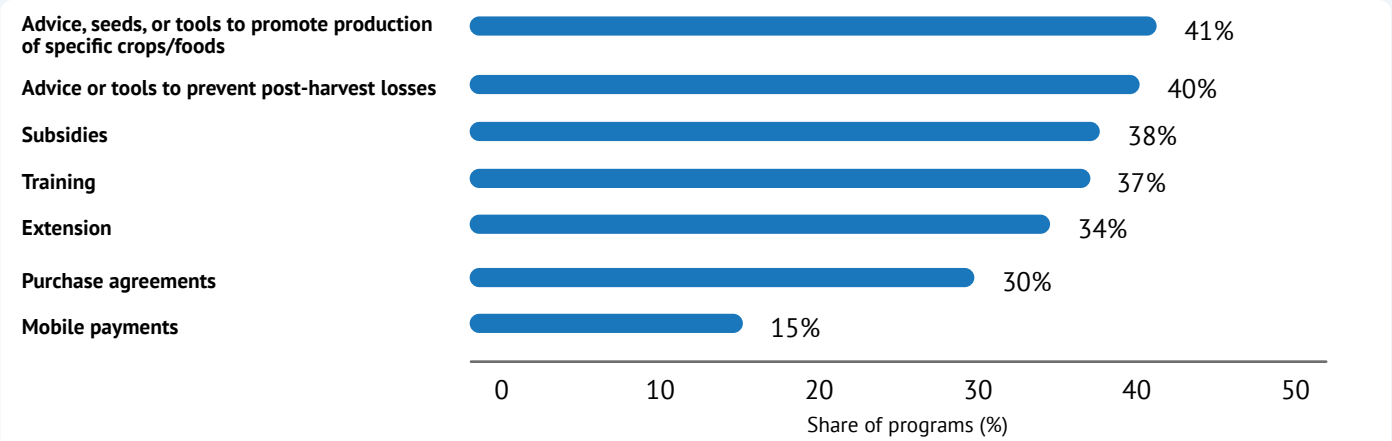
Note: This figure is limited to those programs that directly engaged any farmers (n=119).

Figure 39. Competitive success of small-scale firms and farms



Note: This figure is limited to those programs followed open-bid (competitive tendering) procedures for food purchase (n=137).

Figure 40. Types of support provided to farmers



Note: This figure is limited to those programs that directly engaged any farmers (n=119).

3.9.3 Home-grown school feeding (HGSF) indicators:

The home-grown school feeding (HGSF) label alludes to several characteristics of school meal programs. HGSF programs source at least some of their food from smallholder farmers, often in the vicinity of schools, and furthermore extend support to facilitate smallholders' engagement with the school meal market. Nevertheless, there is not a universally agreed definition of HGSF that would allow for the categorization of programs as being either HGSF or not. Rather, programs can be understood to possess a range of characteristics that are in the spirit of HGSF, and a program that exhibits more of these traits can be understood to exhibit a greater "intensity" of HGSF.

The Global Survey of School Meal Programs © captured at least 7 indicators that are consistent with HGSF (some of which have been discussed elsewhere in this report). The extent to which these are exhibited by school meal programs is presented in Table 14. As HGSF aims to support the national economy, an indicator for whether the program procured food from the domestic market (i.e., through domestic purchases) is relevant. It was very common (at 78%) for programs to purchase food from the domestic market, and this was especially the case for programs in South Asia/East Asia/Pacific (at 92%). As HGSF emphasizes local procurement and geographically short value chains, it is also relevant to note whether programs made any efforts to reduce the distance travelled by food to reach the students. In total, 79% of programs made this sort of intentional effort, and this was particularly common among programs in Sub-Saharan Africa (at 89%).

Over half (57%) of the programs reported that they had an explicit objective to enable small-scale (smallholder) farmers to gain access to a predictable and stable market and to maximize the benefits they derive from such access. This value was 80% among programs in low-income countries and 75% in lower middle-income countries, though the value dropped sharply to 46% in upper middle-income countries and 34% in high-income countries. Interestingly, in low-income and lower middle-income countries, it was more common for programs to cite an objective to benefit small-scale farmers than to source directly from small-scale farmers. For example, among low-income countries, 80% of programs aimed to benefit small-scale farmers, while small-scale farmers sold directly to 70% of the programs. Beyond sourcing from smallholders, HGSF connotes some additional support extended to these farmers to strengthen their ability to serve as suppliers. In total, 43% of programs offered additional support to small-scale farmers, such as agricultural extension or school feeding-specific training. This was most common in low-income countries (67%) and in Sub-Saharan Africa (60%). The relative lack of support extended to these farmers in South Asia/East Asia/Pacific (39%) and Latin America/Caribbean (42%) is surprising and may indicate an opportunity that has not been pursued.

It was rather uncommon for countries to report that they had a law/policy/standard that was specific to small-scale farmers in relation to school meal programs. Accordingly, just 10% of programs were found in countries with such a law/policy/standard. This was most common in Latin America/Caribbean (referring to 25% of programs), followed by South Asia/East Asia/Pacific (referring to 15% of programs).

Table 14. Indicators of home-grown school feeding (% of programs)

		Purchases from domestic market	Effort made to reduce food miles/ kilometers	Objective for small-scale farmers to benefit from access to a stable market	Small-scale farmers sold directly to the program or schools	Additional support provided to small-scale farmers	Preferential treatment for small-scale farmers/small firms in tendering procedures	Law/policy/ standard related to small-scale farmers and school feeding programs
Region	Sub-Saharan Africa	79	89	78	71	60	45	8
	South Asia, East Asia & Pacific	92	67	79	65	39	28	15
	Middle East & North Africa	85	67	33	25	17	13	8
	Latin America & Caribbean	74	68	61	53	42	14	25
	Europe, Central Asia & North America	71	76	29	45	23	10	7
Income Group	Low Income	80	87	80	70	67	53	6
	Lower Middle Income	80	88	75	59	44	29	11
	Upper Middle Income	81	60	46	55	38	14	18
	High Income	73	74	34	48	21	14	9
All		78	79	61	59	43	29	10

3.9.4 Home-grown school feeding (HGSF) intensity:

As noted, HGSF can be thought of as a spectrum, with the number of HGSF traits exhibited by a program indicating the intensity of HGSF values. Figure 41 displays the share of programs that exhibited at least four (out of 7) indicators of HGSF. Just under half (47%) of programs had at least four indicators, and there was a strong negative association with income level, whereby this value was 69% among programs in low-income countries and 56%, 32%, and 28% among programs in lower middle-, upper middle-, and high-income countries. Across regions, it was most common in Sub-Saharan Africa (66%) and South Asia/East Asia/Pacific (54%). While the number of programs in the Middle East/North Africa was low (n=13), it is striking that so few exhibited traits of HGSF (23%). This may be an area for improvement in school meal programs in this region.

This measure of the "intensity" of HGSF presents an opportunity to explore the correlation between HGSF intensity and an oft-cited assumption that HGSF is associated with more diverse school menus. Results from a set of linear regressions are shown in Table 15. In column 1, the number of indicators of HGSF exhibited by a program is indeed found to be correlated with the healthy food diversity (the number of healthy food categories served). Specifically, another HGSF indicator is associated with an additional 0.427 healthy food categories. In column 2, the dependent variable is a measure of unhealthy foods diversity, and while the coefficient is smaller in magnitude than in column 1, the results still show a positive and statistically significant correlation between HGSF intensity and unhealthy foods diversity. Separate regressions for each unhealthy food category reveals a positive association with provision of white tubers (regarded as unhealthy in the Global Diet Quality Score, though this not categorization is not shared in some other diet quality indices), sugar-sweetened beverages, and sweets. In other words, HGSF is associated with more healthy and unhealthy foods. In column 3, the dependent variable is a binary indicator of whether a program considered itself to have met its target in terms of food basket diversity. Here, the coefficient on HGSF indicators is positive but not statistically significant.

In Table 15, the key explanatory variable is a count of up to 7 HGSF indicators, which necessarily collapses diverse information into one metric of intensity. When these indicators are treated as explanatory variables on their own, in turn, with the number of healthy foods as a dependent variable, all indicators have positive coefficients. However, two indicators emerge as statistically significant and particularly large in magnitude. Specifically, the objective for small-scale farmers to benefit from the program and procurement directly from small-scale farmers were most important as drivers of healthy foods diversity in school menus.

