School feeding and the Sustainable Development Goals

An agenda to combat child hunger, boost education, transform food systems and strengthen equity

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Acronyms

APHRC	African Population and Health Research Center
AUDA-NEPAD	African Union Development Agency
CONSEA	National Council for Food Security and Nutrition
GAFSP	Global Agriculture and Food Security Program
GAIN	Global Agricultural Information Network
GCNF	Global Child Nutrition Foundation
GEAPP	Global Education Evidence Advisory Panel
GPE	Global Partnership for Education
GSI	Global Subsidies Initiative
HGSF	Home Grown School Feeding
HIPC	highly indebted poor countries
IDA	International Development Aid
IDB	Inter-American Development Bank
IDFC	International Development Finance Club
IFFEd	International Financing Facility for Education
IFPRI	International Food Policy Research Institute
IISD	International Institute for Sustainable Development
LIC	low-income country
LMIC	low middle-income country
NACONEK	National Council for Nomadic Education in Kenya
NHGSFP	National Home-Grown School Feeding Programme (Nigeria)
NRGI	Natural Resource Governance Institute
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
OECD	Organisation of Economic Co-operation and Development
PNAE	Programa Nacional de Alimentação Escolar
PUCL	People's Union for Civil Liberties
SDG	Sustainable Development Goals
SFI	Sustainable Financing Initiative
SHN	school health and nutrition
SSB	sugar sweetened beverage

UN	United Nations
UNCTAD	United Nations Trade and Development
UNEP	United Nations Environment Program
UNESCO	United Nations Educational, Scientific, and Cultural Organization
UNICEF	United Nations International Child Emergency Fund
USDA	United States Department of Agriculture
WFP	World Food Programme
WHO	World Health Organization

Foreword

By Gordon Brown, Former Prime Minister and Chancellor, United Kingdom

In 1906, Britain's parliament laid one of the foundations for the creation of the welfare state. The Education Act passed in that year allowed government agencies to finance the cost of school meals for children 'unable by reason of lack of food to take full advantage of the education provided'. The legislation was more than an act of charity. It was part of a new social contract aimed at tackling mass childhood hunger and poverty, expanding educational opportunities, and building a fairer, more humane society. It also reflected a growing awareness of the vital importance of education in national prosperity.

In my work as the UN Special Envoy for Global Education, I have often reflected on the phrase 'unable by reason of lack of food'. I have visited schools in slums and rural villages in Asia and Africa, where the effects of hunger and malnutrition are all too visible. Teachers have told me that many of their pupils arrive at school without having had breakfast – a consequence of household poverty. Children have described how difficult it is to concentrate on an empty stomach. As every parent intuitively understands, hunger and learning make for bad bedfellows. Yet education reform agendas too often fail to recognise the importance of good nutrition as a condition for effective learning.

The first great movement for school feeding was a response to the hunger, poverty, and lack of education opportunities that defined the early industrial era. The legislation that emerged was the result of campaigning, evidence, and sustained political engagement on the part of social reformers, civil society organisations, philanthropists, professional bodies, and municipal authorities. In the third decade of the 21st century, the time has come to address the twin scourges of childhood hunger and poverty on the world stage. The 2030 Sustainable Development Goals include pledges to eradicate poverty, build a world of 'zero hunger', and provide quality education for all. But we are currently losing the battle to achieve those objectives – and children are bearing the brunt of the gap between the SDG ambition and real delivery. We need a new movement for school meals to close the gap.

This report sets out the case for a global plan of action to expand the reach and improve the quality of school feeding programmes where they are most needed – in the poorest countries of the world.

The headline numbers underscore both the case for urgent action and the opportunity. Today, some 186 million children aged 5-14 live in households that survive below the extreme poverty threshold of $2.15/day, with more than twice that number being precariously close to that line. This poverty and the hunger that comes with it causes immense suffering and destroys opportunities. It keeps children out of school – and it undermines the efforts of children in school to realise their full potential. The most devastating effects are inevitably experienced by the poorest children and the young girls most at risk of dropping out of school.

Childhood hunger and poverty have many complex causes, but here is a simple proposition. If the children at school are hungry, let us feed them. And if they are not in school, let's get them into school and seize the opportunity to build a bridge from education to child health and nutrition.

Well-designed and properly financed school meal programmes could bring hope into millions of lives. The School Meals Coalition, an international network led by 98 governments and supported by regional bodies, UN agencies, international financial institutions, research groups and nongovernmental organisations, has called for all children to have access to a nutritious school meal by 2030. The proposals in this report set out how that ambition could be brought within reach.

The authors make a compelling case for an international partnership. They estimate that an additional 236 million children could be reached through school meals at a cost of around $3.6 billion annually over five years. That figure is well within the realm of affordability. Most of the new finance would come from government budgets in low-income and lower middle-income countries, many of which are already working to expand the reach of school feeding programmes. But the report calculates that around $1.2 billion in additional aid would be needed. These are modest investments when measured against the potential benefits for millions of children and for the human development prospects of their countries.

School meals provide a bridge between education and child health. That bridge starts at the pre-primary level. Far too many children enter school carrying the disadvantages that come with chronic under-nutrition in their early years – the 'first 1000 days'. Those disadvantages include impaired cognitive development. Stunting in the early years, a product of chronic undernutrition, is closely associated with lower levels of learning, an increased risk of school dropout, and more restricted life-chances. That is why the charity Their World has emphasised the critical role of pre-primary education in mitigating the impact of early childhood malnutrition and preparing children for school. Nutritious meals have a vital role to play in creating an enabling environment for effective pre-school interventions – and more investment is needed in this area.

The relative neglect of hunger among schoolchildren in international cooperation on education is troubling. As the 2030 target date for the Sustainable Development Goals approaches, it is increasingly clear that the goal of delivering quality education for all will be missed by a wide margin. Out-of-school numbers are coming down too slowly. Progress in learning has been limited. Inequalities linked to wealth and gender remain far too wide. As this report shows, these are all areas in which school meal programmes deliver proven results. Evidence shows that they are associated with higher levels of enrolment, reduced dropout rates, and improved learning outcomes, especially for the poorest children. For young girls, in particular, the prospect of a school meal can mean the difference between getting through primary school and transitioning to lower secondary education and being taken out of school because of household poverty.

There are also wider benefits. It is increasingly apparent that our food systems are not aligned with human needs and the fragile ecology of our planet. Too many people are being left hungry, millions of smallholder farmers among them. Unhealthy diets are fuelling an epidemic of overweight and obesity. Carbon-intensive food production contributes to the climate crisis. Procurement for school meals can play a role in addressing these challenges, creating markets for smallholder farmers and sustainable agriculture. Providing a healthy diet to children in school is a first line of defence against obesity in adulthood.

Brazil's experience demonstrates what is possible. The country's school feeding programme was an integral part of President Lula's 2003 'zero

hunger' strategy, one of the great stories of human development success of our time. The programme reserves 30% of procurement for smallholder farmers, providing a bridge linking child nutrition with more resilient rural livelihoods. Many municipalities are linking school meal procurement to sustainable, low-carbon farming. This is surely a model that shows what could be achieved on a global scale.

We now have the opportunity to re-enact Brazil's achievement on the world stage. Under Brazil's presidency, the G20 has established a new Global Alliance Against Hunger and Poverty aimed at mobilising resources and building a new partnership to turn the tide in the fight against poverty and hunger. A global drive to expand school feeding through nationally owned programmes is a good starting place.

The momentum for change is already building. It can be seen in the extraordinary efforts of so many countries in the Global South to expand school feeding, often in the face of acute budget constraints. It is visible in the efforts of municipalities and campaigning organisations around the world to use school meal procurement as a link connecting food justice and climate justice. The School Meals Coalition is itself a powerful expression of the growing impetus behind school feeding.

Speaking at the UN in 2006, President Lula issued a challenge to the world:

> If with so little we have done so much in Brazil, imagine what could have been done on a global scale, if the fight against hunger and poverty were a real priority for the international community.

This report sets out how the international community can meet this challenge and create a world of zero hunger. We live in divided times. But if there is one cause with a potential to cut through divisions, it is the cause of feeding hungry children. Let us unite to advance this cause and ensure that no child anywhere is unable to realise their potential 'by reason of lack of food'.

Executive Summary

National school feeding programmes, an invention of the early 20th century, retain a profound relevance for some of the greatest human development challenges facing the world in the third decade of the 21st century. The first great movement for school meals was a response to mass hunger and poverty among children attending school in today's rich world. It laid one of the foundation stones for modern welfare states. Today, mass hunger and extreme poverty among children remain deeply entrenched in the poorest countries of the world, destroying educational opportunities on an epic scale. The international community is fighting a losing battle to achieve the 2030 Sustainable Development Goals, which include the eradication of poverty, zero hunger, and quality education for all. Expanding the reach of school meal programmes could turn the tide in this battle, bringing hope into the lives of millions of children and supporting the development of more sustainable and equitable food systems.

Throughout their history, school feeding programmes have been at the heart of the struggle for social justice and fairer societies. In 1904, a parliamentary commission in the United Kingdom concluded that it was 'the height of cruelty' to open the door to universal schooling while allowing poverty to rob children of the opportunity to learn. Shortly thereafter, the country's first school meal programme was launched. In the United States, school meal campaigns were part of the movement against child poverty and for civil rights. In India, civil society organisations fought and won a landmark case that established access to a nutritious school meal as a legally enforceable human right. Brazil's national school feeding programme was an integral part of the country's 'zero hunger' strategy, which, in the decade after 2003, produced one of the greatest human development success stories of our era. The history of school feeding movements from their inception to our own time represents a resource and a source of inspiration for what is achievable in the future.

With a concerted international effort, this story could be projected onto the world stage, catalysing a recovery of the SDGs. Many of the concerns that motivated the first great movement for school meals are of profound relevance in our times. The face of extreme poverty and hunger today is increasingly the face of a child living in low-income and lower-middle-income countries (LICs and LMICs). Malnutrition among children in school is a source of suffering and ill-health on a global scale. It is a moral indictment of national efforts and the state of international cooperation. It is also a powerful barrier to learning. School meal programmes have demonstrated the potential to lower this barrier, enabling children to secure the education that offers a passport from poverty into a life of expanded opportunities. Increased access to school feeding could play a critical role in accelerating the prospects for human development in countries, creating new opportunities for more dynamic and inclusive growth.

School feeding provides governments with an opportunity to support a wider reform of the food system. As highlighted in a recent report by the Food System Economics Commission, our food systems are at the heart of some of the greatest challenges facing humanity. They deliver unhealthy diets through unsustainable production systems that fuel the climate crisis, while leaving millions of smallholder farmers in poverty. Among

the abundant wealth and production channelled through food markets, millions of citizens around the world – notably smallholder farmers – are left hungry and impoverished. Unhealthy diets are fuelling a global epidemic of overweight and obesity. Unsustainable and carbon-intensive agriculture is wreaking environmental havoc and pushing the world towards climate catastrophe. Regearing food systems to healthy and sustainably sourced diets that are aligned with human well-being and the ecological boundaries of the Earth represent an existential challenge for policy-makers. School meals can help governments navigate this challenge.

This report sets out how well-designed and properly financed school meal programmes can support transformative change. The potential benefits in many areas are well established. School feeding programmes have a proven track record in improving nutrition, increasing school enrolment, and increasing learning outcomes, especially among children who have been left behind. They can also play a wider role in supporting the reform of the food system. School feeding provides a vehicle for delivering children with a healthy meal, potentially cutting the transmission lines from childhood overweight to adult obesity. The procurement of these meals can create a market for small-holder agriculture, supporting rural livelihoods, creating incentives for sustainable agriculture, and providing children with access to biofortified foods. Of course, school feeding is not a standalone intervention. But it offers a powerful mechanism to reconnect food systems with the goal of strengthening human well-being and planetary sustainability.

The political momentum needed to support a 'big push' on school feeding is already building. Governments in many of the poorest countries in the world are implementing ambitious plans to scale up school meals, often in the face of acute budget constraints. More than 100 countries and regional bodies are members of the School Meals Coalition, which is committed to building 'a world where every child has an opportunity to enjoy a healthy and nutritious meal in school by 2030.' That world is achievable – *if* governments and the international community act with a sense of urgency and collective purpose. This report sets out the case for a drive to expand the reach of school feeding programmes in low-income countries (LICs) and lower middle-income countries (LMICs). We provide two scenarios for this expansion and associated cost estimates for delivery.

The potential benefits of school feeding can be derived from the levels of deprivation experienced by children. LICs and LMICs now account for almost 90% of global undernutrition and an even higher share of $2.15/day extreme poverty. Children are on the front line of these deficits and the SDG shortfall behind them. While children under 18 years of age account for approximately one-third of the world's population, they make up half of the population living in extreme poverty – and that share is increasing. School meals are not a standalone solution to childhood hunger, but they provide a cost-effective vehicle for reaching millions in the critical preprimary, primary, and lower secondary years, roughly corresponding to the 5- to 14-year age group. We estimate that:

- 186 million of these children live in households that survive on less than $2.15/day, with more than twice that number living under $3.65/day. Approximately three-quarters of children in LICs and just under half in LMICs live below the higher threshold.
- 143 million children are undernourished, 28% of those in LICs, and 13% of those in LMICs.
- 400 million live with moderate or severe food insecurity, including 68% of children in LICs and 39% in LMICs.

Poverty and hunger permeate all aspects of the lives of affected children, including education. Real impacts can never be captured by statistics. Hunger is the face of a child unable to sleep at night, living with deep anxiety and unable to concentrate in the classroom. The 'learning poverty' that leaves around 70% of people unable to read basic texts by the 10th birthday is a close cousin of monetary poverty and hunger.

School feeding is part of the toolkit to break the transmission lines that connect poverty and hunger to educational disadvantage. In poorer households, a school meal can tip the balance in parental decisions over whether to send children to school, especially girls. Based on analysis of poverty incidence and poverty gap data, we estimate the average value of per pupil budgets allocated to school meals in LICs and LMICs for a household with 2-3 children in school and at 10-16% on average for LICs and LMICs and at 12-18% for sub-Saharan Africa. School meal transfers create incentives for sending children to school and can allow poor households to keep them at school during difficult times.

The benefits of school feeding can be tracked across a broad spectrum of indicators. They include increased enrolment, reduced dropout rates, and improved learning. Providing school meals can increase enrolment by 10% or more in a low-enrolment setting. More time at school and the better concentration that comes with a nutritious meal can improve learning, and the poorest children make the greatest gains. Ghana's school feeding programme allowed poor children to gain the equivalent of almost two years of additional schooling. School feeding also markedly improves nutrition – and not just for the immediate beneficiaries. Remarkable evidence from India's midday meal programme shows that children of mothers who had participated were less likely to be stunted, school meals contributing to 13% to32% of national height gains for age, a measure of stunting.

Many countries are already using school meal programmes to advance larger reforms of the food system. Procurement practices are geared towards local agriculture and farm practices compatible with sustainable development. In Brazil, 30% of school meals procurement are reserved for small farmers, supporting larger programmes to reduce rural poverty. Municipalities around the world are actively using school meal procurement to promote low-carbon and organic farming practices. Increasingly, though still inadequately and unevenly, school feeding is being integrated into larger strategies for healthy diets, providing children with some protection from marketing practices geared towards unhealthy diets. The architect of Finland's school meal programme captured the potential: 'If we were to change our national diet, it was critical that this started in schools.' New opportunities are emerging to provide children with biofortified foods that represent a proven and cost-effective response to undernutrition.

The multiple benefits of school feeding are widely underestimated, in part because of a compartmentalised approach to public policy. Focusing on short-term cost-effectiveness in any one area (say, nutrition *or* learning) understates the aggregate benefits of school feeding across many areas (for example, learning *and* nutrition *and* food security). Furthermore, taking school feeding to the national level creates the cumulative benefits that build over the lifetimes of children and generates powerful multiplier effects.

Current coverage in LICs and LMICs is far too limited and too much of what counts as 'coverage' is poor quality, linked to

underfinancing. In 2021, in the immediate aftermath of the Covid-19 pandemic, only 19% of children in primary schools in LICs and 39% in LMICs – 157 million in total – received some form of school feeding. However, what is delivered through school meals varies enormously. Millions of children tagged as 'covered' for reporting purposes do not receive a quality meal consistently throughout the school year. Although any school meal is obviously better than no school meal, especially for children living with hunger, poor quality provision greatly undermines the potential benefits.

Low coverage levels point to a vast untapped potential to reach children facing high levels of deprivation. We identify a group of countries with high levels of deprivation indicated by monetary poverty and stunting (both ≥ 20%) and low coverage for school feeding (≤30%). We estimate that for the primary school age group only:

- 126 million children in high-poverty countries do not have access to school meals.
- 165 million children do not have access to school meals – two-thirds of them in countries with very high levels of stunting (≥ 35%).
- Around 80 million children lack access to school meals in low coverage countries with high levels of *both* poverty and stunting.

These figures understate the levels of need, but the connection from expanded school feeding to reduced deprivation is not automatic. There are many millions of children living in countries with higher average coverage levels, but where school meals bypass the poorest children either because they are out of school or because they are in schools which are not covered. The effectiveness of school meals in reaching the most deprived children depends critically on ensuring that these children are in school and that the school they attend is reached by government programmes. Waiting for trickle-down effects to reach the poorest children and communities is both inefficient (because this is where the greatest results can be achieved) and inequitable (because it leaves the poor behind). We advocate for approaches based on 'progressive universalism' or placing the most disadvantaged first in line, an approach consistent with the SDG principle of seeking to ensure that progress is faster for those farthest from the goals.

We develop scenarios for the scale-up of school feeding programmes. Scenarios do not provide blueprints, but can illustrate possible outcomes. Focusing on the age group of five to 14, we estimate that the in-school population of LICs and LMICs will increase by 67 million by 2030 through demographic change and increased enrolment. We include provision for one year of preschool, which is critical to reaching children who have experienced chronic malnutrition in their early years. We also include lower secondary schooling, which can reduce the risk of dropping out among adolescent girls. Two core scenarios are provided, each of which would mark a big step towards universal school meals.

- **Scenario 1: A high ambition agenda**. School meal coverage in LICs and LMICs reaches 60% by 2030 for pre-primary and primary school children, and 10% coverage in lower secondary. An additional 236 million children will be covered by school feeding programmes in 2030, 90 million of them in LICs.
- **Scenario 2: Accelerated progress with convergence of LICs and LMICs**. School meal coverage in LICs doubles from 2021 levels by 2030, catching up with LMICs, where coverage increases by 1% a year. The number of children covered increases by 162 million.

Estimating the cost of our scenarios is not straightforward. There is a lack of comparable cross-country evidence on the full cost of school meal programmes. This is an area where new research on the full cost of providing good quality school meals is urgently needed. In the absence of comparable cross-country data we draw on inflation-adjusted cost-estimates from an earlier study. While recognising that there are significant margins of error, we apply an average benchmark cost for school meal provision of $64 per pupil annually for LICs and LMICs. Based on this benchmark, and assuming a linear expansion of progammees, the incremental annual cost over a five-year period would be $3.6 billion (Scenario 1) and $2.7 billion (Scenario 2), or respectively $18.1 billion and $13.3 billion in the fifth year when the target level is reached. The cumulative average cost over the five years is $10.8 billion for Scenario 1 and $7.8 billion for Scenario 2. These figures include the supplementary costs of raising average reported budget allocations for existing programs to the $64 per pupil benchmark level.

Although the headline costs are modest when expressed as a share of national income, the governments of the LICs and LMICs will be unable to cover them solely from domestic budgets. The incremental annual cost of financing the high-ambition scenario in LICs – around $1.1 billion – represents around three times the 2021 budget allocation (without aid). For LMICs, the $2.5 billion annual incremental required represents 60% of the 2021 budget allocation. Faced with a huge squeeze on funding linked to a slowdown in growth, unsustainable external debt, high borrowing costs, and inflation, governments across LICs and LMICs are already struggling to maintain spending in key areas such as health, education, and economic infrastructure.

Cost-sharing between national governments and the wider international community will be critical. Our scenarios do not provide cost-sharing formulae, but a rule-of-thumb approach can illustrate some rough parameters. Currently, international aid accounts for around half of school meal budget allocations in LICs and an average 25% in LMICs. Applying those ratios to the additional costs suggests that around $1.2 billion in new and additional aid will be needed ($550 million for LICs and $700 million for LMICs) each year to 2030. Ensuring that domestic budgets assume responsibility for a growing share of overall spending will reduce the risk of dependence on aid.

Despite the limited fiscal space, governments in LICs and LMICs could consider a range of options to finance expanded school feeding programmes. Mobilising more revenue is a priority given the low tax-to-GDP ratios in many countries. Redirecting general subsidies, which are often inefficient and inequitable, to targeted school feeding investments could increase revenues. Many economists are highly critical of earmarked taxes. However, several countries finance large-scale school feeding programmes either fully (Bolivia and Guatemala) or partly (India) out of taxes assigned for spending on school meals. Sugar-sweetened beverage taxes could provide a financing link from the source of a 'public bad', to the public good of healthy school meals. Colombia's recently introduced 'junk food tax' on highly processed foods provides a model that could be considered more widely as a source of school meal financing.

International cooperation is woefully inadequate given the potential benefits of school feeding for the SDGs. The official development assistance (ODA) reported for school meals is approximately $287 million, – 0.1% of international aid. Moreover, aid flows are dominated by only one donor: the United

States accounts for more than two-thirds of the total. Other G7 donors, including France, Japan and the United Kingdom, make limited contributions. The World Bank, the largest single source of development finance for LICs and LMICs, is missing in action, with average annual investments of around $22 million. The current 21st replenishment of the International Development Association (IDA), the World Bank concessional finance facility, provides an opportunity to change this picture.

Unsustainable debt servicing is a barrier to school meal financing that could be lowered. Debt repayments are eroding public spending in vital social sectors in LICs and LMICs. For example, the $87 billion scheduled in payments for 2023 exceeds spending on health and nutrition. Many governments are meeting their obligations to external creditors, particularly commercial creditors, by defaulting on their obligations to children. Debt rescheduling and (where necessary) reduction would create an enabling environment for converting unpayable debts into investment in people, including through school feeding. Debt swaps, through which creditors waive claims related to government spending commitments in agreed areas, could also contribute to school meal finance. The most recent large-scale debt swap arrangements have targeted marine conservation goals. It is difficult to see the ethical or economic case against expanding the approach to alleviating hunger among children.

The Global Alliance Against Hunger and Poverty created under Brazil's presidency of the G20 provides a platform to support a large push for school feeding. The Alliance aims to provide a link between national-owned plans to accelerate progress toward the SDG goals of poverty eradication and zero hunger. School feeding provides a tremendous opportunity for the Alliance to deliver results. LIC and LMIC governments could be invited to develop plans for more ambitious school meal programmes, establishing budget commitments and delivery mechanisms. Donors could decide to support these plans by increasing their aid and technical support. Much of the delivery architecture is already in place, and the School Meals Coalition provides a ready-made network for cooperation.

There is an urgent need for more flexible and innovative approaches to international cooperation. International development financing for school meals suffers from fundamental failures. Aid is underfinanced, fragmented, and dominated by transfers linked to the preferences of individual donors, rather than the needs and strategic opportunities presented by recipient countries. Innovative finance in the form of debt relief, bond issues, and international levies is limited. International advocacy for school meals has had limited impact. There are lessons to be drawn from the experience of global health funds. In particular, the use of pooled (and non-earmarked) resources to achieve collective goals through support for national programmes, with allocations determined through strong technical assessments and cost-sharing formulae provides a model that could be deployed to support school feeding. Global health funds have also provided mechanisms to mobilise innovative funds, a conduit for philanthropic support, and through their replenishment exercises a focal point for national and international advocacy.

1 Introduction

> *'The time has come when the State should recognise the necessity of providing adequate nourishment to children in attendance at school. It was said to be the height of cruelty to subject half-starved children to the process of education, besides being a short-sighted policy, in that the progress of such children is inadequate and disappointing.'* ***Report of the Inter-Departmental Committee on Physical Deterioration*** (UK Parliamentary Papers 1904, Volume 1)

> *'It is utter folly, from the point of view of learning, to have a compulsory school law which compels children, in that weak physical and mental state which results from poverty, to drag themselves to school and to sit at their desks, day in and day out, for several years, learning little or nothing.'* (Hunter, 1904: 217).

> '*If with so little we have done so much in Brazil, imagine what could have been done on a global scale, if the fight against hunger and poverty were a real priority for the international community*.' President Luiz Inácio Lula da Silva, Speech to the UN General Assembly, 2006 (President Lula da Silva, 2006)

National school feeding programmes emerged from a collision between education and child poverty in the first decade of the 20th century. The introduction of compulsory education in Europe and the United States brought millions of children to school, while poverty undermined their prospects for learning. Mass hunger and poverty among children came to be seen not just as a source of social injustice, but as a barrier to the education needed to underpin national prosperity. There are striking parallels with the current situation in many of the world's poorest countries. In the third decade of the 21st century, poverty and malnutrition are robbing millions of children of their chance for an education and undermining the learning needed to support human development.

The first school feeding movement created the foundations for policies that transformed national welfare systems. This movement is described in a remarkable book written by Louise Stevens Bryant distilling evidence from Europe to advocate for the expansion of school feeding in the United States (Bryant, 1914). The Netherlands was the first country to legislate for a national programme in 1900. In France, the law establishing compulsory schooling (in 1882) included a provision for local funds – the Caisses des Ecoles – to support school lunches through local communes. Municipal authorities across Italy operated school canteens. In the United Kingdom, state action was characteristically late, begrudging, and prompted in part by imperial anxieties about the 'physical deterioration' of the country's men triggered by the Boer War (Vernon, 2005). The parliamentary committee cited above paved the way for legislation which, in a phrase that should have resonance for our times, allowed (though did not compel) the state to finance school meals for children 'unable by reason of lack of food to take full advantage of the education provided for them' (UK Parliamentary Papers, 1906). By the first world war, school feeding programmes were an established part of emerging social welfare systems throughout Europe (Bryant, 1914). In the United States, where most states had introduced compulsory education by 1900, cities such as Boston and Philadelphia began instituting school meals provided through civic organisations

to counter hunger among pupils. Federal government action came much later, prompted by the Great Depression – but school feeding spread across the United States as cities and states instituted programmes.

Social reform campaigners played a central role in driving change. School feeding emerged as a localised grassroots charity response to hunger among children, with women-led organisations providing meals. In 1905, there were 355 charities providing school meals in England (Bryant, 1914). But it was elevated into a wider programme of social welfare reform through relentless campaigning and advocacy linking child hunger to structural poverty. School meals became part of a new deal on social welfare reform that crossed political party lines. The 1906 UK legislation was sponsored by a Conservative and a Liberal, but it was made possible by a campaign waged by iconic social reformers such as Margaret McMillan and the early Labour Party (Vernon, 2005). In France, municipal reformers created what was, in effect, a national programme. In the United States, Robert Hunter's book on poverty (cited above) generated a wave of concern, prompting the New York School Board to initiate a pilot programme (Bryant, 1914). The towering achievements of the first school meal campaigns can be traced to a combination of ambition, vision, political engagement, and strategic use of a growing body of evidence documenting the extent of child poverty and hunger, and its consequences for education and national development.

There is a line of continuity from the early school feeding movement to our times. School meals have figured prominently in wider agendas for social justice, as four episodes illustrate:

- **United States**: When President Lyndon Johnson signed the Child Nutrition Act of 1966, part of his Great Society reform programme, he initiated the School Breakfast Programme and expanded school meal support for low-income households (Zeitz, 2019). As he put it during his comments at the signing: 'This is a memorable day for the child who arrives at school hungry, because there was no breakfast for him to eat at home (Johnson, 1966). Free school meals became a focal point for campaigns waged by social organisations such as the Committee on School Lunch Participation, a coalition of women's organisations, and civil rights activists, including the Black Panthers (Levine, 2010). During the Covid-19 pandemic, school meals became a focal point for food justice campaigners. California was the first state to legislate for free universal school meals. Eight other states - including Colorado, Maine, Michigan, Minnesota, and New Mexico - have now followed, along with municipalities in New York. Many other states are legislating to expand provision, reflecting the strength of emerging public interest coalitions (Bylander et al., 2024; Sheldon, 2024).
- **India**: Civil society organisations led by the People's Union for Civil Liberties (PUCL) fought for – and won – a Supreme Court ruling that established school meals as a fundamental and legally enforceable human right, with the government ordered to provide a cooked meal to every child in a public school (Rana, 2024). PUCL successfully argued that the 'right to food' enshrined in the Indian constitution was being violated by failing to use government food stocks to feed hungry children. What became the Midday Meals Scheme (and is now PM POSHAN) is today the world's largest school meal programme, serving more than 120 million children.

- **South Africa**: One of the first acts of the country's first post-apartheid government was to establish a school meal programme targeting the country's most disadvantaged children as part of a wider programme to reduce education inequalities and poverty (Munje and Jita, 2019). Today, that programme targets schools serving the poorest 60% of South Africa's schoolchildren.
- **Brazil**: School feeding was an integral part of the 'zero hunger' campaign launched by President Luiz Inácio Lula da Silva in 2003 to combat poverty, malnutrition and inequality. That campaign produced what remains one of the 21st century's most dramatic human development success stories, with school feeding contributing to marked reductions in poverty and malnutrition (see below). With his reelection, President Lula has restored school feeding to a central place in Brazil's renewed strategy to eradicate hunger and poverty.

The history of school feeding movements carries a powerful message for our times. As the public philosopher Roman Krznaric (2024) has commented, 'we live in an era (...) which vastly undervalues the past as a resource for the future of humanity.' His central thesis is that evidence from history can shed new light on today's challenges. Learning from that history is not an exercise seeking blueprints, but about reflecting on the forms of protest, evidence, institutions, and political practices that moved what appeared at the time to be unmovable mountains. Krznaric's observations have marked relevance for efforts to expand the reach of school meal programmes. There are, of course, limits to the parallels that can be drawn. The problems facing social reformers in the early 20th century Europe were very different from those facing governments and civil society organisations in today's Global South. However, there are some striking parallels. Early school meal reform movements developed narratives that connected their cause to the wider causes of child hunger and poverty, and to national concerns over the consequences of failure to address those causes. They also built broad coalitions that cut across established political divides and maintained a relentlessly high level of ambition. More recent evidence from Brazil, India, and the United States underscore the power of school feeding as a cause with the potential to transcend political divisions and mobilise public support. At a time when the SDG enterprise is paralysed by complacency, inertia and fast-shrinking ambition, school meals – and lessons from the early school meal movement – could galvanise a recovery.

