



Photo Credit: World Food Programme leverages on central kitchen concept to facilitate school feeding program in Libya | Food Business Africa Magazine

# School meal programmes: A missing link in food systems reform

Prepared by the Sustainable Financing Initiative (SFI) for School Health and Nutrition

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## **Disclaimer**

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While drawing upon the work of the School Meals Coalition, the views expressed are those of the author and do not necessarily reflect the policies or perspectives of members of the Coalition.

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# Executive Summary

*“What we eat says a lot about the world we want – and the world we have.”*

*Comida do Amanhã Institute, Brazil*

*“Current unsustainable food systems are not delivering decent jobs and opportunities...and are major drivers of climate change, pollution, biodiversity loss and other environmental challenges.”* Amina J Mohammed, UN Deputy Secretary General

*“The free school meal was essential. If we were to change our national diet, it was critical that this started in schools.”* Peka Puska, architect of Finland’s school meals programme

*“It is time for Africa to feed itself and fully unlock its agriculture potential,”*

*Final Summit Declaration, Feed Africa: Food Sovereignty and Resilience, Senegal, 2023.*

Our global food system is in crisis. We grow enough food to nourish everyone on the planet, yet millions are left hungry. The way we produce, consume, distribute, and market food is damaging nature, fuelling public health crises, and driving us towards climate catastrophe. If we are to make progress towards the world envisaged by the Sustainable Development Goals (SDGs) and the Paris Agreement on climate, we need to reset the global food system.

The UN Food Systems Summit +2 Stocktaking Moment, a gathering in Rome in late July 2023, marks a critical staging post in international efforts to forge a food system fit for the 21st century. Two years after the 2021 UN Food Systems Summit, the United Nations has called for practical and innovative proposals to set a new direction. This briefing paper makes the case for strengthening school meal programmes as an effective, affordable, and practical contribution to wider food system reform.

School meal programmes – already one of the world’s largest social safety nets – can alleviate hunger, unlock opportunities for learning, and strengthen public health. Ambitious initiatives under way in many countries are showing that expanding school meal programmes can strengthen social contracts between states and citizens, cut through political complexity and attract widespread public support. As the failures of current food systems become increasingly visible and harmful, the case for a strengthened focus on school meals becomes more compelling.

Food system failures have gone hand in hand with extraordinary achievements. The production of food has outpaced population growth, refuting concerns that date back to Thomas Malthus. Gains in productivity have brought affordable diets within the reach of millions, improving nutrition, reducing poverty, and increasing longevity. The first quarter of the 21st century has seen a continuation of past trends. Measured by yields per hectare, agricultural productivity has continued to grow. International food trade has continued to expand, generating jobs, supporting livelihoods, and improving food security for some.

Yet at the very heart of the achievements are the hidden – and not so hidden – costs that come with intensive agricultural systems and convergence towards ultra-processed, high-fat and sugar-intensive “Western diets” delivered through long supply chains. Expressed in monetary terms, the social and ecological damage caused by the global food system – estimated at \$12 trillion annually – now outweighs its market value. The human costs of the highlighted in this paper are even starker:



**Undernutrition and food insecurity are rising, with 3 billion people unable to afford a healthy diet.**

Progress towards eradicating hunger has stalled over the past decade. On current trends, the prevalence of undernutrition in 2030 will be the same as in 2015. We estimate that 284 million children

of primary and secondary school age are sitting in classrooms with the burden of hunger or are out of school and living with undernutrition, with devastating consequences for education.



**Unhealthy diets are one of the main causes of premature death and disability, and a major strain on health systems.** Around the world, 13 per cent of adults are obese. That figure is rising sharply, along with the share of obesity accounted for by developing regions. One in four children in Latin America are either overweight or obese. The World Health Organization has described rising childhood obesity as one of the most serious public health challenges of the 21st century – and for good reason. Obesity in childhood not only creates health risks and reinforces educational disadvantage but also tends to lead to adult obesity.



**Extractive agriculture and land use systems are creating unpayable ecological debts.** The food system accounts for around one-third of greenhouse gas (GHG) emissions, or the equivalent of 18 gigatonnes of carbon dioxide (GtCO<sub>2</sub>e) a year. Meat production accounts for half the total, mostly in the form of methane, which is 80 times more potent a greenhouse gas than carbon dioxide. The food system is also the origin of most biodiversity loss and stress on water systems, and a major cause of pollution.



**Poverty and inequality.** Many of the world's poorest people live and work in rural areas marked by high levels of food insecurity. Sub-Saharan Africa's acute dependence on imported food is a source of food insecurity, and both a cause and effect of rural poverty linked to low yields. Cereals imports represent almost 40 per cent of reported supply, diverting over \$40 billion in foreign exchange. African governments have identified food self-reliance as the key to future food security.

We are paying twice over for food system failures. Beyond the harm these failures inflicted on public health, the environment and the climate, consumers and taxpayers are paying out of their pockets to subsidise the damage. Agricultural subsidies across 54 major economies tracked by the OECD amounted to \$817 billion annually between 2019 and 2021 – over \$2 billion a day. These subsidies are overwhelmingly directed towards large-scale, intensive agriculture – and to the sectors responsible for the greatest ecological harm and the least healthy diets, like beef and dairy production.

**School meal programmes are not a stand-alone strategy for food system reform – but they are among the most powerful, practical, and proven levers available to governments.**

Almost every country operates a school feeding programme. These programmes reach over 418 million children, many of them from families struggling with undernutrition. Unfortunately, the safety nets are weakest where they are most needed – in the world's poorest countries. Coverage rates for primary school age children vary from an average of 18 per cent in low-income countries to 39 per cent in lower middle-income countries (LMICs). Eligibility criteria in richer countries like the United States and the United Kingdom leave many vulnerable children without access to school meals.

A new momentum behind school meal programmes, which was building before the COVID-19 pandemic, is gathering pace as concern grows over undernutrition and food price inflation. Governments in Bangladesh, Benin, Kenya, Nepal, Rwanda, Senegal, and many other countries have set their sights on providing school meals to all children. During the 2021 World Food Systems Summit, governments created the School Meals Coalition, a country-led alliance with high-level political participation by 82 countries. The coalition is supported by over 90 organisations, including UN agencies, research institutes, NGOs, and community organisations. Across the world, school meal campaigns are fusing

food justice, social justice, and climate justice into advocacy efforts that are driving change.

Well-designed, properly financed school meal programmes can protect children from the impacts of food system failures while contributing to a wider transformation in the way we produce, consume, and market food. The benefits of school meal programmes have been extensively documented. In this briefing paper we highlight their demonstrated potential in key areas to boost food system reform, including:

### **Improving nutrition for school children and adolescents.**

Providing nutritious school meals can help solve the global problem of undernutrition among school age children. A balanced mix of carbohydrates, fresh fruit, vegetables, and protein can help children grow, develop, and realise their potential. Evaluations of India's Midday Meals scheme, the world's largest school feeding programme, have documented not just improvements in nutrition for the children fed, but also for the children of women who benefited from school feeding during their school years. These cross-generational effects may have contributed around one-third of India's progress in reducing the share of children who are stunted, or short for their age.

### **Unlocking education opportunity.**

Children with hungry stomachs learn less. Rigorous evaluation evidence shows that school meal programmes tend to improve school attendance and learning achievement, while reducing dropout rates. An extensive evaluation of Ghana's programmes found that the poorest children and girls made the greatest gains. For governments serious about the commitment to "leave no one behind" in education, school meals represent a practical policy option.

### **Tackling obesity through healthy diets.**

Current food marketing systems are geared towards hooking children on high-fat, sugar-intensive, and ultra-processed junk food that can lead to obesity. Providing nutritious, healthy meals at school canteens can break unhealthy diet habits during the school years. To do so, however, they need to be backed by wider regulatory efforts to protect children from food industry marketing and reorient markets towards healthier diets, for example through sugar taxes.

### **Using the power of procurement to support the development of a sustainable and equitable food system.**

Procurement budgets for school meals are a powerful lever for reform. Brazil's school meals programme includes a provision for purchasing at least 30 per cent of supplies from local smallholder farmers. Many municipalities are going beyond that target, while also supporting ecologically sustainable farming. Farm-to-school legislation in the United States, although more limited in scope, is pushing in the same direction. Local procurement can reduce food waste and promote powerful multiplier effects in rural communities, with every \$1 spent creating another \$2-\$3 through local markets. Procurement budgets backed by predictable finance can provide smallholder farmers with opportunities to invest in regenerative and organic agriculture, with benefits for ecology and equity.

### **Supporting self-reliance.**

In countries that depend too heavily on food imports, notably poorer countries lacking the market power to secure supplies during price surges, school feeding programmes can shift demand towards local producers and shorter supply chains. Home-grown school feeding programmes in Africa demonstrate the potential. Nigeria's programme feeds over 4 million children daily, almost entirely from national supplies. Multiplier effects associated with the procurement of food for school meals can help strengthen livelihoods and reduce poverty.

Many of the ingredients for a global breakthrough on school feeding are already in place – but finance remains a constraint for many of the poorest developing countries. Most middle-income and all high-income countries have the resources and capacity to provide universal school feeding by 2030. Poorer developing countries are demonstrating leadership and, in many cases, a level of ambition lacking in richer countries. They are constrained by an adverse economic environment, however, marked by slower growth, reduced revenue, rising debt service obligations, and food price inflation. The School Meals Coalition has developed a plan of action that could extend school meals to another 73 million children across 60 countries at a cost of \$5.8 billion annually. The case for acting on that plan is more urgent than ever.

## **This briefing paper identifies a range of approaches for realizing the wider potential of school meal programmes as an engine for food system reform.**

Summarized in the Agenda for Action, the proposals include:



### **Framing school meal programmes as a link in wider food system reform strategies.**

Food system reform is often stymied by a lack of coordination and contradictory policies, with ministries pulling in different directions. School meal programmes should be framed not just as an education intervention, but as a link in the chain joining food security, equity, and ecology – and as a vehicle for connecting food systems, people and our planetary boundaries.



### **All countries setting a course for providing school meals for all by 2030.**

The more extensive the reach of the programme, the greater the scope for generating mutually reinforcing social, economic, and environmental benefits. Governments should back ambition with clear objectives, credible budgets, and implementation strategies that prioritise the most disadvantaged.



### **Gearing school meal procurement budgets towards local smallholder agriculture and sustainable farm practices.**

School procurement offers opportunities to shorten supply chains, support regenerative agriculture and other sustainable practices, and build more resilient rural livelihoods. It can create a predictable market for farmers who invest in seeds that are drought-resistant, pest-resistant, and biofortified, linking farms to schools through mechanisms that benefit children and local communities.



### **Putting school feeding programmes at the centre of wider strategies for climate change.**

Procurement budgets for school meals can be used to help smallholder farmers adapt their practices to climate change and reduce greenhouse gases through regenerative, low-intensity agriculture, shorter supply chains, and reduced food waste. Costed school feeding proposals should figure in Nationally Determined Contribution papers submitted through the Paris Agreement process. They are currently absent. They are also absent from climate finance provided through multilateral mechanisms such as the Green Climate Fund (GCF). The oversight needs to be addressed as part of the second replenishment of the GCF (GCF-2).