Figure 41. Share (%) of programs with at least four indicators of home-grown school feeding

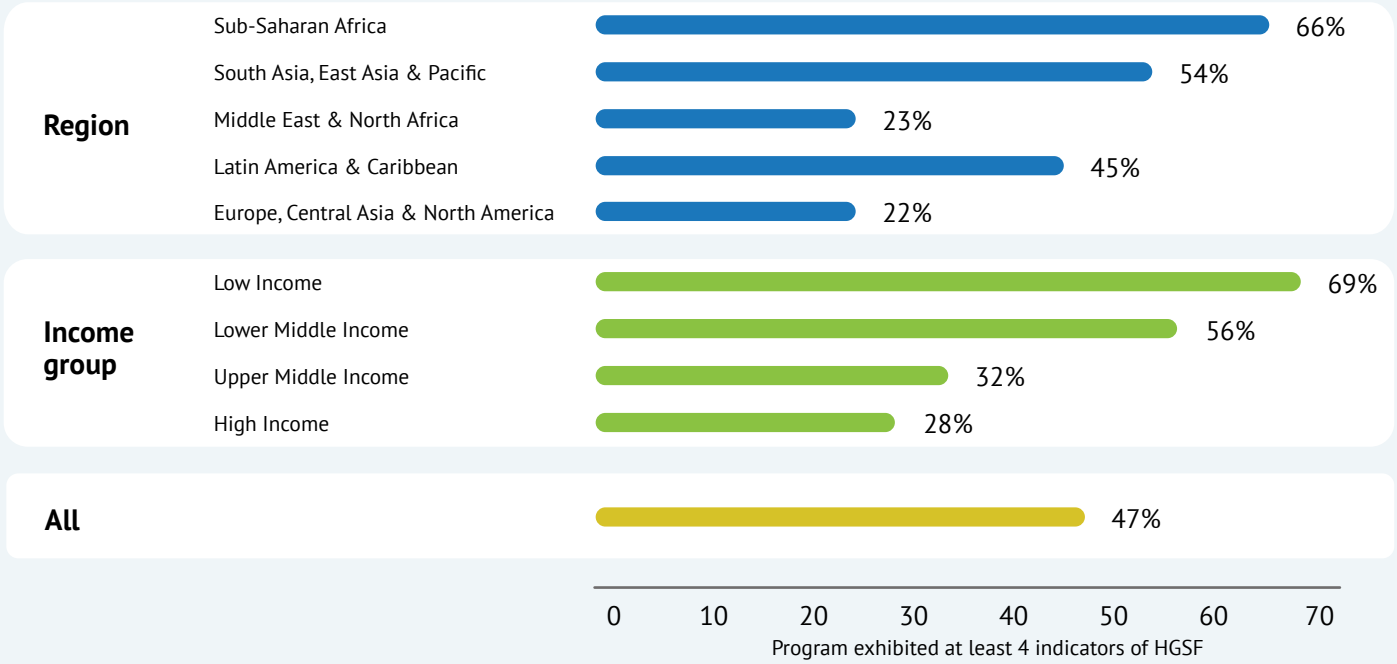


Table 15. Relationship between number of HGSF indicators and food basket diversity (OLS)

	(1) Number of healthy foods	(2) Number of unhealty foods	(3) Food basket diversity target achieved
Number of HGSF indicators	0.427***	0.174**	0.025
Country population (10s millions)	0.012	0.007	-0.003
Country GDP per capita[a]	0.033*	0.017*	0.002
Region[b]			
1= Latin America & Caribbean	2.059*	1.095**	-0.075
1= Middle East & North Africa	-0.856	-0.193	-0.008
1= South Asia, East Asia & Pacific	0.924	0.033	-0.173
1= Sub-Saharan Africa	-1.028	-0.875*	-0.128
Constant	4.954***	1.486***	0.799***
Observations	201	201	181
R-squared	0.130	0.185	0.063

*Only coefficients shown; *** p<0.01, ** p<0.05, * p<0.1*

[a]GDP per capita (thousands of dollars) reported in purchasing power parity using constant 2017 international $ in 2022

[b]Europe, Central Asia & North America as base group

BOX 7. FARMERS AS SCHOOL FOOD SUPPLIERS

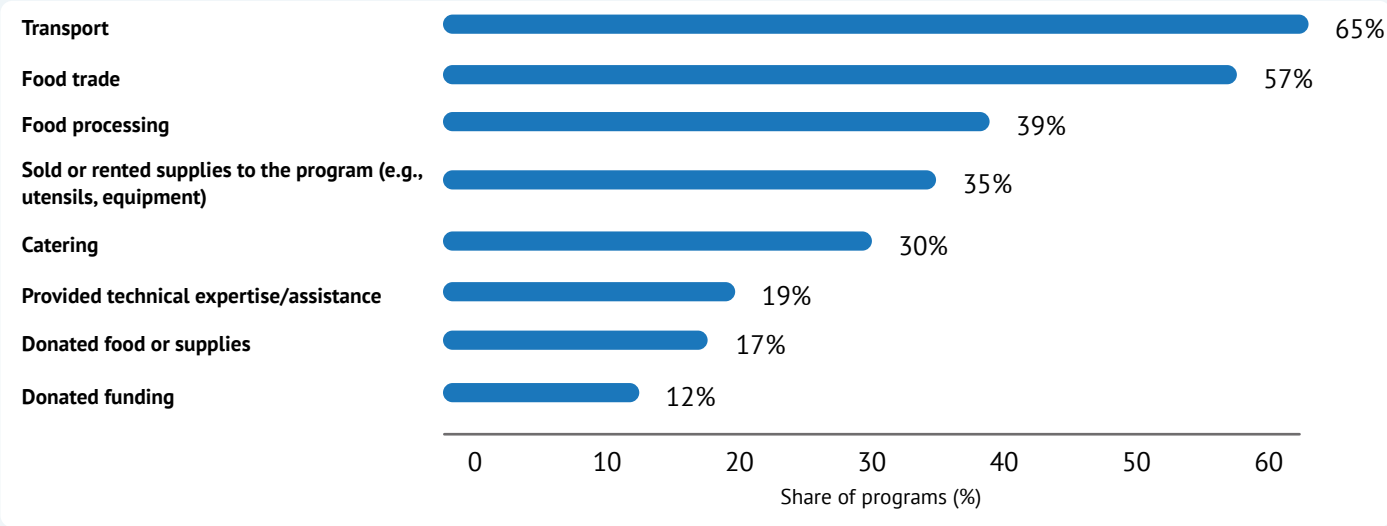
A majority of school meal programs engaged farmers as direct suppliers of school food.

- In Sierra Leone, the school meal program emphasized the use of home-grown food products, actively engaging and supporting smallholder farmers.
- Guinea's home-grown school feeding (HGSF) program prioritized small-scale farmers in competitive procedures, offering them resources and training to enhance crop production.
- The "Primary Education and Girls' Schooling Support Program" in Chad likewise engaged small-scale farmers to supply various food items to schools while providing support to prevent post-harvest losses.
- Uganda's Karamoja Program and SNV Program provided resources and training to farmers, while the Cotton On Foundation Program engaged with both small and medium/large-scale farmers.
- Bhutan utilized open-bid procedures to engage small-scale farmers in food procurement and also provided them with forward contracts.
- Brazil mandated that at least 30% of school meal funds be spent on family farming, emphasizing the inclusion of women in food procurement and the establishment of a school food council for oversight.

3.9.5 The non-farm private sector and school meal programs:

As noted, a large majority (84%) of programs engaged the nonfarm private sector. The roles played by the private sector are enumerated in Figure 42. Most often, private sector companies provided transport services to ferry food and other supplies. These private firms also engaged in food trade (e.g., aggregation, wholesaling) and food processing, as well as the sale or rental of supplies and equipment. The private sector also participated in some less expected ways. For example, in 19% of programs (among those that somehow engaged the private sector), private companies provided technical expertise/assistance to the school meal program. They also donated food or supplies (in 17% of cases), as well as funding.

Figure 42. Engagement of private sector actors in school feeding



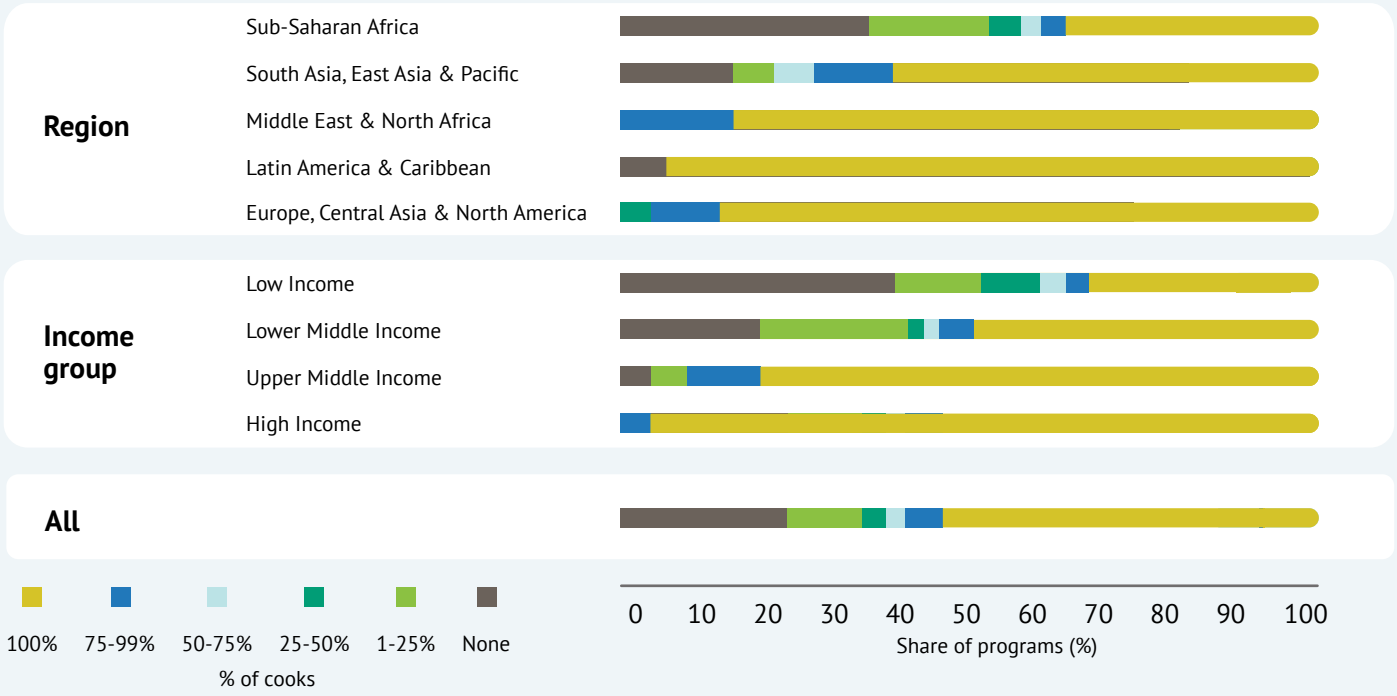
Note: This figure is limited to those programs that reported some private sector role in their operations (n=161).