School meals have re-emerged as a powerful point of mobilisation, providing a link in the chain connecting child poverty to education, climate justice and food system reform. The urgency of reform is powerfully captured by the Food System Economics Commission, which describes the recent evolution of food systems as the source of "some of the greatest and gravest challenges facing humanity" (Ruggeri Laderchi et al., 2024). These challenges range from the persistence of mass hunger among many, to environmental despoilation, the climate crisis, and economic damages that exceed the contribution of food systems to GDP. Around the world, school feeding movements and school meal policies demonstrate potential for change. The momentum can be seen in the United States in advocacy for universal school meals, and in 'farm-to-school' legislation linking school meal procurement with sustainable farming (SFI, 2023). In the European Union, school meals are part of the 'farm-to-fork' strategy to build a sustainable food system and for advocacy groups working to translate principles into practice. The procurement of school food is now part of a wider effort to use the power of markets to

support healthy diets through more sustainable food systems. The Milan Urban Food Pact brings together more than 240 municipalities working to provide healthy diets through sustainable procurement. Governments in Latin America are using school meals as part of the strategy to combat childhood obesity and encourage healthy diets.

Some of the world's poorest countries have been at the forefront of efforts to expand school feeding. The list of countries that implement ambitious school feeding programmes continues to grow. Bangladesh, Benin, Ethiopia, Kenya, Nepal, Rwanda and Sierra Leone, among many others, have set a course for universal coverage and in the case of Rwanda achieved that goal. Although school closures during the Covid-19 pandemic were a setback, the recovery in provision as school reopened was remarkable given the fiscal constraints facing governments.

The creation of the School Meals Coalition, a government-led network, has added to the momentum. The Coalition was founded on recognition at the 2021 World Food Summit that the expansion of school meal programmes was needed not just to boost recovery from Covid-19, but to accelerate progress toward the SDGs. At the time of writing, 98 governments and two regional bodies have now signed a declaration underscoring 'the urgency to act now to protect the most vulnerable children, from hunger, malnutrition and learning loss', and to create a world where 'every child has the opportunity to enjoy a healthy and nutritious meal in school by 2030' (School Meals Coalition, n.d.).

This report is intended to contribute to the goal of universal school meal coverage. The immediate backdrop is a deep crisis in progress towards the poverty, hunger and education goals adopted under the SDGs. As the UN Secretary General, António Guterres, has warned, the goals are at risk of becoming 'the epitaph for a world that might have been.' Avoiding that outcome will require urgent, decisive and practical action by 2030 – and school feeding programmes could provide the catalyst. History shows that the cause of school feeding has extraordinary power to galvanise action and deliver results. Support for school meals often cuts across political divides – an important condition for an SDG recovery in our polarised times. Above all, school feeding has the potential to deliver the early, high-impact results that are needed to support an SDG recovery.

Getting the most out of the multiple benefits that can come with school feeding requires a 'mission-oriented' approach. Coined by the economist Marianna Mazzucato (2018) to describe policies that align investment and the engagement of diverse actors behind well-defined, long-term goals, successful mission-based strategies cross the policy divides that often compromise effective delivery. While developed in the context of industrial policy, it is an approach with a marked relevance for school feeding, which operates across a wide range of policy domains – education, health, nutrition, social protection, support for local agriculture and wider food system reforms – that are often isolated from one another by institutional compartmentalisation.

Brazil provides a powerful demonstration effect of a mission-based approach to school feeding. In 2003, the country's national school feeding programme (known by its Portuguese abbreviation, PNAE) was positioned by the government of President Lula as a link in a chain of policies geared towards 'zero hunger', including cash transfers, support for smallholder agriculture, and public health interventions integrated through an institutional structure that breaks down policy

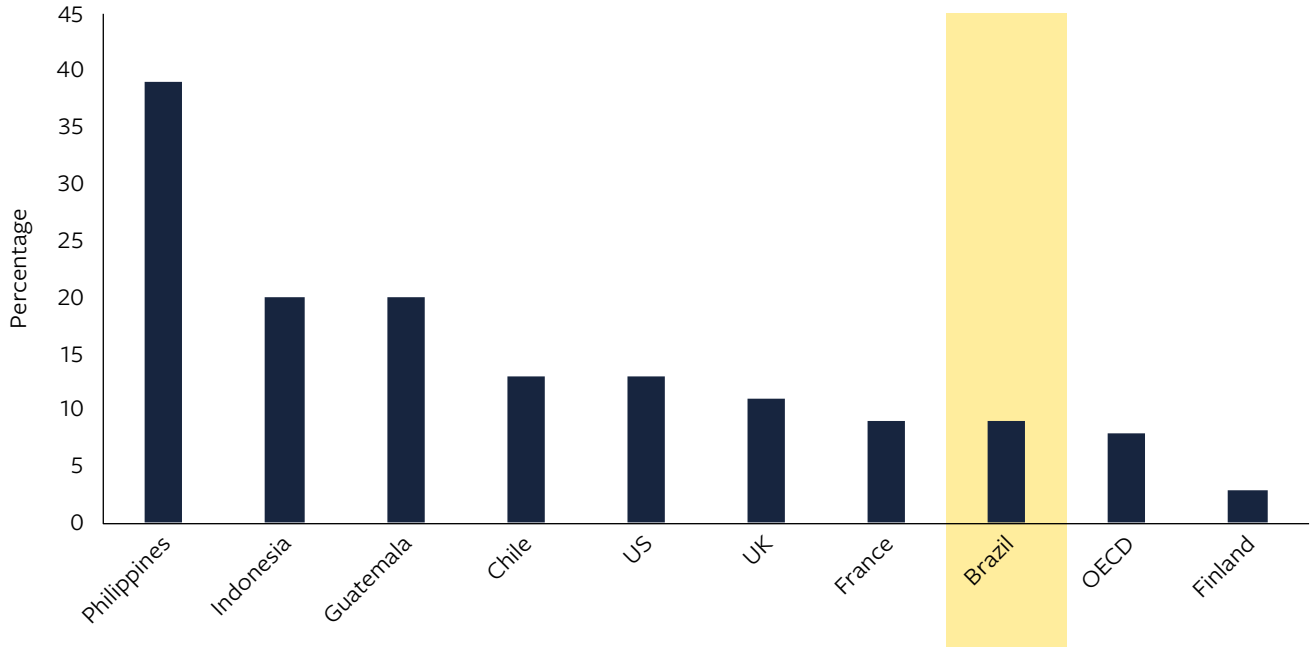
divides. The school meals programme provided healthy meals to 40 million children in 5,000 municipalities throughout the country. From 2009, 30% of procurement was reserved for small farmers, supporting rural poverty reduction efforts. PNAE was not a standalone measure. But it was part of one of the most compelling human development success stories of the 21st century, as Brazil made rapid strides toward eradicating poverty through a mix of economic growth with redistribution and expanded social provision. In a little more than a decade from 2003, around 30 million people escaped poverty, reported food insecurity fell by half, and the number of people living with malnutrition fell from 19 million to 3 million (World Bank, 2016; FAO et al., 2014). In 2014, the UN Food and Agriculture Organization (FAO) removed Brazil from its Hunger Map. Underpinning the country's 'zero hunger' campaign was an integrated delivery approach focused on the clearly defined goal of eradicating hunger (Box 1).

Designing an effective mission-based strategy for school feeding is challenging. Many countries that adopted ambitious school meal targets failed to align these targets with the needed funding. Weak links to wider social protection and nutrition programmes diminish the potential benefits of school feeding programmes, in part because schools are only open part of the year. These challenges are not limited to poor countries. While school feeding is now an established part of anti-poverty welfare systems in rich countries, the benefits are often weakened by poor design. In the United Kingdom, means testing excludes almost one million children from poor households from eligibility for free school meals (Child Poverty Action Group, 2023). Similar problems plague the US school meals programme, where means-testing excludes large numbers of children living close to poverty thresholds from free or subsidised school meals.[1] In both countries, food justice groups have made universal access to school meals part of the wider agenda for tackling child poverty.

The success of Brazil's integrated approach to hunger is reflected in wider data food security. The OECD's 2022 PISA survey on education included for the first time a question asking 15-year-olds if they had skipped one or more meals in the month before the survey due to lack of money. Interestingly, children in both the United States and the United Kingdom reported higher rates than Brazil, as did countries with higher average income levels in Latin America (Figure 1). These differences are clearly not attributed solely to school meals (both Guatemala and Chile have universal programmes). However, the combination of school meals with wider poverty-related cash transfers is likely to have played a material role in explaining the difference. It is worth adding that the reported figures for Brazil were almost certainly inflated by the erosion of real spending on school meals and cash transfers prior to President Lula's reelection.

Figure 1 Food insecurity among secondary school children

Share of 15-year-old children who report missing meals at least once a week because of a lack of money, one month before survey



Source: OECD Pisa Survey, 2022, Figure 1.4.6

Brazil's experience offers a cautionary tale along with hope for the future, both domestic and international. Many of the gains registered after 2003 were reversed during the administration of President Jair Bolsonaro (2019–2022). With the re-election of President Lula, there is a renewed emphasis on integrating the school meals programme into wider initiatives through a reinstated National Council for Food Security. Municipalities are using the power of school meal procurement to support smallholder farming and advance sustainable agriculture. Through its presidency of the G20, Brazil is projecting its national zero-hunger strategy onto the world stage, notably through the creation of a Global Alliance Against Hunger and Poverty (G20, 2024). As President Lula put it in a speech at the UN General Assembly in 2006: 'If with so little we have done so much in Brazil, imagine what could have been done on a global scale, if the fight against hunger and poverty were a real priority for the international community' (Lula da Silva, 2006). In this spirit, this report looks at what could be done on a global scale if, through a combination of national action and strengthened international cooperation, the reach of high-quality school feeding programmes could be expanded in the world's poorest countries.

Box 1 Brazil: a mission-based approach to school feeding programmes

After President Lula assumed office in 2003, one of his first acts was to launch Zero Hunger, a coordinated set of measures aimed at eradicating extreme poverty and malnutrition.

A raft of new policies included a scaled-up version of the Bolsa Familia programme, which provides conditional cash transfers to families that send their children to school, as well as support for family farmers in the form of subsidised credit and insurance (PRONAF) and guaranteed markets through a government procurement body (the National Supply Agency). Minimum wages were increased and a family health strategy was introduced. Public participation in the design and implementation of policies was critical.

The multisectoral approach recognised that policies designed and implemented in isolation would fail. To break down policy divides, a food security law (SISAN) was enacted that recognised food as a fundamental right and established a governance structure aimed at facilitating integrated action in 19 ministries. The twin pillars were an interministerial body (CAISAN) and the National Council on Food Security and Nutrition (CONSEA), an advisory body that included civil society, nutrition experts, and government.

The country's national school feeding programme (PNAE in its Portuguese acronym), was an integral part of the governance system. At the national level, the programme is coordinated by the National Education Development Fund (FNDE), which is also responsible for establishing the technical and financial rules of the programme and holding federal schools and state and local governments responsible. PNAE bridged the gap between local and national planning. It was supported by a network of 8,000 nutritionists and was overseen by school feeding councils comprising parents, civil society organisations, teachers and government officials charged with evaluating and monitoring implementation.

In 2009, the integration between PNAE and the larger strategy to reduce rural poverty was strengthened by a law that required that at least 30% of the school meal procurement be from smallholders. Guaranteed demand through PNAE allowed smallholders to cover production costs, reduce risk, and promote investment for wider markets, supporting wider policies for the reduction of rural poverty.

Sources: Consea, (2009); Leão and Maluf, (2012); Inter-Reseaux, (2012); Food Foundation and Institute of Development Studies, (2017).

We make the case for a global plan of action to scale up school feeding as part of a broader strategy to combat hunger and poverty. Our focus is on the world's poorest countries, where school feeding programmes are most urgently needed and can have the greatest impact but have the most limited coverage. The report is divided into five sections.

Section 1 looks at *why* the world needs a rapid expansion of school feeding. The level of childhood hunger and poverty in many poorer countries today would have shocked school meal campaigners in the late 19th century, as would the consequences for learning. We provide evidence setting out the scale of the challenge, including estimates of the number of children aged five to 14 in LICs and LMICs living with extreme poverty, hunger and food insecurity. These are children who could be reached through expanded school meal programmes, with transformative effects across a broad spectrum of SDGs.

Section 2 looks at *how* expanded access to school feeding would make a difference. School meal programmes deliver results. They improve nutrition, increase school enrolment and enhance food security. While all children stand to gain from good quality school feeding programmes, it is children who are poor, undernourished and at risk of losing out on education who stand to reap the greatest gains. These equity effects are important. For governments who are serious about their SDG pledge to 'leave no one behind' and ensure that progress is fastest for those furthest from the 2030 targets, and for civil society groups working to hold them to account, school feeding provides a mechanism for translating that pledge into practical policy. We summarise the compelling evidence that well-designed and properly financed school feeding programmes can improve nutrition, strengthen learning and improve equity, while advancing wider public health and food system reform goals.

Section 3 turns to the level of ambition to expand the reach of school meals. The recent history of the SDGs (and many predecessor initiatives) reminds us that bold targets are no substitute for effective policies. Even so, targets can play a role in defining a level of ambition, focusing attention on shared priorities and informing approaches to finance. We develop two illustrative scenarios for a global scale-up of school feeding programmes in LICs and LMICs, both of which would mark a great step towards universal provision, with potentially transformative benefits for millions of the poorest children in the world. Cost estimates provided for the scenarios, ranging from $2.7 billion to $3.6 billion, point to their affordability if national efforts are supported through international cooperation. In any scale-up scenario, it will be critical to ensure that the most disadvantaged children are prioritised. We advocate an equity-based approach geared toward 'progressive universalism', combining an overall expansion with an early and sustained emphasis on reaching children living with hunger and poverty.

Section 4 looks at financing school meals through the prism of national budget allocations, detailed costing exercises, and programmes centred on countries with high levels of food insecurity. Budget allocations provide a window into financing school meals. That window offers a partial view for several reasons. Allocations may or may not reflect actual expenditure. They do not capture the financing provided through local communities and parents, either through in-kind contributions (notably of female labour) or cash. Moreover, the scope for cross-country comparisons is limited by large variations in what is provided through school

meal programmes. For all these caveats, budget analysis can help identify some of the challenges and opportunities facing governments seeking to expand school feeding. Global costing studies are no substitute for the granular national costing exercises needed to guide national planning. We draw on detailed costing work for two countries – Rwanda and Sierra Leone – and analysis of World Food Programme (WFP) projects in humanitarian settings.

Section 5 sets out the case for a partnership approach to financing a global initiative on school feeding. LICs and LMICs cannot finance an ambitious scale-up solely from their domestic budgets. Slower growth, unsustainable debt and limited access to affordable development finance is limiting fiscal space. Governments are facing a severe financial squeeze that limits their ability to support vital investments in social and economic infrastructure. Against this backdrop, many governments are struggling to maintain (already over-stretched) school meal budgets, let alone finance a major expansion. More could be done to mobilise domestic resources. We highlight the scope for increased revenue collection and earmarked funding for school meals. But international cooperation also has a vital role to play. Increased and more effective aid – around $1.2 billion annually – and debt relief could help underpin a global partnership for expanding school meals.

2 The background – child poverty, malnutrition and the 'learning crisis'

We need an ambitious expansion of school feeding programmes because millions of children in the world's poorest countries live with hunger and poverty, with devastating consequences for their education. If the social reform architects of the first school meal programmes could be transported from the late 19th century to our time, they would be shocked by the levels and intensity of extreme childhood poverty, and by the endemic hunger among school children. If, as Nelson Mandela once put it, '[...] children are the rock on which our future will be built, our greatest asset' (Mandela, 1995) childhood poverty and hunger in LICs and LMICs waste that asset on a global scale, reinforcing global inequalities and limiting the human development of nations.

This section provides an overview of childhood deprivation in poor countries – the human crisis that expanded school meal programmes can help solve. We focus on 27 LICs and 55 LMICs – in general those eligible for support through the World Bank's concessional International Development Association (IDA) facility.[2] These countries account for the overwhelming majority of extreme poverty and malnutrition in the world and for a large and growing share of the gap between the SDG targets and current delivery. We provide estimates for childhood deprivation related to poverty, hunger and food insecurity, along with estimates for deprivation among the 5-14 age group most readily reachable through school meal programmes. Then we turn to indicators for education and learning.

The interaction between childhood poverty and educational disadvantage is well established. Deprivation in the two domains is closely linked: poverty and hunger reinforce educational disadvantage, and educational disadvantage reinforces poverty and hunger. Children in LICs and LMICs are also at the forefront of the 'double burden' of malnutrition – the coexistence of rising obesity and high levels of stunting (low height for age, due to poor nutrition).

Childhood poverty, hunger and educational deprivation can be counted in statistics, but data cannot measure the lived experience. Hunger is a terrible and debilitating affliction. It drains children of energy, leaving them weak, anxious, depressed and tired. It makes them vulnerable to harmful, and potentially fatal, diseases. Sustained hunger in childhood leaves scars that cannot be erased. It affects early cognitive development, learning in school, and the prospects of escaping poverty in adulthood. The face of child poverty and hunger is that of a child living without hope of a better future.

2.1 Children on the front line of SDG deficits

LICs and LMICs account for a large and growing share of the shortfalls in the progress toward eradicating poverty (SDG 1) and reaching 'zero hunger' (SDG 2). Progress toward the 2030 targets, already inadequate, slowed dramatically during the Covid-19 pandemic, with major reversals in many areas. Recovery has been slow and partial, especially in LICs.

Children in LICs and LMICs are bearing the brunt of global extreme poverty. Around 320 million children in these countries live in households with consumption levels below $2.15/day.[3] That represents around half of *all* world poverty. Vulnerability to poverty extends beyond the subsistence levels indicated by the $2.15/day threshold. Households move into and out of poverty with seasonal changes (especially for the rural poor), external shocks, and changing circumstances. Three-quarters of all children in LICs and almost half in LMICs – around 759 million in total – live below the $3.65/day threshold (**Table 1**). Even small changes in household circumstances can push these children into extreme poverty – and rising poverty is closely associated (see below) with children dropping out of school.

Progress toward eradicating hunger in LICs and LMICs stalled a decade ago and went into reverse with the Covid-19 pandemic. LICs and LMICs make up just under 90% of the world's population living with hunger. Children figure prominently. Figure 1 applies the rates of undernutrition by income group and region reported in the FAO's *State of Food Security in the World* (FAO 2024) to age cohort data for children derived from UN population data.[4] Reported undernutrition rates were 29% for LICs and 14% for LMICs, implying that 258 million children were living with hunger in the two groups in 2023, an increase of 55 million over the level for 2015. Most of the increase has occurred in sub-Saharan Africa. Current trends do not offer cause for optimism. On the current trajectory, the number of people living with hunger in 2030 will be around the same level as in 2015 when the SDGs were adopted.

Wider food insecurity affects the nutritional status of children.[5] The FAO uses survey-based data to report on households experiencing food insecurity. Moderate food insecurity can increase the risk of some forms of malnutrition – such as stunting and micronutrient deficiencies – while severe food insecurity applies to families reporting a risk of running out of food. In 2022, 65% of households in sub-Saharan Africa and 41% in South Asia report moderate or severe food insecurity.

Table 1 Children in monetary poverty

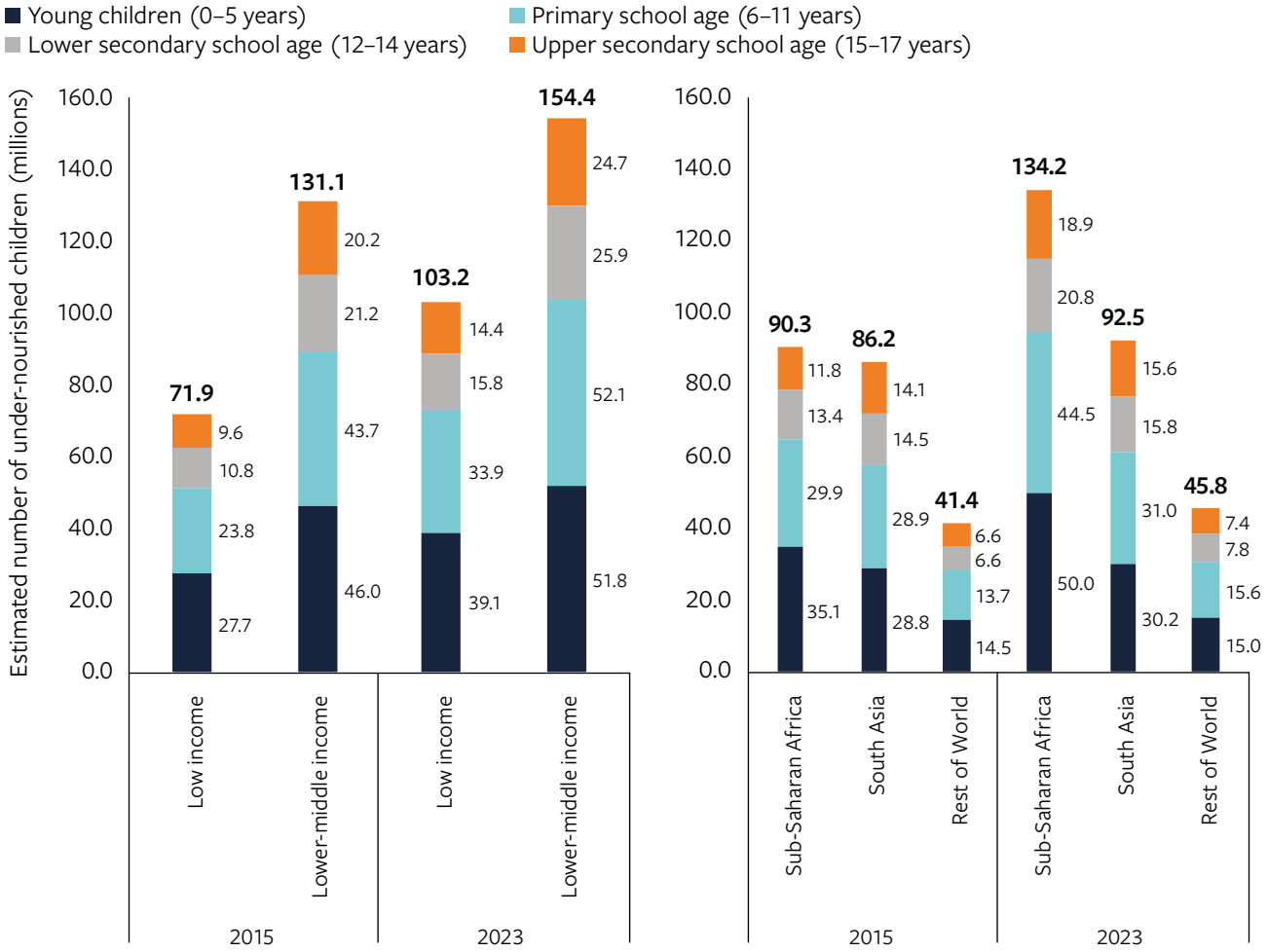
Children living in households on less than $2.15/day and $3.65/day, incidence and headcount LICs and LMICs, 2022

Country group	Extreme poverty (<$2.15/day) among children (%)	Children living in extreme poverty (<$2.15/day) (millions)	Share of children living on less than $3.65/day (%)	Children living on less than $3.65/day (millions)
LICs	47.1	153.7	74.2	241.9
LMICs	15.3	166.3	47.7	517.4
Total	–	320	–	759.3

Source: Salmeron et al., 2023

Figure 2 Children in households living with hunger

*Estimated number of under-nourished children in LICs, LMICs and selected regions**



Source: Authors' calculations based on FAO and UN Population data.

Chronic malnutrition in the early years is a cause of endemic stunting (low height for age). One-third of children living in LICs and more than a quarter of those living in LMICs (Table 2) – approximately 133 million in total – have experienced a linear decline in growth, by their fifth birthday (UNICEF et al., 2023). These children account for 90% of stunting worldwide, carrying the health risks that accompany poor nutrition and the learning disadvantages that come with impaired cognitive development. Stunting in the early years is a strong predictor of cognitive and wider educational deficits in adolescents, which in turn increases the likelihood of stunted children becoming impoverished adults (Stevens et al., 2022a; Walker et al., 2005). Although stunting rates are declining, current progress falls far short of the SDG ambition. The average annual reduction rate needed to achieve the 2030 target is around 6% – four times the rate achieved over the past decade. Two-thirds of countries are off track. If current trends continue, 128.5 million children will still be stunted in 2030, 39.6 million above the target. More than 80% of these 'missed children' will live in Africa (UNICEF et al., 2023).

Table 2 Stunting levels among children aged under-5

Incidence and headcount, LICs and LMICs, 2022

Country group	Stunting (%)	Stunting (millions)	Share of world stunting (%)
LICs	33.5	38.4	64
LMICs	28.1	98.6	26

Source: UNICEF/WHO/World Bank (2023)

Undernourished children with limited access to healthy diets tend to have high levels of micronutrient deficiency. Micronutrients are vital for the healthy physical and cognitive development of children. Deficiencies in nutrients such as iron, vitamin A, zinc, and vitamin D increase susceptibility to infection, affect cognitive development, and decrease school performance. Although consolidated data on schoolchildren are limited, background rates for micronutrient deficiencies are very high. A study of three critical micronutrients found an incidence of deficiency in at least one of over 50% in a group of LICs and LMICs. Background rates of anemia are 40% to 45% in much of sub-Saharan Africa and South Asia (Gardner et al., 2023; Stevens et al., 2022b). The leading cause of anemia in LICs and LMICs is dietary iron deficiency, a problem that can be addressed through school meals (see next section). SDG targets include a reduction in the incidence of anaemia by half by 2030 among women of reproductive age. Almost no progress has been achieved (Stevens et al; 2022b).

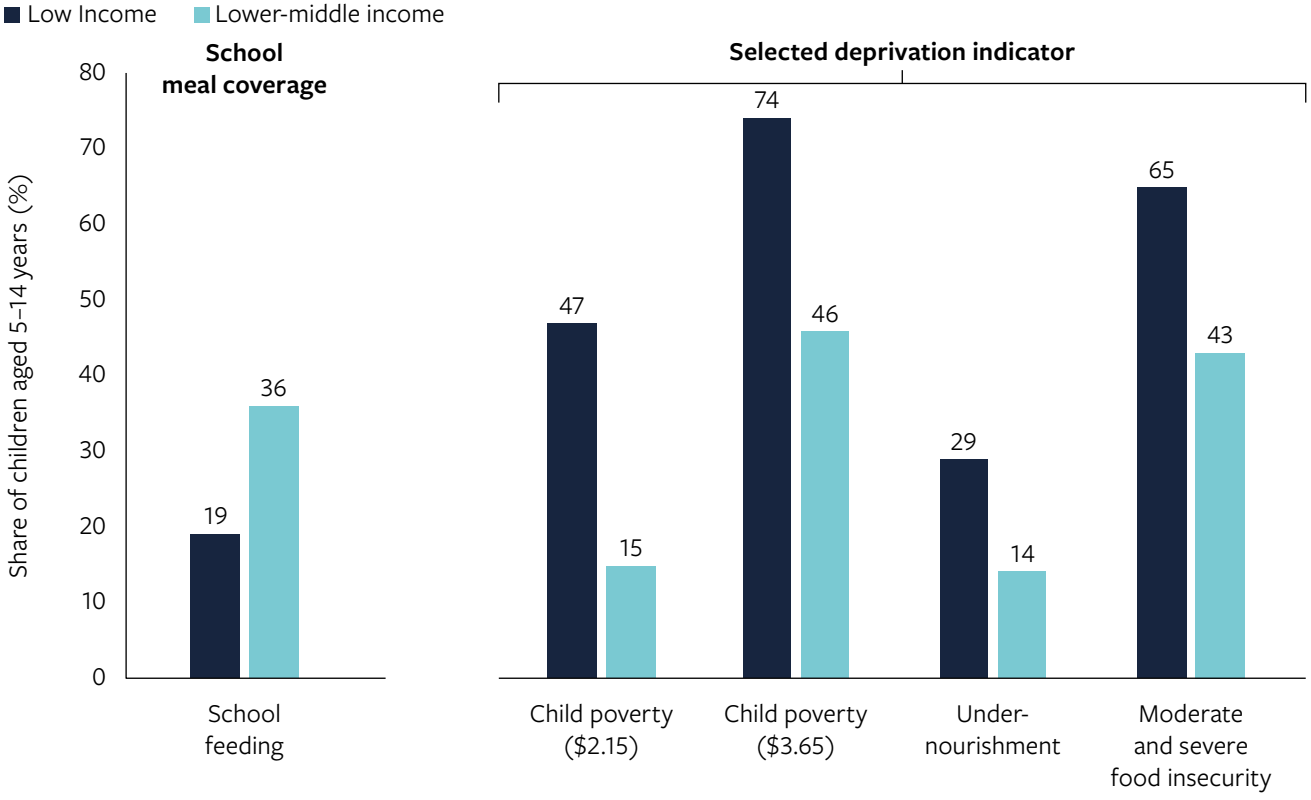
Figures 3 and 4 provide a picture of the gap between the current reach of school feeding programmes and the number of children in urgent need of support. Deprivation indicators focus on the age group of 5-14, since this represents the population most immediately accessible through school meal programmes. In 2021, school meals were estimated by WFP to reach around 157 million children in primary schools in LICs and LMICs, or 19% and 39%, respectively, of those enroled. Coverage of publicly funded school feeding programmes in secondary education is limited. It is impossible to determine what proportion of children enroled in school were living with poverty, hunger and food insecurity. However, given that these children are less likely to be at school, it is inevitable that many are effectively excluded. Whether because they are in schools that are not reached or because they are out of school, many millions of children in LICs and LMICs living with high levels of deprivation in one or more dimensions currently lack access to school meals, among them:

- 186 million children living on less than $2.15/day, and 423 million living on under $3.65/day. Approximately three-quarters of children in LICs and just under half in LMICs live below the higher threshold.
- 143 million who are undernourished (according to the FAO definition) – 28% of those in LICs and 13% in LMICs.
- 400 million live with moderate or severe food insecurity, including 68% of children in LICs and 39% in LMICs.

Undernutrition, food insecurity, and stunting represent the tip of an iceberg of larger failures of the food system. Healthy diets that provide a variety of nutritious foods are beyond the reach of a large part of the world's population, and the cost of living crisis that has accompanied post-2020 price inflation has pushed them further out of reach. The cost of a healthy diet, broadly defined as the lowest cost combination of locally available foods that meet high quality nutritional benchmarks, is now unaffordable to an estimated 2.3bn people in LICs and LMICS, including almost 80% of households in sub-Saharan Africa (FAO, 2023).