### **Supporting Africa's efforts to develop food self-reliance, with Africa's farmers feeding Africans.**

Home-grown school feeding programmes backed by wider investments to raise farm productivity could play a greatly expanded role. The current five-year strategy of the Alliance for a Green Revolution in Africa (AGRA), the development of new seed varieties through agencies affiliated to the Consultative Group on International Agricultural Research (CGIAR), and a range of regenerative agriculture initiatives provide ready-made focal points.



### **Increasing aid – and strengthening international cooperation.**

The expansion of school meal programmes in developing countries has been led by developing country governments and financed overwhelmingly with domestic resources. Sustaining that leadership is critical. However, the efforts of the poorest developing countries will need supplementary financing through aid. Many of these countries face what the IMF has described as “a big funding squeeze”, with fiscal space tax revenue shrinking and unsustainable debts mounting in the face of rising debt service obligations, reduced tax revenues, and high levels of inflation. Development assistance could expand the room for fiscal manoeuvre. But current levels of aid directed to school meal programmes – around \$214 million in 2021 – are insufficient. Moreover, aid effectiveness is compromised by a fragmented, project-driven approach. Donors should commit to providing \$1.7-\$2 billion annually by 2030. To place that figure in context, it represents less than one day’s worth of the world’s farm subsidies. Government budgeting in donor countries is ultimately about economic and moral choice. As President Biden has put in a different context; “Don’t tell me what you value. Show me your budget and I’ll tell you what you value.” Comparing the public finance directed by OECD governments to environmentally damaging financial subsidies skewed towards wealthy farmers, and the aid provided for school meal programmes with the potential to nourish millions of the world’s most vulnerable children, unlock education potential, and build more sustainable food systems, is surely a projection of the wrong values.



### **Converting unsustainable debts into school feeding investments – encourage “debt-for-school meal” swaps.**

Debt relief efforts have been stymied by the absence of a framework spanning all creditors, including the private creditors who account for a large and growing share of debt repayments. The Debt Service Sustainability Initiative (DSSI) provided modest temporary relief, but progress towards implementing the G20’s Common Framework has been too slow. Debt rescheduling operations and “debt-for-school meal” swaps could unlock new resources for school feeding. Ecuador’s experience demonstrates the potential.

## Introduction

“You are what you eat” is a well-worn adage with a powerful contemporary resonance. The global food system sustains human life, shapes our health, and moulds the natural environment. It underpins millions of livelihoods. It is one of our most productive, innovative, and profitable systems of production. Yet it is also one of the most destructive.

The way that we produce, consume, and trade food is failing humanity. In a system that generates enough food for everyone, millions are left hungry and undernourished. Agriculture and land-use practices are destroying environments, reducing biodiversity, and hastening harmful climate change. Poor diets are a leading risk factor for disease, disability, and premature death. The food system epitomizes the inequalities and injustices hampering progress towards the Sustainable Development Goals (SDGs). No less than in the case of carbon-intensive energy systems, we need a food system reset. As the UN Secretary General, António Guterres, told the 2021 UN Food System Summit (FSS): “Change in food systems is not only possible; it is necessary.”<sup>2</sup>

The FSS itself was a bold attempt to fuse disparate social justice, environmental and public health agendas into integrated strategies for reform. Two years later, an extensive cast of governments, UN agencies, NGOs, and community organisers will gather for the FSS “Stocktaking Moment” in Rome in July 2023. The UN has called for the Stocktaking Moment to generate practical ideas for reform ahead of the planned SDG summit at the UN General Assembly in September 2023 and the CoP28 climate summit in Dubai in late 2023, where food systems reform will be on the agenda. Beyond these critical events, food system reform has emerged as a rallying point in efforts to link social justice, public health, and environmental sustainability.<sup>3</sup>

This briefing paper has been prepared in advance of the Stocktaking Moment. It highlights the untapped potential for school meal programmes to play an expanded role in changing food systems. School canteens may not be an obvious battleground for food system reform. But if the objective is a food system that builds rather than erodes human well-being, replenishes rather than squanders the natural environment, links communities and reshapes markets, school meal programmes provide an unrivalled opportunity.

School feeding is sometimes narrowly viewed as just a safety net intervention with benefits for education. An expanded model of school feeding has emerged linking healthy meals for children to wider food system improvements, including support for smallholder farmers, environmentally sustainable agriculture, the development of local supply chains, and promotion of healthy diets. With the right national and international leadership, school meal programmes could forge strong mutual ties between food justice, social justice, and climate justice. This “triple justice” nexus is already galvanizing action to tackle the interlocking social and ecological crises that define the Anthropocene era.

There are at least three persuasive reasons for the FSS Stocktaking Moment to focus on strengthening school meal programmes. The first is their ability to cut through the complexity that often paralyses food system reform efforts. As one set of commentators put it, food systems “have many moving parts where diverse actors pull various levers and push food systems in different directions.”<sup>4</sup> That partly explains why FSS struggled to frame a practical reform agenda, as distinct from a powerful set of problem statements. By contrast, school feeding programmes target a compelling cause, enjoy widespread support, and have the potential to unlock win-win scenarios in areas with a well-defined public interest, including education, the environment, and public health.

The reach of school meal programmes is the second reason for the Stocktaking Moment to double-down on school feeding. Almost every country already has a system in place. The institutional

and legislative levers for reform are already there. They just need to be pulled with more forceful intent.

The third reason for a strengthened focus on school feeding now is the opportunity to build on considerable political momentum, which can be seen at many levels. As of July 2023, 82 governments have joined the School Meals Coalition. Many of them – including Bangladesh, Benin, Kenya, Nepal, Rwanda, and Senegal – have set a course for universal school feeding, demonstrating extraordinary leadership in hard times. More widely, the momentum can be seen in a proliferation of initiatives through which governments and municipalities from Milan to Addis Ababa, São Paulo, and New York, are using the power of food procurement to link school canteens to local farmers and promote smallholder agriculture.

Developments on the international stage have added to the impetus. The Biden Administration's National Strategy on Hunger, Nutrition and Health is changing the playbook for US policy.<sup>5</sup> In a reflection that has a powerful global resonance, the plan recognises that America “has not yet fully leveraged school meals as a core intervention to improve child health or child hunger.” The strategy calls for free, healthy school meals for all as part of wider food system reform prioritizing healthy people and a sustainable planet.<sup>6</sup> The European Union's Farm to Fork strategy is a key element of the Green Deal, which aims to make Europe “climate-neutral” by 2050. Farm to Fork is Europe's first integrated strategy for linking the eradication of hunger to wider public health, environmental, and climate goals. Applied on the world stage, such approaches could greatly enhance the impact and enlarge the scope of school meal programmes, if actively promoted by the World Bank and other multilateral development banks as they scale up financing for climate change and an SDG recovery.

None of this is to understate the challenges. Currently, school meal programmes are thinnest on the ground precisely where they are most urgently needed, in the world's poorer developing countries. As government budgets in these countries have shrunk with slower growth, rising debt, and inflation, prospects for financing more school meals remain uncertain. Even in wealthier countries where school feeding is embedded in safety nets, there are concerns over children who are unreached. School meal programmes are themselves often a target for vested interests and lobby groups seeking to maintain current food systems and unhealthy diets. Realizing the full potential of school meal programmes to achieve disparate goals will require governments to deal with potential trade-offs and make difficult choices.

Set against these challenges there are tremendous opportunities for reform. The School Meals Coalition has set out a practical and affordable plan for extending school meals to another 73 million children, transforming lives threatened by undernutrition. An enhanced effort by governments to raise more domestic funds, backed by international aid, could deliver that transformation. Putting school meals on the food system reform agenda could enable governments to unlock new flows of climate finance.

There is an overwhelming moral case for action. As Nelson Mandela once put it: “Giving children a healthy start in life, no matter where they are born or the circumstances of their birth, is a moral obligation on every one of us.” School meal programmes provide a vehicle for acting on that obligation. Children did not choose the food system they live in but are bearing the brunt of that system's failures as they face undernutrition, health risks, and the impact of climate change on their lives and the lives of future generations.

In our politically polarized times, few issues have the potential of school meal programmes to cut across political divides, galvanise international cooperation, and move the world towards a healthier, more equitable, and more sustainable food system.

Part 1 of this paper looks briefly at the food system crisis, its underlying causes, and its impact on

children. Part 2 sets out the role that expanded school meal programmes could play in responding to that crisis. Part 3 sets out the financing requirements and associated challenges for realizing that potential. The paper concludes with an Agenda for Action.

## 1. Food system failures

The global food system is vast, complex, productive, and enormously profitable. It has underpinned extraordinary advances in human development, lifting millions out of poverty and feeding a growing world population. But it is also unfit for purpose, pushing us beyond our planet's fragile ecological boundaries, harming public health, reinforcing inequalities, and leaving people behind on a global scale.<sup>7</sup> The 2021 Food System Summit was convened as a response to what the Chair's summary described, without hyperbole, as "a planetary crisis threatening our planet and life as we know it".<sup>8</sup>

If there is one word that summarises the policy approaches that have shaped global food systems, that word is "productivity"<sup>9</sup> – specifically defined as getting more food out of every hectare of farmland. The common theme linking post-war Europe, North America, and the Green Revolution period in developing countries is the drive to produce "cheap food" by applying intensive fertiliser, new technologies, and capital, and to deliver that food through supply chains operating across liberalized national and global markets. Adverse social and environmental impacts have been treated as the price to be paid for "modernisation", or as "externalities" ignored in national accounting.<sup>10</sup> That model has run its course. But fundamental shifts in policies, mind-sets, and behaviours are needed if we are to build a 21st century food system that provides healthy and affordable diets, through production systems that are fair, sustainable, and ecologically resilient.<sup>11</sup>

### *The food system has delivered "productivity" and "cheap food"....*

On some measures, the model has been an outstanding success. Food production has outpaced population growth. Despite periodic price spikes, food prices have been kept low – and the share of food in household budgets has fallen. Yields have surged across much of the world – Sub-Saharan Africa being the exception. Food systems have contributed to remarkable achievements in human development, providing nutrition to growing populations, reducing poverty, and increasing life expectancy.

Long-run trends have continued into the 21st century. The value chains linking producers, suppliers of seeds and fertilisers, processing firms, and wholesalers to consumers, account for around 12 per cent of GDP. Enough food was produced in 2021 to provide 2,960 kilocalories (kcal) a day for every person on the planet, well above the level needed to meet daily energy needs and a 9 per cent increase over the level in 2000/2002. Primary crop production increased by half, and meat production by 45 per cent. Protein supplies have also increased. Every region has enough calories available to feed its population.<sup>12</sup>

The monetary value of the food system is also rising. In the case of agriculture, it was 78 per cent higher in 2021 than in 2000, reaching \$3.6 trillion. The reported value of food exports increased almost four-fold between 2000 and 2020.<sup>13</sup>

### *....while leaving millions hungry, fuelling inequality, and running up immense ecological debts*

Scratch the surface of the productivity and monetary indicators and a very different picture emerges. Factoring in environmental, health, and wider social costs treated as "externalities" in national accounting reveals a system running out of control. The Food and Land Use Coalition has estimated these "hidden costs" at around \$12 trillion – more than the market value of the food system itself. Similar research in the United States calculates the present and future costs of the food system at three times the market value of US consumer spending on food.<sup>14</sup>

These hidden costs are hard-wired into the food system. The intensive agricultural practices that have raised yields have contributed to environmental damage, biodiversity loss, and the greenhouse gas emissions driving climate change. The global convergence towards “Western diets” has led to overconsumption of foods that are high in fat, sugar, and sodium, and underconsumption of plant-based proteins, fresh fruit, and vegetables. Over half the world’s food energy now comes from wheat, rice, and maize, which are rich in calories but poor in nutrients. The most abundant and cheapest foods are refined carbohydrates, sugars, and fats.<sup>15</sup>

The livestock sector is a poster child for inefficiency and environmental harm. Every kilocalorie in energy provided through meat takes 25kcal of energy to produce, the methane produced by ruminants is a potent source of global warming, and the land cleared for livestock farming is a major source of biodiversity loss.