3.9.6 Cooks and caterers:

Cooks and caterers play a central role in school meal programs, and these programs, in turn, are important sources of employment in their communities. Most (though not all) school meal programs were able to report the number of cooks and caterers engaged in food preparation. Among the 145 (out of 207) programs that could supply a number, the total number of cooks/caterers in the 2022 school year was at least 2.2 million. Across all programs that had any cooks/caterers, 54% reported that all of the cooks/caterers were paid for their work, whether in cash or in kind (Figure 43). A higher share (62%) reported that at least half of the cooks received remuneration. At the other end of the spectrum, 24% of programs reported that none of the cooks received any payment for their labor. There was a strong association between the payment of cooks and income level. Specifically, in low-income countries, 40% of programs paid at least half of their cooks, while this value was 57%, 90%, and 100% in lower middle-, upper middle-, and high-income countries. This value was particularly low in Sub-Saharan Africa (at 43%).

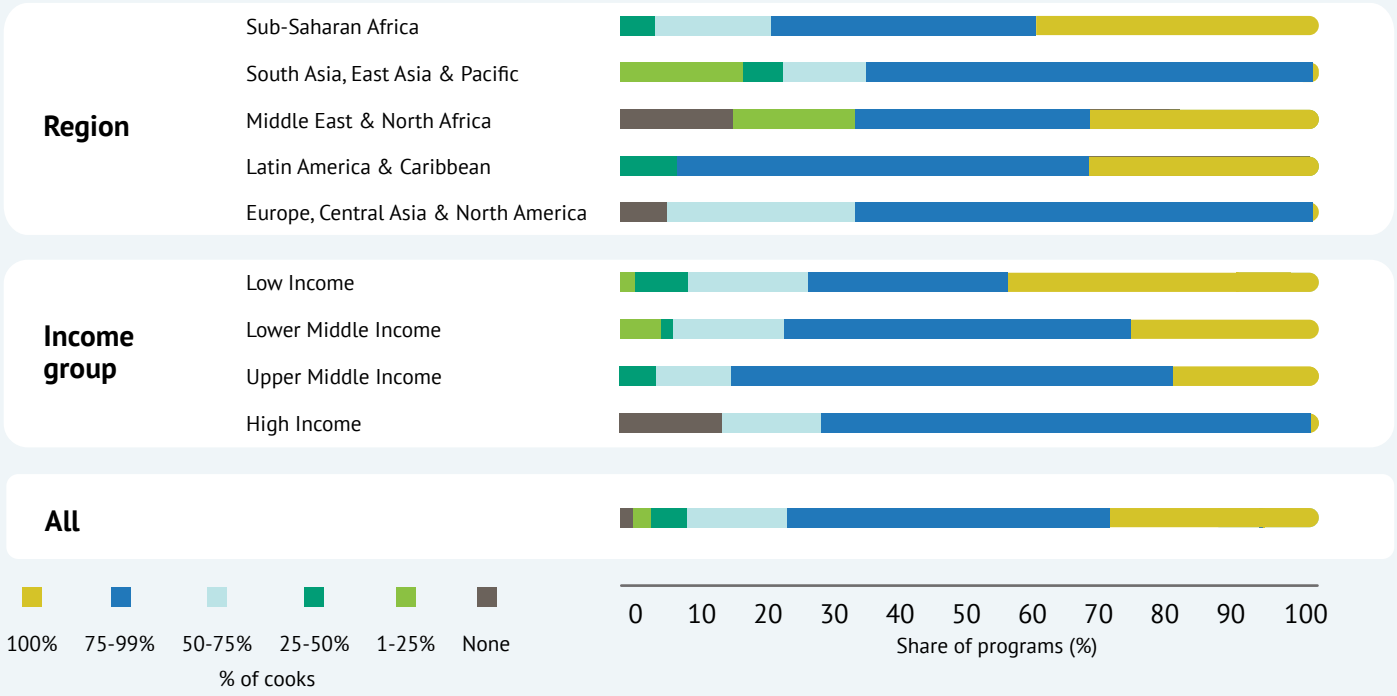
Women comprise a striking majority of the labor force around school meal programs. In fact, 91% of programs reported that at least half of their cooks/caterers were women, while 30% reported that all were women (Figure 44). It was especially common in low-income countries for programs to have solely female cooks (at 45%), though men were increasingly found among the cooks at higher income levels. Interestingly, in the Middle East/North Africa, 33% of programs indicated that a majority of the cooks were men—a value far higher than in other regions.

Figure 43. Share of cooks/caterers that were paid



Note: This figure is limited to those programs that had some cooks or caterers (n=147).

Figure 44. Share of cooks/caterers that were women

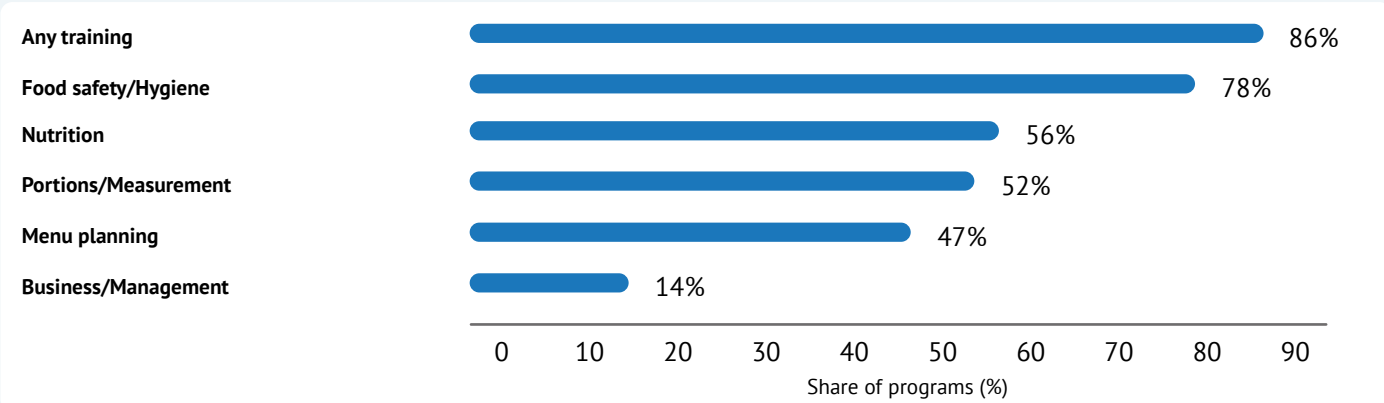


Note: This figure is limited to those programs that had some cooks or caterers (n=147).

3.9.7 Training for cooks:

A large majority (86%) of cooks received (or were required to receive) some special training or certification programs (Figure 45). This can improve the quality of the school meal program and can also build the capacities and employment skills of the cooks. Topics of training include food safety/hygiene, nutrition, portions/measurement, and menu planning. It is much less common for school meal programs to offer (or require) business/management training, though management is a critical aspect of such programs—even at the kitchen level. Moreover, training in business/management can potentially empower cooks to parlay their experience in school meal preparation into a source of self-employment.