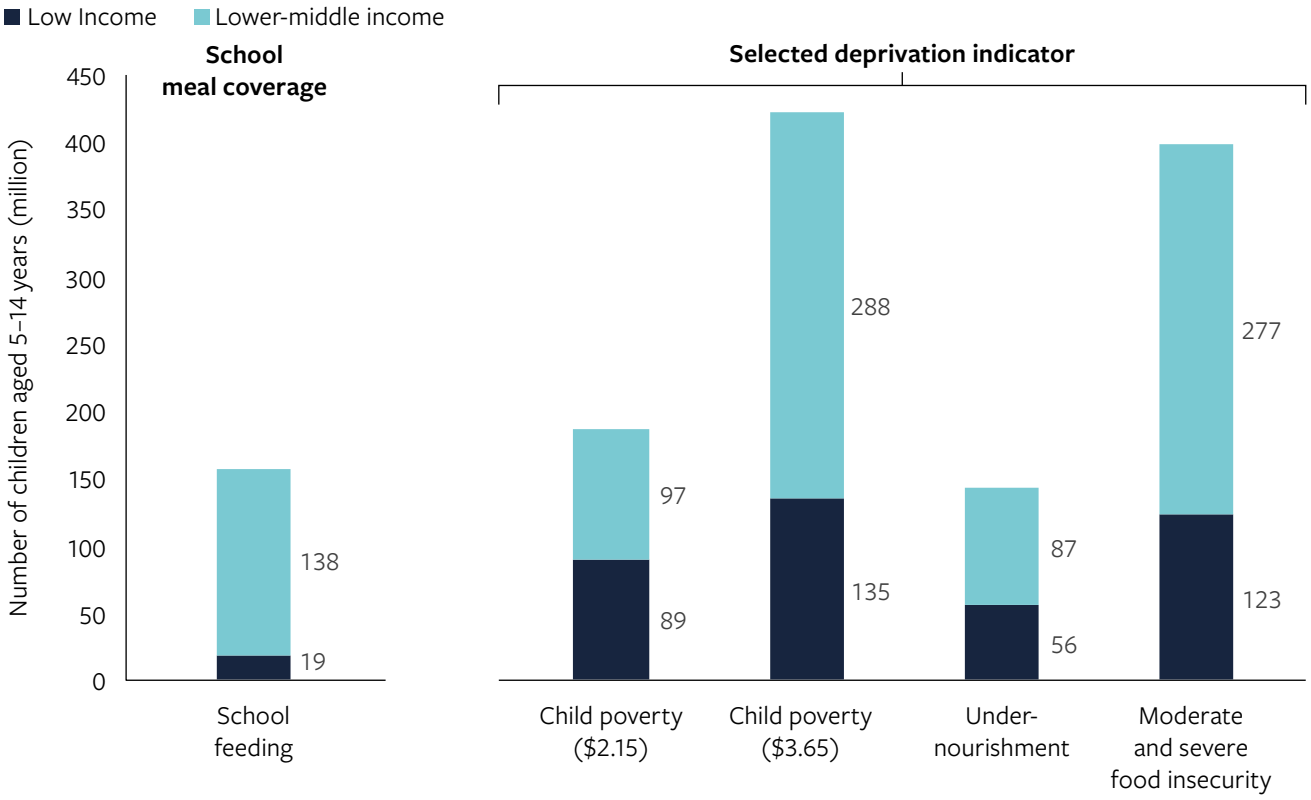
Poverty is the main source of unaffordability. The cost of a healthy diet in LICs and LMICs has been estimated at $2.98 in 2017/PPP terms, which exceeds not just the $2.15/PPP poverty threshold beneath which 700 million people live, but also the median income of many countries (Headey et al., 2024). While transfers through school meal programmes cannot fully close the affordability gap, when linked to wider interventions, they can provide children with a source of fresh fruit, vegetables, and protein that would otherwise be unavailable. Well-targeted cash transfer programmes can make healthier diets more affordable, especially for women and children (Ahmed et al., 2024). School meals can have similar effects by providing an in-kind transfer in the form of foods that would otherwise be unaffordable.

Figure 3 School feeding coverage vs deprivation
*Estimated share of children aged 5-14 years in LICs and LMICs**



Source: WFP (2023) on school feeding coverage, Salmeron-Gomez et al. (2023), FAO (2024), FAOSTAT

Figure 4 School feeding coverage vs deprivation
Estimated number of children aged 5-14 years in LICs and LMICS



Source: WFP (2023) on school feeding coverage, Salmeron-Gomez et al. (2023), FAO (2024), FAOSTAT

Background data do not offer a formula to establish 'need', but they support the case of the School Meal Coalition for universal coverage. The scale of poverty, undernutrition, food insecurity, and micronutrient deficiency among children strongly suggests that school meals should be treated as an essential service for child health and education. In a context where more than half of children live below, or just above, the extreme poverty threshold and food insecurity affects a large share of the population, expanding general school meal provision is a priority input into wider strategies for accelerating progress in other areas, including poverty reduction, nutrition and education. As we argue in Section 3, progress towards universal school meals with an emphasis on early delivery for the most deprived children – 'progressive universalism' – would deliver significant benefits.

2.2 The twin crisis in learning and school participation

The health and circumstances of children entering and progressing through the LIC and LMIC school systems have received insufficient attention in the discussion of the learning crisis. Attention has tended to focus teaching of foundational skills, teaching at the right level, teacher training and the development of school curricula. All of these are critical, but none is likely to counterbalance the effects of poverty and hunger. The flagship publication of the World Bank and the

UN agencies on 'learning poverty' does not include poverty and malnutrition among the five priorities for learning recovery, an omission that would appear short-sighted at best (Azevedo et al., 2022).

The SDG pledge list includes a commitment (SDG 4) to provide every child with access to 'inclusive and equitable quality education'. Outcomes have not been consistent with the commitment. The target of universal completion of primary and secondary education is now beyond reach. Progress towards the goal of universal preschool care and education has stalled. The learning outcomes are abysmal and Covid-19 pandemic school closures worsened already dire indicators of basic literacy and numeracy.

Universal basic education remains a distant prospect for many children in LICs and LMICs. Inequality in education opportunity represents a powerful brake on progress towards the SDG ambition of 'quality education for all' (Rose et al., 2021). Globally, 250 million children – 16% of all primary school age and adolescent children – do not attend school, according to the most recent SDG stocktake (UNESCO, 2023). In sub-Saharan Africa, where one in five children are out of school, the numbers are rising. Fewer than half of the children in the region attend pre-school, despite its critical importance for learning and progression through primary school (Martinez et al., 2012). Many children drop out before completing primary education, including 30% of primary school pupils in LICs (UNESCO, 2023). Dropout rates rise sharply in lower secondary education as adolescents enter the labour markets or, in the case of girls, early marriage (Brown, 2012).

Accumulating school years is not a guaranteed path to learning. The gap between schooling and learning is illustrated graphically by data on learning poverty, defined as the inability of children to read a simple text with comprehension by the age of 10. Even before the Covid-19 pandemic, 57% of children in LICs and LMICs could not meet that standard (in sub-Saharan Africa it was 86%) – a share that had remained static since 2015. Around half of these children had received at least four years of primary schooling (UNESCO et al., 2022).

Pandemic-related school closures worsened the learning picture. Almost one billion children in LICs and LMICs missed a full year of in-person schooling, or more, during the Covid-19 pandemic. The limited remote learning available was a poor substitute, especially for poorer households that did not have access to digital technology. Every month of school closure led not just to a loss of new learning but also to an erosion in many countries of previous learning (Patrinos et al., 2022; Schady et al., 2023). The long-term consequences of these learning losses are uncertain. Research in India shows that catch-up remediation programmes delivered on a scale can support recovery, especially among socially disadvantaged groups. However, few governments in LICs and LMICs have been able to invest at the required level.

Problems start early and follow children through school. Early accumulation of foundational learning competencies is critical because it allows children to become 'self-learners' through active reading and applying numeracy skills. In an analysis of learning data from 32 LICs and LMICs, UNICEF found that only 18% of children transitioning from grade two had acquired the basic numeracy skills expected for their grade (UNICEF, 2022). Pre-school and early grade education is particularly important in LICs and LMICs because so many children entering school systems carry the cumulative disadvantages that come with undernutrition, poverty and high levels of illiteracy among parents.

2.3 The downward spiral of lost education, poverty and malnutrition

There are powerful connections between education, poverty and child nutrition. Education is one of the most visible exit routes from extreme deprivation. People with more education tend to earn more and have better health, while people with less education are more likely to experience low scores for poverty, malnutrition, child mortality and other human development indicators. For individuals and for countries, education is an engine of human development, but poverty and poor nutrition limit the power of that engine.

Poverty keeps children out of school. Children from poorer households are less likely to be in primary school and more likely to drop out before completing a cycle of primary education. Wealth-related disadvantages interact with gender and other disparities, with poor, rural girls typically at the bottom of the opportunity pyramid. Across 74 low- and lower-middle-income countries for which we have a breakdown by groups, children in the poorest 20% of households are over five times as likely to be out of school as those in the richest households; and children in rural areas are twice as likely to be out of school than those in urban areas.[6] Wealth disparities interact powerfully with gender disadvantages. Although the gender equity gap has shrunk or reversed at the primary level, girls are much more likely to drop out of secondary school.

Wealth disparities reinforce learning inequalities. In LICs and LMICs there is a 20 percentage point learning disparity between the richest 20% and the poorest 20% of children aged 10-13 who are in school, with the gap wider for girls, for children whose mothers have less education, and for children in some localities (Rose, Sabates, Allcot et al., 2016). The mechanisms of transmission from poverty to unequal learning in LICs and LMICs include lower levels of parental literacy and a less favourable home learning environment. The UNICEF study cited above found that wealth was the strongest predictor of foundational learning outcomes, with children from the poorest 20% 16 percentage points less likely to acquire foundational reading skills than children from the wealthiest 20% (UNICEF, 2022).

Poor households face direct and indirect costs for education. Even in countries where education is nominally free, poor households may have to pay for uniforms, books, and exam fees, along with informal charges to finance school activities or supplement teacher salaries. Survey data points to school fees as being among the greatest sources of financial anxiety for households in Africa, with more than half of adults identifying education costs as their biggest concern, a greater share than medical expenses and monthly bills (World Bank, 2021). There are also wide-ranging opportunity costs. Having children attend school can leave the household with less labour and reduced income, with implications for food security. The disproportionate share of household chores carried out by girls contributes to gender disparities in school participation in many countries. If education is seen to produce limited learning results, the disincentives to send children to school can increase as parents weigh the (limited) perceived benefits against the significant costs.

Children carry into primary school the hunger-related disadvantages they experienced in their early years. Stunting in the 'first 1,000 days' has a strong effect on cognitive development and outcomes in later childhood, including learning

achievement (Grantham-McGregor et al., 2007; Sudfield et al., 2015a). Stunting impairs children's visual working memory, a critical cognitive system that develops in early childhood and is related to vocabulary, comprehension, and mathematics scores in primary schools (Wijeakumar et al., 2023). Children who are stunted in childhood are also more likely to start school late (a risk factor for early dropout) and less likely to progress through education. They also tend to achieve lower levels of learning (Adair, 2014; Walker et al., 2007; Sudfield et al., 2015b). The harmful effects of stunting on education are reflected in a meta-analysis spanning 29 LICs and LMICs that found that a one-unit increase in height-for-age scores among children under two years of age was associated with a significant increase in cognition scores between the ages of five and 11 (Sudfield et al., 2015a).[7]

Undernutrition among school age children has a major bearing on learning prospects. International monitoring and reporting systems focus strongly on the under-5 age group, which is justified given the critical importance to child development of the 'first 1,000 days'. Less justified is the neglect of undernutrition among school age children as they grow and develop during their 'first 8,000' days and the transition to adulthood (Bundy and Horton, 2017). Good nutrition during middle childhood (5-9 years) and the adolescent growth spurt (nine to 14 years) has a profound impact on cognitive development and learning. Undernutrition leads to deficiencies in vital micronutrients for brain development and learning, including iron, iodine, zinc and vitamins B12 and B6. These deficiencies undermine cognitive functions, including memory, verbal and non-verbal reasoning, attention deficits and test scores (Lam and Lawlis, 2017; Stevens et al., 2022b).

2.4 The 'double burden' – malnutrition with rising obesity

A growing number of LICs and LMICs are experiencing the coexistence of undernutrition with overweight and obesity – the 'double burden of malnutrition'.[8] Rates of overweight and obesity are growing rapidly in LICs (albeit from a low base) and LMICs. Around one-third of LMICs are affected by the 'double burden' (Escher et al., 2024). Economic growth and urbanisation have played a role, along with integration into food systems geared towards energy-dense diets high in sugar, fats and salt, and low in micronutrient quality (Popkin et al., 2020). It is now common to find that undernutrition and obesity coexist within the same country, community, and even household.

Child health has been profoundly affected by these changes – and projections point to a deeper crisis. The World Health Organization has called childhood obesity 'one of the most serious public health challenges of the 21st century' (WHO, 2016; James, 2009) – and that challenge is increasingly concentrated among children in LICs and LMICs. The combination of slow reduction in stunting and the rapid emergence of obesity and overweight affects a large and growing group of countries. In current trends, the number of children living with overweight and obesity in LMICs will more than triple by 2035 to 34 million (Table 3). The Philippines illustrates the wider trend. The country has stunting rates of 28% (comparable to many LICs with less than half the average income). Among children of primary school age, obesity rates have reached 10%, while a government nutrition assessment in 2019 found that 13% met the criteria for stunting or wasting (UNICEF, 2021; USDA and GAIN, 2023). Indonesia, the largest population country affected by the double burden of malnutrition (see Box 2), has seen dietary changes associated with increasing

incomes and urbanisation trigger public health challenges, with children who experience obesity and overweight in childhood carrying the condition into their adult lives (Indonesia Academy of Food and Nutrition, 2023).

Childhood obesity poses health risks not only to the well-being of individuals, but to every aspect of national development. Children who are overweight and obese are more likely to carry these conditions into adulthood, along with the increased risks of non-communicable diseases such as Type 2 diabetes and cardiovascular disease. Childhood and adolescent obesity can also have long-term adverse consequences for education and psychological well-being. Failure to curtail the increase in overweight and obesity among children in LICs and LMICs would put enormous pressure on health systems and national economies, with 2035 costs in LMICs estimated at 2% of GDP (World Obesity Federation, 2023).

Table 3 Rising obesity in the poorest countries

Children and adolescents with obesity in LICs and LMICs, incidence and headcount 2020 and 2035 (projected)

Country group (gender)	Childhood Obesity Incidence 2020 (%)	Childhood Obesity Incidence 2035 (%)	Childhood Obesity Headcount 2020 (millions)	Childhood Obesity Headcount (millions)
Low-income countries				
Boys	3	11	2	6
Girls	6	23	4	13
Lower-middle-income countries				
Boys	28	81	6	16
Girls	23	69	5	14

Source: World Obesity Federation (2023)

Box 2 Indonesia's double burden of malnutrition

Indonesia provides a stark illustration of the double burden of malnutrition. Although economic growth has lifted the country to middle-income status, the levels of child wasting and stunting are comparable to those of some low-income countries. Meanwhile, changing dietary patterns have led to a rapid growth of overweight and obesity among school age children.

Indonesia, the fourth most populous country in the world, with 273 million people, has one of the highest levels of child stunting in the world. In 2018, an estimated one-in-three children under five years of age, seven million in total, was stunted. Levels of wasting, or underweight-for-age, was also extremely high, signalling acute and potentially life-threatening malnutrition. Micronutrient deficiency in school age children is a major health concern. The prevalence of iron deficiency among children aged five to 12 has been reported at 13% and zinc deficiency at 20%.

The levels of overweight and obesity among children have also increased dramatically. Indonesian children and adolescents, as adults, have poor diets, characterised by an excessive intake of foods and beverages high in fat, sugar, and salt (HFSS) and an insufficient consumption of fruits and vegetables. Around two-thirds of children and adolescents aged five to 19 in Indonesia consume one or more sugar-sweetened beverages per day, and just 10% consume five or more vegetables. In 2018, the National Basic Health Research Survey reported that 20% of primary school age children and 14% of adolescents were obese.

Both the previous and current governments of Indonesia have set bold targets to reduce stunting and wasting, principally through integrated health interventions. Under a 2021 Strategy to Accelerate Stunting Protection, an estimated $3.9 billion has been invested annually in coordinated nutrition interventions targeting mothers and children under the age of two years. However, currently there is no comparable integrated strategy for combating undernutrition among school-age children.

National strategies to combat obesity and overweight appear to have had limited success. While the National Medium-Term Development Plan (2019-2024) includes ambitious targets, prevention programmes – such as the National Movement to Reduce Obesity – have failed to achieve their goals.

Sources: Arifin and Ibrahim et al., (2022); RISKEDAS (2018); Lowe et al., (2021); UNICEF, (2022; 2023b) Ernawati et al., (2023).

3 The multiple benefits of school feeding

Expanded school feeding programmes could play a crucial role in tackling the wide-ranging deprivation summarised in Section 1. Well-designed and properly financed school meal programmes can generate multiple benefits. Most immediately, they can provide children living with hunger with a nutritious meal. For parents of the child who receives that meal, school feeding represents an in-kind transfer that reduces pressure on the household budget and improves food security, especially during difficult times. When governments provide school meals, enrolment increases and dropout rates go down. As all parents intuitively understand, hungry children are not good learners, and a school meal can help improve concentration. The combination of more children spending more time at school and being able to concentrate better can raise learning standards.

Beyond these first-order effects, school feeding programmes provide governments with a mechanism to support rural livelihoods, combat obesity, and advance wider reform goals of the food system. As the epidemic of overweight and obesity in LICs and LMICs gathers pace, healthy school meals can help inculcate healthy eating habits. The procurement of these meals can create markets for small farmers, support more resilient rural livelihoods, and provide children with biofortified foods, a high-impact and cost-effective route to better nutrition.

This Section looks at how school feeding can help turn the tide in what is now a losing battle to accelerate progress towards a wide range of SDGs. There is a compelling body of evaluation evidence documenting the positive impacts of school feeding programmes (Kristjansson et al., 2016; Drake et al., 2017; Wang et al., 2021; Alderman et al., 2024; Bedasso, 2022). The weight of this evidence is reflected in the efforts of many governments to expand the reach of school feeding. However, the full potential of school feeding is not widely recognised. Paradoxically, that may be because a narrow focus on the cost-effectiveness of policy interventions geared toward achieving single outcomes may underestimate the multiple and cumulative gains generated over time as healthier, better-nourished, and better-educated children transition into adulthood.

3.1 Increasing enrolment, with better learning and greater equity

The transmission lines from school feeding to improved education outcomes operate through effects on school participation and learning. Poverty keeps children out of school and hunger limits learning. School meal programmes address both sides of this deprivation equation. For poor households, education can represent a significant cost, both directly (in the form of payments for fees and school materials) and indirectly (through a loss of the contribution children make through chores and income generation). Transfers to poor households, either in cash or in kind, reduce the financial pressures that can push children, especially girls, out of school, thus increasing participation and reducing dropout rates. The effects are most marked in low enrolment environments (Bastagli et al., 2016). Food provided through a school meal, whether in the form of breakfast, a midday meal, or a take-home ration, represents an implicit financial transfer to families, creating incentives to send children to school, and allowing parents

to keep children in school during hard times. For children receiving school meals, better nutrition and alleviation of hunger facilitate improved concentration, allowing children to learn more (Adelman et al., 2008; Greenhalgh et al., 2007). The combined effect is that children,children, especially poorer children – can spend more time at school and achieve better learning results.

For poor households, school meals can represent a significant supplement to food budgets. Consider the position of households living below the $2.15/day (2017 PPP). Based on poverty gap and incidence data from the World Bank Povcal site, the average daily per capita income of people living below the extreme poverty threshold is $1.52 (2017 PPP) globally, falling to $1.35 (2017 PPP) for sub-Saharan Africa, where poverty is deeper and more pervasive.[9] Using the average school meal budget allocation reported for LICs and LMICs in 2021 as a reference point (discounted for 2017-2021 inflation to create 2017 PPP equivalence), it is possible to provide an arithmetic illustration of the importance of school feeding transfers.[10] In a hypothetical household with two poor adults and 2-3 children receiving school meals, the value of the transfer would represent 10-16% of income. For sub-Saharan Africa, shares increase to 12-18%. Transfers on this scale are expected to have a material effect on the food security position of households living in poverty. In any specific case, the value of school feeding transfers will be contingent on poverty profiles and the cost of food baskets. The proportionate value will increase with the depth of poverty and in households with only one source of adult income. In the case of highly vulnerable female-headed households with no other source of income, those shares would double**.** While a case can be made for delivering transfers through other mechanisms (for example, cash transfers), school meals ensure that the benefits are delivered in the form of food for children.

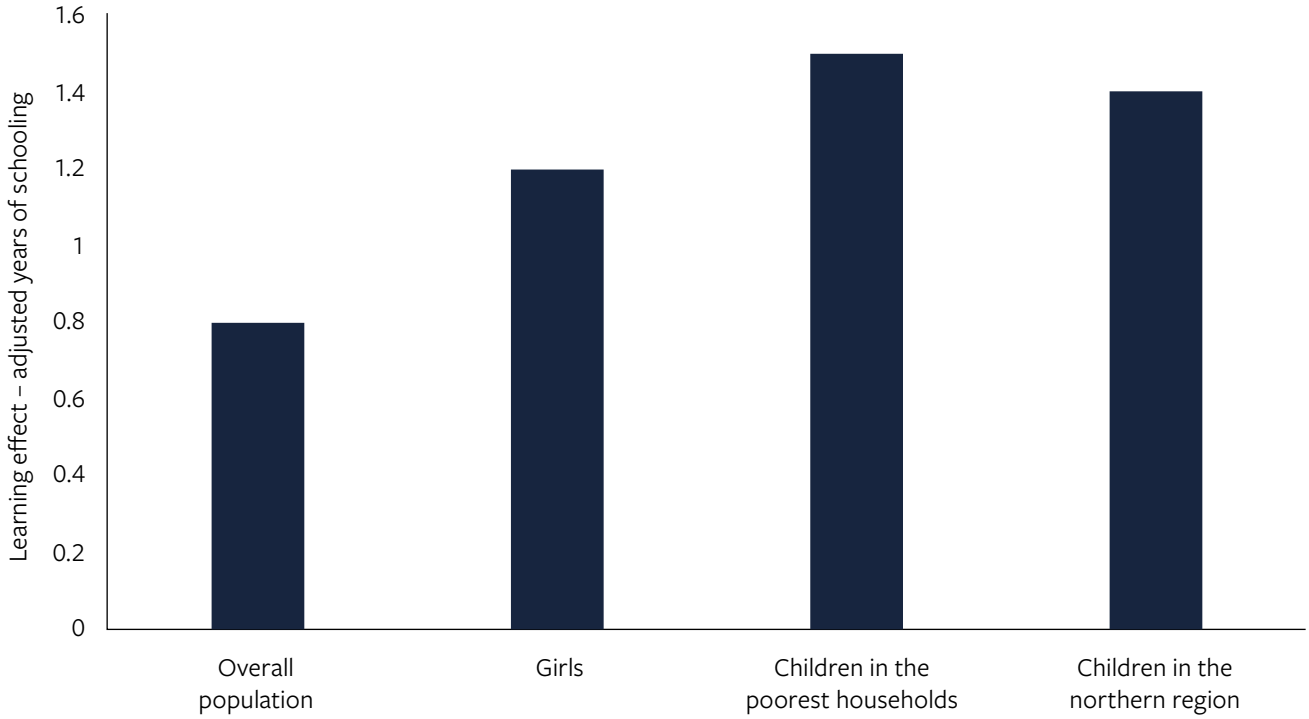
Evidence of the benefits of school feeding comes from multiple sources and a variety of methodologies. This evidence is highly dependent on context. Background indicators for school enrolment, child nutrition and poverty have a bearing on results, as does the quality of the school meals being provided. However, the broad picture that emerges is one of school meals as a powerful force to shift the needle on school participation and learning.

- **School participation**. School feeding programmes tend to boost school participation, including enrolment, attendance and retention. A UNESCO analysis of 20 evaluations showed that these effects were strongest in countries and areas marked by low levels of background enrolment and high levels of food insecurity (Mundy and Proulx, 2019). Another meta-analysis of evidence from experimental and quasi-experimental evaluations covering 15 countries similarly concluded that 'school feeding programmes are more likely to be effective in contexts with high food insecurity and low existing school participation' (Snilstveit et al., 2016). The analysis found that school feeding increased enrolment by around 10%, though with high levels of variability between studies. Individual country studies illustrate the impact. In the early 2000s, Bangladesh introduced a school feeding programme in areas marked by chronic food insecurity, providing fortified biscuits to around one million children. The school feeding programme increased enrolment by 14%, reduced the probability of dropout by 7%, and increased schooling by 1.3 days every month (Ahmed, 2004).
- **Equity in enrolment**. Poor households face a stark trade-off between sending their children to school and keeping them at home to do chores or generate income. For these families, school meals can provide a positive tipping

point, making education more affordable. Evidence from countries such as Burkina Faso, Laos and Uganda shows that providing take-home rations if children attend school created an incentive to send children to school who might otherwise have been kept at home – especially girls (Alderman et al., 2012; Kazianga et al., 2012). In Burkina Faso, where girls received a home meal if they attended school at least 90% of the time, duplicating the effect of a conditional cash transfer, enrolment increased for both girls and boys (Nikiema, 2019). In southern Ethiopia, a randomised control trial found that students in a control group who did not receive school meals missed twice as many days of school throughout the year (Desalegn et al., 2021). The evidence on school meals is consistent with the wider evidence from conditional (i.e., contingent on school attendance) and unconditional cash transfer programmes (Bastagli et al., 2016).

- **Learning outcomes.** The benefits of school feeding for learning have been widely documented. A summary of evidence from 11 studies demonstrated that school feeding contributes to better learning while keeping vulnerable children at school (Bedasso, 2022). A review of the impact on learning made by 15 different types of intervention found that only one (structured pedagogy) generated higher returns than school feeding (Alderman et al., 2012; Bashir et al., 2018). Evaluations of India's PM POSHAN midday meal programme have shown that it improved school attendance, protein-energy indicators and learning, including an 18% increase in test scores for literacy (Chakraborty and Jayaraman, 2019). Using school feeding programmes to provide biofortified foods can create a double benefit for nutrition and learning. Experimental evidence from one of the poorest regions in India shows that school meals prepared with salt fortified with iron and iodine reduced anemia by one-fifth and significantly increased test scores among children with higher levels of participation (Kramer, Kumar and Vollmer 2018).
- **Learning with equity**. Children who are less likely to be at school and more likely to have their learning prospects compromised by malnutrition will reap the greatest benefits from school feeding. A striking illustration comes from a randomised control trial that examines the impact of the Ghana School Feeding Programme (Aurino et al., 2018). Although the average learning effects during a 2-year evaluation period were moderate, the programme generated larger gains for girls, the poorest children and the most disadvantaged region (Figure 5). For children in the poorest households, the gains were twice the average level, creating learning effects equivalent to one and a half years of learning-adjusted schooling. Similarly, while the average nutritional effects were muted, the improvement in height for age (stunting) was significant for girls and children living below the poverty threshold.

Figure 5 School meals and learning effects in Ghana
Learning outcomes for children receiving school meals vs. control group



Source: Aurino et al. (2018).

Health and nutrition: School feeding programmes improve nutrition in a variety of ways, including height for age and weight compared to control groups, according to systemic evidence reviews (Wang et al., 2021). Well-designed meals can alleviate energy and micronutrient deficiencies that hamper children's learning and threaten their health, especially when accompanied by wider health and nutritional services (such as iron supplementation, deworming and anti-malaria interventions). For example, school meals that include iron-rich foods have a demonstrated effect on increasing hemoglobin levels and reducing anemia (Rimbawan, 2023; Adelman et al., 2019; Alderman et al., 2012; Krämer et al., 2018a). In Uganda, the incidence of moderate to severe anemia was 20 percentage points lower among girls who received a school meal than in a control group (Adelman et al., 2019).

Cross-generational effects point to the potential for cumulative benefits. Using nationally representative data on mothers and children for two decades, an evaluation of India's midday meals scheme found that access to school meals led to marked improvements in linear growth, a key measure of child health and potential (Chakrabarti et al., 2021). Height-for-age scores among children of women who had received midday meals were significantly higher (0.4 standard deviations) than among children of mothers who had not benefited. Mothers who had received meals spent more time in education, had children later, and were more likely to make use of medical facilities, pointing to wide-ranging empowerment effects. These effects were most evident among women from poorer and more disadvantaged backgrounds. The school meals programme was associated with 13-32% of the height-for-age improvement registered in India in the decade to 2016.

3.2 Under-utilising school feeding in the post-Covid response

Children in LICs and LMICs were heavily hit by the Covid-19 pandemic. They were locked out of education for longer, with almost one billion children losing at least one full year of education (Schady et al., 2023) and had more limited access to remote learning. As schools reopened, children returned to classrooms carrying the consequences of increased poverty, higher levels of undernutrition, worsened food insecurity – all of them triggers for school dropout. The combination of lost learning and more intense deprivation created perfect storm conditions for the increased learning poverty documented by the World Bank and UN agencies.

As schools reopened, international agencies paid insufficient attention to the implications for education of increased childhood poverty and hunger. This conclusion is supported by flagship reports produced in the wake of the Covid-19 pandemic. The World Bank *Learning Recovery to Acceleration* report (World Bank, 2023) provides a comprehensive overview and assessment of post-Covid national education policies using a framework summarised by the acronym RAPID (reach, assessment, prioritising fundamentals, increasing instruction efficiency and developing psychosocial health). It notes that "most countries did not fully comprehend the necessity for a learning recovery" based on their failure to prioritise learning assessments and a strengthened focus on learning outcomes. However, the report makes no reference to the urgent need to assess and address the consequences of increased child poverty and hunger, and does not include school meal provision in the RAPID framework. Another joint UN-World Bank (UNESCOBank, et al., 2022) report, conducted in the immediate aftermath of the Covid-19 pandemic, includes a comprehensive assessment of approaches to curriculum development, instruction, and learning assessments, but again does not make reference to school feeding. Although both reports make valid and important points, notably in highlighting the need to strengthen the classroom learning environment, their neglect of nutrition and school meals points represents a striking illustration of a siloed approach.

The demonstrated benefits point to a case for including school meals in the wider agenda for a learning recovery. Children who were already being left behind bore the brunt of the poverty, nutrition, and education impacts of Covid-19. The potential of school meal programmes to increase enrolment, reduce dropout rates, improve learning outcomes, and strengthen equity suggests that they should be a far greater priority on the learning poverty agenda. In fact, the marked discrepancy between the high priority assigned to school feeding by governments in many LICs and LMICs and the relative neglect shown by aid donors and international agencies points to a misalignment between national effort and international cooperation.