Waste magnifies the cycle of inefficiency. Around one-third of the food produced each year – valued at \$1 trillion – is wasted, either lost between the farm and consumers or left on plates.<sup>16</sup> Producing that food emits 4 gigatonnes of greenhouse gases. Sub-Saharan Africa, where poverty, hunger, and food insecurity are endemic, loses 37 per cent of the food produced each year, or 120-170/kg per capita.<sup>17</sup> Cereal waste alone costs the region \$4 billion annually. Cutting waste would help feed more people and reduce agriculture’s ecological footprint, but there is little sign of progress. Under-investment in the infrastructure needed to store and market food is a major factor.

Vulnerability is also built into the world’s food system. International trade could play a vital role in supporting food security, with international markets enabling countries to adjust to supply shortfalls. However, world markets are dominated by a small number of crops (mainly wheat, maize, rice, and soya), small groups of major exporters, and an even smaller group of multinational companies linking producers and consumers through long supply chains. The market disruption that followed Russia’s invasion of Ukraine provided a reminder of the food security risks that come with high levels of import dependence, especially in poorer developing countries facing high levels of debt and currency depreciation risks. Surging food price inflation has pushed millions of people into poverty and malnutrition since 2019 (see below).

Nothing more powerfully captures the failure of the current global food system than the persistence of malnutrition. In a world that produces enough calories for everyone, malnutrition is still the main background risk factor leading to the death of children under 5. It undermines learning opportunities for millions of children, reduces the productivity of adults, and transmits poverty across generations. The economic costs of malnutrition, in all its forms, are enormous, for individuals, families, and entire nations. The estimated impact on the global economy could be as high as US\$3.5 trillion per year, or US\$500 per individual.<sup>18</sup>

Humanity is also paying for food system failures in a perversely literal sense. In 54 major economies tracked by the OECD between 2019 and 2021, government agricultural subsidies – which are ultimately paid for by consumers and taxpayers – amounted to \$817 billion annually.<sup>19</sup> Overwhelmingly geared towards the large-scale, intensive agricultural practices at the heart of the crisis in food systems, that transfer represented 17 per cent of farm receipts. Put differently, the world is spending \$2 billion daily subsidizing a system that is exacerbating climate change and damaging the environment.

The Voluntary Guidelines of the Committee on World Food Security define a sustainable food system as one providing “food safety, food security, and nutrition for current and future generations in accordance with three dimensions (economic, social, and environmental) of sustainable development,” with an emphasis on “inclusive, equitable, and resilient” development.<sup>20</sup> Just how far we are from that system can be illustrated by four fundamental failures in the current system.

## Undernutrition, food insecurity, and unaffordable healthy diets

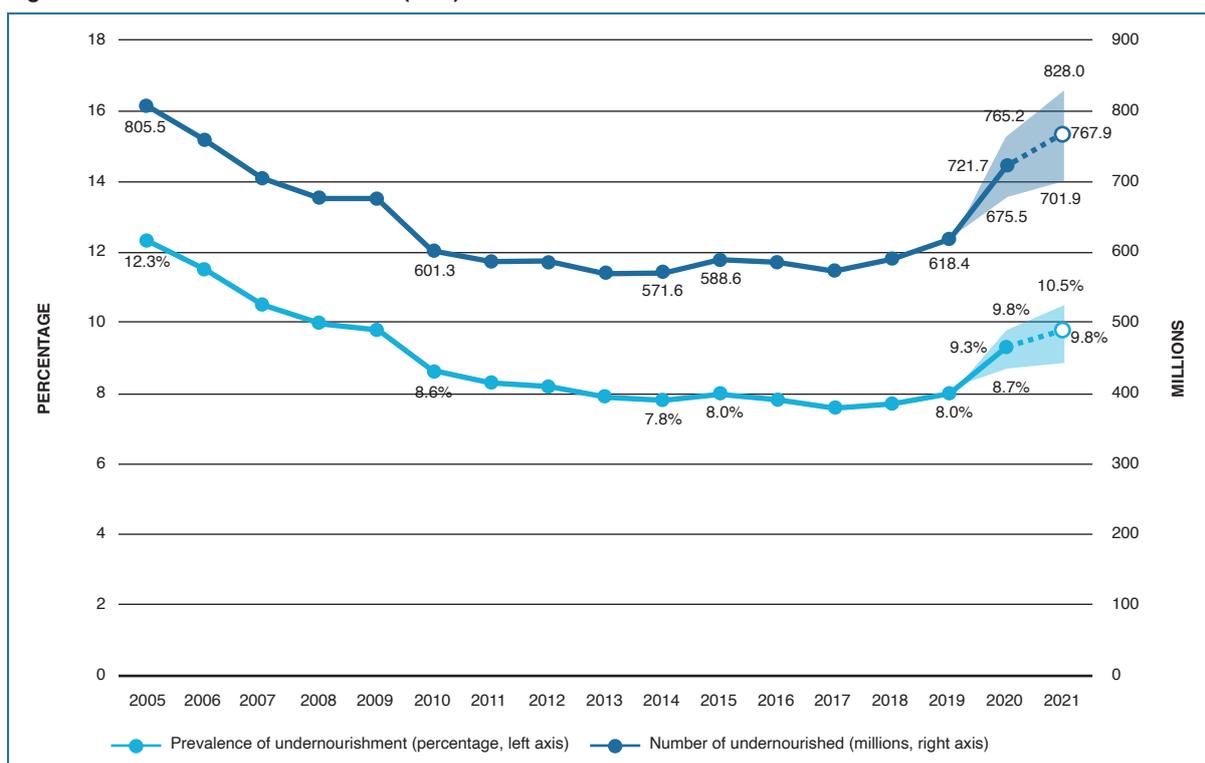
Measured by its most basic function – providing healthy and nutritious food for all, our food system is failing. While the monetary value of the food system is rising, progress towards eliminating hunger is stagnating. The SDG target of zero hunger by 2030 is slipping out of reach – and children are bearing the brunt. Headline data tell their own story. In 2021, 768 million people, 10 per cent of the world’s population, were going hungry – 167 million more than in 2010. A far greater number, 2.3 billion people, were living with moderate or severe food insecurity, uncertain as to where the next meal was coming from.<sup>21</sup> That figure represented 29 per cent of the world’s population, up from 21 per cent in 2015.

One of the most striking – and worrying – developments in the SDG progress record is a divergence between trends for poverty reduction and those for nutrition.<sup>22</sup> While extreme poverty has continued to fall, progress towards the elimination of hunger stalled around 2014. While food insecurity linked to humanitarian crises provides part of the explanation, it is increasingly evident that a focus on monetary poverty will be insufficient to set the world on a course to “zero hunger”. It is now projected that 8 per cent of the world’s population will be living with hunger in 2030 – roughly the same share (but with far more people) as when the SDG targets were agreed in 2015.

Healthy diets remain beyond the reach of more people than ever. That matters because diet quality is the link between people’s health, the food system, and productive lives. Today, 3 billion people are unable to afford a healthy diet because their incomes are too low, food prices are too high, and social support too limited to make it an option.

There are marked regional variations behind the global figures (Figure 1). Asia accounts for just over half of undernutrition and Africa for another third. Numbers are rising in both regions. On current projections, 18 per cent of Africa’s population will be undernourished in 2030. The prevalence of undernutrition has also increased in Latin America, which has registered no progress since 2000.<sup>23</sup> Food insecurity has followed a broadly similar trend, with all regions registering marked increases between 2014 and 2021. Affordable healthy diets are out of reach for 88 per cent of people in low-income countries and 69 per cent in lower-middle-income countries.

**Figure 1: Prevalence of undernutrition (FAO)**



Source: Global undernutrition: prevalence and headcount; Add Source: FAO, State of Food Security and Nutrition in the World, 2022

### Children are bearing the brunt – beyond the “first 1,000 days”

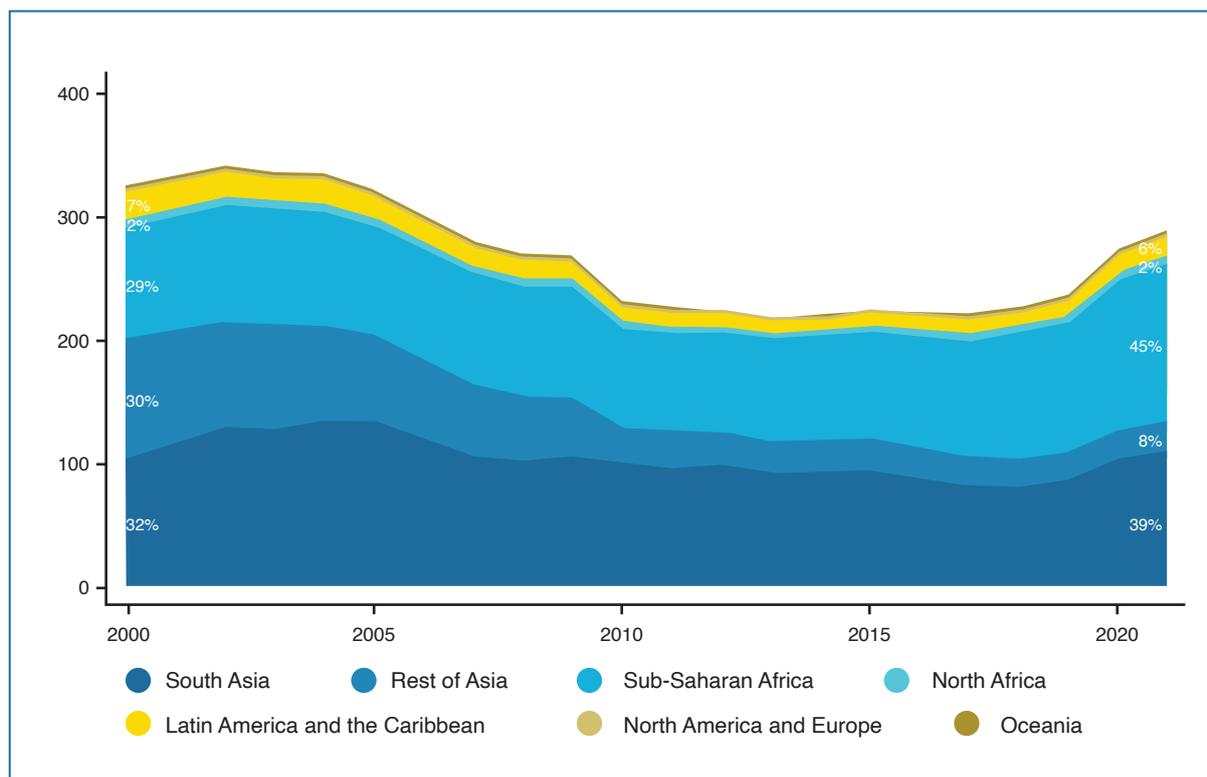
The impact of these trends on children has been insufficiently recognized. That is partly because international reporting systems and nutrition frameworks prioritise the “first 1,000 days”, or children under 5, whose nutrition is improving (albeit far too slowly to achieve the SDGs). By contrast, the primary school and adolescent years have been largely overlooked.