Figure 45. Special trainings for cooks/caterers



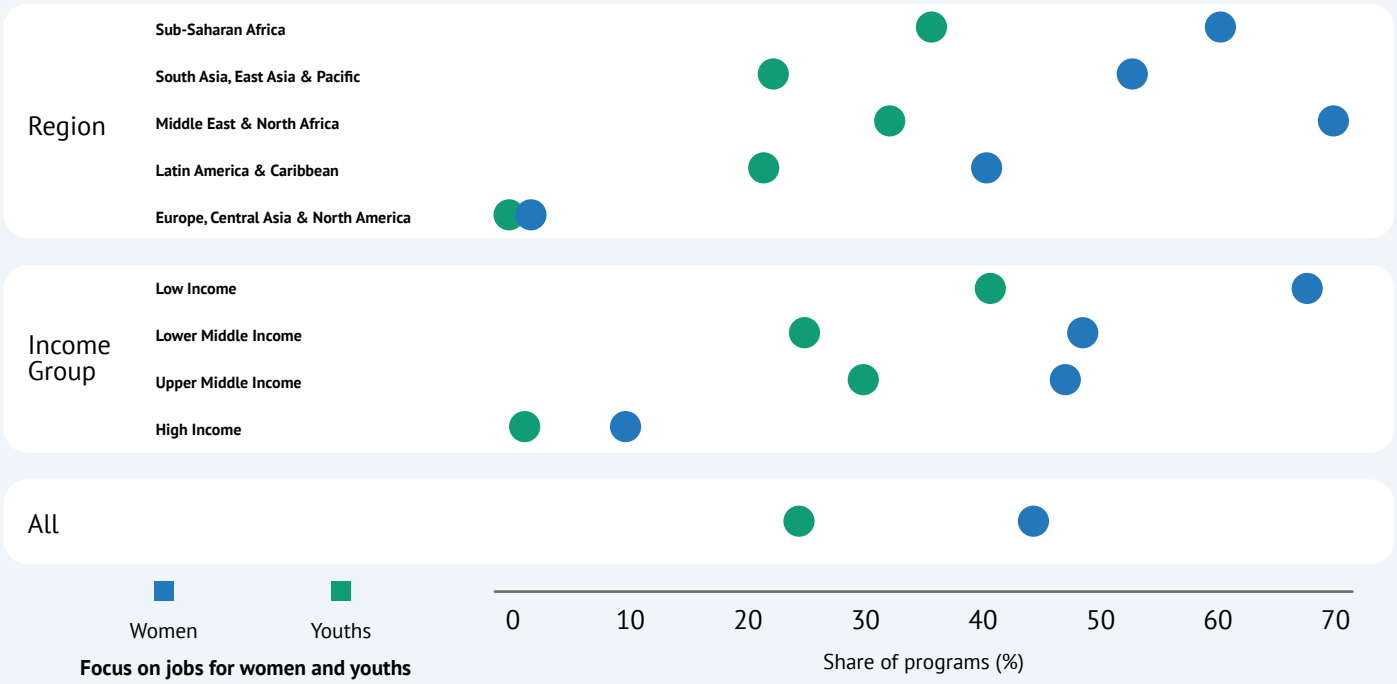
3.9.8 Paid employment:

School meal programs can be a significant source of employment, generating linkages that strengthen local economies. However, as noted in section 3.9.6, many cooks/caterers are not paid. The Global Survey of School Meal Programs © requests that focal points report on the number of different types of paid jobs that are sustained by each school meal program. For the 2022 school year, over half (56%) of programs were able to report some jobs numbers. Among these, cooks/caterers comprised the large majority of paid jobs (at 66%), followed by food handlers (at 25%). Other job types for which some numbers were provided included transporters, off-site processors, and monitors.

3.9.9 Job creation for women and youths:

Many programs maintain an explicit focus on creating jobs for categories of people that face barriers in their access to the labor market. Specifically, 44% of programs reported that they maintained a focus on creating jobs for women, and 25% maintained a focus on creating jobs for youths. This was much more common among programs operating in low-income countries, with 67% giving attention to women's employment and 40% giving attention to youth employment. Among programs in the Middle East/North Africa, 67% made a specific effort to employ women. Gender and age were much less likely to be taken into consideration in hiring in Europe/Central Asia/North America.

Figure 46. Focus on creating jobs for women and youths



BOX 8. THE SCHOOL FEEDING LABOR FORCE

In aggregate, school meal programs directly employ a large labor force of school cooks/caterers, food handlers, and others. As employers, these programs have an opportunity to set their employment policies with intentionality to reflect their values and shape local economies.

- Brazil mandated that at least 30% of school meal funds be spent on family farming, emphasizing the inclusion of women in food procurement and the establishment of a school food council for oversight.
- In Bangladesh, there was a deliberate focus on creating leadership and income-generating opportunities for women, and a position within each School Management Committee (SMC) was designated to empower women in decision-making.
- Burundi's program involved competitive tendering for food procurement, with over half of the cooks being women who also formed agricultural cooperatives to produce food for schools. Also in Cambodia, women predominated as cooks in the Home-Grown School Feeding Program, receiving monthly incentives.
- In Botswana, the program prioritized women, youth, and people with disabilities in competitive tendering.
- School meal programs in Croatia and San Marino focused on creating job opportunities for individuals with disabilities within their school feeding initiatives, effectively promoting social inclusion through employment.

- The Restopolis program in Luxembourg maintained a special focus on providing jobs or income-generating opportunities for people with mental disorders.
- In New Zealand, the school meal program maintained a purposeful focus on creating jobs or income-generating opportunities for Iwi and Hapūūu (Indigenous Māori tribes).
- Syria's school meal programs aimed to support women by offering job opportunities in sandwich preparation and by providing training to enhance qualifications, alongside opportunities for youth in food distribution.

3.9.10 Community engagement:

A large majority (77%) of school meal programs had some element of community engagement, and this was much more common at lower income levels (Table 16). Community engagement can take the form of communities contributing labor to the program or engaging in organized oversight, among other activities. Specifically, 96% of programs in low-income countries engaged their communities in some fashion, while this value was 48% in high-income countries. There was also considerable variation across regions, with 92% of programs in Sub-Saharan Africa being characterized by community engagement, while this value was much lower in other regions.

3.9.11 STUDENTS PREFERENCES AND ENGAGEMENT:

Students' preferences were sometimes taken into account in the design of programs and, commonly, in the selection of school menus. Specifically, 60% of programs reported that they integrated students' preferences, and this value was fairly consistent across income groups (Table 16). However, there was some variation across region, with programs in Latin America/Caribbean being most likely to integrate students' preferences. In the U.S., schools used taste testing and student feedback to create appealing menus.

Table 16. Community engagement and consideration of students' preferences (% of programs)

		Community engagement	Integrated students' preferences
Region	Sub-Saharan Africa	92	56
	South Asia, East Asia & Pacific	78	60
	Middle East & North Africa	67	67
	Latin America & Caribbean	72	72
	Europe, Central Asia & North America	53	58
Income Group	Low Income	96	55
	Lower Middle Income	84	63
	Upper Middle Income	77	62
	High Income	48	60
All		77	60

3.10 MONITORING, EVALUATION, AND LEARNING

3.10.1 Achievement of targets:

The Global Survey of School Meal Programs © asked programs to report on whether they felt they had achieved their targets in the 2022 school year. The self-reported attainment of targets is reported in Table 17, with a target treated here as "achieved" if it was either regarded as "achieved" or "mostly achieved". This table tells a story of overall success, with at least 90% of programs achieving their targets in terms of the number of children reached, the number of schools reached, the number of school levels receiving food, the feeding frequency, and ration size. The only exception is the level of food basket diversity, for which just 82% of programs felt they had satisfactorily attained their goals. While most programs seem to have met their goals, this was relatively less likely among those programs found in the Middle East/North Africa. For example, 69% of programs in the Middle East/North Africa felt they had reached their goal in terms of the number of targeted school levels. This may indicate an area in need of greater attention and support.

Table 17. Achievement of targets in school feeding (% of programs)

		Number of students receiving food	Number of schools receiving food	Number of school levels receiving food	Feeding frequency	Level of food basket variety	Ration size
Region	Sub-Saharan Africa	91	88	89	89	76	88
	South Asia, East Asia & Pacific	96	95	96	92	74	92
	Middle East & North Africa	85	77	69	92	85	77
	Latin America & Caribbean	100	89	95	100	83	100
	Europe, Central Asia & North America	100	98	100	100	95	100
Income Group	Low Income	93	85	87	87	81	81
	Lower Middle Income	92	92	89	90	70	90
	Upper Middle Income	97	89	93	100	86	100
	High Income	98	96	100	100	96	100
All		94	90	92	93	82	91

3.10.2 Challenges associated with monitoring:

Several modes of monitoring were used to keep track of school meal programs. For example, school visits were undertaken in 94% of programs, while the submission of paper-based and electronic records were equally common in 68% of programs. Focal points reported on several recent advances in monitoring. For example, in Senegal, an integrated online management system known as the "School Feeding Monitoring System in Senegal" (SASSE) has been implemented to facilitate daily data entry from school canteens nationwide.

BOX 9. MONITORING CHALLENGES

Monitoring of school meal programs has been challenging in some countries, often owing to inadequate resources or weak protocols.

- In Iraq, monitoring challenges included insufficient specialized personnel for monitoring and evaluation.
- In Peru, monitoring challenges included the multitude of actors engaged in school feeding, along with the geographic complexity of the food delivery system.
- In both Dominica and Jamaica, there was insufficient staff for monitoring and evaluation.
- In Sierra Leone, program monitoring was limited by a reliance on paper-based reporting and a lack of sufficient monitoring staff.
- Canada lacked a national school food program or policy until 2024. This gap has made it difficult to monitor, track, and evaluate province-level/territory-level programs across the country.