3.3 Preventing obesity and overweight – the public health dimension

School feeding programmes can support wider strategies to tackle childhood obesity and overweight. Changing individual food choices and consumer behaviour requires public policy interventions on many fronts (Menon and Olney, 2024). There are no single-measure solutions. The regulation of corporate advertising and marketing, taxation, improved consumer, information and public health campaigns, all have a role to play in shifting demand towards healthier eating options (Melo et al., 2023). Social protection measures that provide in-kind or cash transfers can improve dietary

diversity and reduce micronutrient deficiencies by making healthy foods more affordable. especially among women and children, by increasing purchasing power (Olney et al., 2022). Integrated into wider strategies, school meal programmes can change dietary preferences toward healthier options, creating nutritional benefits today and reshaping tomorrow's food markets.

Healthy meals at school can provide children not only with the energy and nutrients they need for an active life and effective learning, but also with exposure to diets and information that can influence what they eat as they enter adolescence and adulthood. That matters because, as in many other areas of public health, preventing obesity and overweight in childhood is better – and much cheaper – than treating the consequences in adulthood. Obese children are at high risk of becoming overweight and obese adults, with accompanying risks to their health. The costs of obesity and overweight measured by economic losses associated with illness and the financing of treatment through health and care systems have been estimated at 1.8% of GDP on a sharply rising trend (Okunogbe et al., 2021).

School meal interventions can support wider interventions. Evidence from Latin America demonstrates that school feeding coupled with taxes on sugar-sweetened beverages, restrictions on food advertising and public health campaigns can make a difference (Melo et al., 2023). In Brazil, children who receive school meals tend to eat more fresh fruits and vegetables and beans, and fewer foods containing fat, sugar and salt (Locatelli et al., 2018). The composition of school meals has an important influence on their effectiveness in promoting healthy diets, and there is evidence that home-grown school food can improve nutritional quality (see below).

Much more could be done to take advantage of school meal programmes to promote healthy diets. Currently, only 5% of school feeding programmes in LICs and 17% in LMICs prioritise the promotion of healthy diets to tackle obesity, pointing to a lost opportunity to address the double burden of undernutrition and obesity (GCNF, 2021).

The prescriptions for healthy eating must take into account national circumstances. Although excessive consumption of animal-sourced foods is a major factor behind unhealthy diets in LMICs, a large number of children in LMICs and, more especially, LICs, suffer from underconsumption of animal-sourced foods. These foods play an important role in meeting nutritional needs in early childhood, primary school age, and adolescence. For sub-Saharan Africa in particular, school meals provide an opportunity to integrate animal-sourced foods into healthy diets.

School meal programmes provide a link to public health programmes. Some of the most striking examples come from countries with long-standing school feeding programmes. In Finland, healthy school meals were integrated into a national strategy to combat the increase in obesity. As the architect of the strategy put it: 'If we were to change our national diet, it was critical that this started in schools (Dimbleby and Lewis, 2023). In Japan, the government oversees a mandatory school lunch programme that provides heavily subsidised healthy food for all children, with menus approved by nutritionists and students are taught about the nutritional qualities of the food on their plate (ibid.). The French school meal menu, again informed by public health policies, sets rigorous standards for fat content, nutritional requirements, frequency of food types, and fresh fruits and vegetables (Avallone et al., 2023; Vieux et al., 2018).

3.4 Unlocking the power of procurement

School meal procurement provides governments with the opportunity to trigger a wider change by shifting the signals operating through food markets. Over the last decade, initiatives have proliferated that aim to use the power of procurement to promote sustainable, low-carbon agriculture, healthier diets and rural livelihoods (Swensson et al., 2021). School meal procurement has been prominently mentioned. One example is the Milan Urban Food Pact, a network of 281 municipalities – many of them using procurement to provide healthy diets through more localised, sustainable agriculture (Milan Urban Food Policy Pact, 2024). In the United States, two-thirds of school food authorities report participating in farm-to-school activities, with around one-fifth of the school budget spent on local foods, in many cases with a link to organic and/or low-carbon farming (USDA, 2019). For most LICs and LMICs, school meals procurement budgets are small but can act as a powerful lever for wider change.

Supplying school meals through national and local farmers – Home Grown School Feeding (HGSF) – from national offers the prospect of win-win scenarios for the nutrition of schoolchildren and rural livelihoods. For children in school, home-grown school feeding offers the prospect of healthier, more diverse diets using locally produced fruit and vegetables (Singh and Conway, 2021). In Nepal, to take an example, HGSF led to improved quality food baskets and strengthened community ownership (Manandhar Shrestha et al., 2020). At the same time, the creation of market demand can reduce poverty in rural areas where most extreme poor live. In sub-Saharan Africa, growth in rural areas is two to three times as effective as growth in other sectors in reducing poverty (Christaensen et al., 2011). The win-win benefits in prospect explain why most governments in LICs and LMICs include HGSF as a policy priority. The African Union has adopted school feeding as a central part of its strategy for the 'green revolution' of smallholder farmers (African Union, 2021).

School meal procurement can extend the benefits of biofortified foods to children at the front line of global malnutrition. The fortification of foods and the biofortification of crops – the breeding of plants to increase their nutritional value – is a proven and cost-effective strategy to combat micronutrient deficiencies (Keats et al., 2019). Biofortification increases the micronutrient density of widely grown and consumed food staples, providing a source of vitamins – especially iron, zinc, and vitamin A – vital to healthy development. Cassava is a drought resistant, climate-smart crop that is grown by millions of farmers in Africa. Although high in calorific value, traditional varieties have low micronutrient content. However, when biofortified, it can reduce vitamin A deficiency among children (Taleon et al., 2019; Okwuonu et al., 2021). In Maharashtra, India, iron deficiency levels decreased among adolescents who ate biofortified pearl millet (Finklestein et al., 2015; Scott et al., 2018). Reviews of large-scale fortification programmes point to the potential for far-reaching results, including a 30% reduction in anemia (Keats et al., 2019). Including biofortified foods in school meals in areas with high levels of undernutrition provides an opportunity to reach millions of children through an affordable and effective intervention.

Large-scale school feeding programmes provide an infrastructure for the delivery of biofortified foods. Projects implemented by Harvest Plus, part of the international public research system of agencies working on food policy, illustrate

the potential.[11] The organisation is working to expand access to 13 biofortified food staples in partnership with governments, seed companies and non-government groups. School feeding infrastructures are a central part of the strategy. In Kenya, Malawi and Tanzania, it has partnered with AGRA (formerly known as the Alliance for a Green Revolution in Africa) to provide 1.2 million children with biofortified maize. Another programme in India aims to reach two million children in six states, working through the national school feeding programme by procuring biofortified wheat and millet from local farmers. In areas close to selected schools, the programme includes training for 20,000 farmers in the production and marketing of biofortified crops (HarvestPlus, n.d.).

Procurement through home-grown school feeding can support climate adaptation and more sustainable farm practices. Climate change threatens to intensify hunger and poverty in LICs and LMICs by reducing the productivity of smallholder agriculture, with implications for the supply of affordable nutritious food. Adaptation is already happening as farmers change practices and climate-resistant seed varieties are developed. School feeding procurement can support adaptation by creating predictable markets for locally grown crops that are more resistant to climate change. For example, including 'orphan crops' that have been neglected in school menus can provide children with healthy food and farmers with a market for crops that can be integrated into traditional intercropping systems (Singh, 2021; Hunter et al., 2022; Pingali et al., 2012).

Securing the benefits of HGSF is not straightforward. There are inherent tensions and potential trade-offs between the policy goals of delivering affordable food to schoolchildren and supporting farm income. Weak infrastructure and restricted access to productive inputs such as fertiliser can limit the supply capabilities of local and national agriculture. Purchasing through HGSF markets could cost more than purchasing imported foods, and food aid may present a cheaper option. Contracting with highly dispersed smallholder farmers may represent another layer of difficulties. Unpredictability and underfinancing of school feeding budgets can prevent small farmers from participating. Evidence from Ghana found no discernible impact of school meal procurement on the incomes of local farmers (Gelli et al., 2019). How the tensions and trade-offs in HGSF play out in practice is heavily conditioned by procurement practices, local agricultural conditions and government policy (Devereux et al., 2011).

Although the potential trade-offs are real, they can be addressed. Investment in infrastructure such as rural feeder roads, microcredit support and agricultural extension services can remove supply bottlenecks and increase productivity. The pooling of demand between schools and working through agricultural cooperatives can reduce costs. Longer-term supply contracts can create an enabling environment for smallholder farmers to invest by creating a secure market. Investing in storage facilities can also improve efficiency, allowing agencies to purchase food when prices are lower. All of this requires an enabling environment through which farmers can gain the technical skills to produce crops that meet school meal nutrition requirements, and in which school feeding budgets create predictable markets. Latin America has demonstrated the potential to work through local agriculture, including smallholders. Almost all 80 million children who receive school meals in the region do so through HGSF (WFP and IDB, 2022). The African Union Development Agency has produced guidelines for successful programmes, emphasising the importance of stable funding, community participation and institutional development (AUDA-NEPAD, 2022).

3.5 Counting the multiple benefits

Counting the benefits of school feeding is inherently difficult. For children living with hunger, and for their parents, the benefits of a school meal are immediate and obvious. The benefits can also be measured in human development indicators for nutrition and education. But for governments allocating scarce budget resources, the costs of unlocking the benefits and the potential returns to school feeding relative to other investments will weigh heavily in any decision of public spending. Applying a narrow 'best buy' approach to investment that ranks school meals against other interventions in a single sector can dramatically underestimate prospective gains, not just measured by conventional cost-benefit metrics, but also for wider goals, including the development of social contracts between citizens and states.

Standard cost-benefit analysis shows that investment in school feeding can lead to substantial returns. The benefits side of the equation for school meals includes gains associated with better health, more education, and returns through in-kind transfers and food procurement. Returns to primary and secondary education are typically higher in developing countries because they are inversely related to mean years of schooling, reflecting the relative scarcity of more educated people in the workforce. The private return to an additional year of schooling in the form of higher lifetime earnings has been estimated at 9% for LICs and LMICs. An estimate of the 'human capital' benefits associated with school feeding put the benefit-cost ratio in the range of $7-35 for every $1 invested, with returns dominated by education (Verguet et al., 2020).[12] Although cost-benefit exercises are highly sensitive to assumptions about the impact of school feeding on participation in education and future wages, the prospective returns point to a strong investment case. Factoring in the effect of improved learning outcomes on future earnings, as in the Ghana case cited above, could increase the returns to education and school feeding investments (Evans and Yuan, 2019; Aurino et al., 2018).

Some commentators have questioned the 'value-for-money' credentials of school feeding. Ranking public policy options according to 'best-buy' criteria has become a widespread practice in international development discourse. The typical process involves reviewing evidence from randomised control evaluations and cost-benefit analysis comparing outcomes from different intervention options. The influential Global Education Advisory Panel has cited school feeding investment as 'effective, but relatively expensive way to deliver learning outcomes' (GEAPP, 2023). It compares the benefit-cost ratios for school feeding unfavourably with those for other interventions focussed on targeted pedagogy, concluding that investments should be limited to countries with large education budgets or non-education goals.

Viewed from another perspective, the strength of school feeding is precisely that it delivers benefits in multiple domains. Focusing on cost-effectiveness in any one area (say, nutrition *or* learning) may understate the aggregate benefits across many areas (for example, learning *and* nutrition *and* food security). While school meals taken in isolation may not represent an optimal investment for specific sectoral goals – such as child nutrition, school attendance, or learning outcomes – the joint benefits may outweigh those that are achievable through other investments (Alderman et al., 2021). Another concern is that randomised control trials typically measure outcomes over a limited period, often drawing on evidence from small-scale pilot projects.

By contrast, the benefits of school feeding are cumulative, built over the lifetime of beneficiaries – and they are likely to generate powerful multiplier effects when taken to national scale (Bedasso, 2023).

Applying compartmentalised 'best-buy" approaches can generate perverse policy outcomes. Policies that aim to improve learning illustrate this point. Teaching at the right level, or TARL, has been rightly identified as an antidote to the harmful practice of adhering stringently to learning curricula that are poorly aligned with what children learn (Muralidharan et al., 2018). Robust evidence from randomised control trials supports the case for investment in TARL, especially when supported by computer-aided technology (Banerjee et al., 2016). The same is true for investment in foundational learning, which focuses on the basic literacy and numeracy skills children should acquire by grade two (UNICEF, 2023b). These are evidence-based approaches with a demonstrated potential to deliver results captured in randomised control trials. Yet viewing them as an 'alternative' to school feeding obscures the scope for complementary investment. Whatever their potential, the effectiveness of instructional methods and curriculum reform is inevitably compromised in classrooms where a significant share of children are struggling to learn because of hunger, or in situations where poverty keeps large numbers out of school. Rather than treating school feeding as a separate and competitive approach, it should be seen as a vital complement to other interventions. The bottom line is that no amount of TARL or foundational learning interventions is likely to counteract the effects of hunger, but both approaches could be supported through effective school meal interventions.

'Best-buy' approaches may attach insufficient weight to social contracts between citizens and states. Some prospective benefits of school feeding are inherently difficult to quantify through the narrow lens of cost-benefit analysis. National school meal programmes have emerged in today's rich world as part of a new social contract between citizens and states. As we argue in the Introduction to this report, they have since evolved into programmes grounded in human rights, constitutional provisions, and legal entitlements reflecting a complex engagement between states, professional bodies, and civil society actors. Public policy outcomes represent an integral part of the social, political and moral fabric of societies. Like many other aspects of the wider social contract between citizens and states, the case for school meal programmes and the terms on which they are delivered can be contested. Different actors in public debate may attach more or less weight to equity and the equalisation of opportunity. But the case for and against school feeding cannot be based solely on reductionist cost-benefit metrics and the results of randomised control trials.

4 Setting the 2030 ambition – scenarios for a global scale-up of school feeding

This section of the report provides plausible scenarios to expand school feeding programmes. The aim of the scenarios is not to define a pathway for every country to follow, but to illustrate a possible future consistent with the urgency of the crisis to be tackled, the potential for rapid scale-up, and – critically – the pressing need for practical initiatives to support an SDG recovery by delivering early results.

We start by setting out the baseline for expanded coverage and the modelling assumptions behind the scenarios, before turning to cost estimates. Any scenario for school feeding in LICs and LMICs to 2030 must consider the shifting sands of demography, evolving school participation profiles, and the sparsity of current data on the full cost of delivering high quality programmes across different countries and regions. Baseline data on the coverage of existing programmes is also problematic. We draw on the World Food Programme report, *State of School Feeding Worldwide*, which provides coverage and budget data for 2021, and the Global Child Nutrition Foundation report, *School Meal Programmes Around the World*. However, there are large gaps, uncertainties about real coverage rates, and large variations in what constitutes 'coverage'.

The scenarios presented in this section should be treated as illustrative. Global scenarios are not a substitute for national planning, but they can illustrate scale and costs. Both scenarios outlined in this section would mark a major step towards universal school feeding. The 'high ambition' scenario would reach another 236 million children. In the absence of more recent data on the full cost of financing school meal programmes, we draw on an earlier paper (Gelli and Daryanani, 2013) to provide indicative costs for the scenarios. We estimate the cost of expanded reach and supplementary spending on existing programmes at $3.6 billion annually over five years.

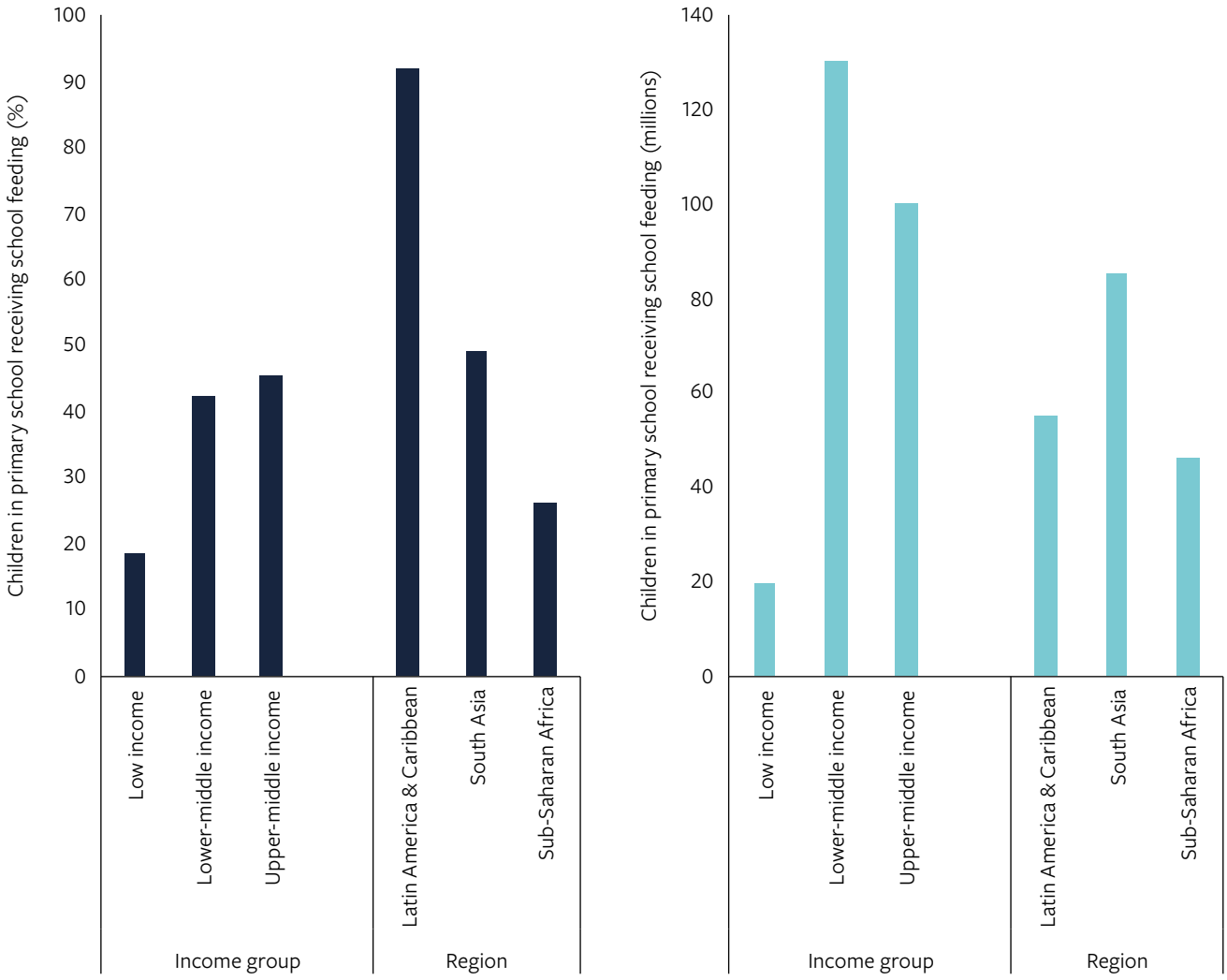
A big push to expand school feeding could reach millions of children with acute disadvantage, but equity in delivery matters. The benefits of progress towards universal access can slowly trickle down to children facing the greatest disadvantages. Outcomes will depend on the degree to which governments target these children in the initial stages of any scale-up plan. As we documented in Section 1, extent of undernutrition, poverty and food insecurity across the LICs and LMICs point to the potential for transformative human development benefits. That potential will be best realised through the adoption of approaches based on 'progressive universalism' and a commitment to leave no one behind.

4.1 Current coverage – limited and variable quality

School meal programmes represent one of the largest sources of social protection in the world and the largest global safety net for children. In 2021, they reached 418 million children around the world (WFP, 2023).[13] About 160 countries have a school feeding policy. This expansive infrastructure provides the potential for rapid scale-up.

If school feeding is part of the policy antidote to childhood hunger and poverty-related disparities in learning, the antidote is in the shortest supply where it is most needed. The reported coverage rates (Figure 6) for children who received free or subsidised school meals in primary school were 18% for LICs, rising to 39% for LMICs, implying that around 157 million children were receiving meals (another 278 million children were not covered). The number of children who received school meals declined dramatically with school closures during the Covid-19 pandemic. By 2022 it had recovered in LMICs but was still 4% below 2020 levels in LICs (WFP, 2023). The aggregate figure for LMICs is inflated by the 'big country' effect. Removal of India from the data reduces LMIC coverage to 28%. The lowest regional coverage rates are in sub-Saharan Africa, where only about one-quarter of children receive any form of school feeding.

Figure 6 School meal coverage – primary education, reported share and number of children (selected income groups and regions)



Source: WFP (2023)

The term 'coverage' should be interpreted with caution. While the WFP provides a gold-stand methodology, there are question marks over the coverage rates reported for some countries.[14] More importantly, the reporting system simply documents the share of children enrolled in primary school receiving some kind of school meal. What is provided can vary from a regular supply of high-quality meals that include protein and a diverse mix of fresh fruits and vegetables throughout the school year, to intermittent poor quality meals that fall well below stipulated standards. Chronic underfinancing is one of the main reasons for poor quality meals. For example, while Eswatini reports universal coverage, the fixed grant per student represents around half of the cost of purchasing the stipulated food basket, which itself fell short of international standards for nutrition (Raju and Younger, 2021). In Kenya, the 2022 budget was sufficient to provide pupils with a cooked meal for just 135 days out of a 185-day school year (McKinsey and Naconek, 2023). Such cases illustrate the urgent need to develop a 'quality-adjusted school meal' indicator to accompany the coverage data.

Survey evidence from Ghana illustrates the gap between policy and implementation. The national school feeding programme covers all 216 national districts and approximately 38% of primary school children. School meals, procured and delivered by caterers, are designed to provide at least 30% of daily nutritional needs in the form of a hot meal. However, surveys of children, parents and headteachers conducted by the Centre for Global Development report regular shortfalls from the standard. More than a quarter of headteachers and a third of household heads believe that school meals do not meet adequate nutritional expectations or are only marginally nutritious. Approximately 60% of parents and headteachers reported that food supplies were insufficient, with caterers reporting cuts in supplies due to delayed payment or underpayment by the government (Bedasso, 2022).

4.2 The school population – rising with demographic shifts and increased enrolment

The starting point for any school feeding scenario is a delineation of the relevant population. This is not straightforward. We focus on children aged five to 14, broadly spanning the pre-school, primary and lower secondary school years. Both of our scenarios attach greater weight to the expansion of provision for pre-primary and primary provision than to lower secondary (where the 2030 target is set at 10% coverage). There are certainly strong grounds for setting a higher level of ambition in secondary education, not least given the high dropout rates and poor nutritional status of adolescent girls. However, two considerations guide the parameters set for the scenarios. First, most school meal strategies in LICs and LMICs currently target primary schools. Second, there are important equity considerations. Government spending targeting public primary schools is more progressive than spending on secondary schools. This is because poorer children are more likely to enrol in government primary schools, and more likely to drop out before secondary school. While gender gaps are narrowing in secondary education, fewer than half of girls in LICs progress to secondary school (Bonfert and Wadhwa, 2024).

There are strong grounds for setting a high ambition for pre-primary provision of school meals. As highlighted in Section 1, millions of children enter the first year of primary education carrying the disadvantages that come with stunting in the 'first 1,000' days. While pre-school care and education are chronically neglected

both in national budgets and, even more so, by aid donors in education, it is one of the most effective interventions in preparing children for learning (Zubairi and Rose, 2021). The benefits include a significant increase in motor skills and cognitive development, which are important in ensuring that children enrol at the appropriate age level and progress through the educational system (Young, 2017; UNESCO, 2012; Kim and Sabates, 2023). Pre-school can also narrow equity gaps. A study in Mozambique found that children from rural areas who had attended pre-primary education were 24% more likely to enrol in primary school and to show improved cognitive abilities compared to their disadvantaged counterparts who had not attended pre-school (Martinez et al., 2012).

Gender equity is an important consideration in including school meals for children in the lower secondary school. The transition from primary to lower secondary school and the early lower-secondary years are dropout flashpoints, especially for girls. In many low- and lower-middle-income countries, adolescent girls rarely complete primary school and are even less likely to complete lower secondary school. One reason for this is that marginalised adolescent girls are more likely than boys to have unpaid care and domestic responsibilities, which can curtail their schooling (Rose, 2021). Children from poor households often drop out because their parents see secondary education as unaffordable, not just because of school fees but also because of the costs of transport, uniforms, stationery and meals. With the right design, bursaries and targeted cash transfers can help make the transition to secondary school possible for poorer children (Gordon et al., 2019; Sabates et al., 2018). As an in-kind transfer, school meals can reduce the cost pressures that push many children out of school, with gains for equity and learning, provided that the school meal programme targets those with the greatest need.

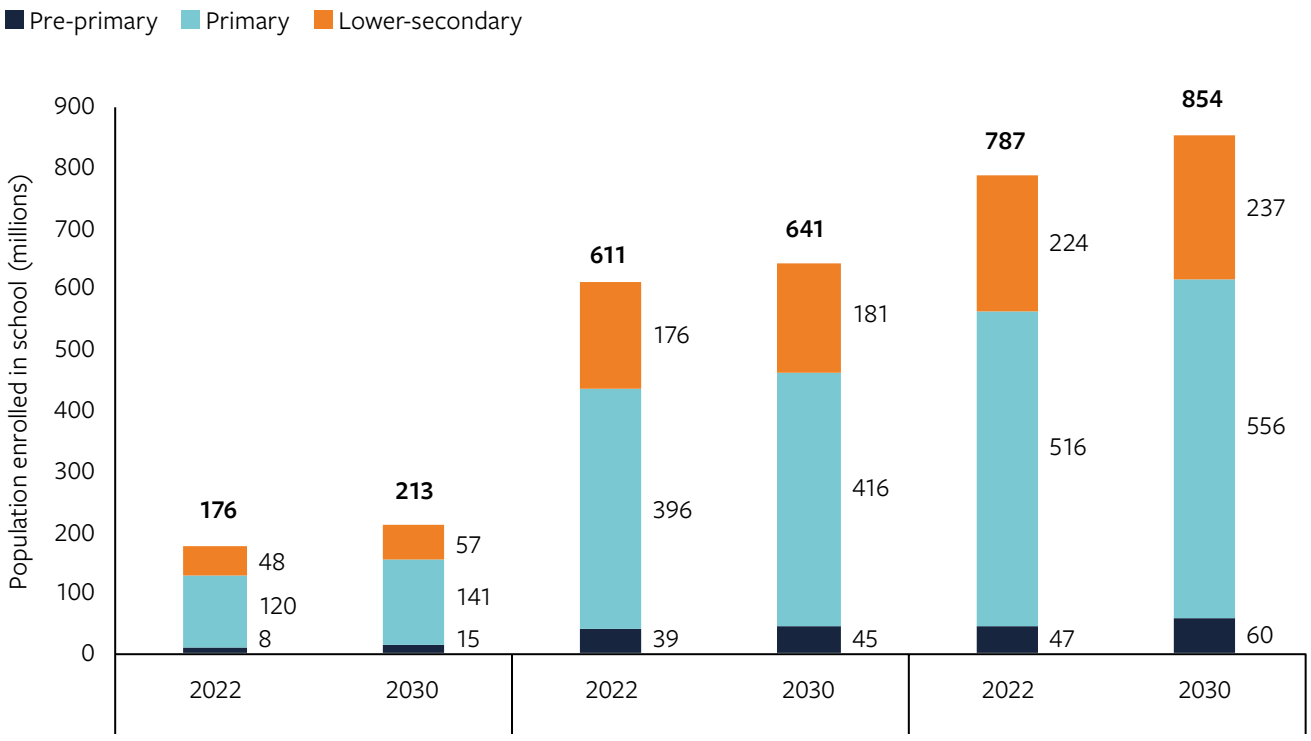
Our scenario considers changes in three critical areas affecting the size and profile of the school-age population. The modelling work conducted for this report develops projections for the evolution of the school population in LICs and LMICs to 2030 taking into account demographic change, enrolment trends, and the age profile of children attending school (Zubairi, 2024). To summarise the headline projections:

- **Demography and population.** Based on UN Population projections, the five to 14 age group in LICs and LMICs will increase by 5%, or 43 million between 2022 and 2030. Almost three-quarters of the projected increase will take place in LICs. Ensuring better health, nutrition and education for a growing child population is a key condition for exploiting the demographic window of opportunity created by young populations.
- **Enrolment rates and the 'out-of-school' population**. Being 'out of school' is a variable condition, covering children who have never attended and are unlikely to attend, to children who have dropped out permanently or temporarily. In 2022, the UNESCO Institute of Statistics (UIS) estimated that 60 million children of primary school age did not attend school in LICs and LMICs, along with another 48 million children of lower secondary age (UNESCO, 2023). In developing our scenarios, we tested four plausible projections for out-of-school trends to 2030, ranging from a simple continuation of the 2015-2021 trend, to a reversal, and a more benign scenario in which out-of-school rates fall at twice the trend rate (Zubairi and Rose, 2024). While the scenario is optimistic given current trends, 100 million children would remain out of school in 2030, a reminder of the large gap between current trends and the SDG ambition.[15]

- **Age-for-grade profiles do not affect the overall numbers in school, but they have a bearing on the spread of children across different levels of the education system**. Many children in LICs and LMICs start school after the official age of entry. This is reflected in the large disparity observed in many countries between net enrolment rates (which capture the share of children in the right age-for-grade), and gross enrolment rates (which capture all children in specific levels, regardless of their age). Approximately a quarter of the children enrolled in primary schools in LICs are at least two years older, along with 9% of the children in LMICs. To estimate the number of children who will be in primary and lower secondary schools, we project 2015-2021 trend data for overage enrolment to 2030.

School profile projections have implications for future school meal coverage rates. Combining a higher enrolment rate with an expanded school population increases the number of children in school by 67 million (Figure 7). The in-school population in LICs is projected to increase by 37 million or double the number of children now covered. For LMICs, the increase is equivalent to 16% of the current provision. In both cases, but most notably for LICs, school meal programmes will have to reach far more children simply in order to stand still in terms of coverage.

Figure 7 Numbers of children enrolled in school - reported (2022) and projected (2030), pre-primary, primary, lower-secondary



Source: WFP (2023) Projections based on data from UN-DESA and UNESCO-UIS, with scenario assumptions on increased enrollment.

4.3 Two scenarios for 2030 – high ambition and expansion with convergence

Our two scenarios for school feeding are intended to illustrate plausible pathways to 2030. Both trajectories would mark a major step toward universal school meal coverage. There are obvious limitations to any scenario exercise of this nature. The global picture obscures national variations, and the parameters we set are arbitrary. Our intention is to provide a broad overview of the scale and provide a basis for cost estimates.