This omission is profoundly damaging. Child development continues through the primary and adolescent years into adulthood across the “first 8,000 days”.<sup>24</sup> On average, people gain one-fifth of their adult height and half their adult weight between the ages of 10 and 19. The adolescent years are vital for brain growth and development. Poor nutrition during this period can cause lifelong harm to health, psychological well-being, and emotional development. The brain’s neuroplasticity, or ability to “rewire” itself, which supports learning, cognitive flexibility, and working memory, is highly susceptible to adverse nutrition.

Reconfiguring data from the UN Food and Agriculture Organization (FAO) provides a window on the scale of the burden carried by children of all ages. Figures 2-5 apply the prevalence rates for undernutrition and food insecurity from the FAO’s 2022 report State of Food Security and Nutrition in the World to UN Population Division age cohort data, roughly corresponding to pre-school (0-4 years), primary school (5-10), and secondary school (10-18) years. The exercise has large margins of error since actual prevalence rates among specific age groups for children may be higher or lower than the regional average. Even so, the picture that emerges is a worrying one.

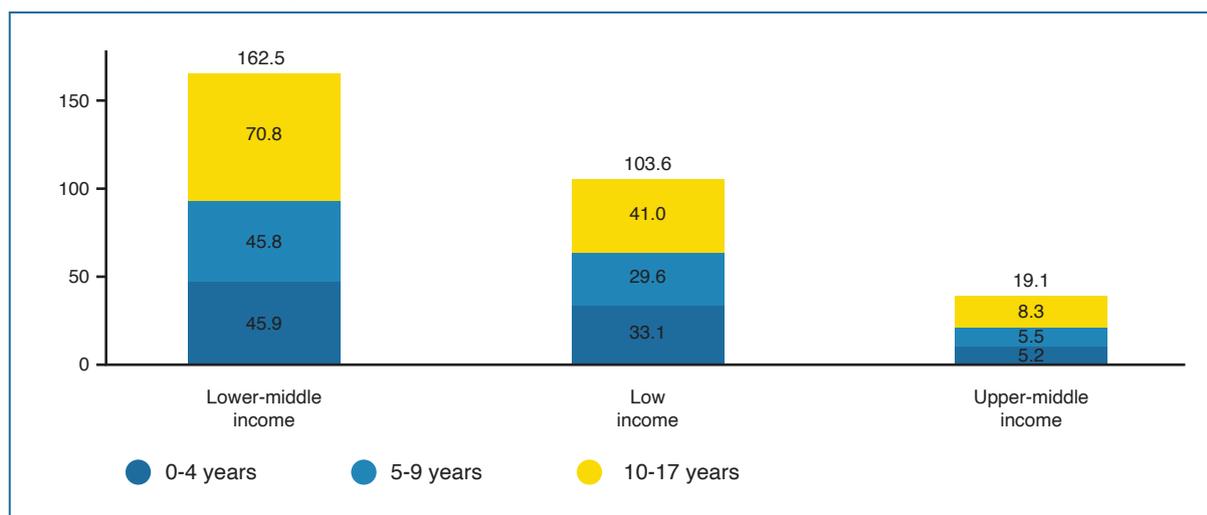
The share of children in global undernutrition is rising, driven by setbacks in Sub-Saharan Africa and South Asia. On a simple application of regional prevalence rates, 284 million children were going hungry in 2021 – an increase of 57 million over the number in 2010. These children accounted for 37 per cent of worldwide undernutrition. Children in Sub-Saharan Africa accounted for almost half the total on a sharply rising trend. Absolute numbers have also been rising in South Asia and, from a lower base, in Latin America.

**Figure 2: Estimated undernutrition for children under 18, 2000-2021**  
By world region and age cohort based on FAO and UN population data



Source: Estimated undernutrition for children under 18 by region, 2000-2021; Add Source: Calculation based on application of FAO regional undernutrition prevalence rates to age cohort data drawn from UN Population Division

**Figure 3: Estimated undernutrition for children under 18**  
*By income group and age cohort based on FAO and UN population data*



Source: *Estimated undernutrition for children under 18 by country grouping, 2021*; Add Source: *Calculated from FAO and UN Population Division data (see Figure 2)*

These broad trends have far-reaching implications for education. Taking just the approximate age ranges for education levels:

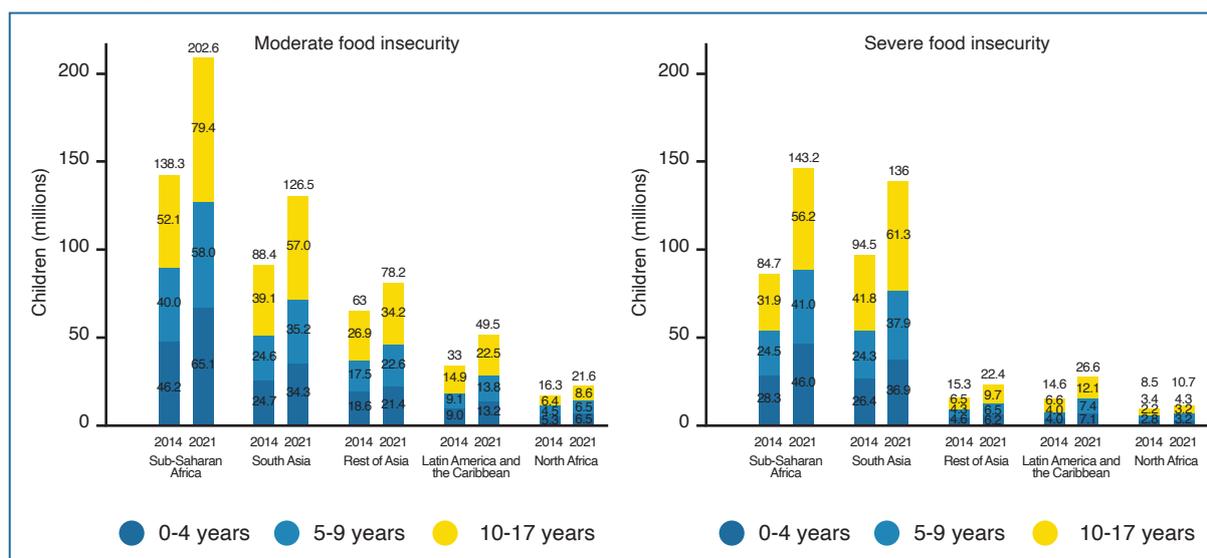
- 284 million children of primary and secondary school age are either sitting in classrooms with the burden of hunger or are out of school and living with undernutrition.
- 162 million of these children are in lower middle-income countries and another 102 million in low-income countries.
- In Sub-Saharan Africa, 80 million primary school age children are going hungry, along with 119 million secondary school age children.
- Over 80 million primary school age children and adolescents in South Asia are undernourished.
- In Latin America, the number of school age children undernourished has increased by over 5 million since 2010.

These figures have far-reaching implications. Consider Africa's demography. Today, around half of Africans are under 20. The region's median age is 19, compared with 44 in Europe. With its population projected to double by 2050, Africa's youthful population represents an extraordinary demographic opportunity for the region. That opportunity will be squandered if the region's education systems fail to provide this generation of children with the skills they need to flourish – and no education system can counteract the devastating effects of malnutrition.

Hunger is among the most powerful barriers to learning. Undernutrition is closely linked to deficiencies of micronutrients –iron, calcium, and folate, Vitamin A and other vitamins – that can harm health and cognitive development. Adolescent girls are particularly affected. Anaemia, a general indicator of micronutrient deficiencies, affects around one-third of adolescent girls, while the prevalence of vitamin A deficiency is estimated at 18 per cent among girls aged 5 to 19 in low-income countries.<sup>25</sup> Beyond the effects on learning in the classroom, the poverty that tends to accompany undernutrition and food insecurity is a major risk factor for children dropping out of school.

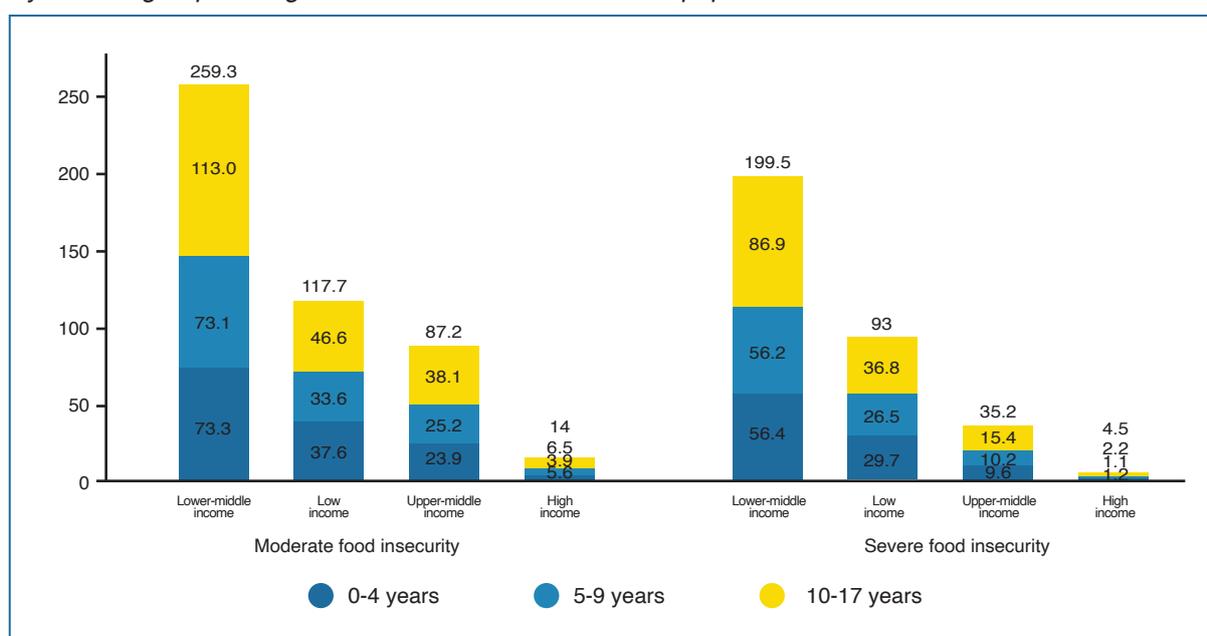
Undernutrition is just one aspect of the food insecurity facing children. Figures 4-5, which apply the same regional prevalence rate approach, show that 2.3 billion children now face moderate or severe food insecurity. Children in families who don't know where the next meal is coming from are more likely to drop out of school and get pulled into labour markets or, the case of girls, household chores.