BOX 10. ASSESSING THE IMPACTS OF SCHOOL MEAL PROGRAMS

Governments are eager to understand the impacts of school meal programs in order to evaluate their effectiveness and identify how they can be improved.

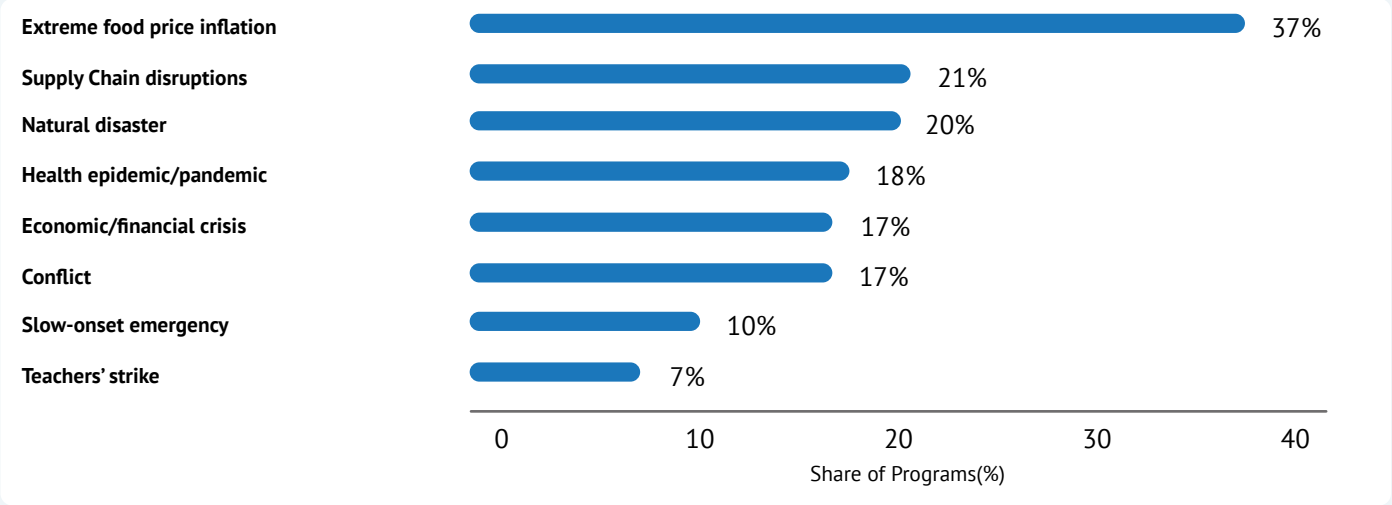
- In Peru, the Qali Warma National School Feeding Program (PNAEQW) has positively impacted cognitive test performance among children who do not eat breakfast at home, according to a 2019 PNAEQW Impact Study.
- In the Philippines, parents of children in the School-Based Feeding Program noticed changes in their children after receiving school meals, with many reporting increased enthusiasm, weight gain, improved body condition, strengthened immune systems, and eagerness to study.
- In Brazil, children consuming multiple school meals daily were found to have increased intake of fresh, minimally processed foods and overall healthier diets.
- In Mauritania, evaluations have shown higher success rates in entrance examinations for schools with canteens, compared to those without.
- In New Zealand, evaluations commissioned by the Ministry of Education have demonstrated improvements in educational engagement, well-being, and attendance.

3.11 EMERGENCIES

3.11.1 Frequency of emergencies:

School meal programs were widely affected by emergencies in the 2022 school year. Specifically, 60% of programs reported being affected by at least one emergency during the reference period, and this was most common for programs operating in low-income countries, among whom 76% were affected by an emergency. The rates at which different types of emergencies were cited are presented in Figure 47. By far, the most widely cited emergency of relevance to these programs was extreme food price inflation (at 37%), followed by closely associated supply chain disruptions (at 21%). Note that the 2022 school year occurred at a time of rapidly rising prices around the globe for food, fertilizer, and fuel (Wineman et al. 2024), and this has had profound effects for food security, particularly in low-income countries. It was more common for school meal programs to perceive themselves as affected by natural disasters (such as floods or earthquakes) than slow-onset emergencies (such as droughts). Specifically, 20% of programs reported being affected by natural disasters, while 10% were affected by slow-onset emergencies.

Figure 47. Share (%) of programs affected by emergencies



Note: This figure is inclusive of all programs that responded to the relevant survey question, including those that did not report that they were affected by any emergency (n=186).

BOX 11. FACING EMERGENCIES

School meal programs faced myriad emergencies in the school year that began in 2022.

- The Botswana School Feeding Program faced a slow-onset emergency, though it was able to sustain without any school closures. Shortages of grains and pulses resulted in a slight drop in food accessibility, which in turn prompted substitutions, such as the use of canned stewed steak in place of beans. This reduced the nutritional quality of school meals.
- In Burkina Faso, the National School Canteen Program, School Canteen Project CRS, School Canteen Project WFP, and School Canteens of Foundation and Cooperation program were all impacted by conflict and extreme food price inflation. These emergencies led to temporary school closures and interruptions in school feeding operations, along with a notable decrease in food accessibility.
- In Canada, high food inflation forced some school food programs to reduce portion sizes or the number of meals served, with some programs closing early due to depleted funding. In New Zealand, cost pressures and supply chain challenges necessitated menu adjustments, resulting in reduced red meat and dairy offerings.
- In South Africa, supply chain issues and extreme food price inflation impacted food accessibility, leading to reduced vegetable portions in school meals and affecting their nutritional quality, although operations continued without school closures.
- A series of emergencies, including drought and conflict, led to school closures for over a month and the temporary suspension of feeding operations in Somalia. These also prompted a search for alternative food sources.
- The Covid-19 pandemic prompted a shift to take-home rations in Guatemala. Thereafter, resistance to returning to in-school meal preparation has impacted the program's effectiveness.

3.11.2 Impact of emergencies:

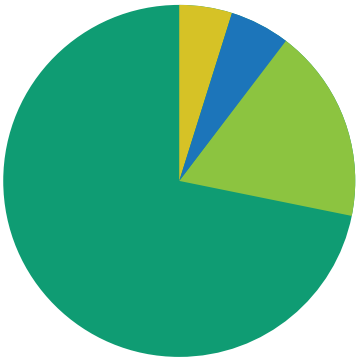
Just as the emergencies experienced were diverse, the impacts of these emergencies varied widely. As shown in Figure 48, for a large majority (72%) of programs that were affected by at least one emergency, the school feeding operations were not interrupted. This is a testament to the resilience and responsiveness of school meal programs, which often must find ways to reach children even under trying circumstances. An additional 18% of programs reported that school feeding ceased temporarily in some schools/regions, while 5% had to temporarily suspend feeding activities in all schools in which the program was active, and another 5% ceased activities up until the time of the survey in some (but not all) schools (i.e., as of late 2023 or early 2024).

Survey focal points were also asked to characterize the impacts of these emergencies. Among those programs that experienced an emergency, some reported that the emergency "slightly" (29%) or "significantly" (18%) affected the accessibility (availability and affordability) of food for the program. In addition, some reported that the emergency "slightly" (16%) or "significantly" (26%) increased the cost of operating the program. Overwhelmingly, programs reported that the increase in costs came through an increase in the cost of purchasing food, while costs of transportation and labor were much less likely to be cited as the primary stress point.

Some drivers of school meal program susceptibility to disruption (proxied here by an indicator of whether the program experienced any interruption) are explored in a linear probability model in Table 18. A positive coefficient is indicative of a factor that drives disruption, while a negative coefficient is indicative of a driver of resilience. Results in column 1 show that three types of emergencies were positively and significantly associated with disruption, namely natural disasters, economic crises, and conflict. Other types of emergencies, while often positive in their correlation with disruption, are not statistically significant.

Some aspects of program design could potentially mitigate the impact of shocks. In column 2, the three types of emergencies most associated with disruption are interacted with an indicator of government funding to test whether this trait improves program resilience. The interaction between natural disaster and government funding is negative and statistically significant, suggesting that government funding does, in fact, promote the continued operation of school meal programs (though this is not the case for other types of emergencies). Domestic funding of school meal programs therefore seems to be an important aspect of resilience in the face of natural disasters. In column 3, the same three types of emergencies are interacted with an indicator of direct engagement of farmers. In the case of economic crisis, this program trait does seem to lessen the impact of the emergency, making it less likely the program will be interrupted. Particularly if an economic crisis is transmitted through the global system, reliance on local production could logically shield a program from external threats. However, in the case of natural disaster, farmer engagement actually exacerbates the shock, making it *more* likely that the program will be interrupted. Note that local farmers are affected by the same local disaster as the program and may therefore be unable to maintain the necessary food supply. Overall, these results suggest that some features of school meal programs can make them more resilient in the face of shocks. However, these features interact differently with different types of shocks. The drivers of program resilience seems to be a rich area for further research.