Figure 8 Scenario 1: The high ambition agenda – progression to 60% school meal coverage

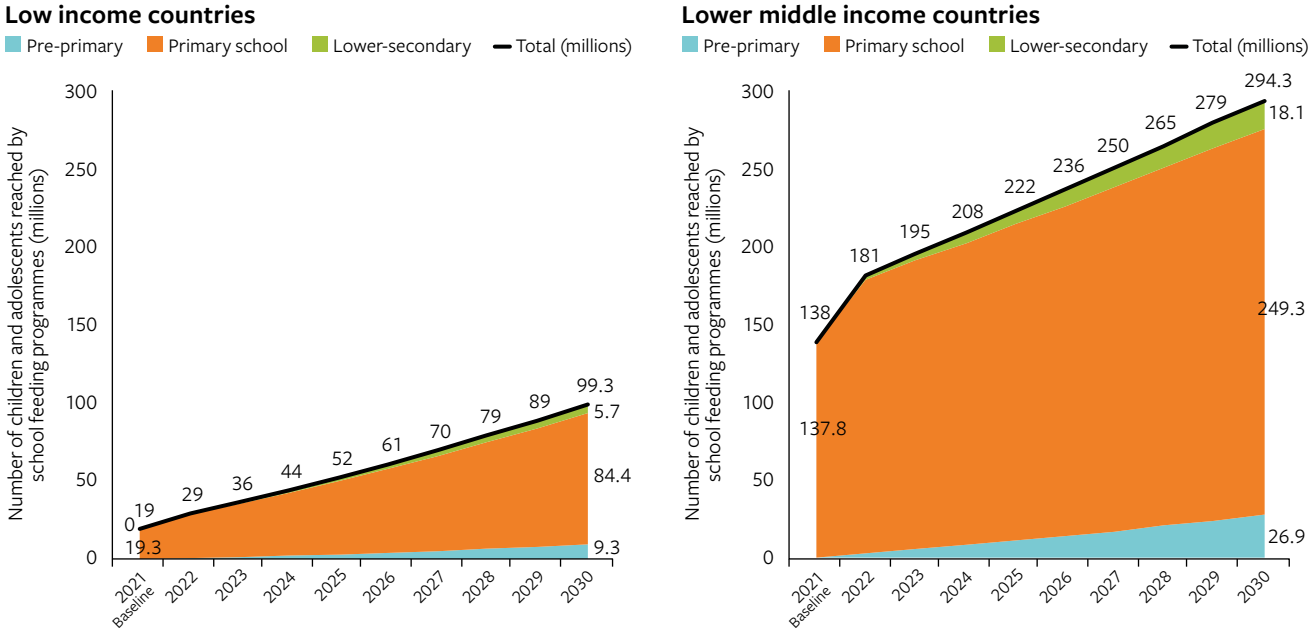
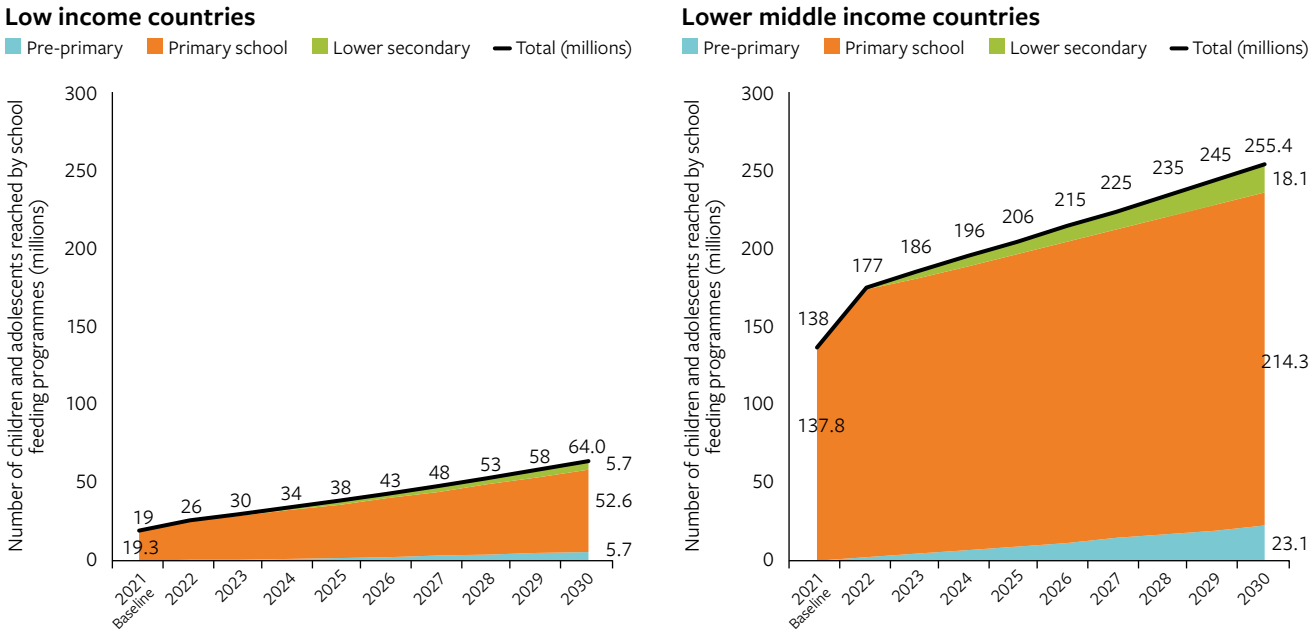


Figure 9 Scenario 2: Accelerated progress with convergence



Source: Data and projections based on UN-DESA, UNESCO-UIS databases, and Zubairi 2024.

Scenario 1: The high ambition trajectory (Figure 8). This envisages 60% school feeding coverage in both LICs and LMICs by 2030 (from a 2021 baseline) for the primary level and one year of pre-primary, with 10% coverage at lower secondary. In this scenario, the number of children reached would increase by 236 million (from a baseline of 157 million baseline). LICs would account for 80 million of that number, a four-fold increase over current coverage.

Scenario 2 Accelerated progress with LIC convergence (Figure 9). Two different trajectories are set for LICs and LMICs. In LICs, coverage doubles from the 2021 baseline to reach 64 million by 2030. Coverage in LMICs increases more slowly, at one percentage point each year at the primary and pre-primary levels, with 10% of lower secondary pupils covered. The number of children covered by school feeding programmes in LICs and LMICs would increase by 162 million.

4.4 Estimating costs

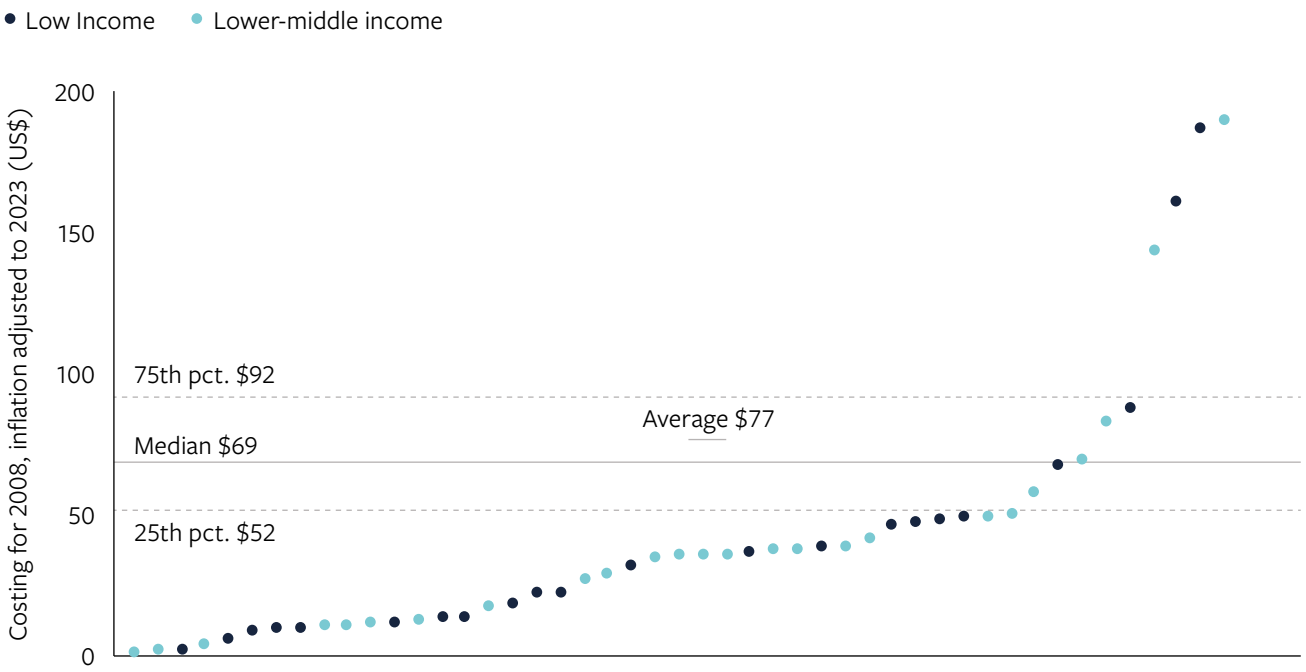
What would it cost to finance an expansion of school feeding consistent with our scenarios? That is a superficially simple question with no simple answer. The conclusions of a 2016 study still hold true: 'there is a dearth of knowledge on the costs and cost-effectiveness' (Kristjansson et al., 2016). Financial reporting is sparse, inconsistent between (and often within) countries, and often unreliable, making it difficult to establish the full cost of providing school meals. In part, this reflects the complexity of the financing architecture. School meal programmes typically involve a diverse range of actors, including government and non-government procurement entities, UN agencies, community organisations, national and international non-government organisations, and private companies operating along complex supply chains. Meals can be provided by government agencies, private caterers contracted by government, social enterprises, a patchwork of national and international NGOs, or hybrid models involving multiple actors with different reporting and accounting systems. Unreported contributions by households in cash or in kind – in the form of labour, food, or cooking services – also play a substantial role that is often invisible in financial reporting because it is not monetised, especially with respect to female labour.

Cost drivers vary between countries, and cross-country comparisons of cost-effectiveness are intrinsically difficult. The cost of scaling up national programmes will be determined by a wide range of factors, including logistics, procurement models, the strength of supply chains, underlying food markets, and levels of food insecurity (Gelli et al., 2009; Gelli, Cavallero, and Minervini et al., 2011). Geography and the state of the transport infrastructure can have a critical impact on cost. Landlocked countries dependent on food imports, with poor infrastructure, and commensurately expensive freight charges from ports are likely to face higher operational costs than countries with a high level of food self-reliance, functioning ports, and better connectivity. Variations in what is delivered across (and within countries) limits the scope for comparative analysis. The programmes vary with respect to the energy and nutrients provided, the number of days the children are fed and what they receive (breakfast, cooked school meals, fortified biscuits and take-home rations, for example). Delivery models range from highly centralised to highly devolved systems, with central government, local governments, and schools playing different roles. The distribution of the population also matters. Other things being equal, reaching highly dispersed populations in rural areas is likely to be intrinsically more costly per pupil than reaching children in more populous areas.

The most comprehensive cross-country evidence remains a study using 2008 data (Gelli and Daryanani, 2013). The study looked at costs for 76 countries, drawing on an extensive portfolio of WFP projects and associated government programme expenditures through procurement and distribution activities. The sample included 62 countries that were at the time low-income and middle-income countries. Costs were standardised for equivalent food baskets provided over a 200-day school year, with national currency costs converted into dollars at the prevailing (2008) exchange rates (Gelli and Daryanani, 2013). The average annual costs of school meals per pupil were reported at $54 for low-income countries and $82 for middle-income countries. Under this picture there were large variations in standardised per pupil costs, reflecting the variable cost drivers noted above. For example, the standardised costs per pupil for Malawi were five times higher than those for Kenya and eleven times higher than those for India. Profiles captured in the study reflect the costs of the WFP's projects, most of which operated at the time through centralised delivery models (Gelli et al., 2009).

Figure 10 provides an inflation-adjusted update of the 2008 data. We disaggregate the data from the Gelli and Daryanani (2013) study to identify current LICs (14 countries) and LMICs (29 countries) in the sample. One of the authors of the study updated the cost data from 2008 to 2023 with adjustments for US inflation.[16] The average adjusted cost per pupil for LICs and LMICs is $77 per pupil/school year. The narrow gap between median and mean costs reflects a bunching in the distribution, with 23 countries in a cost band between the 25th and 75th percentile (from $52 to $92 per pupil over a 200-day school year).

Figure 10 Estimated average annual cost of school meals per pupil – inflation-adjusted update



Source: Updated estimates Gelli and Daryanani (2013) based on 2023 adjustments for US inflation.

We emphasise that inflation-adjusted updates to the Gelli and Daryanani (2013) study should be treated as indicative. The underlying market conditions have changed markedly since 2008, with cost drivers pulling in different directions. Many of the LICs and LMICs reported in the study – Bangladesh, Ghana, Kenya and Rwanda among them – have since greatly expanded national programmes, which may have reduced costs through efficiency gains and economies of scale. Devolved delivery through home-grown school feeding programmes may also have lowered costs, although the evidence is uncertain. On the other side of the equation, the surge in global inflation between 2020 and 2023 has left a deep imprint on many LICs and LMICs, especially those dependent on food imports. Food price inflation spiked in 2022 and remained at double-digit levels in 2023, eroding the real value of food baskets.[17] For example, in sub-Saharan Africa, where global price shifts are passed almost entirely to local markets for imported staples, food price inflation surged by 24% between 2020 and 2022, the largest increase since the 2008 global financial crisis (IMF, 2023; Okou et al., 2022). Our updated cost figure for 2023 does not capture these in-country inflation effects, which significantly outstripped US inflation.

Global average cost figures do not provide a basis for national planning. Even in a best-case scenario with abundant comparable data, global costing estimates cannot substitute for granular national planning, and the data available on school feeding is not best-case territory. Any strategy to expand school feeding must be built on a detailed analysis of procurement and delivery options, likely cost variations between countries, and, critically, consideration of the marginal costs of reaching the most disadvantaged children. The marginal cost of reaching the most deprived children will typically exceed the national average costs for two reasons. First, they are more likely to attend schools that are harder to reach. Second, there may be strong equity grounds to provide more disadvantaged children with more support (Delprato et al., 2017).

In the absence of more recent full cost data, we develop ballpark global cost estimates for our scenarios based on the updated Gelli and Daryanani (2013) data. We use a cost range from the 25th percentile to the median – from $52 to $77 in 2021 prices – with a mid-point estimate of $64 annually per pupil. Country-level analysis confirms the plausibility of the range (see below). Detailed national costs per pupil were $74 for Rwanda and $86 for Sierra Leone, reflecting in the latter case the higher capital costs of scale-up. The average costs of full coverage in 22 humanitarian programmes amounted to $74 per pupil.

Table 4 provides a picture of the cost parameters for our two scenarios. We include both the costs of reaching an increased school population and the 'top-up' costs of increasing per pupil budget allocations from their current level of around $42 (see Section 4) to the $64 reference point. The 60% coverage rates envisaged in Scenario 1 would require an additional annual investment of $18.1 billion in 2030 when the scenario target is reached, or an average of $10.8 billion annually over five years, assuming a linear expansion of the programme. The reduced level of ambition for Scenario 2 lowers the average annual cost to $7.5 billion. Here, too, we emphasise that the headline numbers should be treated as indicative of scale.[18]

Table 4 Cost estimates for expanding school meal coverage – Scenarios 1 and 2

	Cost estimate ($bn) based on mid-range $52-77 per child per year					
	Scenario 1			Scenario 2		
	LMIC	LIC	Total	LMIC	LIC	Total
Expansion cost	10.0	5.1	15.1	7.6	2.7	10.3
Top-up cost	2.6	0.4	3.0	2.6	0.4	3.0
Cost in Year 5	**12.6**	**5.5**	**18.1**	**10.2**	**3.1**	**13.3**
Range	9.0 – 17.0	4.2 – 6.7	13.2 – 23.7	7.2 – 13.6	2.2 – 3.7	9.4 – 17.3
Annual incremental cost	2.5	1.1	3.6	2.0	0.6	2.7
Cumulative average annual cost	7.5	3.3	10.8	6.0	1.8	7.5

Source: Based on application of $64/pupil cost to Scenarios 1 and 2.

The costs of the high-ambition scenario represent a small share of national income, but a significant budgetary burden. Financing Scenario 1 would require incremental annual financing of 0.17 % of GDP for LICs and 0.03% for LMICs for five years (based on 2023 national accounts). When viewed through the prism of national budgets, the financing effort looks more exacting. Education budgets provide a reference point. Based on the share of GDP currently spent on education, LICs would need to increase budgets by around 25 % or 5% annually and LMICs by 5% or 1% annually. For governments, especially in LICs, already struggling to maintain the real (inflation adjusted) value of education spending, the financing requirements for a major scale-up of school feeding would pose immediate fiscal challenges.

Comparisons of per pupil costs underscore the immediate significant budgetary implications of ambitious scale-up scenarios. In 2021, governments in LICs and LMICs, respectively allocated $54 and $337 per pupil through their education budgets (World Bank, 2023). Expressed differently, the $64 inflation-adjusted cost for school meals provisions would represent 118% of per pupil spending in LICs and 19% for LMICs. Because per pupil spending is lower at the primary level, the additional financing required would represent a greater share of current provision. It should be emphasised that school feeding is not intrinsically an 'education budget' line item given the multiple benefits that come with public spending. Even so, most school feeding programmes are currently housed in education budgets.

Current budget envelopes for school feeding would need to be greatly expanded. According to the WFP data, LICs allocated $511 million and LMICs $4.6 billion to school feeding in 2021, with just over half of the LICs' allocation financed by aid (WFP, 2023). Meeting the cost of the 60% coverage scenario from domestic resources would require a four-fold increase in budget allocations

for LICs. Budgets of LMICs would need to rise by almost two-thirds. These are average figures for the respective economic groups. Countries with lower rates of school meal coverage and large populations in the relevant age groups would face higher costs.

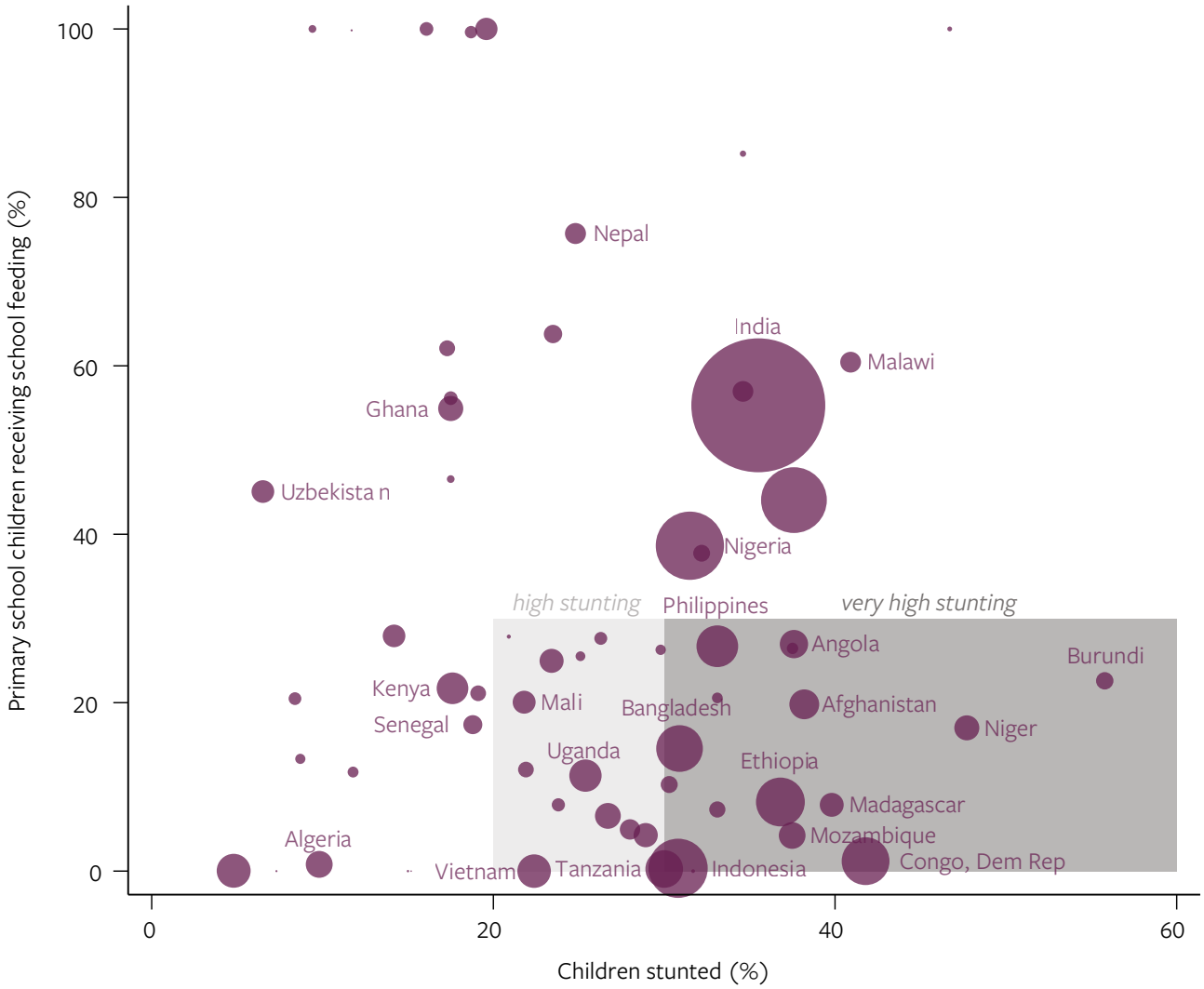
4.5 Reaching the most deprived children – the case for 'progressive universalism'

Even a scale-up consistent with our high-ambition agenda would leave many children beyond the reach of school meal programmes, but with equitable delivery it could have transformative effects. Children living with hunger and poverty will get the greatest benefit from expanding school feeding programmes. It follows that the impact of any scale-up will be magnified by a strong focus on equity. In Section 1 we estimate that among the 5- to 14-year-old population in LICs and LMICs, there are 423 million children living on under $3.65/day and 400 million children in households experiencing moderate or severe food insecurity. Some of these children are out of school. But as enrolment rates increase with more disadvantaged children entering education, the benefits and wider equity effects generated by school feeding would increase.

Low coverage levels point to an opportunity to reach a large number of highly disadvantaged children. An earlier study used a range of filters to capture the number of children in school living in countries marked by high levels of overlapping deprivation in nutrition and poverty (Drake et al., 2020). Our approach is more limited. To illustrate the potential for reaching large numbers of children through a scale-up of school feeding programmes, we first identify countries in which current coverage is less than 30%.[19] We then introduce thresholds marking high levels of poverty and stunting set at 20%. The thresholds are arbitrary and illustrative. They provide a benchmark for estimating the number of children of primary school age living without access to school meals in countries characterised by high levels of vulnerability. These are children who could be reached with increased coverage and higher enrolment. Figure 11 and Figure 12 map the coverage against the relevant deprivation indicators, with the shaded areas indicating countries with low coverage and high levels of deprivation.

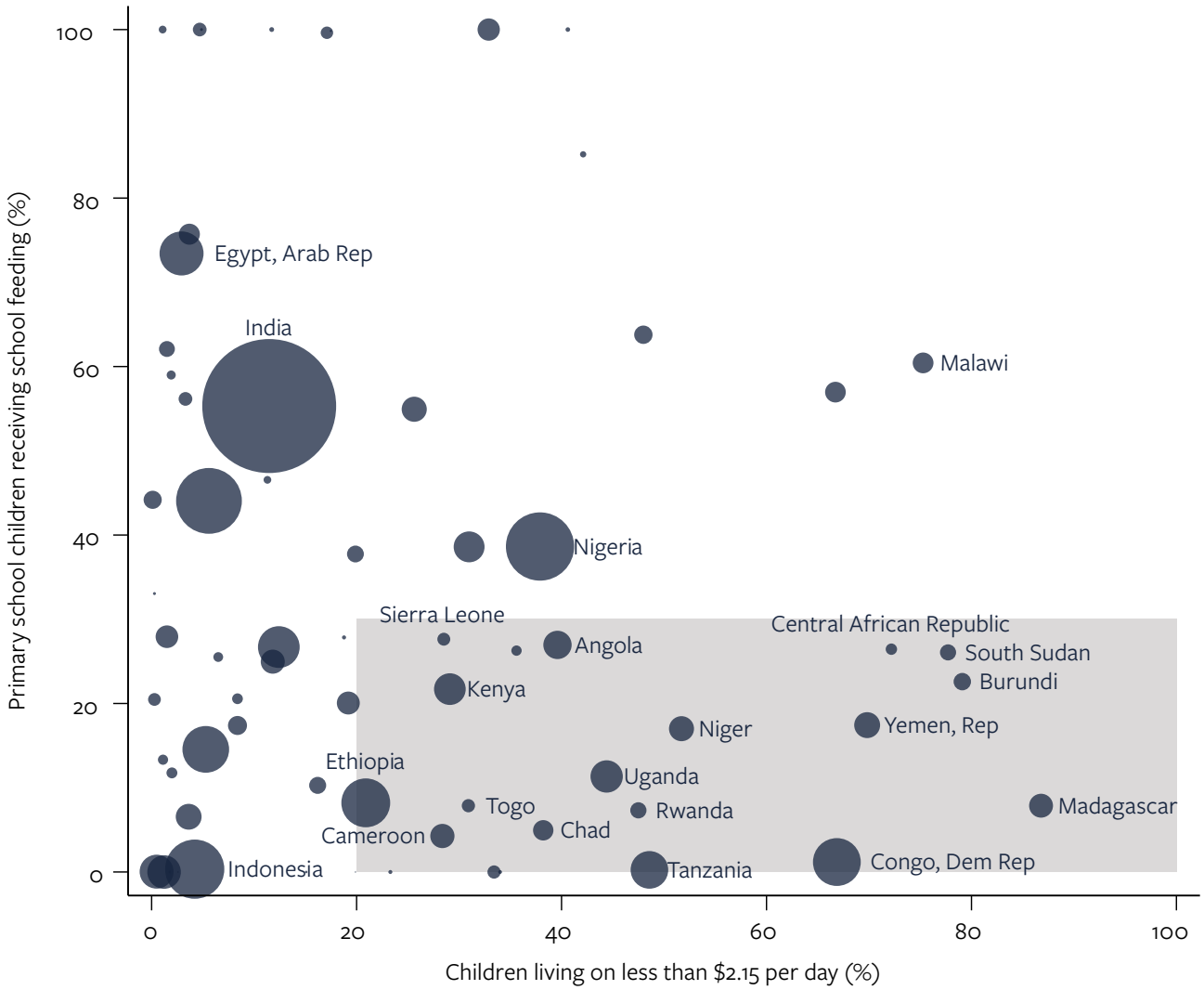
Figure 11 School meals coverage and stunting

Shares of children in primary education receiving school meals and incidence of high/very high stunting



Source: WFP (2023) for coverage among children attending primary school; UNICEF, /WHO and /World Bank (2023) on stunting; primary school age populations derived from UN Population and reflected in the size of country bubbles.

Figure 12 School meals coverage and child poverty
Share of children in primary school receiving meals and incidence of $2.15 (2017 PPP) child poverty



Source: WFP (2023) for coverage among children attending primary school; Salmeron, Gomez et al. (2023) on monetary poverty; primary school age populations derived from UN Population and reflected in the size of country bubbles.

The picture that emerges from the exercise demonstrates the potential to reach a large number of the poorest children in the world. The 49 countries in the shaded areas mark low coverage with high deprivation in either poverty or stunting – or, in the case of 16 countries, both indicators. To summarise the findings on the number of primary school-age children lacking access to school meal programmes in countries with low coverage rates, there are:

- 163 million children live in countries with high stunting rates, including 115 million in countries with 'very high' rates of over 30%,
- 110 million children not covered by school feeding live in countries with high poverty,
- 80 million children not covered by school meals live in countries marked by overlapped high rates of stunting and poverty.

These figures illustrate the potential to reach large numbers of children through school feeding in low-coverage countries, but they should not be read as indicative of need. Many millions of children lack access to school feeding in countries with much higher coverage levels – and a large proportion of those counted as 'covered' receive poor quality meals that do little to improve their nutritional status.

Whatever the global target for school feeding, familiar debates about 'universal versus targeted' approaches will inevitably follow. The case for targeting as a means of allocating scarce resources is grounded in an application of the idea of redistributive justice in areas marked by scarce budget resources. Spreading resources more thinly to achieve universal school feeding, so the argument runs, means less for those in greatest need. Targeted approaches offer a pathway to deliver more for the poor (Hanna, 2018). The case for universalism is based in part on the difficulties associated with targeting. Wherever the threshold is set, there will be errors of inclusion (benefits leaking to the non-disadvantaged) and errors of exclusion (benefits bypassing the disadvantaged) (Cornia and Stewart, 1993). Moreover, even if targeting makes sense in principle, in practice governments may lack the data and institutional capacity to identify and reach those identified, and targeting can be costly (Kidd et al., 2023a; Savchuk, 2012). Wider political economy considerations with a relevance to school feeding also come into play. Although there may be efficiency and equity grounds for targeting, universal approaches that achieve a wider dispersion of benefits may elicit more public support for better services. As Amartya Sen has written, there is a political economy of targeting in which 'benefits meant exclusively for the poor often end up being poor benefits' (Sen, 1992).

While the debates over universalism and targeting are often marked by strong ideological undercurrents, both approaches have a role to play in advancing social justice. Universal coverage makes sense for essential social services, and needs-based targeted transfers are appropriate for social welfare support, such as cash transfers (Devereux, 2016). In environments marked by high levels of undernutrition, child poverty, and inequality in education, there are strong grounds for considering school feeding as an essential service. Beyond the many data gaps which limit the scope for accurate targeting, the selection of targeting criteria governments with potential trade-offs and dilemmas (Devereux et al., 2017). This is illustrated by recent research from Kenya that captures the very different consequences that would arise from the application of criteria associated with education deprivation (as measured by school attendance), stunting, and childhood poverty. The weight attached to the incidence of deprivation as distinct from the headcount numbers affected also has marked effects (Box 3).

Box 3 The dilemmas of targeting – evidence from Kenya

Research from Kenya illustrates the complexity of targeting to achieve greater equity. The government has set a course for universal provision of school meals in primary education by 2030 but is scaling up provision in the face of severe budget constraints. The tension between ambition and fiscal capacity has turned a spotlight on equity, but the application of targeting criteria will come with high risks of exclusion.

School attendance is an indicator of deprivation. Currently, around 5% of Kenyan children aged 6 to 13 years are out of school. These children are highly concentrated in four arid counties and one semi-arid country. If school feeding is viewed principally as a mechanism for increasing school attendance, there would be a strong case for geographical targeting.

Stunting is much more widely dispersed. It affects 1.2 million children under the age of five – 18% of the total. These children start school with the disadvantages that come with chronic undernutrition in their first 1,000 days. Stunting *rates* are highest in arid and semi-arid counties. Stunting rates in Nairobi are well below the national average, but population size means that the county accounts for more stunted children than the four arid counties combined.