**Figure 4: Estimated undernutrition for children under 18**  
By world region and age cohort based on FAO and UN population data



Source: Estimated moderate and severe food insecurity for children under 18 by region and age cohort; Source: Calculated from FAO and UN Population Division data (see Figure 2)

**Figure 5: Estimated undernutrition for children under 18**  
By income group and age cohort based on FAO and UN population data



Source: Estimated moderate and severe food insecurity for children under 18 by country group and age cohort; Source: Calculated from FAO and UN Population Division data (see Figure 2)

These estimates have crucial implications for national policies and the SDGs. As global undernutrition becomes increasingly concentrated in school-age children in Sub-Saharan Africa and South Asia, schools in those regions represent an obvious front line in the battle against hunger. Reaching these children with effective nutrition and health programmes would not only turn the tide in that battle, but also unlock the education potential now being lost because of hunger.

### A global epidemic of overweight and obesity

Healthy diets require a balanced mix of calories, proteins, and nutrients from diverse food sources, with small amounts of meat supplemented with large amounts of fresh fruit, vegetables, and plant-based protein. Food systems have been pushing consumption in a very different direction, with processors and retailers “adding value” by marketing ultra-processed diets high in fat, sugar, and sodium.

The dietary transition has harmed public health.<sup>26</sup> Unhealthy diets are a leading cause of ill health globally, accounting for 16 per cent of Disability Adjusted Life Years and one in five deaths. Such diets kill 11 million people annually, more than die from tobacco. The major causes of diet-related death and disability are cardiovascular disease, cancers, diabetes, and hypertension.

In 2016, 13 per cent of adults worldwide were obese – 2.2 billion people – up from 8 per cent in 2000, breaching a WHO threshold target for 2025 of 10 per cent. By 2030 it is projected that 1 billion adults – 17 per cent of the world’s population – will be suffering from obesity.<sup>27</sup> Over 500 million adults are now living with diabetes – and that figure is projected to rise to 643 million by 2030.<sup>28</sup>

The highest prevalence rates for obesity are in developed countries, but the fastest-growing rates are in developing countries. Around 45 developing countries now face a double burden of undernutrition and overweight.<sup>29</sup> One quarter of Latin American adults suffer from obesity.<sup>30</sup> Since 2000, prevalence rates have almost doubled in Africa and Asia, albeit from a lower base. In India, prevalence rates for overweight and obesity have overtaken those for underweight among adults, with urban areas seeing a rapid surge.<sup>31</sup>

Sub-Saharan Africa represents a partial exception to the emerging international rule. Diets are characterized by high levels of carbohydrate intake and low per capita consumption of protein, especially meat or other animal protein. The region’s average daily meat consumption of 6-12g per capita is less than half the world average, and well below the levels associated with a healthy diet.<sup>32</sup> While other regions need to reduce meat consumption, a transition to healthy diets in Africa will require an increase in animal-based foods for children to improve growth, nutritional status, and cognitive development in the early years, and learning across childhood.

A transition to health diets will require a radical change in current trends. The EAT-Lancet Commission, a panel of scientists, recommends a doubling by 2050 of the global consumption of healthy foods such as fruits, vegetables, legumes, and nuts, and a 50 per cent reduction in consumption of less healthy foods such as added sugars and high-fat meats. Health benefits would include preventing 11 million deaths per year, or between one-fifth and one-quarter of total deaths among adults.

### ***Childhood obesity threaten education, health, and opportunity***

The WHO has called childhood obesity one of the most serious public health challenges of the 21st century – and for good reason. Children hooked on unhealthy diets in their formative years will become the next generation of overweight adults, carrying with them diminished opportunities and health risks. The targeting of children through advertising is a prime mechanism for developing markets geared towards unhealthy diets.<sup>33</sup>

The number of children and adolescents living with obesity has risen sharply in recent decades. The worst-affected developing region is Latin America, where one in five children are overweight or obese. Other regions are following a similar trajectory. Urban areas across South Asia have registered dramatic increases in obesity. More sedentary lifestyles and urbanisation have played a role, along with a ready supply of cheap unhealthy foods and sugary drinks relentlessly promoted by industry.

Children and adolescents living with obesity have lower school performance than their healthy-weight counterparts. The condition also has psycho-social consequences, with obese children and adolescents more likely to suffer low self-esteem, diminished confidence, and bullying. Because obese adolescents are likely to become obese adults, the health and education costs to them and their societies accumulate over a lifetime.

### **Ecological impacts and the climate crisis**

As well as undermining people’s health, our current food systems are harming the health of the planet.

We are now picking up the ecological debt generated by an environmentally unsustainable food system geared towards an extractive model of agriculture and land-use.

Food systems are now the second-largest source of greenhouse gas (GHG) emissions. The way we produce, process, trade, and market food accounts for around one-third of GHG emissions, or the equivalent of 18 gigatonnes of carbon dioxide (GtCO<sub>2</sub>e) and year. Agriculture accounts for 40 per cent of that total and land-use change for 32 per cent. Most of the remainder can be traced to the processing, transportation, packaging, and retailing of food. On current trends and factoring in population growth, emissions could rise to 30GtCO<sub>2</sub>e/year by 2030 – pushing out of reach the Paris Agreement ambition of containing global warming to 1.5°C or less.

Dietary change is fuelling climate change. Meat production now accounts for around half of GHG emissions from agriculture. Most of these emissions are in the form of methane, which is 80 times more potent a GHG than carbon dioxide. Producing a single kilogram of protein from beef generates 60kg CO<sub>2</sub>e. The comparable figure for groundnuts and pulses is less than 3kgCO<sub>2</sub>e.

The wider environmental costs of the food system have been extensively documented. Agriculture and land-use changes are the single biggest cause of biodiversity loss.<sup>34</sup> They are also placing stress on water resources: over 40 per cent of cropland area now experiences water scarcity. Meanwhile, the intensive use of synthetic fertilisers and pesticides, a source of past gains in productivity, is contributing to pollution, soil erosion, and loss of soil fertility. The production of soybeans for feed is the second-biggest driver of deforestation worldwide, behind conversion of forest to pasture, especially in South America.

One of the greatest obstacles to a healthy, sustainable diet transition is the system of perverse subsidies geared towards maintaining the current model. Sectors cause the most damage – such as dairy and livestock – are among the most heavily subsidized. According to the World Bank, agricultural subsidies are responsible for the loss of 2.2 million hectares of forest annually – around 14 per cent of deforestation – and 17 per cent of the nitrogen pollution associated with excessive fertiliser use.<sup>35</sup>

## Poverty, inequality, and vulnerability

Food systems intersect with wider patterns that sustain poverty and reinforce inequalities, perpetuating the underlying causes of food insecurity.

Ironically, some of the most pervasive undernutrition and food insecurity is to be found in rural areas in the communities that produce food. Of the 660 million people who live on \$2.15 or less – the World Bank's threshold for extreme poverty – two-thirds live and work in rural areas. They include the families of the world's 500 million smallholder producers – the source of most of the food marketed in low-income countries. Some 80 per cent of Africans in extreme poverty live in rural areas, earning what little income they have from farming or from livelihoods linked to farming.<sup>36</sup> Around one-fifth of Latin America's rural population is living in extreme poverty – and progress in poverty reduction for rural areas has stalled for over a decade.<sup>37</sup> Across much of South Asia, rural poverty rates are more than double those for urban areas.<sup>38</sup>

The broad picture to emerge from these statistics is that current food systems and the markets they operate through are leaving behind large swathes of the rural poor, many of them women farmers and traders. Viewed through the other end of the telescope, inclusive economic growth in rural areas is a more powerful engine for extreme poverty reduction. In poorer countries, rural growth is two to three times as effective at reducing poverty as growth in urban areas.

### *Sub-Saharan Africa's yield gaps – a source of poverty and vulnerability*

Sub-Saharan Africa's situation illustrates the wider connections between rural poverty, food insecurity and food system vulnerability. In marked contrast to other developing regions (and with some national

exceptions), crop yields for the region have barely increased – and the yield gap is growing. One result is that food production in Africa has been increased by bringing more land into cultivation, rather than by using better methods, with damaging consequences for natural habitat. Cereals yields for Africa average 1.7 tonnes per hectare, less than half the level in South Asia. Cassava yields average 7-9 tonnes, with no improvement since 2000, while Southeast Asia's cassava yields have risen by two-thirds to reach 22 tonnes per hectare.

One consequence of Africa's yield gap has been a growing dependence on food imports. As population growth and urbanisation push up demand, Africa's farmers have been unable to produce enough and have lost market share. Imports now represent almost 40 per cent of cereals supply, generating a bill averaging over \$40 billion annually in recent years – more than five times the level in the mid-1990s.<sup>39</sup>

Dependence on food imports has magnified Africa's food vulnerability on two counts. First, rising imports have restricted the markets available to domestic producers, limiting revenue streams that could support rural livelihoods. Second, import reliance has exposed Africa's fragile economies to volatile world markets.

That was illustrated during 2022 when global cereals markets were disrupted after Russia invaded Ukraine. Surging food price inflation was imported into African countries, with the effects magnified by currency depreciation. In a region where on average people spend 40 per cent of their income on food, and a greater share for the poor, the impacts on poverty and undernutrition have been predictably severe, especially for children.

Africa's experience demonstrates the risks of outsourcing food security to world markets. Governments across the region have made the development of more self-reliant food systems an urgent priority. As President Macky Sall of Senegal put it: "If we want to be sheltered from the vagaries of world trade, we can no longer continue to import essential foodstuffs on a massive scale."<sup>40</sup> Expanding the share that Africa's farmers sell in local, national, and regional food markets would also open up new opportunities for reducing poverty reduction and boosting inclusive growth.

Self-sufficiency in food or market power no guarantee of food security, however. What matters from a food security perspective is not the availability of food as measured by supply, but the affordability of the food that is available. India is close to self-sufficiency in basic staples, yet 224 million people are malnourished.<sup>41</sup> Brazil is an agricultural export superpower, yet its prevalence of severe or moderate malnutrition is 28 per cent. Some 34 million Americans – including 9 million children – lack regular access to enough food for an active and healthy life.<sup>42</sup> As the cost-of-living crisis has deepened, people in many of the world's richest countries have experienced a marked deterioration in food security. In a recent UK survey, one-quarter of households with children reported difficulties in maintaining a healthy diet – twice the level in mid-2020.<sup>43</sup>

### ***Climate change is a risk multiplier***

There is a two-way interaction between climate change and food systems. Agriculture and land-use practices are fuelling climate change and climate change is harming agriculture. Rising temperatures, disrupted rainfall patterns, more frequent and protracted droughts, water stress, and floods are already taking their toll – and worse is in prospect.

Climate models predict major productivity losses for food staples in regions already marked by severe food insecurity. Sub-Saharan Africa faces acute risks because of high levels of background poverty and reliance on rainfed agriculture. Crops that represent the backbone of national and regional food security systems, such as maize, rice, cassava, and sorghum, could suffer yield losses of 10 per cent to 40 per cent.<sup>44</sup> While there are uncertainties in any modelling, uncertainty is not a reason for complacency. The risks point to an urgent case for supporting efforts to build more resilient rural livelihoods, including through the development and distribution of high-yielding, drought-resistant seeds.