Figure 48. Impact of emergencies on school feeding operations (% of programs)



5%
Ceased temporarily in all schools/regions

72%
Experienced no interruptions

5%
Ceased to this day in some schools/regions

18%
Ceased temporarily in some schools/regions

Table 18. Correlates of school meal program disruption (OLS)

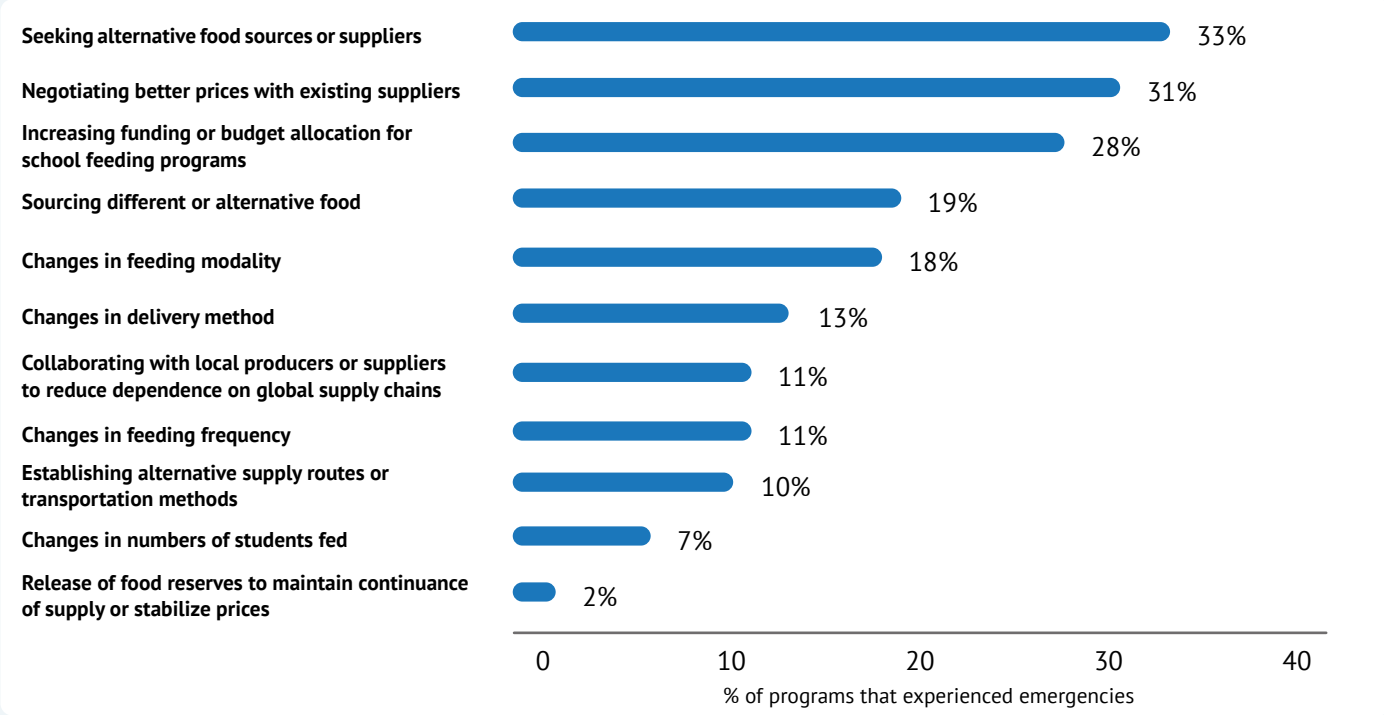
Experienced emergencies	(1) 1= Interruption	(2) 1= Interruption	(3) 1= Interruption
1= Slow onset emergency	-0.035	-	-
1= Natural disaster	0.314***	0.637***	0.267**
1= Economic crisis	0.209**	0.101	0.306***
1= Conflict	0.319***	0.188	0.320***
1= Health epidemic	0.090	-	-
1= Supply chain disruption	0.089	-	-
1= Extreme food price inflation	-0.089	-	-
1= Teachers' strike	0.064	-	-
Natural disaster*Government funding	-	-0.376**	-
Economic crisis*Government funding	-	0.128	-
Conflict*Government funding	-	0.197	-
Natural disaster*Farmers involved	-	-	0.486***
Economic crisis* Farmers involved	-	-	-0.613***
Conflict* Farmers involved	-	-	0.019
Country population (10s millions)	-0.003*	-0.003**	-0.006
Country GDP per capita[a]	-0.003**	-0.002*	-0.002
Region[b]			
1= Latin America & Caribbean	0.080	0.132	0.130
1= Middle East & North Africa	-0.051	-0.053	-0.071
1= South Asia, East Asia & Pacific	0.133	0.171	0.203*
1= Sub-Saharan Africa	0.040	0.058	0.056
Constant	0.127	0.094	0.089
Observations	181	181	174
R-squared	0.406	0.413	0.435

*Only coefficients are shown; robust standard errors; *** p<0.01, ** p<0.05, * p<0.1*
[a]GDP per capita (thousands of dollars) reported in purchasing power parity using constant 2017 international $ in 2022
[b]Europe, Central Asia & North America as base group

3.11.3 Strategies used to address emergencies:

School meal programs employed a range of strategies to respond to emergencies and minimize their impact, as shown in Figure 49. One third of programs sought alternative food sources or suppliers, and 31% negotiated better prices with existing suppliers. A considerable share (28%) were able to expand the budget for the program in response to higher operating costs or a greater level of need. It was less common (at 19%) for programs to source alternative foods to replace those that were newly expensive or scarce. However, a large share (87%) of programs that reported they were affected by supply chain disruptions also reported that they responded by collaborating with local producers or suppliers to reduce dependence on global supply chains. Interestingly, it was extremely uncommon for programs to respond with a release of food reserves to maintain supply or stabilize prices. However, it is unclear to what extent this may be done by a government at the country level while a program may not regard it as a strategy implemented for the program's benefit.

Figure 49. Strategies employed in response to emergencies (% of programs)



BOX 12. COPING WITH EMERGENCIES

School meal programs in many countries faced challenges ranging from conflict to severe food price inflation to extreme climatic conditions and natural disasters. While these emergencies often did introduce setbacks to school meal programs, they were also sometimes framed as valuable learning experiences. Programs sought to respond resourcefully to these sources of stress in order to ensure that children would continue to access food through their schools.

- Some programs adjusted their protocols during emergencies. For example, in Brazil, the Covid-19 pandemic led to management changes in the school feeding program, including amendments that allowed for direct distribution of food kits to the parents of beneficiary students during emergencies. In Dominica, school meal supplies were secured ahead of the hurricane season, ensuring that students would continue to receive meals.
- In Colombia, the Covid-19 pandemic led to improvements to the School Feeding Program, making it one of the first in Latin America to issue continuity guidelines. This heightened the emphasis on sustaining the program during emergencies and student recess. By 2023, regions such as Guajira and Chocó successfully maintained the program during breaks, reflecting a commitment to year-round student nutrition.
- In the Democratic Republic of the Congo, conflict led to greater recognition of the need for flexible feeding strategies, leading to the introduction of take-home rations as an alternative to on-site meals. This approach was also adopted in Namibia, Nigeria, and Peru during drought or other times of stress.
- Some programs turned to school gardens (farms) as access to food through the market grew more challenging. For example, a school meal program in Cameroon was able to increase production on school farms to complement imported foods. In Uganda, schools were likewise encouraged to establish vegetable gardens to reduce costs, and in eSwatini, capacity building workshops were offered to strengthen food production in schools.
- Some programs turned to local purchases as it became more difficult to procure food through longer distance or global value chains. For example, in Ghana, a key response to high food costs and supply chain disruptions was to urge the government to boost the national food supply. In Liberia, cooperatives and farmers began ensuring the availability of locally produced rice to meet daily menu requirements in schools. Similarly, in The Gambia, Kenya, Mongolia and St. Lucia, domestically produced foods were introduced to replace imported staples in the school feeding program. Many focal points noted that a shift towards domestically produced products had the effect of improving the nutritional quality of school meals.
- In Latvia, collaboration with local producers and suppliers reduced dependence on global supply chains. Likewise in Guatemala, the response to crises resulted in a strengthened connection between the program and family farming.
- In Philippines, emergencies ultimately resulted in stronger collaboration among school feeding partners and stakeholders.

3.12 COUNTRIES WITHOUT LARGE-SCALE SCHOOL FEEDING

3.12.1 Reasons to report an absence of school feeding

In the 2024 Global Survey of School Meal Programs, 17 country governments responded to the survey by reporting that they did not have any large-scale school feeding activities in the country. Among these, 13 countries assigned focal points to complete a short form regarding any past or anticipated future activities related to school feeding. These were Albania, Comoros, Denmark, Equatorial Guinea, Indonesia, Kiribati, Libya, Montenegro, Norway, Pakistan, Palestine, Papua New Guinea, and Samoa.