Tensions between incidence and headcount deprivation indicators are even more marked with respect to poverty. Kenya has two national poverty bands, one for general poverty ($30 and $56 for rural and urban areas, respectively) and a more stringent 'food poverty' threshold (respective $18 and $22 for urban and rural areas).[20] Around 40% of the country's children – 23 million in total – live in households categorised as 'poor' and 30% in households categorised as food poor. While Turkana (a semi-arid county) has a poverty rate of around 80%, Nairobi has by far the largest population of poor children, with around 2.3 million affected. Targeting by the depth of poverty rather than headcount numbers, or vice versa, would have very different distributional implications.

Kenya's analysis also illustrates the potential for school meal programmes to materially affect poverty levels. Simulation analysis based on data from the Kenya Continuous Household Survey (2021) found that a universal transfer with a value of around $1 a month through school meals would lead to a 12% reduction in food poverty, reflecting the large number of children in households just below the poverty threshold.

To the extent that any broad lessons can be drawn from the Kenya analysis, an important conclusion is that a rigid model based would be likely to exclude large numbers of children in acute need of support. The alternative is to work towards universal coverage while applying broad-based equity in the scale-up process, as envisaged under the current Kenyan strategy.

Source: Faila, (2024).

While recognising that targeting in environments marked by high levels of deprivation and limited real-time data comes with risks of exclusion, the principle of 'progressive universalism' can serve as a useful guide to policy. Given the harm inflicted by hunger, poverty and unhealthy diets on the education, health and life chance of children in LICs and LMICs, school feeding can be seen as an essential service and an investment in national human development. However, in a constrained fiscal environment, there is a premium on ensuring that the poorest and most disadvantaged children secure the biggest gains the earliest as countries progress towards the goal of universal coverage, rather than waiting for a trickle-down effect (Gwatkin and Ergo, 2011). As the Preamble to the Sustainable Development Goals states, 'we will endeavour to reach the furthest behind first'. Working towards universal provision while prioritising the most disadvantaged through broad-based targeting in any scale-up offers a route towards that objective.

There are mechanisms to translate equity principles into practice. One broad approach applied in countries with universal coverage – such as Brazil, Bolivia and India – is to limit provision to children in public schools, who are less likely to come from high-income households. Broad-based targeting approaches have included the identification of schools serving deprived communities (South Africa), geographic areas marked by high levels of food insecurity (Kenya), and districts characterised by multiple disadvantages (Bangladesh). New technologies have created opportunities for efficient low-cost targeting. An example is Togo's Novissi programme, which used a mix of geospatial data, phone-based surveys, administrative data and machine learning algorithms to identify the country's poorest 100 cantons and deliver digital cash transfers to almost one million people as part of the Covid emergency response (Lawson et al., 2023; Government of Togo, 2024). Such an approach could help ensure that, in any scale-up plan for school feeding, the most disadvantaged children are placed first in line for provision.

5 National budgets and delivery costs: how governments can expand school feeding

This section of the report looks at national school feeding budgets, country-level costing exercises and evidence from programme delivery in humanitarian contexts. We start with an overview of global budget allocations, which provide a benchmark for assessing the affordability of our scale-up scenarios. We then provide a snapshot of national budgets to illustrate the variety of financing arrangements that underpin current programmes. National costing studies provide governments with the detailed, granular information they need to plan budgets for any scale-up. We look at evidence from two such studies for low-income countries. The section concludes by looking at the gap between the finance required to deliver quality school meals and the finance available in the humanitarian contexts that define many of the countries in which school meals are needed to support wider nutrition, poverty reduction and education goals.

We emphasise the limitations of viewing the financing of school meals through the prism of national budget allocations. Reported budget allocations provide insight into the priorities of governments. However, budget execution may not reflect allocations, creating gaps between nominal provisions and real financing. Countries also vary enormously in what they finance through school meals, both with respect to the content of food baskets and in the regularity of provision. The discrepancies limit the scope of the cross-country comparison. Variations in national cost structures linked to geography, procurement and delivery models, food markets and other factors are an additional limitation. In all these areas, more national research and planning analysis is needed to develop a more granular picture of cost structures.

For all of the caveats, budget allocations provide an important, if partial, window on school meal financing. At the global level, there is a significant gap between current allocations and what would appear to be the minimum requirements for financing high quality programmes. Mobilising the domestic and international resources needed to close that gap is an urgent priority and an issue we turn to in Section 5.

5.1 Global and national budget allocations

The World Food Programme provides budget allocation data and estimations for a large group of countries.[21] Budgets for school feeding in LICs and LMIC were estimated at $4.67 billion in 2021, or around 9% of the reported global budget allocation – a reminder of the misalignment between need and finance in school feeding.[22] That marked a rebound from the previous year, when many schools were closed, although national budget allocations in LICs for which comparative data is available fell between 2020 and 2022.

Reported budget allocations are well below the updated cost estimates for providing school meals. The average budget allocation per pupil in 2021 for both LICs and LMICs was estimated at $42/year (WFP, 2023).[23] That figure compares to the

$77/year inflation-adjusted update of the Gelli and Daryanani (2013) study, and the $64/year we apply to our global costing scenario. The gap helps explain the poor quality and limited coverage of many programmes. National budget data behind the WFP estimates indicate that around a dozen countries spend less than $11 per pupil annually on school feeding – a level that is difficult to square with even minimal quality provision.

National budget allocations and arrangements shed light on the wide range of financing arrangements at play behind the headline numbers. Table 5 provides a snapshot of the reported school feeding budgets in 10 countries. While the data should not be read comparatively, they illustrate the reach of current programmes and per pupil allocations. Measured in per pupil cost terms, universal coverage in countries like India and Brazil is likely to be a significant cost-deflator because of the vast economies of scale that can be unlocked.

India is a striking example of a country that delivers an effective, large-scale programme at low cost.[24] PM POSHAN is the world's largest school feeding programme, reaching 118 million children in preschool and primary education at a cost of around $28 per child over the course of the school year. National rules stipulate that food baskets must provide a meal comprising 400 calories and 12 grams of protein at the primary level, with higher levels of provision at upper primary. Programme planning is facilitated by an indicative rolling budget set for a five-year period, currently averaging $3.1 billion annually. The scheme is centrally sponsored, but states are mandated to provide around one-quarter of financing (including payment of cooks and a share of capital costs). Funding ratios vary between states.

Table 5 Selected school feeding programmes – reported annual budgets, numbers of children covered, and allocations per child*

	Country	Budgeted amount		Number of children covered (millions)	Number of days	Cost per child per year (US$)	Normalized cost per child per year (200 days)
		US$ million	Year				
Reported budgets for selected national school meals programs	Bangladesh	154.20	2024	3.5	200	44.06	44.06
	Bolivia	120.00	2023	2.3	180	52.17	57.97
	Brazil	2124.67	2024	40	200	53.12	53.12
	Ghana	84.05	2023	3.8	200	22.12	22.12
	Guatemala	189.00	2022	2.5	190	75.60	79.58
	India	3316.96	2022	118	200	28.11	28.11
	Kenya	40.96	2022	2.5	135	16.39	24.27
	Nepal	87.00	2023/24	3.3	180	26.36	29.29
	Nigeria	449.28	2023	10.4	200	43.20	43.20
	Philippines	210.57	2024	3.5	220	60.16	54.69

Source: National budget documents and school feeding estimates.

Financing rules for PM POSHAN include targeted support in the form of increased rates for districts with high levels of anaemia, and supplementary cost provisions for north-eastern and mountainous states (Government of India, Ministry of Education, 2022).

The cost profile for school meals delivery in India reflects an administrative system that combines devolved decision-making with national regulation, underpinned by an extensive food procurement infrastructure. PM POSHAN is executed through national and state level ministries of education.[25] While national rules dictate the protein and nutrient content of school meals, participating states, and in some cases local governance institutions, are authorised to make decisions on food purchase arrangements. The scheme is monitored at the national, state, district, and school levels, in the latter case by members of parent-teacher associations and local organisations (GCN, 2021). The Food Corporation of India (FCI) occupies a pivotal position. One of the world's largest food procurement agencies, the FCI typically purchases10% to 20% of India's cereals output at a minimum support price. It supplies grains for nutritional and other social protection programmes through a heavily subsidised Public Distribution System (PDS) (George and McKay, 2019). Transportation rates from FCI warehouses to schools in states marked by low population densities, poor infrastructure, and hard-to-reach populations are subsidised at PDS rates, with rates for other states capped.

As in India, Brazil's school meal programme (PNAE) combines federal and devolved financing, but with a distinctive focus on smallholder farmers. The PNAE is universal for all children in public schools and educational facilities up to the higher secondary level. Following several years of deep cuts in the real value of federal funding under the government of Jair Bolsonaro, the incoming government of President Luiz Inácio Lula da Silva restored school feeding to a central place in a revamped national strategy for eradicating hunger. The budget for 2024 was set at $1.14 billion, or $56 per pupil – an increase of over 30%.[26] Federal rules stipulate that school meals must cover at least 15% of daily nutritional needs, with at least three-quarters provided in the form of fresh produce and an upper limit on ultra-processed foods (Government of Brazil, 2020). Under a 2009 law, at least 30% of procurement must come from smallholder farmers. While legislation governing the PNAE requires implementing municipalities to tender for purchase from the lowest cost providers, the FNDE sets procurement prices for smallholder farmers, an exercise that involves balancing the twin priorities of delivering affordable food to schools with a fair price to farmers. While there are tensions between the two priorities, school meal procurement is firmly established as an element of a wider system of procurement aimed at supporting rural livelihoods (Sidaner et al., 2013; Soares et al., 2013).

States and municipalities play an important role in co-financing school feeding. Federal government budget allocations under the PNAE are directed solely to the purchase and delivery of food, with wider costs covered by other funding mechanisms and devolved finance. Municipal and state contributions in 2024 are around $1 billion, with marked variations. The annual budget for São Paolo reports planned spending of $50 million, rising to $70 million for both Bahia and Minas Gerais, for example (Government of Brazil Ministry of Education, 2024a; 2024b). Devolved administration means that the '30% rule' on procurement from smallholder farmers represents a floor rather than a ceiling. Cities such as São Paulo, Curitiba and Belo Horizonte

consistently exceed that target, while both São Paulo and the state of Paraná have set the target of 100% organic procurement by 2030. Some cities – such as Santarém, a small city in the state of Pará – also gear up procurement to promote indigenous agriculture. Public participation is built into the system through devolved management committees linking federal, state and municipal entities to a School Meals Council (CAE) that includes representatives from teachers, students, and parent bodies and is responsible for monitoring the purchase of products, the quality of the food provided, and the evaluation of delivery (da Silva et al., 2020).

Some countries have struggled to mobilise devolved financing. Nigeria's National Home-Grown School Feeding Programme (NHGSFP), the largest in Africa, began in 2016 and now reaches around 10 million children. Provision is limited to primary grades one to three (39% of the enrolled primary school population). The programme is entirely funded by the federal government (GCNF, 2022). While average spending per pupil is relatively high, there are uncertainties about the level of delivery in schools. An understanding with states that they would finance grades four to six has produced limited and fragmented results. Under the reforms introduced in 2023, school feeding has been placed under the Ministry of Education to increase reach and efficiency.

Budgets sometimes reveal a gap between ambition and financing. In Kenya, the government has set out a bold plan to expand a geographically targeted school feeding system, which currently reaches two million children, to achieve universal primary coverage for 10 million children by 2030. In the 2022/23 fiscal year, the government increased the national school feeding budget from around $15 million to $40 million with the aim of reaching four million children with hot meals. However, a detailed cost analysis revealed a gap between budget provisions and costs, magnified by food price inflation. The budget was estimated to be sufficient to provide a hot meal for 70 days out of the 180 days stipulated in the policy, or for 1.6 million children out of the target of four million (Naconek and McKinsey, 2023). In Ghana, the school feeding programme is integrated into the national budget, but near-constant disputes between the government and private catering agencies contracted to deliver school meals over price and disbursement point to severe financing constraints (see Section 3).

Several countries finance their budgets through earmarked taxes. While most governments finance school feeding out of general tax revenues, earmarked taxes play a role in some countries**.** Two of the most striking examples come from Latin America (SFI, 2022). Bolivia is one of the few LMICs providing universal coverage at pre-primary, primary and secondary levels. More than 85% of the programme is financed through a hydrocarbon tax. Guatemala, which has a similar level of coverage, finances the programme entirely from the assigned revenue streams from VAT. Tax design has an important bearing on equity. Although public spending on Guatemala's school feeding programme is progressive because it is restricted to public schools serving poorer children, VAT is a regressive tax that falls more heavily on the poor.

Some programmes have emerged principally as part of a wider safety net. While lacking a national school feeding programme, the Philippines operates one of the largest school nutrition safety nets in the world, targeting children who are stunted and wasted. The Schools Based Feeding Programme is part of the Philippines Development Plan (2023/2028). It targets 1.6 million children in kindergarten

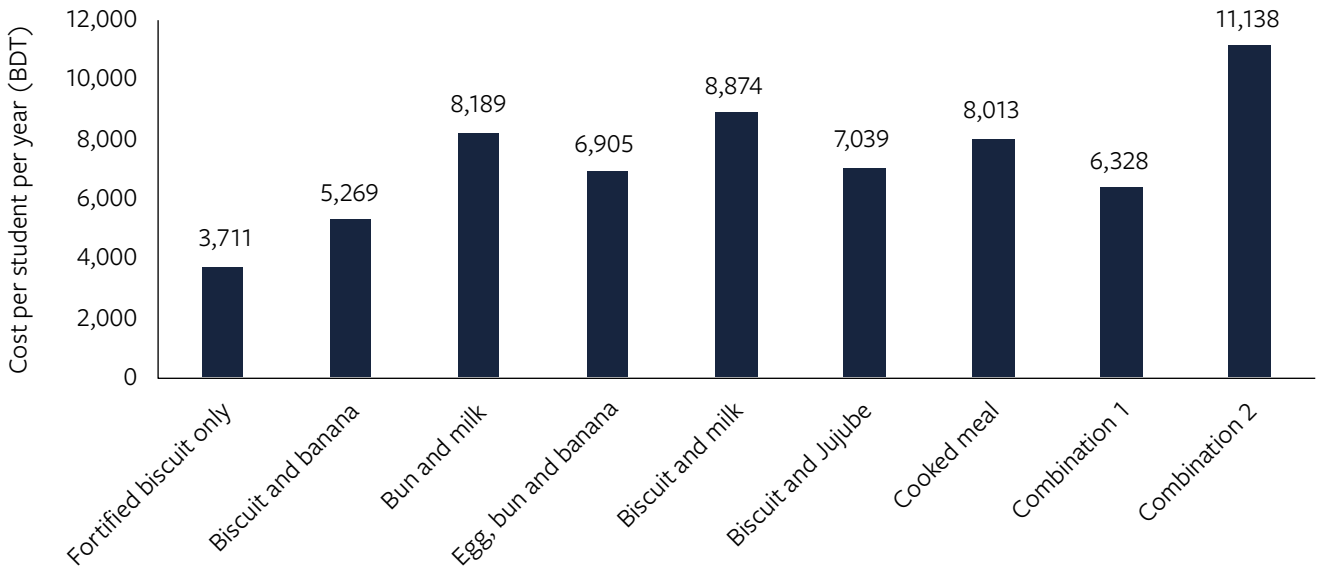
and elementary schools assessed as wasted or severely wasted at the beginning of the school year, providing hot meals (USDA and GAIN, 2022). Administered by the Department of Education, the budget for fiscal year 2024 has been set at $208 million and the number of days meals are provided was increased from 130 to 175 (Department of Education Government of the Philippines, 2023: 339).[27] The effectiveness of the programme is difficult to determine. The effectiveness of targeting arrangements is uncertain and the tracking of finance through the responsible local government agencies appears limited.

Setting national budgets in countries marked by wide variations in cost profiles is a challenge. Nepal has been a global leader in expanding school feeding. Between 2017 and 2002, the number of children who received school meals increased fivefold to more than 3.3 million. The 2023 budget amounts to $70 million, or $29 per child – equivalent to around 6% of spending on education. However, Nepal faces high costs in providing school meals in mountainous areas marked by low population (and school) density, low agricultural production, and poorly integrated markets. WFP is now providing school meals to more than 100,000 students in three remote districts, supporting a government strategy to explore the feasibility (and cost implications) of applying a different food supply modality in mountainous areas, also under the national school feeding programme, where food procurement takes place further away and school food is transported to schools.[28]

The Bangladesh programme is instructive because it is geared towards a rapid scale-up of school feeding. During the Bangladeshi past decade, the government has assumed an increasing share of financing and delivery responsibilities for a school meal programme operated with the WFP. Until 2022, delivery took the form of targeted provision for three million children in 104 poverty-prone districts (*or upazilas*) in the form of fortified biscuits that provide around one-third of daily calorific requirements and three-quarters of micronutrients. The government is now considering proposals to establish a national programme that provides a more diverse diet to 3.5 million children in 150 districts. The estimated financing required is around $40/pupil over the school year.

The Bangladesh case also illustrates the sensitivity of cost estimates to the selection of food baskets. Under the proposed national school feeding project, the government will finance a combined menu that includes UHT milk, seasonal fruits, boiled eggs, buns and fortified biscuits (combination 1 in Figure 13). This programme and budget are based on an in-depth feasibility study that analysed various options, informed by parental views. The study arrived at the pack meal menu as the optimal combination of good nutrition, manageable logistics, a highly developed manufacturing capacity for fortified biscuits, and cost considerations. Another school feeding basket built with cooked meals (Combination 2 in Figure 7) would have almost doubled the costs due to the need to develop the school feeding infrastructure (Development Research Institute, 2022).

Figure 13 Bangladesh – the composition of the food baskets and costs



Source: Development Research Institute (2022).

Municipal initiatives play an increasingly important role in financing school feeding. In Kenya, the drive to achieve universal school feeding has been supported by a programme financed by the Nairobi City Council aimed at 250,000 children in Nairobi, with a 2023/24 budget of $12.8 million (Kiru and Gelli, 2023). The financing model could have a wider application for governments seeking to scale up school meals. Working on a co-financing basis with central government, the Nairobi City Council allocated $13 million to the programme in its 2023/24 budget, including the capital costs of building 17 kitchens. The programme will be delivered by Food4Education, a social enterprise operating a business model that combines parental contributions with and philanthropic support. Parental contributions typically account for around half of the value of school meals – around $0.30 cents in 2023 – in Food4Education programmes, with around 10% of children identified as coming from households unable to pay provided with free meals through subsidies from corporate and international donors. In the case of the Nairobi programme, government and municipality co-financing reduces the parental contribution to around $0.05 per day for a meal providing food valued at $0.25 (SFI, 2023).[29] Other municipalities in the region are also scaling-up provision. In Ethiopia, Addis Ababa municipality has initiated a large-scale school feeding programme, the largest in the country, reportedly reaching 700,000 children and financed entirely from municipal revenues.[30]

Approaches to parental and community contributions for school feeding programmes vary across, and often within, countries. The most effective school feeding programmes combine responsiveness to local needs with local ownership and mechanisms for community engagement. In some cases – Brazil and India are examples – governments assume the overwhelming bulk of financing responsibility. However, parental and community contributions in cash or in kind (in the form of food and/or labour, building materials for school kitchens, and firewood, for example) are a mainstay of delivery in most LICs and LMICs. Some countries – such

as Rwanda (see below) – have formal cost sharing arrangements in place. In others, community contributions are delivered through informal mechanisms. While it is often difficult to establish cost-sharing ratios between public spending and parental contributions, the latter represents a critical source of finance. In Sierra Leone, for example, community contributions represent around one-half of planned financing. In Tanzania, the national policy envisages full parental funding.

Cost-sharing arrangements have important implications for equity. Without cost-sharing, school feeding programmes would not operate in many countries, and any public spending contribution represents a transfer to households. The value of the transfer is effectively the price of the food provided without the administrative costs incurred in the delivery. Parental contributions can be interpreted as evidence of a 'willingness to pay' and a source of local ownership. But there are risks for equity. Charging for school meals can also reinforce inequalities and exclude children from poorer households. Evidence from the health sector points to user fees as a source of reduced demand for basic services, for example (Yates, 2009). Similarly, unpaid female labour can add to already excessive work burdens, limiting other income-generating activities in the process. Ultimately, the equity effects of parental contributions will be determined by the effectiveness of targeting for exemptions or reduced contributions, and by the resources that are mobilised to reach the children affected. When developing scale-up plans, governments need to consider the level of financing consistent with the goal of expanding coverage among children from poorer households. Monitoring has a key role to play. In Rwanda, the government initially required parents to pay 60% of the costs of the national school feeding programme as it moved towards universal provision, but in 2022 issued guidelines reducing parental contributions to 10% in recognition of the affordability challenges facing poor households (Republic of Rwanda Ministry of Education, 2022).

5.2 The costs of universal provision through country studies – evidence from Rwanda and Sierra Leone

Detailed country-level analysis carried out by the World Food Programme at the request of governments in Rwanda and Sierra Leone offers valuable insight into the prospective costs of scaling up school feeding. Both countries have set a course for universal school feeding, reflecting the strong commitment of the governments. However, the context for delivery varies enormously between the two countries. Rwanda is a low-income but high growth economy with developed school infrastructure and high enrolment levels. Sierra Leone is a poorer country (the sixth poorest in the world in 2023), with a less developed school infrastructure, lower enrolment levels, and higher delivery costs in some parts of the country.

Although Rwanda remains an LIC, it is the only country in Africa that has established universal school feeding. Under the National School Feeding Programme, three separate delivery platforms were integrated in 2020 into a single framework for universal school feeding, increasing the number of students covered from 680,000 to 4 million students today. The national budget increased sixfold to $54.7 million in 2022.

Sierra Leone aims to achieve universal school feeding in the mid-2030s. The National School Feeding Programme is overwhelmingly financed through the national budget. It currently serves 700,000 children and has one of the highest coverage rates of any low-income country. The government has set a course for universal coverage by 2037, with domestic finance dominating (Box 3).

Cost studies carried out by the World Food Programme illustrate the cost profiles facing Rwanda and Sierra Leone as they work toward universal school feeding. The financing estimates cover the capital and recurring costs of the school kitchen and storage infrastructure, water, sanitation and health infrastructure (WASH), administrative and procurement costs, transport and the cost of food baskets, as well as implementation costs, including cooks and fuel (Table 6). Annual costs in 2023 US dollars, standardised for a 200-day school year, are provided in Table 4. They are estimated to be $76 per child annually for Rwanda. For Sierra Leone, they increase to $90 per child annually under a scenario to achieve universal coverage in 2037, reflecting the higher upfront infrastructure investments required, including for water and sanitation (Box 4). In this scenario, the number of children who receive school meals would increase to 1.7 million by 2032, increasing the national coverage rate to 76% on a trajectory to universal coverage.

Table 6 Estimated school meal financing costs – Rwanda and Sierra Leone

Cost item	Estimated costs 2023 (US$ millions)		Remarks
	Rwanda	Sierra Leone	
Number of learners covered	4,035,700	700,000	
Number of school meal days	195	190	
Food and associated costs		39.9	Sierra Leone figures are based on the 15-year expansion scenario
Food cost	218.9		included in 'food and associated costs'
Transport of food to schools	3.7		included in 'food and associated costs'
Implementation costs	28.9	5.74	Cooks, fuel, equipment, plates, utilities, etc.
Management	0.3	1.43	
Monitoring, reporting and evaluation	1.3		partially included in food and associated costs
Capacity strengthening (systems, training, platforms, regulations, etc.)	0.8		included in 'food and associated costs'
School feeding infrastructure (investments)	6.6	2.75	Storage, kitchens and stoves
School feeding infrastructure (running)	7.8	0.27	Maintenance and depreciation
Total cost without WASH	**268.21**	**50.10**	**Sierra Leone:** Of the total, the government is presently contributing US$ 32.7 million, and the parent/community contribution is valued at US$35.4 million – the remainder is a funding gap.
Cost per learner per year without WASH (US$)	**66.46**	**71.57**	
Standardised costs per learner per year (200 days)without Water, Sanitation and Hygiene (WASH) infrastructure	**68.16**	**75.33**	
WASH infrastructure (investments)	19.56	2.86	Toilets, handwashing and water filters (Rwanda) or boreholes (SL)
WASH infrastructure (running)	13.38	7.31	Maintenance and depreciation
Total cost with WASH	**301.15**	**60.27**	**Rwanda:** The government is presently providing US$99.45 million and parents US$22.86 million; the remaining funding gap of US$178.84 million is foreseen to be closed over 8 years by (a) greater efficiencies, (b) increased government funding, and (c) private sector contributions.
Cost per learner per year including WASH (US$)	**74.62**	**86.10**	
Standardised costs per learner per year (200 days) including WASH	**76.54**	**90.63**	

Source: Haag (2022)

Box 4 Sierra Leone – the pathway to universal school meals

The government of Sierra Leone sees school feeding as a building block for universal primary education. Following a major expansion of enrolment in primary schools after the introduction of free primary education in 2018, many children have entered school as first-generation learners, carrying the burdens of malnutrition, poverty and food insecurity. An Integrated Home-Grown School Feeding Programme (IHGSFP) links schools with local farmers as part of a wider food security strategy, while the national school feeding policy plans to expand a self-sustaining financing model grounded in the national budget.

An Investment and Financing Plan (IFP) drawn up at the request of the Sierra Leone government provides an insight into potential costs. Three scenarios have been developed to provide school meals to all preschool and primary school children within 10, 15 and 20 years. The second scenario explores the cost of achieving universal school feeding by 2037. The costing estimates are geared toward the food basket – around $0.30 per pupil – implementation (transport, fuel, cooks and school level management), school feeding infrastructure for cooking, water and sanitation, and some basic health interventions.

The shape of the cost curves varies with the time horizon selected for universal coverage. Annual costs over the first 10 years decline from $133 million in the scenario for universal provision by 2032, to $95 million in a scenario that delivers universal coverage by 2042 (using 2022 as a base year). Under the 15-year expansion scenario, costs per child per year are estimated at $75.3 excluding WASH, and at $90 including capital and running costs for WASH infrastructure (see main text).

What would it take to finance universal coverage by 2037? The IFP includes a range of cost savings that could be secured through efficient procurement, cost-effective food baskets (with more weight attached to tubers and orange sweet potatoes), and optimal mixes of locally produced versus imported foods. In 2022, the government allocated $27 million to school feeding. Assuming a cost increase due to increasing the number of pupils and schools covered, government and partners would need to mobilise on average an additional $26-40 million annually to 2032, depending on the extent of efficiency savings.

Although the financing gap is large in relation to the current budget, it could be closed through the combined effects of economic growth, an increase in revenue-to-GDP ratios, and aid financing. Climate finance could also play an expanded role. Currently, IHGSFP schools almost exclusively use firewood as fuel for meal preparation, cooking on open stoves. IFP calculations suggest an average cost of US$ 1.37 per child per year for this item, which is currently funded by the community. An investment of around $12 million by 2032 would cut carbon emissions, save trees, reduce cooking time, and protect cooks and children from the particulate matter produced by traditional stoves.

Source: Haag, (2022a).

5.3 The humanitarian financing gap

Fragility, conflict and violence (FCV) are inseparable from the challenges of poverty, hunger and food insecurity. Extreme poverty is increasingly concentrated in states affected by FCV, with the share expected to increase to 59% by 2030 (Chrimes et al., 2024). Severe food insecurity is twice as prevalent in these states, including 18 countries, all LICs and LMICs, identified as 'hunger hotspots' with large populations at risk of acute food insecurity (FAO and WFP, 2023). For children, living in FCV states compounds the risk of poverty and hunger, with implications for their health and education prospects. Research by Education Cannot Wait estimates that around 175 million children were living in crisis conditions from pre-school through to lower secondary levels in 2023. School meal programmes can provide these children with a lifeline to restore hope.

School meal interventions deliver results in humanitarian contexts. Well-designed school feeding programmes can improve school attendance and nutrition, even in insecure environments.[31] An evaluation of programmes in four humanitarian settings found that school feeding had consistently contributed to increased enrolment, retention in school, dietary diversity and food security (WFP, 2022). In Mali, a school meal programme led to a 10 percentage points increase in enrolment and an additional half-year of completed schooling in conflict-affected areas, while reversals occurred for children in a control group (Aurino, Trenchant, and Diallo et al., 2019). Humanitarian financing for school feeding is overwhelmingly channelled through international aid.

The urgent need to expand school meals in humanitarian settings is reflected in the WFP strategy. WFP is the largest food assistance provider in the world, including for school feeding in humanitarian emergencies. Its current management plan aims to directly assist 27 million children with school-based nutrition interventions, working with partners to reach an additional 121 million children by 2025 (100 million of them through governments and partner agencies). Many of these children face the risk of malnutrition related to humanitarian crises. In 2022, WFP programmes reached a reported 22.1 million children in 'hunger hotspot' countries such as Haiti, South Sudan, and Yemen.

The WFP programmes illustrate the distinctive financing challenges posed by humanitarian provision. The international humanitarian system is marked by a vast gap between needs and financing. In 2023, humanitarian agencies were able to reach only about two-thirds of the population identified as being in need (OCHA, 2023). WFP school feeding programmes are consistently underfunded in relation to the number of children targeted for support.

For this report, we examine data covering 22 Category 1 WFP programmes for 2022. These programmes target the most vulnerable populations.[32] They represent 'urgent situations in which there is clear evidence that an event or series of events has occurred which causes human suffering or imminently threatens human lives or livelihoods.' Category 1 programmes operate in areas marked by emergency levels of food insecurity and famine (Integrated Phase Classification Levels 4 and five).