## 2. School meal programmes and food system reform

Food systems are in the crosshairs of far-reaching reform efforts, advocacy initiatives, and campaigns. It is widely recognized that change is unavoidable – and that the world stands at a crossroads. Yet change is happening far too slowly. That's partly because of what the systems theorist Donella Meadows called “systems traps” – the complex processes through which failing systems maintain themselves.<sup>45</sup>

School meal programmes can help spring the food systems trap.

Well-designed and properly financed school feeding interventions can transform the food system failures highlighted in the previous section into virtuous circles. Among their demonstrated benefits, they can:

- Provide children with the nutritious energy intake and micronutrients needed to prevent undernutrition
- Improve children's education, as measured by years of schooling, learning, and equity
- Strengthen safety nets to reduce poverty and food insecurity among vulnerable households
- Protect children against obesity risks through healthy diets and education messages
- Use the power of procurement to build local supply chains, encourage regenerative agriculture, create jobs, and foster more resilient livelihoods, with benefits for the environment and climate change.

Across this broad package of mutually beneficial scenarios, school feeding programmes can strengthen equity, inclusion, and environmental sustainability. For any government seeking to act on the much cited SDG principle of leaving no one behind, it is difficult to think of a more compelling starting point.

### More than a safety net

School meal programmes have a long history. They can be traced back to the great campaigns of the late 19th century in which broad coalitions of reformers prompted governments to recognise and respond to hunger among school children.<sup>46</sup> In many countries, school feeding is now an established part of social welfare systems and the social contract between citizens and states. In recent years, there has been a renewed momentum behind school meal programmes, triggered in part the devastating impacts of COVID-19 and the cost of living crisis, and in part by a recognition of the role they can play in reforming food systems.

Almost every country has some kind of programme. In 2022, around half of all school age children – 418 million – were covered by subsidized or free school meals. The rapid recovery of these programmes from the school closures triggered by the COVID-19 pandemic bears testimony to their institutional resilience, public support, and political appeal.

### *Coverage is uneven – and weakest where it is most needed*

While the school meals safety net is global in reach it has major limitations and significant holes. It is weakest where its potential benefits are greatest: among the poorest children and adolescents in poorer countries. Coverage rates for primary school age children vary from an average of 18 per cent in low-income countries to 39 per cent in lower middle-income countries (LMICs) and 48 per cent in upper middle-income countries (UMICs).<sup>47</sup>

Marked regional variations reflect a combination of income differences and the disparate histories of school feeding programmes. Latin America has the most expansive coverage, with over 80 million children – or some 90 per cent of the school age population -covered. That outcome reflects the way in which school meal programmes have been embedded in approaches to development, social contracts between citizens and states, and institutional structures that provide continuity across political cycles.<sup>48</sup>

At the other end of the spectrum, only around one-fifth of primary school age children in East Asia and

one-quarter in Sub-Saharan Africa have access to free or subsidized school meals. Low coverage rates in Africa represent a major concern given the region's large – and growing – share of global undernutrition among school age children.

Delivery models and coverage vary enormously across countries. At one end of the spectrum are the systems in countries like Brazil, Bolivia, and Finland providing universal meals across all stages of education from pre-school to primary and secondary schools in Bolivia, Brazil, and Finland. India's Midday Meal Scheme, which was renamed PM Poshan in 2021, delivers a free meal to every primary school child in public schools, nominally spanning the 6-10 age group. Several low-income or LMIC countries – including Bangladesh, Kenya, Rwanda, and Senegal – have set a policy course towards universal primary school meals, broadly following the Indian model. Many other low-income countries – Tanzania is an example -provide a limited patchwork of school meal programmes often structured around NGO providers.

School meal programmes use various models to target those most in need, reflecting underlying public policy approaches and institutional capacity. For countries lacking developed social welfare systems, geographic targeting of areas of intense deprivation is widely used. For example, Kenya currently provides free school meals to 1.2 million children in arid- and semi-arid counties marked by high levels of food insecurity. In Ghana, a programme initially focused on the most disadvantaged areas, now covers all 216 districts across the countries, with targeting at the school level. Just over one-third of primary school children are eligible for free meals. South Africa's programmes target schools serving the most deprived 60 per cent of pupils.

While targeting in low-income countries is in part driven by budget constraints, many high-income countries link eligibility for free or subsidised school meals to social welfare provision. For example, the United States and the United Kingdom typically use household income to determine whether children are eligible. In the United States, children in households with incomes under 130 per cent of the poverty threshold are eligible for free meals, while those from households with income levels 130-180 per cent above the threshold qualify for reduced price meals.<sup>49</sup> On average, 20 million children receive free meals and another 9 million receive reduced price meals.

Targeting raises its own dilemmas. Geographic approaches have the merit of simplicity but may exclude millions of vulnerable children in areas deemed to have less intensive average deprivation – a consideration that has prompted the Kenyan government to embark on a universal programme. Targeting by income may exclude children from families who see needs-based school meals as stigmatizing. The costs of managing payments and determining eligibility can also be high. Moreover, any eligibility threshold is likely to exclude large numbers of vulnerable children just above the threshold. In the United Kingdom, 1.7 million children in households receiving poverty-related state support are excluded from free school meals because of an eligibility rule relating to income.<sup>50</sup>

### ***New momentum from the world's poorest to richest countries***

Developing countries have led the resurgence of interest in school meals. Before the COVID-19 pandemic, coverage was increasing dramatically. Over 80 per cent of LICs and LMICs have an established policy framework for school meals. These frameworks typically span not just nutrition and education policy goals, which are central, but also provisions for home-grown school feeding aimed at strengthening links between schools and local communities. The African Union has included school feeding as part of its wider Agenda 2063 strategy for transformation and its Continental Education Strategy for Africa.<sup>51</sup> It has also been a forceful champion of home-grown school feeding as a mechanism for strengthening food security.

The momentum behind school meal programmes can be seen at many levels. Low-income countries

like Benin, Ethiopia, Malawi, Nepal, and Senegal have announced ambitious scale-up plans. Rwanda, one of the poorest countries in the world, has almost reached universal primary coverage. One of the first announcements of the new Kenyan government in 2022 was a decision to extend the national school meal programmes from 1.2 million children to all the country's primary school children – over 8 million – by 2030 (see box). Delivery will require developing and deepening partnerships between government, non-government providers, and local communities. While the challenges are daunting, not least given Kenya's external debt repayment schedule, new delivery models pioneered by national organisations are demonstrating they can be met.

### **Working towards universal school feeding in Kenya – Food for Education**

The Kenyan government has pledged to provide school meals to all children by 2030, scaling up a programme in arid and semi-arid areas that currently reaches one-fifth of school children. This is a bold commitment. The government's room for budgetary manoeuvre is limited by sharply rising debt service payments. Meanwhile, food security has deteriorated in the face of inflation and climate-related humanitarian emergencies. Acting on the school meals commitment will require sustained leadership, increased finance, and innovative delivery models.

Food for Education (F4E), a non-profit provider, has pioneered approaches that demonstrate the potential for a rapid scale-up through national and international partnerships.

Since its inception in 2012, F4E has grown rapidly. Today, it provides nutritious meals centred on maize, rice, beans, and fresh vegetables to 140,000 children aged 3 to 14 in five counties – Nairobi, Kiambu, Murang'a, Mombasa and Kisumu – all of which face serious food security challenges. F4E aims to provide nutritious meals to 1 million children by 2027.

The F4E model fuses two key innovations. The first is a "hub and spoke" delivery system centred on seven kitchens with high-tech specifications. Food is purchased in bulk from wholesalers, with meals prepared in the mornings and delivered to schools within a 20km radius. Pooled procurement and efficient kitchens lower the costs of preparing meals to an average of 30-40 cents. The second innovation is a digital technology called Tap2Eat. Children in the programmes are issued with a wrist band that can be tapped against a digital device to register payment, removing the need for cash transfers and reducing administrative costs.

The reach of F4E's programmes is facilitated through partnerships with local and national government. Kenya's pre-schools are financed through local governments while primary education remains a central government mandate. Wider partnerships have enabled F4E to reduce the cost of school meals and reach children who might otherwise be excluded. Aid donors, corporations, and philanthropic organisations subsidise meals, with parents paying around half the cost – around \$0.15 cents per meal. As the government takes steps towards a universal school meals programme, it will need to draw on the capabilities and commitment of a wide range of actors. The current system is split across the government (which accounts for around 80 per cent), nongovernment providers, and community-level initiatives. Building an integrated school feeding system will require a national effort to draw on best practices. These include cost-effective delivery, healthy and nutritious menus, and home-grown school feeding initiatives that support rural livelihoods and the more resilient farming system needed to adapt to climate change.

F4E's experience highlights both the challenges and the opportunities facing Kenya. Paramount among the challenges is the need to ensure that school meals are affordable and accessible to Kenya's poorest children. The government has already pledged to scale up financing, but the country's donors will need to provide additional support – and there is a compelling case for Kenya's creditors to reschedule the country's debts to release funds. One option could be a "debt for school meals" swap modelled on mechanisms that have been used to release funds for environmental programmes.

Set against the challenges, the government's commitment represents a huge opportunity. Malnutrition among Kenya's school children limits learning in education, reinforces poverty, transmits disadvantage across generations, and robs Kenya of the skilled workforce it needs to achieve inclusive and sustainable economic growth. School meals alone will not end hunger among Kenya's children. But they represent a practical, achievable, and affordable route to a better future.

In Latin America, several alliances are working to extend and improve school meal programmes. Brazil has led the efforts through its alliance with the FAO, creating the Sustainable School Feeding Network (RAES) in 2018, with 21 members from the region.

In South Asia, the success of India's Midday Meal Scheme and wider evidence has prompted Bangladesh and Nepal to adopt ambitious programmes. The Bangladesh government is now acting on a 2019 commitment to extend cooked school meals to over 400,000 children following a COVID-19 related delay.

Experience during the COVID-19 pandemic reinforced the case for school meals, in many cases triggering public demand for programmes to expand. School closures during the pandemic itself disrupted meal programmes at a time of growing need, as economic disruption took its toll on the incomes of poor households. In some countries, such as Bolivia, governments were able to maintain meals by working through community structures. In others, the re-opening of schools was accompanied by a temporary transition to universal school meals as governments sought to strengthen safety nets. In the United States, school breakfasts and lunches previously available only to children falling below specified income thresholds were extended to all children. When the federal government halted universal school meals after the pandemic, several states – California, Maine, Minnesota, and New Mexico among them – committed funding to school meals for all in response to public pressure, political demands, and a recognition that hunger continued to threaten many children. Others have extended meals for the 2023 school year – and over 20 state legislatures have attempted to pass universal meal legislation. Meanwhile, a Healthy School Meals for All campaign is calling for universal free school meals and breakfasts.<sup>52</sup>

There are parallels in the United Kingdom, where the mayor of London has announced that all children in the capital's public primary schools will receive free meals during the next school year. The Feed the Future campaign in the United Kingdom is mobilizing support for extending school meals to children currently uncovered as a first step towards school meals for all.<sup>53</sup>

School meals are also emerging as a unifying theme in dialogue and campaigning on food system reform. African governments are promoting home-grown school feeding as part of wider strategies for food self-reliance. School meals feature in the European Union's Farm to Fork Strategy and the US Nutrition Plan – and in the campaigns and advocacy initiatives linking environmentalists, climate activists, food justice groups and others seeking to strengthen the legislation.<sup>54</sup> Municipalities and mayors are playing an increasingly prominent role, making cities a powerful force for change.