Some focal points offered clarifications regarding why they did not consider there to be any large-scale school feeding in the country. For example, in Denmark, there was no systematic overview of the provision of school meals, and each of the 89 municipalities in the country made independent decisions regarding school meals. Moreover, lunch brought from home was widespread in Denmark. Nevertheless, some schools in some municipalities had decentralized offers for school meals, and the Danish authorities (the Danish Veterinary and Food Administration) provided dietary guidelines and recommendations regarding the food served in schools, as well as legislation regarding food safety and hygiene. In Norway, it was clarified that all primary and lower secondary schools may participate in a subscription scheme for fruits and vegetables, and about 7% of students participated nationally. However, in most schools, the subscription must be paid by the students' parents, and this was not considered to be a large-scale school meal program. In Papua New Guinea, boarding schools at the secondary level served breakfast, lunch, and dinner to their students. However, this was not considered to be a cohesive large-scale school meal program.

Some countries without any large-scale school feeding noted that a program had previously been in place, though it had ended. For example, in Palestine, the World Food Programme (WFP) operated a large-scale school meal program between 2007 and 2015. At its largest, this program reached 150,000 children. Unfortunately, funding was shifted elsewhere, spelling the end of this program in Palestine.

3.12.2 Plans to introduce new school meal programs

Some focal points shared national hopes or exciting plans to introduce a large-scale school meal program in their countries. For example, the Government of Indonesia is now putting into place a plan to provide free school lunches and milk. As of the time of completing the survey, this program was still being formulated and not yet officially announced. The Government of Kiribati, similarly, had drafted a School Meal Program (SMP) policy that was not yet implemented at the time of the survey. This forthcoming program would have two objectives spanning education (to improve students' attendance and participation) and nutrition (to improve children's health and nutrition), and it was expected to be led by the Kiribati Ministry of Education. In some cases, countries reported on pilot programs that were already in place but would not yet be considered "large-scale", even if there were intentions to scale up. In Pakistan, a School Meal Program had been piloted in 81 schools in Gilgit Baltistan and 44 schools of the Islamabad Capital Territory (ICT). As of the time of the survey, plans were underway to extend this program to all primary schools of ICT, to scale it up in Gilgit Baltistan, and to additionally introduce it in in another region, Azad Jammu and Kashmir. Beyond providing hot meals, this pilot program in Pakistan has incorporated various health interventions such as BMI testing, hearing assessments, dental check-ups, and the provision of free eyeglasses. In Montenegro, there was a pilot program called "School scheme fruit, vegetables and milk products" which operated in 10 schools. However, there was a stated intention to eventually extend the program to all schools in Montenegro. Also, in Libya, there was a pilot (not large-scale) program in place in 2022 which operated in 7 schools in three cities, ultimately reaching about 7,000 children. This project was funded with international support and managed by WFP, and there is the hope that it will eventually be scaled up.

3.12.3 Infrastructure in countries without any large-scale school feeding

For countries that hope to introduce a school meal program, it is essential that key infrastructure be in place to make this possible. Unfortunately, school infrastructure that could support the provision of cooked meals or fresh snacks is evidently lacking in these countries. In fact, 0% of the countries that did not have any large-scale school feeding reported that "all" or "most" schools had kitchens, while 77% reported that "no" or "very few" schools had kitchens. This would likely be an obstacle to any tentative program that includes on-site food preparation. Moreover, just 23% reported that "all" or "most" schools had dedicated eating spaces/cafeterias, while 38% reported that "no" or "very few" schools had such eating spaces. Again, this lack of infrastructure would likely need to be addressed to allow a new school meal program to operate effectively.

SECTION 4:
Conclusion

4. CONCLUSION

As the data from the third round of the Global Survey of School Meal Programs were being entered into the Global Child Nutrition Foundation database and analyzed, several things became clear.

We see, for example, that periodically asking the same questions the same way in each iteration of the survey is extremely valuable—while, at the same time, being a bit complicated. It has helped us identify topics where data tends to hold quite steady over time versus those topics for which the data are more variable. Once a school feeding policy is in place in a country, for example, the collected data are less likely to change from one survey to the next, whereas the numbers of children receiving food or the overall budget for the program(s) being implemented in the country are more variable.

By reviewing data from multiple surveys, we can begin to discern trends and the impact of certain factors such as escalating food prices, or the implementation of new policies.

Being able to refer to previous survey responses also assists in data quality control. However, it can also make it more difficult to quickly resolve issues, such as identifying a reason for a significant shift from one survey to the next, or ascertaining which survey's response is more accurate when comparing earlier results with the latest survey responses.

Since the first round of the Global Survey of School Meal Programs, we do see some improvement in the quality and quantity of data which countries are able to provide. However, we continue to grapple with the amount of turnover among the staff in each country that seems to take place between one survey round and the next, over a period of just two to three years. When those responsible for school meal programs shift and/or new focal points are designated, it disrupts previously-established relationships, requiring the Global Survey team to start over with the new approving manager or new focal point. The process of gaining approval and appointment or re-appointment of a focal point can be time-consuming, and knowledge of the programs and familiarity with the survey does not necessarily transfer from the former team or focal point to the new team and focal point. New focal points may bring different interpretations of the same questions, as well. While these issues can be managed, they require extensive relationship building and communication as well as data clarification, slowing the survey process. More importantly, perhaps, is how high rates of turnover in program managers may be affecting the quality and the day-to-day management of a country's program(s). This is a factor that deserves attention.

The lack of national-level data on key topics continues to be a challenge. We are optimistic that data gaps can be addressed over time in cases where governments have systems in place at the national level for gathering, aggregating, and reporting data. More challenging, however, are situations where there is no national system for collecting and reporting data. This is the case when responsibility for school meal programs has been decentralized and there is no aggregation of data at the national level, for example, or when the government does not have access to data held by an implementing partner, or does not have jurisdiction over a given population within their borders (e.g., refugee camps). In those cases, the survey team has difficult choices to make. We can attempt to gather data from those responsible for program implementation for the population in question. This can be time consuming and expensive, particularly when it involves multiple management entities (e.g., when programs are managed at the municipality, state, or provincial level). That may be the best option, however, rather than treating the country as not responsive or as not having a school meal program.

The Global Survey team has tried in several countries to collect data at the decentralized (state, province, or municipal) level in the hopes of being able to sum it up into a reasonably accurate national accounting—without great success. We are also considering how to capture data on children receiving school meals in refugee camps. In sum, we will need to design new methods to learn what is happening in these cases in order to gain and provide a more complete picture of these–existing, but currently unreported–programs, and where and how many children are–or are not–benefiting from school meals.

On a related note, a topic for more attention is what we can learn about decentralized management of school feeding programs. Do decentralized programs result in stronger community engagement and ownership and more resilient and durable programs, for example? Or might they be too onerous, too costly, too disparate or disconnected, or too reliant on external resources to succeed?

The GCNF Global Survey team's experience and knowledge have grown over the years. Of the 18 current team members (ranging from managers to part-time consultants), 9 have worked on all three survey rounds, and 14 of the 18 have worked on the last two rounds. The availability of an experienced global team of consultants has been extremely helpful, as they are able to periodically check in on focal points and other contacts, follow up on key changes, help with any survey-related questions that arise, and advocate for using the data. They have additionally been able to represent GCNF and the Global Survey in local and regional conferences and meetings, to assist with report writing, presentations, and translations, and to work on other GCNF projects. GCNF will strive to maintain and support the Global Survey team and to keep this basic model intact, while also adding more full-time expertise.

Even if the tasks of collecting data, controlling for quality, and analyzing the results become significantly more challenging with each survey round, without question, the data become richer, more comprehensive, and more indicative of patterns as the survey is repeated and as the experience and knowledge of the Global Survey team broadens and deepens.

Contrary to the original plan to keep the survey questionnaire essentially stable through its periodic iterations (to facilitate comparisons over time), there have been some significant changes from one round to the next. For example, the Covid-19 pandemic necessitated changes in the second survey round to track what happened to school meal programs when schools were forced to close. The third survey digs more deeply into how programs respond to all types of emergencies; more explicitly and completely addresses questions of school meal programs' relationship to environmental issues; and adjusts how the foods are listed in the programs' food basket to better align with new diet quality descriptors.

What is abundantly clear from both the repetition of the core questions from survey to survey and from making key adjustments to accommodate major changes in the global school feeding landscape is that the Global Survey of School Meal Programs is an extraordinarily unique and valuable resource whose value will continue to increase over time. This has been corroborated by the resoundingly positive feedback from responding countries, reviewers, researchers, donors, and other stakeholders around the world who are familiar with the survey.

In closing, we again offer thanks to the 140 government-designated "Focal Points", our primary survey partners, who offered significant time and energy to make this work possible.

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Annex

Number of students fed by country

This data annex presents the number of students at each school level that were reached by large-scale school meal programs in the 2022 school year. Countries are categorized according to their region (Europe/Central Asia/North America; Latin America/Caribbean; Middle East/North Africa; South Asia/East Asia/Pacific; and Sub-Saharan Africa). Student numbers were drawn from the 2024 Global Survey of School Meal Programs for the 142 countries that participated in this survey round. For 27 additional countries that did not participate in this survey round, student numbers were imputed through a desk review of government-published information referencing the 2022 school year (5 countries) or by drawing on numbers submitted in the 2021 survey round (17 countries) or the 2019 survey round (5 countries). Hence, for 22 countries, numbers fed in the 2022 school year were imputed using numbers reported for earlier years.