The costs of delivering school feeding programmes in Category 1 settings vary enormously, but there are consistently large gaps between finance and need. Table 7 provides a picture of the cost of delivery reported by WFP in 22 countries. However, the WFP Annual

Performance Report for 2022 indicates that 76% of the target population was reached, while the food provided corresponded to 47% of established needs. Adjusting costs for full need financing would have required an increase in average spending from $46/child to $74.7/child. These figures are directly connected to the reductions in school feeding rations announced by WFP in some of the most severe humanitarian crises it responded to during 2022 and 2023 (WFP 2024).[33]

Table 7 School meal rations and costs – selected WFP programmes, 2022 (current prices)

Countries	Number of Rations	Total costs	Cost per ration (US$)	Cost per child per year (200 days of meals) – US$	Adjusted cost for full needs financing (US$)
Afghanistan	140,568,922	32,521,162	0.23	46.27	74.82
Algeria	6,474,919	1,438,448	0.22	44.43	71.85
Burkina Faso	35,335,391	6,719,790	0.19	38.03	61.50
Burundi	35,760,264	9,311,548	0.26	52.08	84.21
Cameroon	3,919,198	1,449,371	0.37	73.96	119.60
Central African Republic	16,509,370	3,184,346	0.19	38.58	62.38
Chad	27,356,534	7,980,758	0.29	58.35	94.35
Democratic Republic of the Congo	25,622,031	8,713,767	0.34	68.02	109.99
Guinea	13,792,027	3,019,662	0.22	43.79	70.81
Guinea-Bissau	22,692,513	3,295,336	0.15	29.04	46.96
Haiti	62,447,982	11,307,004	0.18	36.21	58.56
Iran (Islamic Republic of)	2,181,771	685,804	0.31	62.87	101.66
Liberia	5,307,556	1,092,028	0.21	41.15	66.54
Mali	17,699,189	4,317,856	0.24	48.79	78.90
Mauritania	7,071,270	1,409,798	0.20	39.87	64.48
Myanmar	28,200,301	4,793,730	0.17	34.00	54.98
Niger	36,286,150	10,110,486	0.28	55.73	90.11
Somalia	22,618,846	12,420,891	0.55	109.83	177.59
South Sudan	56,111,843	22,257,566	0.40	79.33	128.28
Sudan	124,494,410	18,834,358	0.15	30.26	48.93
Syrian Arab Republic	80,670,008	19,807,356	0.25	49.11	79.41
Yemen	162,858,634	30,776,210	0.19	37.80	61.12
Total:	933,979,129	215,447,277	0.23	46.14	74.60

Source: WFP reporting system

Binary distinctions between 'humanitarian' and 'development' financing can limit opportunities for the development of national programmes. Ethiopia's experience is a case in point. In 2020 the government, then lacking a national school feeding strategy backed by a budget, secured financing for a programme financed by the Global Partnership for Education (GPE). Renewed in 2022, the programme has now reached more than 200,000 children in districts marked by acute humanitarian needs related to conflict, displacement, and drought. The reported costs – around $71 per child – suggest a potential for scaling (Box 5). The home-grown school feeding model in this case appears to be more effective than food aid-based interventions.

Box 5 School feeding in a humanitarian environment – Ethiopia

Ethiopia's experience illustrates the potential for a humanitarian response to support the development of more comprehensive school feeding programmes.

The combined effects of school closures related to COVID-19, drought, and food insecurity have had devastating effects on education in Ethiopia, compounding the impact of malnutrition. In 2020, Ethiopia's government secured support from the Global Partnership for Education (GPE) for a $20 million programme that targets 163,000 children in 499 schools in 13 woredas (districts) in the Afar, Amhara, Oromia, Somali, and Tigray regions marked by high levels of displacement, food insecurity, and low participation rates in education. Administered by Save the Children with the participation of a national non-government organisation – the Ethiopian School Meals Initiative – the project was continued through an additional $10 million GPE grant in 2022 under its Emergency Accelerator Fund.

The programme provides a diverse and high-quality school feeding basket, geared towards local diets and agricultural markets. In the Amhara region, for example, it provides porridge made from maize, wheat, and soya beans for three days and split wheat and lentils for two days, supplemented by locally grown fruit and vegetables. The average cost of hot meals was around $0.15 per child.

Early evidence from the project is instructive – and encouraging. In the first phase, it reached more than 220,000 children, 37% above its target level. Unit costs per child amounted to $71.60 (2021 prices and exchange rates), based on 22 days of feeding over a period of nine months, or $0.36 per day per meal. Capital costs included the construction of 312 kitchens, along with rainwater harvesting systems and latrines.

Under the extended project, another 209,000 children have been targeted in 578 schools in 16 woredas. All the woredas fall under the national level hot-spot classification by the National Disaster Risk Management Commission (NDMRC), affected by either conflict or drought. The second phase of the project aims to support government efforts to develop school gardens and build links between schools and local farmers.

Local sourcing appears to significantly reduce procurement costs. All the food procured for the Save the Children project was purchased nationally, with an emphasis on local markets. In addition to providing income to farmers and traders, home-grown school feeding had the effect of reducing the costs of getting food to schools. Transport accounted for only 10% of the value of the food delivered.

There is a striking contrast to the cost profile of projects that provide in-kind food aid contributions. The McGovern Dole programme of the United States supports a wide-ranging school meal project in Ethiopia focused on Oromia and Afar. The budget is dominated by an in-kind contribution of American farm surpluses. Apart from missing an opportunity to link school feeding with rural livelihoods, one-third of the $15 million food budget for the project is accounted for by freight charges.

Sources: Government of Ethiopia/Save the Children, (2020); USDA and WFP, (2022).

6 Financing the scale-up – domestic resources and international cooperation

This section of the report looks at the opportunities for financing an ambitious scale-up of school feeding – and at the budget constraints facing governments. There are no fixed benchmarks to assess the affordability of expanding school meal programmes. What governments choose to invest in through public spending will reflect political decisions, fiscal circumstances, and the scope for drawing on international development finance. Similarly, levels of aid for school feeding will mirror the wider environment for development assistance and the degree to which donors see school meals as a priority. The immediate backdrop is not favourable. Slower growth, mounting debts, and limited revenue collection have created a funding squeeze in LICs and LMICs. Access to aid and affordable development financing is limited and donors currently do not view school feeding as a priority. Creating a financial enabling environment for school feeding will require fundamental changes, with national governments mobilising more resources and the international community stepping up support for nationally owned plans for scaling up school feeding.

6.1 A financing partnership for delivery

The costs of financing a scale-up of school feeding are significant in relation to current budgets. Our high-ambition scenario for achieving 60% coverage by 2030 illustrates the gap between current budget allocations and the financing needed to reach another 236 million children. This gap is widest in LICs, where demography and low baseline coverage drive a large financing deficit. The $1.1 billion annually required to achieve the 60% target is double the reported 2021 budget allocation, around half of which is financed by aid. LMIC budgets would face less stringent demands. Even so, the $2.5 billion annually required for achieving the high ambition scenario outcomes would represent a 60% increase over the 2021 budget allocation.

These budget gaps will rightly weigh heavily on the considerations of finance ministers. The case for expanded school feeding may be supported by compelling evidence on their human development impacts, and by cost-benefit numbers, but the long-term benefits have to be unlocked by near-term budget provisions. At a time when governments are struggling to maintain the real value of budgets for vital social sectors and the economic infrastructure needed to support inclusive growth, there is a risk of school meal financing being pushed to the back of a long queue. As we show below, national budget pressures will make it difficult for most LICs and LMICs to finance a major expansion of school feeding solely from domestic resources.

Cost-sharing between national governments and the international community is the key to a strong push for school meals. There is strong evidence that the international community should support national efforts to expand the reach of school feeding programmes. As highlighted in Section 3, school meals provide a practical vehicle for delivering the early results needed to support an SDG recovery, for supporting 'results-based' aid approaches, and to address the larger issues of food system reform at the core of global public goods agendas on climate change, sustainable agriculture, and healthy diets.

There are no simple formulae for establishing cost-sharing arrangements, but aid profiles provide a reference point. In 2021, aid represented 55% of reported budget allocations in LICs and 2% to 3% in LMICs. These are aggregate figures that provide a distorted picture of the importance of aid in LMICs because national budgets represent a greater share of financing in large countries (notably India). Based on average country budget allocations, the Global Child Nutrition Survey estimated that aid represented approximately 25% of school meal financing in LMICs (GCNF, 2023). It should be emphasised that aid share estimations are sensitive to the movement of countries across the LIC/LMIC divide.[34]

The current balance between domestic resources and international aid provides a guide for considering future aid requirements. If LICs financed half and LMICs three-quarters of the incremental cost of achieving our 60% coverage target, they would need to mobilise an additional $2.4 billion annually to 2030.[35] This would leave a financing gap of $1.2 billion annually. On an annual cumulative average basis, aid finance would need to cover around $3.6 billion of the $10.8 billion in total costs for our high ambition scenario.[36]

In practice, the balance between domestic resources and aid in any scale-up will have to be determined through nationally owned country planning. The LIC and LMIC groupings span countries facing diverse fiscal conditions. Current coverage of school meal programmes varies enormously, as will cost profiles for scaling up. Any partnership to scale up school feeding would have to be based on the development of credible national plans, including coverage targets, domestic budget commitments, and the identification of national financing gaps.

Increased aid for school feeding does not imply increased dependence on long-term aid. The governments in the School Meals Coalition rightly emphasise the importance of combining increased ambition with greater self-reliance. Reconciling these goals in an environment marked by limited fiscal space is difficult but possible. In a five-year scale-up plan, governments can set a course for expanding the share of national budgets over time financed through domestic resource mobilisation. However, if the objective is to deliver the early results needed to support an SDG recovery, development assistance would need to play an expanded role in the initial years. While there are risks of aid dependence, the development of social protection programmes in countries such as Ethiopia, Kenya and Pakistan demonstrate that the frontloading of aid can provide a catalyst for increased domestic financing (Watkins et al., 2024).

6.2 The fiscal backdrop

The case for an ambitious scale-up of school feeding cannot be considered in isolation. Governments in LICs and LMICs do not have a shortage of areas that deserve urgent public investment, including health, education, social and economic infrastructure, water and sanitation, and adaptation to climate change. As the 2030 SDG target date approaches and the cumulative backlog of SDG underachievement mounts, already large financing gaps are increasing across the full spectrum of goals (UNCTAD, 2023; Prady and Sy, 2019; Kharas and Bhattacharya, 2023). None of this diminishes the case for urgent action on school feeding, but even a cursory review of the SDG financing landscape shows that governments face immense demands with limited resources.

LICs and LMICs face major setbacks in their development prospects. Countries eligible for World Bank International Development Association grants and loans (generally LICs and LMICs) are still emerging from their weakest half-decade of growth since the mid-1990s. Per capita incomes for 2025 are projected to remain below their 2019 levels in one-third of IDA countries (Chrimes, 2024).

The fiscal space available to governments has shrunk dramatically since the Covid-19 pandemic. Budgets for health, education, social protection, and other key social areas face acute funding pressures. Governments are grappling with the need to direct an increasing share of revenues to interest payments on both domestic and external debt. High borrowing costs, restricted access to capital markets, and a slowdown in economic growth has hampered efforts to expand revenues. Many LICs and LMICs are seeking to reduce fiscal deficits, often through reduced spending (IMF, 2023b).[37] This is the backdrop to what the IMF has described as a 'big funding squeeze' on social sector spending (IMF, 2024). The marked disparity between fiscal space and the urgent need to spend more on human development threatens to obstruct an SDG recovery and to limit the scope of ambitious school feeding strategies.

External debt is at the heart of the funding squeeze. LICs and LMICs face a deadly combination of rising debt service payments, high refinancing costs and limited access to capital flows. Nine countries are already in debt distress. Another 51 are at high or moderate risk of distress (IMF, 2024). In 2022, countries eligible for the World Bank's IDA facility spent approximately $85 billion on debt servicing (World Bank, 2023). These repayments are crowding out public spending in critical areas such as health, nutrition and education. Servicing of external debt now exceeds health spending in sub-Saharan Africa. Development Finance International's *Debt Service Watch* estimates that IDA-eligible countries spent 16% of government revenue servicing publicly guaranteed external debt in 2023 (Hurley and Martin, 2024). For countries like Ethiopia, Ghana and Zambia, that figure rises to more than 20%. With significant Eurobond and external bank repayments looming in 2024 and 2025, the fiscal crunch will intensify, and external debt is not the only constraint. For IDA-eligible countries, the combined weight of domestic and external debt servicing in 2023 represented 48% of government revenue (Hurley and Martin, 2024).

School feeding programmes have not been immune to debt pressures. External debt is at the heart of the budget crisis in Kenya, which now threatens to delay or derail the government's commitment to universal school feeding (Aloo, 2024). Ghana was pushed into default in 2022. The government has been seeking a restructuring arrangement under the G20 Common Framework, but progress has been slow and social sector budgets have come under acute pressure. Although government funding for school feeding has increased, demonstrating a remarkable depth of commitment, inflation has eroded the overall value of transfers (IMF, 2023a). In Ethiopia, which has been seeking treatment through the Common Framework for three years, the government is under pressure to increase revenue while reducing budget spending, around half of which comprises subsidies and social transfers (UNICEF, 2023a). As the government seeks to negotiate an agreement with the IMF, there is likely to be a delay in the development of a national budget for school feeding.

The limited revenue base of governments has compounded the pressure on public finance. Most LICs and LMICs typically mobilise a small share of GDP through tax revenues, limiting their

scope to maintain fiscal space. Tax-to-GDP ratios average around 12% in LICs and 17% in LMICs (Gupta and Sala, 2022). These low tax collection rates reflect not only elevated levels of poverty and the large share of the informal sector in the economies of many LICs and LMICs, but also the wider institutional constraints, inefficiency, and inequity in tax systems.

6.3 Domestic resource mobilisation

Expanding domestic resource mobilisation is the most efficient route to finance school feeding programmes and other priority social spending, but tax reform takes time and institutional capacity. Most governments in LICs and LMICs finance school meal programmes out of general revenue. Increasing tax revenue-to-GDP ratios from their current (generally) low levels could have transformative effects. For example, recent research by the IMF argues that LICs and LMICs could raise an additional 9% of GDP through more efficient tax systems and institutional reform (Benitzez et al., 2023). That figure provides an exaggerated picture of what is feasible, certainly in the short to medium term. Tax reform confronts governments not only with technical challenges, but also with political economy and institutional constraints (Moore and Prichard, 2017). It is also intrinsically more difficult to raise taxes in environments with high levels of poverty and large informal sectors, especially during periods of economic slowdown. Analysis by ODI suggests that the feasible increase in tax-to-GDP ratios is around 2.6% for LICs and 4.6% for LMICs, or around $78 billion and $362 billion, respectively, in additional financing (Evans et al., 2023) – figures that point to a large untapped potential.

While tax reform does not offer simple policy options, some quick wins are possible. Simplifying the tax system, broadening the tax base, improving tax compliance, and using technology can make tax collection more effective. Governments currently provide a wide range of tax breaks, exemptions and other measures – the so-called 'tax expenditures' – that limit revenue collection, typically favouring high-income groups and corporate investors. These arrangements cost LICs and LMICs an estimated 2.5%of GDP (Redonda et al., 2022). Developing countries also lose revenues through transnational company tax practices such as profit shifting (declaring profits in another jurisdiction, which is technically legal) and tax evasion (which is not). Profit shifting costs LICs and LMICs around 5% to 6% of tax revenue on some estimates (Cobham and Jansky, 2018; Gracia-Bernardo et al., 2020). Although these issues may seem remote from the financing of school feeding programmes, they have a direct bearing on the fiscal space available to governments.

Converting general subsidies into more targeted investments in school feeding and other priority areas can release resources. In most high-income countries, fiscal policy adds to the income of poorer households. The opposite holds true in many LICs and LMICs. That is partly due to regressive tax systems that finance general subsidies, which skew benefits towards the non-poor. These subsidies, often applied to food, fuel and fertilisers, often account for 2% to 3% of GDP in LICs and LMICs. About one-fifth of spending on general subsidies goes to the poorest 40%, according to the World Bank, compared with around 60% through cash transfer programmes (World Bank, 2022b). School feeding programmes, which are in effect an in-kind value transfer, represent a far more progressive form of public spending than general subsidies, especially when focused on public schools and schools serving children marked by high levels of disadvantage. Redirecting general subsidies toward school

feeding and other more targeted interventions would strengthen the efficiency and equity of public spending.

Earmarking taxes for priority social sector investment is a contentious policy approach, but it presents opportunities for resource mobilisation. Earmarking, also known as ring-fencing or hypothecation, is the practice of assigning revenues from specified taxes to specific areas of public spending. Some economists view earmarking as a source of inefficiency and rigidity in public finance (McCleary, 1991; Advani et al., 2011). Proponents counter that a benign flip side of rigidity is the predictability of earmarked finance across political cycles, especially in areas requiring sustained support (Ahrenshop, 2024). Whatever the theoretical arguments, tax earmarking is a widespread practice in both rich and poor countries, notably for environment, health and social welfare policies (Wilkinson, 1994; Hsiung, 2001). At least 80 countries are now estimated to earmark taxes for health (Ozer et al., 2020). Within this category 'sin taxes' aimed at goods harmful to public health, such as sugar-intensive beverages and tobacco, are used both to reduce consumption and generate revenue for specified activities. Sugar-sweetened beverage (SSB) taxes are in operation in more than 100 countries, according to the World Bank, although earmarking remains an exception to the rule of using taxes to deter consumption and mobilise general revenues (World Bank, 2023; Hattersley, Thiebaud, Silver et al., 2020). However, earmarked taxes are widely prevalent in LICs and LMICs, and their uptake has increased in many countries. Recent examples include the use of VAT to finance health insurance and an education fund in Ghana, and Kenya's introduction of an excise duty on mobile money transfers to support social development investments (Abounabhan et al., 2024).

Some countries already use earmarked taxes to finance school feeding programmes. The most prominent examples are Bolivia's hydrocarbon tax and Guatemala's VAT discussed in the previous section (SFI, 2022). The PM POSHAN school meals scheme in India is partly financed by a surcharge, or 'cess', on income tax. Introduced in 2004, the surcharge is currently set at 4%, with revenue earmarked against budget lines in education, including school feeding.

There are strong grounds for governments to consider using earmarked taxes and the redirection of general subsidies to finance school feeding programmes. Transparent and accountable school meal budgets can provide a highly visible vehicle for delivering a wide dispersion of benefits from revenues of 'public bads', providing a bridge to investments in a public good. In the complex balancing of winners and losers that follows the reduction of general subsidies, school meal financing can help ensure that winners among the poorer sections of society outweigh the losses of wealthier losers. In countries where the general tax and public spending system may be viewed with cynicism, financing meals for children living with hunger can dissipate opposition to reform. Evidence from the Philippines, which introduced large-scale earmarked taxation, and Indonesia, which implemented sweeping general subsidy reform, shows what is achievable with political leadership, broad coalitions and clear narratives on the benefits of change (Box 6).

Box 6 Earmarking 'sin taxes' and redirecting general subsidies – the art of the possible

Tax and subsidy reform confronts governments with tough political choices. The need for additional revenues for public investment may be overwhelmingly apparent. The social, economic and environmental case for taxing 'public bads' and phasing out general subsidies on fossil fuels and other commodities may be demonstrable. But reform efforts in rich and poor countries often hit the rocks of public protest.

Evidence from the Philippines and Indonesia suggests that political leadership, coalition building and compelling narratives can help navigate the difficult waters. It also illustrates that tax and subsidy reform can support diverse policy objectives, including the raising of revenues, changing consumption habits and increasing spending in targeted sectors These are lessons of relevance to the financing of school feeding programmes.

Earmarking sin taxes in the Philippines

The Philippines 'sin tax' introduced in 2012 increased and simplified taxes on tobacco and alcohol. The impetus for reform came from the concern to mobilise additional revenue to support the policy agenda of an incoming government and curtail consumption. The tax changes were preceded by a campaign that brought together political leaders (including the president and finance minister), civil society organisations, and professional bodies linking the proposed tax to public health benefits. The legislation allocated 85% of the additional revenue to public health spending. Subsequent laws added new taxes on sugar-sweetened beverages, with half of the revenue allocated to health spending.

Consumption of tobacco and sugar-sweetened beverages declined sharply (by more than 20% in both cases) and revenue increased dramatically. Earmarked spending increased from $0.7 billion in 2013 to $1.7 billion in 2022, approximately 40% of total health spending. Revenues helped increase the coverage of the national health insurance scheme from 52% in 2011 to 89%.

Redirecting general subsidies in Indonesia

In 2014 President Joko Widodo announced sweeping reforms to Indonesia's energy subsidy programme. The gasoline subsidy was removed, and the diesel subsidies were capped at a dramatically reduced level.

The measures, magnified by the effects of falling oil prices, saved the equivalent of 10% of government revenue. Energy subsidies fell from 3.4% of GDP to 1.1% in the space of a single financial year (2014/2015). In contrast to previous reform efforts (of which there were at least 14), the policy reforms survived. What made the difference?

The benefits of the energy subsidy programme had been heavily skewed towards wealthier households. More than half of the benefits went to the richest 20%. Under the reforms, the overwhelming bulk of the saved revenue was directed to investments aimed at reducing poverty (through social protection programmes), creating jobs through spending on infrastructure, supporting agriculture and increasing budgets for devolved regions. The budget of the agriculture ministry was doubled. The health insurance and clean water programmes targeted the poorest households in the country.

Some broad lessons

Both the Philippines and Indonesia were able to implement reform that had the effect of mobilising additional revenue. Although the circumstances varied, there are common elements in the national programmes.

- *Clearly defined political priorities.* The reform in both countries was prompted by the government's concern about the limited budget resources available for priority programmes.
- *A wide dispersion of benefits.* Tax and subsidy reforms create winners and losers. Both countries developed strategies to ensure that the number of winners outweighed the number of losers, with highly visible programmes that deliver tangible benefits, such as access to health insurance and cash transfers.
- *Well-defined links from the proposed reform to future benefits.* As one of the architects of the Philippine civil society campaign put it: 'The key to the successful campaign was positioning tobacco taxation reform as a health measure.' Earmarking for health spending in the Philippines was critical, as was the conversion of budget savings into expanded social programmes in Indonesia.
- Strong political leadership, compelling narratives, and coalition building each played a role in overcoming resistance to reforms among powerful vested interests.

Sources: Addis Tax Initiative, (2023); St Ana et al., (2022); Kaiser et al., (2016); Mendoza Pradiptyo, (2016); Ihsan et al., (2024); UNEP, (2016); IISD, (2014).

Current approaches may offer important lessons. The hydrocarbon tax is a case in point. Several LICs and LMICs receive, or are expected to receive, large revenue streams related to the export of oil and natural gas. The group includes Ghana, Mozambique, Nigeria, the largest oil exporter in sub-Saharan Africa, Tanzania and South Sudan. Other countries, such as the Democratic Republic of Congo, are major exporters of vital minerals for the green transition. Revenue from oil, gas and minerals in LICs and LMICs have been described as a 'resource curse' that has historically generated much wealth but limited benefits for human development, while undermining economic growth and weakening governance (NRGI, 2015). Earmarking part of the revenue from oil, gas and minerals for school feeding could convert the curse into a human development asset, as witnessed by the experience of Bolivia.

Sugar-sweetened beverage (SSB) taxes could play a role in earmarked financing for school meals. While SSB taxes are common, earmarking the revenue they generate is not. Recent data suggests that only around 8% of countries earmark SSB taxes, compared with 28% in the case of tobacco taxes (World Bank, 2024a). Earmarking is not used in any LIC (WHO, 2023). Where earmarking occurs, governments overwhelmingly gear the revenues toward public health programmes. For example, the Philippines, which uses half of the revenue from SSBs to finance specific health funds. Although SSB tax revenues are more modest than taxes on alcohol or tobacco, they are significant relative to current budgets for school feeding and the costs of a prospective scale-up. They typically raise between 0.1% and 0.16% of GDP in revenue (Lane et al., 2021). For context, the cost of financing our 60% coverage scenario in LMICs is at the lower end of that revenue mobilisation range.

A new law in Colombia points to wider opportunities for earmarked taxation to finance school meals. In November 2023, Colombia adopted a 'junk food law', becoming the first country in the world to tax ultra-processed food (Real, 2023). The initial 10% tax will increase to 25% by 2025 as part of a wider strategy to curtail the consumption of foods high in fat, sugar, and salt. While the reform has triggered a predictable reaction from the food industry, it is Latin America's most comprehensive legislative effort to date to combat obesity and could set the stage for a global initiative. While it is too early to establish the revenue effects, the use of a tax on unhealthy ultra-processed foods to finance healthy diets among children represents a direct bridge from a public bad to the public good.

There are limitations and risks associated with using earmarked financing for school meals, but the opportunities are real. For governments considering the use of earmarked financing for school meals, what matters is the level and predictability of the revenue flows. The primary purpose of SSB and other 'sin taxes' is not to mobilise revenue, but to reduce consumption, creating an obvious dilemma: the more successful the tax, the less revenue it will generate. However, experience suggests that well-designed 'sin taxes' both reduce consumption and generate sustained revenue flows. In the case of earmarked taxes linked to the overall level of economic activity (such as VAT or taxes on hydrocarbons) revenue streams will be procyclical, falling, and rising with the state of the economy. Although this introduces a degree of unpredictability into financing, revenue flows can be smoothed out over time through well-established practices, such as saving into dedicated wealth funds during periods of upturn and spending during downturns. Even if earmarking is a second-best alternative to general budget revenue, it can contribute to school meal financing and should be part of the menu of options considered by governments.

6.4 International cooperation

National priorities and national leadership will dictate the pace and scale of any scale-up in school feeding, but international cooperation can help create an enabling environment. By supporting school feeding programmes, the international community could transform the lives of millions of children. In addition to being a high impact investment, school feeding is a cause that could cut through the polarised debates that have done so much to stymie progress towards the SDGs. Indeed, school meals could do for international cooperation on the SDGs what they did for the great social reform movements in the early 20th century, providing a practical focal point for a wide-ranging social justice agenda.

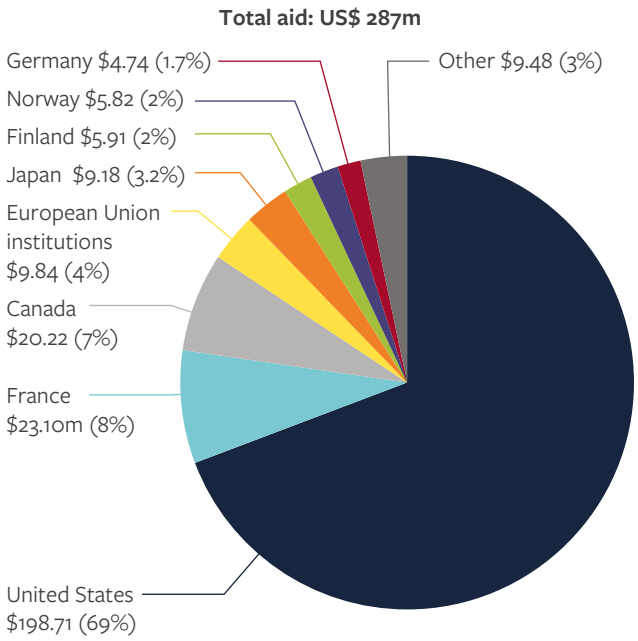
The international development finance environment limits the options available to national governments in LICs and LMICs. Although international aid reached record levels in 2022, flows to developing countries fell as donors directed resources towards the response to the war in Ukraine. In the face of mounting fiscal pressure, many LICs and LMICs have suffered cuts in aid. While multilateral development banks led the finance response to the Covid-19 pandemic, they have lacked the financial resources and lending practices needed to provide support on the scale needed to support an SDG recovery). Efforts to respond to the debt crisis have been ineffective. The G20 Common Framework has provided limited treatment for a handful of countries (just five at the time of writing). During the debt crisis in the 1980s, the then president of Tanzania, Julius Nyerere, asked creditors 'must we starve our children to pay our debts?' The default answer now, as then, has been a resounding 'yes' (Nyerere, 1987).

Changing these background conditions is vital if LIC and LMIC governments are to finance an ambitious expansion of school feeding programmes. It is beyond the scope of this report to consider the wider reform options (for a review, see Watkins et al., 2024). As an indication of the order of magnitude, the Independent Expert Group of the G20 on the reform of multilateral development banks has recommended a $500 billion increase in development finance by 2030 – one third of it in the form of concessional aid (Independent Expert Group, 2023). The debt challenge requires a multilateral framework designed to facilitate the rescheduling and reduction of private commercial debt, recognising that many countries are now facing a crisis of solvency rather than liquidity. Delayed action threatens to reproduce the experience of the 'lost decades' of the 1980s and 1990s experienced in Latin America and sub-Saharan Africa.

6.5 Aid for school meals – limited and lacking in strategic direction.

While recognising the need for systemic change, there are opportunities to expand financing for school meals, starting with increased and more effective aid. Donor reporting systems for school feeding aid suffer from inconsistency and lack of transparency (SFI, 2024a). Even so, the overall picture is clear. Current aid levels are derisory and dominated by a single donor, the United States (**Figure 14**). In 2022, aid for school feeding amounted to $287 million – or around 0.1% of the overall official development assistance. The United States represented 69% of the total, with France and Canada accounting for an additional 15%. Other G7 donors – the European Union, Germany, Japan and the United Kingdom – collectively provided just $24 million. In any application of 'results-based' criteria, the aid effort would appear to represent a significant underinvestment on the part of the donors.

Figure 14 The international aid effort on school feeding (US$ 2021 and selected shares)



Source: Official development assistance reported to OECD Creditor Reporting System, 2021.

International aid can support the development of self-reliant national programmes. The WFP has a high level of competence and a proven track record not only in delivering projects, but in supporting the transition from projects to national programmes. Examples include school feeding programmes of Bangladesh, Ghana, Kenya, Nepal and Rwanda. The Global Partnership for Education (GPE) has supported a large-scale programme in Ethiopia that is being integrated by the government into a national strategy. Education Cannot Wait, which provides support in humanitarian emergencies, has implemented school feeding programmes in 15 countries and communities affected by conflict, including Cameroon, Haiti, and Somalia, reaching an estimated 185,000 children, demonstrating the potential to reach children in environments marked by acute food insecurity.

There is no overarching strategy for donor coordination. Governments seeking external support for efforts to expand school feeding programmes must navigate the engagement with individual donors and their preferred INGO intermediaries to secure what amount to small grants. While 74 countries received aid for school feeding in 2021, the median grant was $2 million to $3 million; and only seven countries received more than $10 million. Guatemala, an upper-middle-income country with a universal school feeding programme already in place and no obvious need for aid financing, was the second largest recipient. It received twice the aid provided to Sierra Leone, a low-income country with a well-developed plan to achieve universal school feeding.

Too much aid for school feeding is delivered in the form of US farm surpluses. The McGovern Dole International Food for Education and Child Nutrition Programme is the largest source of aid for school meals. Apart from technical assistance, most of that aid is provided in the form of donated agricultural surplus commodities. These are purchased in the United States and transported to projects around the world (USDA, 2024). In some limited contexts, notably humanitarian emergencies, there may be a case for food aid. However, purchasing rice and lentils from farms in Texas and Minnesota for transportation to schools in Africa is likely to be less efficient than local food purchase arrangements due to the higher cost associated with freight and purchase prices in the United States. There is an extensive literature documenting the advantages of cash transfers over food in humanitarian response (see, for example, Bailey and Pongcraz, 2015) – and many of the same arguments apply to school feeding (see Box 3 on Ethiopia). There are also potential trade-offs between support for home-grown school feeding and the wider benefit effects it can generate, and the transfer of agricultural surpluses from the United States. Providing cash to governments and implementing agencies can lower the cost of food (meaning that more children can be reached), create liquidity, expand markets for smallholder farmers, and generate multiplier effects. Therefore, both efficiency and equity considerations point to a case for converting food donations into financial support.