While these examples are national and regional, and they are shaped by local circumstances, the shift towards an enlarged vision of school meals is clearly global.

### **Tackling undernutrition and food insecurity – unlocking education opportunity**

Undernutrition among children and adolescents is a core part of the gap we have to bridge to meet the SDG target of zero hunger. It's also a source of lost learning and a prelude to a life of disadvantage. School meal programmes are an obvious vehicle for delivering an antidote to all these ills.

Food baskets can be designed to supply an optimal mix of carbohydrates, protein, and fresh fruit and vegetables, protecting children against micronutrient deficiencies.<sup>55</sup> For example, India's Midday Meal

Scheme aims to provide each child with 700kcal and 20g of protein every school day.<sup>56</sup> Inevitably, the food baskets stipulated by governments are not always delivered in school canteens. When they are, though, the improvement in children's nutrition is clear. In Ethiopia, where protein energy malnutrition affects around one-third of adolescents aged 10 to 14, Addis Ababa's school feeding programme significantly improved children's body mass index for their age.<sup>57</sup> Wider evidence shows the most disadvantaged children benefiting the most.<sup>58</sup>

### **Gains for education**

For reasons that are understood by every teacher and parent, children with hungry stomachs do not make for good learners. School meal programmes tend to improve school attendance and learning, especially for girls and the poor.<sup>59</sup> One recent review of 11 experimental and quasi-experimental studies from low- and middle-income countries found that school feeding contributes to better learning outcomes while keeping vulnerable children in school and improving gender equity.<sup>60</sup> In Ghana, children in the school meal programme showed improved average learning achievement, with the greatest gains among children in families living below the poverty line and for girls.<sup>61</sup>

### **Benefits across generations**

When school children go hungry, the next generation tends to suffer from the same poverty and inequality – and school meal programmes are one of the most effective instruments for cutting that transmission line. Children born to mothers who had participated as children in India's Midday Meals Scheme were less likely to be stunted – short for their age – and more likely to be healthy than those born to non-participating mothers. From one generation to the next, the programme is estimated to have accounted for around one quarter of India's improvement in children's height for their age – an extraordinary cross-generational effect. The Midday Meals Scheme had empowered mothers not only through education, but also by contributing to lower fertility and increased use of health services.<sup>62</sup>

School meal programmes can play a wider role in supporting food security. Free or subsidized school lunches save families money on food they would otherwise have to buy, effectively increasing the income available to the household. During hard times, for example the "lean season" experienced by poor rural households before harvests, or during droughts, school meals can provide a form of food security insurance and a vital safety net. Although the sums involved are often modest, they can make a big difference to poor families. Average school meal costs for low-income and lower-middle-income countries are around \$44 a year, or just 11 cents a day. For a family living on \$2.15 a day – the World Bank's extreme poverty threshold – with two children covered by a school meals programme, the money saved would represent 10 per cent of their budget. For the 40 per cent of Sub-Saharan Africans living below that threshold, school meals can represent a budgetary lifeline.

## **Changing diets – protecting lives**

***"The free school meal was essential. If we were to change our national diet, it was critical that this started in schools."** Peka Puska, architect of Finland's school meals programme*

Habits are formed early in life – for better and for worse. Healthy diets in childhood can build food habits that support public health and expand opportunities. School canteens can foster such habits. By contrast, unhealthy childhood diets cultivated by a failing food system can cause harm over a lifetime. In a world that needs to eat less high-fat, sugar-intensive, ultra-processed food, to waste less food, and to cause less environmental harm, schools can support the behaviour change that in turn will transform markets.

Current food systems are both a cause and effect of consumer preferences for junk food – and as the numbers on obesity show, children are getting hooked on junk food. As the global obesity crisis has gathered pace, more robust public policy responses have emerged. School meal programmes are

increasingly recognized as a vital strand in wider approaches that integrate strengthened regulation of junk-food advertising, more stringent food labelling, taxes on sugary foods, and education.

Latin America illustrates the trend. School meal programmes are part of the region's Action Plan for the Prevention of Child and Adolescence Obesity. Countries across the region are setting strict nutrition standards for school canteens, linked to wider measures. The youngest children have a positive attitude toward these regulations, becoming promoters of a healthy diet in their homes.<sup>63</sup>

### ***Protection beyond the school canteen***

Of course, serving healthy diets in schools is not a stand-alone measure. Protecting children against junk food requires approaches that integrate education, regulation, and financial interventions. Here, too, Latin America has been a laboratory for action. Chile has restricted the sale of junk food in educational establishments and passed laws to protect children from the advertising of high-fat, ultra-processed foods. Mexico was one of the first countries in the world to introduce a tax on sugary drinks – many others have followed. One of the first acts of President Lula's new government in 2023 was to restore Brazil's National Council for Food and Nutritional Security, the body responsible for overseeing public policies for food, which had been dismantled by his predecessor. The council has identified protecting children against obesity and overconsumption of ultra-processed foods as a central priority.

The benefits go beyond public health to environmental sustainability. One study commissioned by the European Union showed that healthier diets with less meat and more fruit and vegetables could reduce Europe's carbon footprint by 200 million to 266 million tonnes of CO<sub>2</sub> equivalent per year – a drop of up to 40 per cent from current diet-related emissions. School meals and education were identified as one of the three most effective interventions for driving the change, alongside regulatory measures and consumption taxes.<sup>64</sup>

### **Unlocking the power of procurement – for climate and food security**

Public procurement budgets have provided a link between school meal programmes and wider policies aimed at food system reform. The American Families Plan identifies school meals as “one of the federal government's most powerful tools for delivering nutrition security to children.”<sup>65</sup> That observation holds true globally.

Public budgets for food procurement are powerful levers. Sometimes they are used to support food systems that operate against the public interest, supporting intensive large-scale agriculture and food marketing systems that perpetuate and reinforce inequalities and unsustainable practices. But they can also be used as instruments of transformation, nudging markets towards more sustainable and equitable practices.

Procurement budgets can generate powerful multiplier effects. Some of these come from direct employment in supply chains and school canteens. Globally, 4 million jobs are linked to school meal provision. Purchasing food from national and local farmers boosts wages, incomes, and employment opportunities. Research in the United States has found that every extra \$1 that farmers receive can generate \$1.5-\$3 in wider value.<sup>66</sup>

These multiplier effects can help support wider poverty reduction strategies. While overall economic growth is a critical driver for lifting people out of poverty, in many developing countries agricultural growth generates the most powerful effects. In Sub-Saharan Africa, a 1 per cent increase in agricultural productivity reduces poverty by roughly twice as much as an equivalent increase for industry.<sup>67</sup> That's partly for the obvious reason that poverty is often most heavily concentrated in rural areas. Increased farm production and productivity require inputs and services to grow, process, store, and transport crops, which in turn creates new jobs and growth in the off-farm sector. In the case of Sub-Saharan Africa,

empirical estimates have put these multiplier effects in the range of 2 to 3, rising in some cases to 5.<sup>68</sup>

State and municipal authorities are using the power of food procurement to align markets with the values needed to underpin the transformation of food systems. Municipal authorities are playing a central role. In 2014, Milan revolutionized its school canteen procurement programmes by requiring purchases to be made from local farms and orchards, with an emphasis on sustainable practices and healthy diets. Consumption of meat with heavy carbon footprints (such as beef and pork) fell, while consumption of seasonal fruit and vegetables and less carbon-intensive meat (such as chicken) increased. Milan's green food policy reduced CO2 emissions by 20 per cent – equivalent to taking almost 13,000 cars off the city's roads.<sup>69</sup>

The Milan Urban Food Policy Pact has taken the city's initiative global. Created in 2015, it is now an international agreement spanning 260 cities working towards a shared goal: "to develop sustainable food systems that are inclusive, resilient, safe and diverse, that provide healthy and affordable food to all people in a human rights-based framework, that minimize waste and conserve biodiversity while adapting to and mitigating impacts of climate change."

Another example comes from the United States. Nearly three-quarters of the country's school food authorities now participate in school-to-farm activities, purchasing on average 20 per cent of total procurement from local agriculture, or over \$1 billion annually.<sup>70</sup> In 2020 alone, 16 states introduced new school-to-farm legislation.<sup>71</sup> From Los Angeles to New York, municipal authorities are allocating part of their school procurement budgets to local farmers, often placing a premium on sustainable, organic agriculture. The promotion of socially disadvantaged farmers has been a central priority. The Good Food Purchase Programme has provided cities and states with a framework for supporting local agriculture, sustainable farm practices, and social equity through public procurement budgets.<sup>72</sup>

While all the initiatives highlighted above are national and local, they represent in embryo the role that school meal programmes can play in shaping a food system fit for the 21st century.

#### ***Brazil's school meal programme – the "30 per cent rule"***

No country better illustrates the potentially transformative role of school meal than Brazil. The country's National School Feeding Program (PNAE) is one of the largest in the world. Embedded in the Brazilian constitution and a key part of the country's strategy for combating hunger and improving nutrition, the programme provides free meals to over 40 million students across 5,570 municipalities. It has played a central role in reducing hunger and enabling children from poorer households to stay in school. PNAE operates through a highly devolved structure monitored by School Feeding Councils. These bring together representatives from federal, state, and local governments, as well as parents, teachers, and civil society organisations. The value of school meals supplied ranges from 10 cents to 27 cents daily per pupil depending on the level of education, with a supplement provided for schools serving indigenous communities.

One of the central aims of PNAE is to build links between schools and local family farmers. Since 2009, procurement rules have required that at least 30 per cent of federal funds must be spent on produce supplied by family farms, with a preference for local suppliers. The "30 per cent rule", as it is known, has provided small farmers with a predictable market, enabling them to transition from the production of single crops into less intensive and more diversified production that includes fruit and vegetables.<sup>73</sup> Although PNAE was not originally designed as policy for environmental sustainability, state and municipal authorities have used it to combine social and ecological goals. School menus are being revised to reduce red meat and ultra-processed food and increase the purchase of local seasonal fruit and vegetables. Programmes relying on domestically produced and locally sourced foods tend to provide more diverse and nutritious food baskets.

PNAE is facilitating integrated strategies spanning food security, environmental sustainability, and social justice. The most effective of these combine strong community-level engagement with state and municipal leadership:

- The city of São Paulo has set a target of 100 per cent organic school meals by 2030 (see box).
- The state of Parana has set the same ambitious target for High Schools falling under its jurisdiction.
- Several cities – such as Niteroi and Salvador – have set targets for reducing high-fat meat consumption in the diets of school children and promoting plant-based protein sources.
- In the Amazonia region, PNAE is facilitating links between indigenous communities and schools
- Box on São Paulo

The city of São Paulo is demonstrating the dynamic role that procurement for school feeding can play in wider strategies for transforming food systems.

With almost 12 million inhabitants, the city is the largest in Brazil. Every day 2.3 million meals are served to more than 1 million students at municipal public schools. School feeding menus give priority to organic food and regenerative agricultural practices.