Europe, Central Asia, & North America	Number of pre-school students	Number of primary students	Number of secondary students	Total number of students
Albania	0	0	0	0
Andorra	222	571	552	1,345
Armenia	14,248	102,014	0	116,262
Austria	88,980	207,908	179,913	476,801
Belarus	Unknown	0	0	Unknown
Belgium	154,604	317,821	14,054	486,479
Bosnia and Herzegovina	38,762	27,500	0	66,262
Bulgaria	194,614	226,379	0	420,993
Canada	0	Unknown	Unknown	1,173,731
Croatia	79,659	297,069	46,000	422,728
Cyprus	1,149	6,447	6,906	14,502
Czech Republic	369,050	511,116	363,263	1,243,429
Denmark	0	0	0	0
Estonia	63,504	132,965	37,305	233,774
Finland	60,510	364,644	631,134	1,056,288
France	1,632,005	3,656,898	4,274,373	9,563,276
Georgia	0	0	0	0
Greece	2,445	152,919	1,817	157,181
Hungary	360,874	560,983	67,694	989,551
Iceland	18,876	46,688	18,281	83,845
Ireland	3,427	167,354	90,224	261,005
Italy	757,207	602,961	42,067	1,402,235
Kazakhstan	Unknown	1,076,850	1,393,432	2,470,282
Kyrgyzstan	1,478	543,636	0	545,114
Latvia	95,486	181,477	0	276,963
Lithuania	104,553	121,495	25,700	251,748

Luxembourg	19,254	40,303	49,766	109,323
Moldova	135,726	136,094	0	271,820
Monaco	663	1,332	2,225	4,220
Montenegro	0	0	0	0
Netherlands	0	457,480	57,500	514,980
North Macedonia	36,000	12,865	0	48,865
Norway	0	0	0	0
Poland	55,208	1,772,000	124,683	1,951,891
Portugal	123,290	305,810	708,642	1,135,742
Romania	260,097	762,426	650,038	1,672,561
San Marino	729	1,462	0	2,191
Serbia	Unknown	Unknown	0	Unknown
Slovak Republic	169,901	478,266	126,878	775,045
Slovenia	0	178,205	0	178,205
Spain	774,134	994,545	217,007	1,985,686
Sweden	508,842	1,252,209	371,453	2,132,504
Switzerland	72,433	212,092	105,917	390,442
Tajikistan	104,921	552,800	0	657,721
Ukraine	0	710,365	0	710,365
United Kingdom	21,542	1,279,290	979,203	2,280,035
United States of America	Unknown	17,308,322	12,791,678	30,100,000
Uzbekistan	0	289,219	0	289,219

Latin America & Caribbean	Number of pre-school students	Number of primary students	Number of secondary students	Total number of students
Antigua and Barbuda	90	6,861	0	6,951
Argentina	312,308	2,098,464	400,000	2,810,772
Barbados	1,200	22,500	1,945	25,645
Belize	0	665	900	1,565
Brazil	7,076,484	21,908,670	6,837,214	35,822,368
Chile	178,338	977,820	412,236	1,568,394
Colombia	516,661	2,380,444	2,188,135	5,085,240
Dominica	1,355	2,087	Unknown	3,442
Ecuador	496,333	1,745,982	550,984	2,793,299
El Salvador	177,670	533,195	328,664	1,039,529
Grenada	Unknown	Unknown	Unknown	6,000
Guatemala	574,762	2,079,759	0	2,654,521
Guyana	24,295	57,417	0	81,712
Haiti	Unknown	Unknown	Unknown	Unknown
Honduras	179,046	1,039,026	0	1,218,072
Jamaica	15,779	41,000	47,100	103,879
Mexico	1,533,300	3,690,883	534,372	5,883,505
Panama	77,068	308,272	0	385,340
Peru	1,149,243	2,708,077	385,734	4,243,054
Saint Kitts and Nevis	0	3,056	350	3,406
Saint Lucia	0	7,358	799	8,157
Saint Vincent and the Grenadines	Unknown	7,500	0	7,500
The Bahamas	195	4,196	2,282	6,673
Trinidad and Tobago	6,315	52,249	15,723	74,287
Uruguay	41,298	142,142	8,643	192,083

Middle East & North Africa	Number of pre-school students	Number of primary students	Number of secondary students	Total number of students
Djibouti	2,047	15,689	6,854	24,590
Iraq	0	450,000	0	450,000
Israel	237,669	244,144	0	481,813
Jordan	48,000	442,000	0	490,000
Kuwait	Unknown	Unknown	Unknown	Unknown
Libya	0	0	0	0
Malta	0	9,370	0	9,370
Morocco	0	1,207,137	235,660	1,442,797
Oman	0	59,030	0	59,030
Palestine	0	0	0	0
Syria	0	706,792	0	706,792
Tunisia	0	300,000	90,000	390,000
United Arab Emirates	39,425	81,731	167,639	288,795
Yemen	Unknown	Unknown	Unknown	1,864,000

South Asia. East Asia. & Pacific	Number of pre-school students	Number of primary students	Number of secondary students	Total number of students
Afghanistan	0	911,741	0	911,741
Australia	Unknown	Unknown	Unknown	Unknown
Bangladesh	581,207	2,366,692	0	2,947,899
Bhutan	0	29,967	68,166	98,133
Brunel	2,473	28,943	3,253	34,669
Cambodia	32,900	266,466	0	299,366
China	0	26,000,000	11,000,000	37,000,000
Fiji	Unknown	20,629	0	20,629
India	0	67,538,472	38,720,840	106,259,312
Indonesia	0	0	0	0
Japan	0	6,240,207	3,018,494	9,258,701
Kiribati	0	0	0	0
Laos	20,000	210,000	10,000	240,000
Malaysia	203,288	762,240	43,266	1,008,794
Marshall Islands	1,139	7,782	3,361	12,282
Micronesia	0	0	0	0
Mongolia	0	382,002	0	382,002
Myanmar	Unknown	600,000	900,000	1,500,000
Nauru	Unknown	2,526	422	2,948
Nepal	1,208,425	3,610,603	0	4,819,028
New Zealand	0	149,000	77,100	226,100
Pakistan	0	0	0	0
Palau	0	1,653	563	2,216
Papua New Guinea	0	0	0	0
Philippines	0	3,491,028	0	3,491,028
Samoa	0	0	0	0
Solomon Islands	0	0	0	0
South Korea	995,565	2,671,157	2,640,576	6,307,298
Sri Lanka	0	1,077,911	0	1,077,911
Thailand	875,960	3,063,142	0	3,939,102
Timor Leste	27,102	245,461	0	272,563
Tonga	0	0	0	0
Tuvalu	0	0	0	0
Vanuatu	0	0	0	0
Vietnam	Unknown	Unknown	Unknown	Unknown

Sub-Saharan Africa	Number of pre-school students	Number of primary students	Number of secondary students	Total number of students
Angola	156,592	1,734,018	0	1,890,610
Benin	12,786	1,254,580	0	1,267,366
Botswana	0	364,859	0	364,859
Burkina Faso	124,907	3,574,199	750,000	4,449,106
Burundi	37,022	706,548	0	743,570
Cabo Verde	16,038	73,369	1,347	90,754
Cameroon	7,606	166,802	0	174,408
Central African Republic	0	173,212	0	173,212
Chad	531	247,844	0	248,375
Comoros	0	0	0	0
Cote d'Ivoire	0	997,631	0	997,631
Democratic Republic of Congo	0	222,800	0	222,800
Equatorial Guinea	0	0	0	0
Ethiopia	Unknown	6,911,733	0	6,911,733
Gabon	0	0	0	0
Gambia	56,529	200,132	11,853	268,514
Ghana	0	3,600,000	0	3,600,000
Guinea	2,054	170,473	0	172,527
Guinea-Bissau	7,582	260,217	0	267,799
Kenya	0	1,630,000	0	1,630,000
Lesotho	51,619	251,364	0	302,983
Liberia	171,892	270,523	74,661	517,076
Madagascar	105,708	944,965	23,493	1,074,166
Malawi	388,990	2,218,277	0	2,607,267
Mali	2,291	565,484	90,397	658,172

Mauritania	0	322,884	0	322,884
Mozambique	141	553,931	890	554,962
Namibia	0	461,829	57,000	518,829
Niger	0	485,474	111,913	597,387
Nigeria	0	9,990,862	0	9,990,862
Republic of Congo	5,105	173,114	0	178,219
Rwanda	330,471	2,560,007	744,054	3,634,532
Sao Tome and Principe	12,926	35,837	0	48,763
Senegal	23,889	331,884	13,280	369,053
Sierra Leone	14,316	640,645	0	654,961
Somalia	45,000	52,000	7,000	104,000
South Africa	0	5,955,251	3,367,609	9,322,860
South Sudan	0	583,584	Unknown	583,584
Sudan	Unknown	Unknown	Unknown	Unknown
Tanzania	Unknown	5,567,456	1,316,455	6,883,911
Togo	36,211	182,356	0	218,567
Uganda	1,906	1,193,966	20,828	1,216,700
Zambia	235,190	2,082,361	43,469	2,361,020
Zimbabwe	659,130	1,400,000	13,095	1,413,095

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