The World Bank is missing in action. The World Bank is the largest source of development finance for LICs and LMICs through the IDA and its wide array of trust funds. School feeding has not been a priority. An internal review of World Bank projects from 2008 to 2023 found support for 71 projects spread across 36 countries, with financing of around $282 million (Bundy et al., 2024). That represents an average annual investment of $22 million. More than half of the Bank's spending was directed to three countries, Ghana, Haiti and Yemen. Project approval numbers have tended to rise in the wake of emergencies as part of a

wider humanitarian response, but have typically averaged just two to three projects a year. School feeding is also largely absent from multilateral funds housed in the World Bank, even in areas with a remit of nutrition and food security. The Global Finance Facility (GFF) for Women, Children and Adolescents and the Global Agriculture and Food Security Programme (GAFSP) are examples.

Innovative finance could play an greater role in unlocking resources for school feeding. The International Financing Facility for Education (IFFEd) is a case in point. Developed by Gordon Brown, a former UK prime minister, and launched at the UN Transforming Education Summit in 2022, the facility provides risk guarantees for multilateral lenders, enabling them to optimise their balance sheets for education financing (Vaughan et al., 2022). For every dollar in guarantee, donors need provide only $0.15 as paid-in capital, with another $0.85 held in the form of a contingency commitment to disburse in the event of non-payment. The 4:1 leveraging potential of the multilateral development banks means that donor cash payments are multiplied 27 times, so that it takes just $40 million in paid-in capital to mobilise one billion dollars. IFFEd also provides grants to ensure that interest payments are affordable.

Climate finance is a missing link. As shown in Section 2, governments and municipalities around the world are using the power of school meal procurement to promote sustainable, regenerative, and low-carbon agriculture. As set out in a White Paper on school meals and food system reform developed by the Research Consortium of the School Meals Coalition, there are multiple channels through which school feeding can support sustainable agriculture and localised climate adaptation. For example, the procurement of school meals can create a demand for food grown through sustainable intercropping systems (Pastorino et al., 2023). Despite the opportunities, school feeding programmes are strikingly absent from the climate finance portfolios of multilateral institutions. For example, the Green Climate Fund is the largest source of climate adaptation finance globally, with a portfolio of $2.3 billion that spans 81 countries (Watson et al., 2023). School feeding programmes are not listed in their project portfolio. Around one-third of multilateral development bank climate finance – $22.7 billion in 2022 – is directed towards climate adaptation. Here, too, there is a conspicuous absence of school feeding programme initiatives. This suggests that governments and international financial institutions could do more to explore the case for integrating school meals into national adaptation strategies.

6.6 'Debt-for-school-feeding' swaps – limits and opportunities

There is renewed interest in debt swaps as a financing mechanism for social and environmental investments. Debt swaps represent an old idea that has gained new momentum (Hurley and Martin, 2024). They aim to free up fiscal resources by creating new and additional funding for specific projects without cutting spending in other areas. Creditors waive all or part of their claims on a sovereign debtor, conditional on the savings being allocated to agreed objectives. Implementation can happen directly through bilateral creditors and debtor governments, on an intermediated basis (typically with a UN agency acting as the conduit for the released funding), or through arrangements with private creditors. Several UN agencies and multilateral health funds (including the Global Fund) have also integrated debt swaps into their institutional funding strategies, and there are precedents in school

feeding. The WFP has implemented debt swaps for school meals in three countries: Egypt (Italian and German debt), Madagascar (French debt) and Mozambique (Russian debt).

Debt swaps do not offer a route towards the resolution of the debt crisis. In cases where the debt reduction provided exceeds new spending commitments, debt swaps can reduce debt stocks. However, for countries with unsustainable debt service profiles, swap arrangements will only help restore solvency if they include a large share of debt stock and provide significant levels of debt relief. In the current context, where debt owed to private creditors accounts for a large share of scheduled servicing, the reduction of private debt is critical. No debt swap arrangements have made a major contribution to debt sustainability, and most are limited in scale (Chamon et al., 2022). Although debt swaps have released funding for (mainly environmental) projects that would not otherwise have occurred, the overall effect on the fiscal space available to governments has been marginal. In contrast, the Heavily Indebted Poor Countries (HIPC) Initiative, which delivered a reduction in debt stocks of over $100 billion, supported a step increase in public spending in priority social sectors (World Bank, 2024b; IMF, 2019).

Current debt swap governance arrangements limit the scope for mobilising new and additional resources at scale for school feeding. Currently, only four Paris Club bilateral creditors have formal debt-swap arrangements in place – Germany, Italy, Spain and the United States – and one of these creditors (the United States) only for environmental programmes. Concessional ODA debt from Western creditors typically represents a small share of the debt service burden facing governments. Paris Club rules impose a 20% limit on debt swaps involving non-ODA bilateral debt, which carries higher interest charges and more stringent repayment terms. Most bilateral debt held by LICs and LMICs is owed to creditors – notably China, the Gulf states and Japan – who have not participated in debt swaps. Multilateral creditors, which account for around one-third of scheduled debt service payments for sub-Saharan Africa, do not offer debt swap arrangements.

Although private creditors engage in debt swap operations, they do so on an *ad hoc* basis and on limited terms. Commercial debt swap deals involve complex arrangements and incentives. Debtor governments typically buy back commercial debt on secondary markets at a discount either through loans provided by a philanthropic organisation or by using finance generated by the sale of new bonds guaranteed by international actors at lower interest rates. Governments and intermediaries then channel savings from the subsequent reduction in interest payments into agreed projects. The incentives for commercial creditors and governments to participate in such arrangements are moving in different directions. Creditors want to maximise repayments and minimise discount rates, while government interests pull in the opposite direction. Countries in debt distress and countries able to service their debts, even under duress, have little prospect of securing favourable deals. One of the major constraints facing governments with large commercial debts is the prospect of any request for debt swaps triggering a downgrade in credit rating, which in turn raises borrowing costs.

Research conducted by Development Finance International underscores the limited potential to leverage new resources for school feeding through debt swaps. The DFI analysis looks at debt and creditor profiles in five countries – Ghana, Honduras, Kenya, Senegal and Sierra Leone – to prospective debt-swap options. Four of the five

countries owe at least half of their external debt to multilateral financial institutions that do not participate in swap arrangements. Debts owed to Paris Club creditors that have previously engaged in debt swaps (Germany, Italy and Spain) represent no more than a fraction (under 0.6%) of scheduled debt service for 2024 in any country. Several countries owe significant debt to bilateral creditors, notably China, which does not have debt swap provisions. Kenya has a large commercial debt, but the government's debt management strategy does not include seeking debt swap arrangements with commercial creditors. Meanwhile, Ghana is in default on commercial debt, which gives bondholders no incentive to participate.

Recent debt swap arrangements point to the potential for increased debt swap financing through commercial credit markets. Several countries including Barbados, Belize, Ecuador, Gabon, and the Seychelles, have negotiated debt swap deals with private bondholders, repurchasing debt at a discount and directing finance into specified areas. Marine conservation has been the central theme. The deals have involved complex financial engineering, with commercial banks, multilateral development banks, development finance institutions, risk guarantee agencies and international NGOs all playing a role. In Ecuador, for example, the government repurchased $1.6 billion of debt for $656 million in 2023 with revenue from a new sovereign bond – the Galapagos Bond – issued at lower interest and backed by risk insurance from the US International Development Finance Corporation (IDFC), the Inter-American Development Bank and a group of private reinsurers (IDB, 2024). Lifetime savings in debt servicing are estimated at more than one billion dollars, with $323 million directed over the next 18 years to marine conservation.

The broad conclusion to emerge is that debt swaps could play a role in some circumstances for some countries, complementing greater debt relief and concessional aid. Getting more out of debt swaps for school feeding will require reforms and changes in approach. The narrow focus on climate change, the environment and marine conservation in current debt swaps could be broadened to encompass expanded provisions for school meals. Creditors who do not currently engage in debt swaps could be encouraged to do so, and the Paris Club ceiling limiting debt swaps on non-ODA debt could be raised. There is no reason, in principle, why the type of 'debt-for-ocean' swaps deals could not be extended to 'debt-for-school nutrition' arrangements. It is difficult to understand the ethical or economic case for attaching a lower weight to childhood hunger than to marine ecosystems. Yet in all these areas, it is evident that rules-based shifts occur at a glacial pace, and that even modest debt reform has proven beyond the G20 delivery capacity.

6.7 Rethinking the aid delivery architecture – some lessons from the global health funds

The current aid and development finance architecture for school meals is anachronistic, inefficient, and outmoded. Small amounts of aid are delivered through fragmented bilateral channels without coordination. The major multilateral actors are almost entirely absent. Aid flows are typically unpredictable, which undermines financial planning and is governed by individual donor priorities. There is nothing resembling a shared global strategy for international cooperation geared towards collective goals, such as the School Meal Coalition's ambition of universal coverage by 2030. In effect, the donor community and the multilateral development banks are providing

a trickle of funds into for dispersed projects commensurate in scale with the operations of small-to-medium-sized non-government organisations. There is an urgent need to move towards a better-financed and more cost-effective structure that reflects the urgency of the interlocking crises now facing so many children.

The global health funds provide some important lessons. The Global Alliance for Vaccines Initiative (GAVI) and the Global Fund to Fight AIDS, Tuberculosis, and Malaria were created to address challenges beyond the capabilities of existing international cooperation structures. While there are well-founded criticisms of both institutions, their operations have saved millions of lives and improved key areas of public health. Debates over the relative merits of 'vertical funds' (such as GAVI and the Global Fund) and 'horizontal funds' supporting system-wide interventions continue, but they have been overtaken by events – the vertical health funds also finance wider health systems, and many horizontal funds finance vertical interventions. Looking beyond these debates, many features of the GAVI and Global Fund model have a marked relevance for reform of the aid architecture for school feeding:

- ***Clarity of purpose, clear objectives, and a focus on results***. The operations of the global health funds are geared towards clear, monitorable global targets agreed by their boards. For example, the GAVI 2026-2030 strategy aims to reach 500 million children, with a distinctive focus on 'zero dose' children in hard-to-reach areas (GAVI, 2024). Both funds provide detailed reporting on results, including a detailed cost-benefit analysis, creating incentives for donor engagement.
- ***National ownership, planning, and accountability***. GAVI support is contingent on the submission of national plans, regular monitoring and reporting, including an annual joint appraisal. An Independent Review Committee assesses national plans and authorises funding. In the case of the Global Fund, national plans are developed through a Country Coordination Mechanism that brings together key actors, from national ministries to civil society organisations, professional bodies, and community organisations. The plans are assessed by technical committees, with performance monitored by a Local Fund Agent.
- ***Pooling resources and supporting self-reliance***. The global health funds typically allocate $4 billion to $5 billion annually, mobilising resources through replenishment exercises. An important feature of both funds is the pooling of donor resources, with allocation to countries determined by transparent allocation and cost-sharing criteria. Earmarking by donors is not permitted. Both funds aim to increase national financing over time, with the ratio of domestic budget and international finance determined by formulae. For example, GAVI envisages a transition to full domestic financing over an eight year 'acceleration period'.
- ***Innovative finance***. The global health funds have drawn on a wide range of innovative financing mechanisms. Several countries fund GAVI by issuing bonds (IFFIm) that enable them to front-load aid. GAVI also has a loan buy-down facility that enables it to provide low-cost loans. Innovative finance represents around one quarter of its portfolio (GAVI, 2024b). The Global Fund receives innovative funding from a variety of sources. These include revenues (via UNITAID) from airline taxes, 'debt2health' swaps, and Product (RED) – a financing stream linked to a stream of corporate brands. Debt swaps have mobilised a reported $225m in health investments and Product (Red) has mobilised over $700 million (Global Fund 2022).

- ***Inclusive governance***. The governance structures of the global funds bring together recipient governments, donors, key private sector actors (notably pharmaceutical companies), philanthropists, and civil society organisations. The engagement of a diverse group of actors in turn strengthens the national and international advocacy around financial replenishment exercises.

The global health funds provide lessons for adaptation, not models for duplication.

International cooperation on school feeding could be greatly strengthened by the adoption of shared global goals, backed by pooled funding arrangements, innovative finance, and an inclusive governance structure. Duplicating the institutional structures of global health funds is unlikely to be a credible option. But there are alternatives arrangements through which pooled funding mechanisms could be created either on a virtual basis or housed in other institutions.

7 Conclusions and recommendations – delivering through the Global Alliance Against Hunger and Poverty

Expanded access to school meal programmes is essential to address some of the greatest development challenges of our day. In the third decade of the 21st century, hunger and poverty blight the lives of millions of children, inflicting immense suffering, reinforcing unjust inequalities, eroding opportunities and holding back the human development of nations. The SDGs are badly off track and children are bearing the brunt. Integrated into wider strategies, well-designed and properly financed school meal programmes provide a practical, affordable, and effective vehicle to combat hunger and poverty and expand education opportunities. They can also play a wider role. In a world where our broken food system contributes to the climate crisis, fuels an obesity epidemic and marginalises poor rural populations, school meals are a link in the chain needed to connect food markets to the well-being of people and the ecological integrity of the planet.

This is a moment for urgent action. In the memorable phrase of the UN Secretary General, the SDGs are in danger of becoming 'an epitaph for the world that might have been'. There has been a growing sense of apathy and inertia. Continuing down the current path will have grave consequences, not just for the immediate welfare of billions of people, but for international cooperation, multilateralism, and the future direction of global interdependence. Reaffirming SDG pledges is not enough. The world needs practical measures that deliver early results to demonstrate that change is possible by 2030. School feeding is one of such measures.

Throughout their history, school meal programmes have demonstrated their potential to catalyse transformative change. They were there at the creation of welfare states and are now a feature of social protection systems around the world. They were part of the struggle for the right to food in India, a struggle that created the largest school meal programme in the world. In Brazil, school meals were an integral part of a 'zero hunger' campaign that remains one of the great stories of human development success in the 21st century. Today, a concerted effort to expand the reach of school meals in the world's poorest countries could support the recovery of the SDGs, powerfully linking agendas for eradicating poverty, advancing food justice, and supporting ecological sustainability.

The Global Alliance Against Hunger and Poverty provides an opportunity to build momentum. During the G20 Summit in New Delhi in 2023, President Lula announced the creation of a task force to establish a Global Alliance to accelerate progress toward the eradication of hunger and poverty. The Alliance, which will be formally launched in November 2024, is an important initiative. It provides an opportunity to project on the world stage the broad strategic approach to the eradication of hunger that defined President Lula's earlier terms in office – an approach now reflected in an ambitious domestic programme that has seen significant increases in funding for school meals (Devereux and Maluf, 2023). With the G20 accounting for more than three-quarters of world economic output, it also places hunger

and poverty on the agenda of a group of countries with the resources and political weight to achieve results. While the operational details of the Global Alliance are still being developed, the core model aims at supporting nationally owned programmes through international cooperation, including the mobilisation of financial resources.

A global action plan on school meals would enable the Global Alliance on Hunger and Poverty to demonstrate results, and it would deliver results in the lives of millions of children. There are at least three reasons to focus on school meals. First, school feeding has an evidence-based track record in delivering results, and much of the infrastructure needed to support a scale-up is already in place – key conditions for demonstrating impact by 2030. Second, the drive to expand the reach of school feeding programmes comes from countries in the Global South. There is a strong sense of national ownership. Third, some of the architecture for international cooperation is already in place. More than 100 countries and regional bodies, including 43 countries in Africa and the African Union, are members of the School Meals Coalition, which is co-chaired by Brazil, France, and Finland, all countries that demonstrate the benefits of school feeding through strong national programmes. The coalition is supported by a large group of multilateral organisations, UN agencies, NGOs, and research institutions committed to universal school feeding by 2030.

Our report focuses on LICs and LMICs where the benefits of school meal programmes would be greatest, but where current coverage is most limited. While school meal programmes deliver results, their reach in LICs and LMICs is limited. In 2021, coverage rates for children in primary school were only 19% in LICs and 39% in LMICs, implying that 157 million children were reached. Furthermore, many of those counted as 'covered' received poor quality school meals. The case for a global action plan to support these countries is rooted in the high levels of deprivation faced by children who *could* be reached. We estimate that in the five to 14 age group:

- 186 million children are in households that survive on less than $2.15/day, with more than twice that number living on less than $3.65/day,
- 400 million children live with moderate or severe food insecurity, including 68% of children in LICs and 39% in LMICs,
- 143 million children live with hunger.

The scenarios provided in Section 3 of this report illustrate the scale of ambition that could be achieved through national action and international cooperation. Our high-ambition scenario of 60% coverage in pre-primary and primary school, with 10% coverage in lower secondary, would see another 236 million children reached with school meals. The incremental cost of that ambition for the international community, around $3.6 billion annually averaged for five years, represents a small price to pay for an investment that could lift the spectre of hunger from the lives of millions of children, alleviate poverty and unlock education opportunities.

The Global Alliance Against Hunger and Poverty could provide the platform for a new partnership aimed at translating these scenarios into practical action. The partnership would be based on a two-way contract between LIC and LMIC governments on the one side, and governments of the G20 and other high-income countries. Building on current efforts, governments in LICs and LMICs would develop national plans to scale up their ambition in school feeding, commit additional budget resources, put in place transparent accountability mechanisms, and establish systems for community involvement. Plans would include

clear provisions to place children facing the greatest deprivation first in line for delivery, enshrining the principles of 'progressive universalalism' in policy, and acting on the commitment of the SDGs to ensure that progress is most rapid for those children who have been left behind.

As part of the contract, the governments of the G20 and other high-income countries would commit to providing affordable finance and technical support. They would resolve to ensure that credible plans backed by a clear domestic budget commitment receive support from affordable development finance. At the World Education Forum in 2000, poorer countries agreed to adopt plans aimed at achieving agreed education goals, and rich countries pledged that: 'No countries seriously committed to Education for All will be thwarted in their achievement of this goal by lack of resources' (World Education Forum, 2000). Something of that collaborative spirit and sense of shared purpose is needed to support a plan of action on school feeding.

Practicalities of the partnership could be determined through dialogue. If the Global Alliance on Hunger and Poverty is to deliver results, it must avoid the perennial chicken-and-egg problem of whether aid commitment or credible national plans should come first. Both will be needed. There is no shortage of good-practice examples of what can be achieved when political leadership in countries is supported with international support. For example, researchers at the Brookings Institution have proposed the development of a new global financing mechanism to support cash transfers in countries scaling up social protection, taking advantage of the opportunities for low-cost targeting created by geospatial data and digital technologies (Kharas and McArthur 2023). This is an approach that could be extended to school feeding and the identification of schools serving the most marginalised. ODI has proposed that the Global Alliance consider the development of 'virtual financing' mechanisms, with the G20 playing a role in coordinating existing development finance resources while expanding the financial envelope to support national plans for accelerated progress on hunger. Here, too, school feeding could figure as a practical option, not least given the strong national ownership in evidence. What the G20 process offers is a route to scaling up support with the urgency needed to achieve results before 2030.

A global action plan for school feeding can only be built on national – and nationally owned – plans. There is no substitute for detailed national planning. While LICs and LMICs represent country groupings, each country faces different sets of constraints and opportunities. The groups span countries at different levels of development. Governments in these countries face varying levels of fiscal constraint. Some have highly developed school feeding programmes, while others are starting from a much lower baseline. For all these reasons, there are no blueprints for effective action, but there are some broad approaches that can help inform policy choices.

This report has set out some of the financing options available to governments. In a period of acute fiscal stress, governments cannot finance a scale-up of school feeding at the pace and level of ambition required without international support. But in any credible scenario, they will have to increase the level of domestic financing. The avenues with the potential to mobilise new and additional resources include the following:

- increasing **general revenues** through more efficient and equitable taxation, including the closure of tax exemptions benefiting high income groups;
- **earmarked taxation** linking the financing of school meal programmes to revenue streams from oil, gas and minerals, building on the model provided by Bolivia;
- **taxing 'public bads'** to finance the public good of healthy diets through school meals, using taxes on sugar-intensive beverages – and considering adoption of the 'junk food' tax introduced by Colombia';
- redirecting **general subsidies** to more targeted support for school meals in areas with high levels of deprivation; and
- integrating school feeding into strategies for food system reform and climate adaptation to unlock sources of **climate finance.**

Without strengthened international support, even the strongest national plans will fall far short of their potential. We set out some of the most immediate priorities. Several resource mobilisation options could be supported through the Global Hunger and Poverty Alliance:

- Donors could commit to **increase aid for school feeding** by around $1.2 billion annually over five years (a cumulative average of $3.6 billion) to support national plans through finance and technical support.
- The **World Bank**, as the largest source of development finance for LICs and LMICs, could attach more weight to school feeding in the replenishment and delivery of IDA 21, providing at least $300 million annually.
- Innovative financing through the **International Financing Facility for Education** (IFFEd) could leverage multilateral development finance for school meals by providing risk guarantees.
- Financing through WFP, the Global Partnership for Education and Education Cannot Wait could be increased to boost school meal programmes in **humanitarian contexts**.
- **Debt relief** could be accompanied by the inclusion of school meals in large-scale debt swap operations, with child nutrition through school meals placed on a par with the resource mobilisation achieved through 'debt-for-ocean' swaps in Ecuador and other countries.
- School meals could be integrated into the project portfolios of climate finance institutions, such as the **Green Climate Fund**.

Innovative international financing could play a role in supporting a global action plan for school meals. The difficulties in moving from conceptualisation to implementation in innovative finance are well known. But there are promising examples. Unitaid, the multilateral health initiative, is funded through a global airline tax initiated by France in 2006. In a report prepared for the Brazilian presidency of the G20, Gabriel Zucman has set out the case for a global billionaire tax (Zucman, 2024). Set at 2% of billionaire wealth, the tax would raise up to $250 billion annually. For context, the international aid required to finance a global plan of action to reach another 236 million children represents just 0.4% of that amount. The billionaire tax proposal is a reminder of the vast disparities in wealth that define today's world and the potential to achieve transformative change through limited transfers. In the context of school meal financing, there are strong grounds for considering a global junk food tax modelled on Colombian legislation, with part of the revenue allocated to national school meal strategies in LICs and LMICs.

A major global push on school feeding would deliver transformative change. For millions of children living with hunger and poverty, it would deliver hope and unlock opportunities for

education. For an international community that is fighting a losing battle for the SDGs, it would demonstrate that change is possible and that multilateral cooperation can deliver results. As governments around the world grapple with the daunting challenges posed by food systems that are failing people and the planet, school meals procurement is part of the toolkit to promote healthy diets, strengthen rural livelihoods, and support sustainable agriculture. This report has focused on the financing needed to implement an ambitious global plan of action that would mark a great step toward universal school meals in the world's poorest countries. Backed by international cooperation, the costs are affordable. The cost of inaction is likely to be much higher

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Endnotes

1 In the United States, around 30 million children received a free or reduced-price school meal in 2022 through the National School Lunch Programme (NCES, 2024). Eligibility is mean-tested. Children living in households with incomes below 130% of the national poverty line can receive free meals, while those from households with incomes between 130% and 185% of the poverty line are eligible for reduced price meals. In schools where more than 40% of children are eligible for free meals, authorities are authorised to provide all students with free meals. Any children living in families struggling with food insecurity marginally above the eligibility line and/or in schools with less than 40 per of pupils eligible for free meals are effectively excluded from provision (Toossi et al., 2023).

2 We use the list of LICs and LMICs for 2022. In 2002, LICs had an average income of $1,135 or less and LMICS had an average income between $1,136 and $4,465.

3 All poverty figures are in 2017 purchasing power parity (PPP).

4 We apply the simplifying assumption that reported undernutrition rates among children mirror those of the general population. This represents an approximation given uncertainties over nutrition rates for specific age cohorts and intra-household distribution.

5 The prevalence of under-nutrition is defined by the FAO as the share of the population that has a daily food intake insufficient on average to provide the dietary energy needed to maintain a normal, active and healthy life. Derived from modelling on food supplies, population, and income, it does not cover micronutrient deficiencies. Food insecurity describes a situation where people are unable to consistently eat healthy, nutritious meals due to a lack of money or other resources (moderate food insecurity), or when inadequate or uncertain prospects for consumption of sufficient food poses a risk to health, life, or livelihood (FAO 2023).

6 Authors estimates based on data from Demographic Health Surveys.

7 The reported standard deviation effect was 0.22.

8 The double burden of malnutrition is defined as: stunting levels of ≥30 %, wasting levels ≥15 % and overweight incidence≥ 20%.

9 We derive an estimate of the average income of the $2.15/day (2017 PPP) poor from World Bank Povcal data for 2021 using the poverty gap (the average shortfall in income of the poor from the threshold) and the incidence of poverty globally and for Sub-Saharan Africa. The poverty gap is equivalent to the product of the income gap and the poverty headcount. The reported poverty gaps are 3% globally and 13.6% for sub-Saharan Africa (in the latter case for 2019). Average income for the poor is derived by subtracting from $2.15 (2017 PPP) the results of the Poverty Gap*Poverty Line /Headcount Poverty Ratio. Based on this calculation the average income of the poor globally is $1.52 (2017 PPP) and in sub-Saharan Africa $1.35 (2017 PPP). All data based on: https://pip.worldbank.org/poverty-calculator (consulted 5 August,2024)

10 To estimate the value of transfers through school meals we use the WFP's reported 2021 average per pupil budget allocations for LICs and LMICs ($42) discounted by the United States Consumer Price Index for inflation between 2017 and 2021 ($37). We assume that the value of the food basket represents 80% of the budget allocation to discount administrative costs, Based on this calculation the average annual transfer value is $30 annually or $60-90 for a household with 2-3 children in school.

11 Information in the paragraph was drawn from the Harvest Plus website (www.harvestplus.org). Consulted 13/07/2024

12 The study reports budget spending of $11 billion and returns of $180 billion with marked variations across the 14 countries covered. Education represented 86% of the estimated benefits. Drawing on the Verguet et al (2021) analysis, UN agencies report the average return-benefit ratio for school feeding at 9:1 (UNESCO et al., 2023).

13 The WFP methodology for estimating global and national coverage is explained in Annex 2 of the State of School Feeding Worldwide report (WFP, 2022). The global figure is derived from GCNF reported data for 100 countries and estimations based on national reporting and secondary data for another 76 countries.

14 For example, the reported coverage rate for Burkina Faso is 100%, which appear implausible. Coverage in Pakistan (which lacks a national programme) is reported at 40%.

15 There are projected to be 875 million schoolchildren aged 5–14 in 2030. Of these, 775 million are projected to be in school based on projections done for this paper, leaving 100 million out of school.

16 We are grateful to Aulo Gelli at the International Food Policy Research Institute for providing the updated figures.

17 The FAO food price index reached its highest value in a quarter of a century in March 2022, with food importers in LICs and LMICs importing double-digit inflation (FAO Stat, 2024).

18 Taking the $77/per pupil average cost and the $52/per pupil cost at the 20th percentiles as a reference point, the cost ranges for the two scenarios are $2.9–4.3 billion (Scenario 1) and $2.2 – 3.2 billion (Scenario 2).

19 The coverage rates are for 2021, the most recent year available.

20 The dollar figures are based on Kenya Shilling exchange rates at the time of the 2021 survey.

21 This includes reported budgets for 100 countries. Average estimating budget allocations per pupil were then applied to another 76 countries with no reported data corresponding income levels without reported data (WFP, 2022)

22 The budget figures relate to 2022. They are derived from data in the State of School Feeding Worldwide for 175 countries.

23 The average financial allocation is derived by dividing the reported budget allocation by the number of children reported as receiving school meals, with an assumption that countries with a school meal programme but without a reported budget allocation spend the same per pupil as reporting countries.

24 Budget provisions for PM POSHAN are provided at (https://pmposhan.education.gov.in/aboutus.html#:~:text=The%20Cabinet%20Committee%20on%20Economic,%E2%82%B9%2031733.17%20crore%20from%20State). See Government of India (2022) on government guideline for school meal provision.

25 There are some exceptions to this rule. In Tamil Nadu, which has one of India's oldest school meal programs, the scheme is administered through the Department of Social Welfare

26 Budget information for the Brazil programme is drawn from the PNAE budget site at: www.gov.br/fnde/pt-br/acesso-a-informacao/transparencia-e-prestacao-de-contas/relatorio-de-gestao-1/relatorio-de-gestao-2024/desempenho-da-gestao/areas-finalisticas/alimentacao-escolar-2023. Consulted on 15/07/2024

27 As reported by the Philippines Department of Agriculture (www.da.gov.ph/nda-and-deped-partners-for-fy-2024-milk-feeding-program-to-bring-nutrition-into-classrooms/#:~:text=For%20the%20school%2Dbased%20feeding,nutritious%20food%20products%2C%20and%20milk.). Consulted 15/07/2024

28 Home-grown school feeding: assessment of a pilot programme in Nepal | BMC Public Health | Full Text (biomedcentral.com)

29 Another programme in Mombassa is fully-financed by local and municipal governments.

30 The Addis Ababa City administration reportedly allocated $75.5 million for the school feeding programme during the academic year 2022/23 (Memirie et al., 2023)

31 docs.wfp.org/api/documents/WFP-0000141602/download/?_ga=2.200323310.1315433407.1705755932-526877079.1699441823

32 Category 1 situations include Afghanistan, Haiti, Yemen, the Democratic Republic of Congo, north-eastern Nigeria, countries in the Central Sahel – Burkina Faso, Mali, and Niger – Gaza, South Sudan, and Sudan. WFP responses are delivered through food aid and cash transfers.

33 WFP 2022 annual performance report https://executiveboard.wfp.org/document_download/WFP-0000148942?_ga=2.24854840.346126785.1706457896-526877079.1699441823
In the case of Yemen, a country with some of the world's worst nutrition indicators, just 38 % of the needs-based plan for the period to March 2023 was funded in October 2022. In South Sudan, WFP reported having to provide half-rations because of financing constraints, and part of the programme was partially suspended. Funding shortfalls in Haiti have prompted WFP to warn that feeding for 100,000 school children may be compromised. In mid-July 2023, WFP's Haiti response was only 16% funded.

34 For 2022 we estimate the aid share in aggregate LIC spending at 68%, compared with the WFP estimate of 55% for 2021. The increase is largely attributable to the relegation of Sudan, where the school meal programme is almost entirely aid funded, from LMIC to LIC status.

35 Around $1.8bn in LICs and $550m in LICs.

36 LICs would face a financing gap of $550 million and LMICs of $622 million.

37 Aggregating government plans across the region, Sub-Saharan Africa's fiscal deficit would fall from 5.2 % to 3.7 % between 2022 and 2024. Fiscal adjustment efforts are evenly split between increasing revenue and reducing spending (IMF, 2023).

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