Recognizing that production costs for less intensive agriculture may be higher, municipal law allows for a 30 per cent price premium. That premium also applies to suppliers who are part of an “agroecological transition program” – a municipal policy that supports and monitors farmers wanting to shift their production model from conventional to more sustainable practices. The same law gives preference for family farmers located within municipality boundaries.

The city has set the ambitious goal of sourcing all school feeding supplies from agroecological producers by 2026.

Source: Comida do Amanhã Institute

Beyond its impact in Brazil, the PNAE shows how school meal programmes can play a wider role in transforming food systems. Linking government procurement to regenerative agricultural practices and wider social justice goals offers a public policy route to win-win scenarios in child nutrition, the development of more resilient rural livelihoods in local communities, and wider sustainability goals.

### ***Supporting Africa's drive for food self-reliance***

For countries and regions seeking to build more self-reliant food systems, domestic procurement for school meals represents an important policy tool. Well-designed local procurement linked to infrastructure investment in storage can increase the local supply of fresh foods, reduce waste, and support smallholder farmers. These benefits have an immediate and obvious relevance to food security in Sub-Saharan Africa, where over 90 per cent of school meal programmes now include domestic purchasing. The National Home-Grown School Feeding Program (NHGSFP) in Nigeria reaches 4 million children every school day with domestically produced foods, about 90 per cent of which come from local sources. The African Union has spearheaded efforts to expand home-grown school feeding programmes as part of a wider regional strategy for food security centred on the development of smallholder agriculture.

Scaling up home-grown school feeding programmes in Sub-Saharan Africa is not straightforward. In Ghana, for example, budget constraints, delayed payments, and unpredictable financing from the government have acted as a constraint on smallholder participation. The high transaction costs for caterers contracting with farmers has been another concern.

Policymakers also face wider policy tensions. In countries that depend heavily on imports, smallholders may lack the capacity to meet increased procurement demand from schools. Where imports are

cheaper than domestically produced alternatives, there may be trade-offs in the short run between the goal of maximizing the volume of food provided to schools and providing a remunerative price to local farmers. Unless these tensions are addressed through medium-term strategies for raising smallholder productivity, the danger is that increased school meal budgets will be spent on imported food staples. None of these problems defy practical policy solutions. Supply constraints in local agriculture are often a consequence of underinvestment in infrastructure and the limited access of farmers, especially women farmers, to credit and productive inputs. Governments can solve the problem of insufficient and unpredictable finance through policies that increase budget provision and improve efficiency in public finance planning. As in other areas, the full transformative potential of school meal programmes can only be realized when the right enabling environment is in place.

Research breakthroughs are creating new opportunities. Institutes across Africa affiliated to CGIAR, the world's largest agricultural research network, have developed new varieties of food staples that mature early, resist drought, and produce higher yields. Take the case of maize, one of the region's most important food security crops, a source of sustenance and income for over 200 million farmers. Conventional varieties are highly susceptible to recurrent droughts. But over 180 varieties of climate-resilient maize have now been developed with the potential to raise yields by 25-30 per cent above conventional varieties.<sup>74</sup> New African rice varieties, many of them developed for rainfed farming, have shorter growing seasons and a higher protein content than conventional varieties. Over 80 new varieties have now been developed by the Africa Rice Centre.<sup>75</sup> Evaluations have documented significant gains for farmers, with adopters doubling incomes, along with improved food security.<sup>76</sup>

As climate change magnifies the underlying vulnerabilities of Africa's food systems, there is an urgent need to accelerate the spread of new seed varieties. At CoP27, CGIAR joined with the African Union, the African Development Bank, and the Forum for Agricultural Research in Africa to announce an initiative aimed at strengthening the region's food systems and boosting food security by getting new seed technologies out to farmers.<sup>77</sup> For farmers themselves, one of the barriers to early adoption of new seed varieties, along with limited access to infrastructure and finance, is often the lack of a predictable market. Large-scale school meal programmes can help to create that market.

Wider opportunities are emerging from biofortification, as plant breeding breakthroughs lead to a proliferation of staple food varieties enriched with the key micronutrients iron, zinc, and Vitamin A. HarvestPlus, one of the world's leading biofortification research institutes, is working with governments and philanthropists to increase the supply of these foods to Africa's children through school meals – but the benefits are trickling down too slowly.<sup>78</sup> That's partly because of the limited reach of school feeding programmes. An example of what would be possible with expanded coverage is provided by India. Working with the Akshaya Patra Foundation, an NGO that prepares and distributes nutritious meals through the Midday Meals Scheme across 12 states, 20,000 farmers living near schools are being supported to produce biofortified foods for 2 million children.<sup>79</sup> The scale of the intervention, far beyond the capacity of typical NGO projects, is made possible by the reach of the government scheme.

Regenerative agriculture is another area in which school feeding could play an expanded role. Severe land degradation has eroded Africa's agricultural potential and contributed to deforestation as farmers are forced to bring new land under cultivation. As Africa's farmers combat the threats posed by soil erosion, water stress, and wider environmental pressures, there has been a resurgence of interest in farming methods that improve soil fertility and reduce dependence on intensive use of fertiliser. One prominent type of regenerative system is crop rotation – the practice of growing different and diversified crops in succession on the same land to preserve the soil's productive capacity and manage pests and disease. The rotation of legumes such as beans with maize is another example. Regenerative farm practices could add \$15 billion in value to African agriculture while locking in 4.4 billion GtCO<sub>2</sub>e through soil sequestration, according to the Regenerative Agriculture Study Group.<sup>80</sup>

### 3. Financing school meals for food system reform

The evidence of the power of school meal programmes to support a wider transformation of food systems is overwhelming. This is an investment in people and planet offering substantial social, economic, ecological, and – above all – human returns. It is difficult to think of a more powerful catalyst for putting us back on the path to reaching the SDGs, or a more practical vehicle for driving progress towards food system reform.

New opportunities are emerging. Food system reform, widely neglected in earlier CoP global climate summits, is set to figure with greater prominence at CoP28 in 2023. Recognition of the scale of the SDG deficit and the need to accelerate progress towards the Paris Agreement goals is shifting the tectonic plates beneath the world's development financing system. As US Treasury Secretary Janet Yellen has put it with respect to the multilateral development banks: “the world has changed, and we need these vital institutions to change along with it.”

As governments focus on the interlinked challenges of strengthening global public goods, combating poverty, and supporting sustainable development, school meal financing offers a practical avenue towards delivering results. While the fiscal backdrop is not propitious, especially in the world's poorest countries, an effort to raise more domestic revenue backed by strengthened international cooperation would bring a breakthrough within reach.

The School Meals Coalition estimates the cost of providing school meals to an additional 73 million children identified through deprivation criteria in developing countries at \$5.8 billion.<sup>81</sup>

Much of the impetus will need to come from developing countries themselves, building on current efforts. Over 90 per cent of school meal financing in lower-middle-income countries already comes from domestic revenues. Low-income countries are more dependent on donor finance. Even so, they have increased the share of school meal financing provided by domestic budgets from less than one-third before 2020 to almost one-half today. Around \$1.7-\$2 billion in new aid will be required to achieve the goals identified by the School Meals Coalition.

In this section we look at the barriers and the opportunities for mobilizing new and additional school meal financing linked to wider food system reform goals.

#### **The “big funding squeeze”**

Prospects for scaling up school meal financing have deteriorated markedly in the wake of the COVID-19 pandemic, the war in Ukraine, and tightening global monetary conditions. The fiscal space available to government in many developing countries have been shrinking dramatically in the face of reduced growth, falling tax revenues, and an evolving debt crisis. The IMF has warned that many of the world's poorest countries, especially in Sub-Saharan Africa, face a “big funding squeeze”, with the prospect of reduced resources for investing in health and education.<sup>82</sup>

That squeeze is already being felt in school meal financing plans. Over 80 per cent of countries across Africa were reporting double-digit food price inflation in early 2023. While inflation rates have moderated, they are still pushing up the cost of school feeding budgets, compromising nutritional standards in some cases. Meanwhile, governments are seeking to reduce deficits while facing urgent needs for public investment.

#### **Unsustainable debt – a growing concern**

Unsustainable debt poses a very real threat to school meal financing. Of the 73 countries covered by the now expired Debt Service Suspension Initiative, 36 are either in or at high risk of debt distress, with

another 26 countries facing moderate risks. Debt servicing is already crowding out vital social investment Africa faces some of the world's highest interest payment bills relative to revenue – over one-third of revenue in some cases.<sup>83</sup>

Countries eligible for aid from the International Development Association (IDA) – the part of the World Bank that helps the world's poorest countries – were scheduled to pay \$60 billion in debt servicing in 2023. In many countries those payments will dramatically exceed spending on health and primary education. Kenya is a case in point. While the country is categorized as being at moderate risk of debt distress, the share of government revenue allocated to debt servicing is set to increase from 15 per cent to 22 per cent in 2024, while the government also plans to reduce its deficit.<sup>84</sup> Benin, another country that aims to provide school meals for all, also faces a steep increase in debt servicing. Countries already in debt distress – such as Ethiopia, Ghana, and Zambia – face even more constrained options.

While school meal programmes represent a small share of national budgets, they are not immune to the debt crisis. If there is to be a breakthrough in school meal coverage by 2030, governments need to put in place the investment plans now. Scaling up school meals requires not just investment in infrastructure such as clean cooking, water, storage, and cold chain facilities. It also requires predictable funds for contracting with farmers and wholesalers. Unfortunately, the next two years represent a debt servicing crunch point as Eurobond debts mature. Debt service payments for 2022-2025 average around \$70 billion annually for Sub-Saharan Africa, with over half that amount directed to private creditors.<sup>85</sup>

### **Expanding the resource envelope – domestic effort, international aid, and debt relief**

The bulk of school meal financing will have to come from domestic resources, but without strengthened international cooperation the \$5.8 billion financing target will remain out of reach. While most middle-income countries are well placed to finance an expansion, low-income and lower-middle-income countries will need international support. The case for that support has grown more urgent as the budgetary space available to governments has shrunk.

An earlier Sustainable Financing Initiative (SFI) report looked at some of the financing options available to governments seeking to expand school meal programmes, drawing on international experience.<sup>86</sup> Over the medium term, there is ample scope for increasing revenue/GDP ratios through more efficient and equitable tax reform. Kenya illustrates the point. The country's current tax-to-GDP ratio is 13 per cent. Even matching Rwanda's tax effort (15 per cent of GDP) would provide resources to finance ambitious social programmes, including universal school meals.<sup>87</sup> The SFI report also identified wider approaches with a demonstrated potential for mobilizing resources:

- **Earmarking taxes.** Countries such as Bolivia (hydrocarbon taxation), Guatemala (VAT) and India (a levy on income tax) have earmarked specific revenue streams for school meal financing. These are large-scale, universal programmes enjoying widespread support across political divides. They illustrate the potential for school feeding initiatives to tap into new revenue sources. To take one case in point, the large revenue streams and windfall gains in prospect for several countries in Sub-Saharan Africa from gas, oil, and transition mineral exports could be earmarked for school meal financing.
- **Taxing public “bads”.** Building on the early experience of Latin America, many countries now impose taxes on the sugar content of drinks and food. These taxes can be designed to encourage reformulation to decrease unhealthy nutrients, while providing a revenue stream. Using that stream to finance school meals would tax a public bad to fund a public good.
- **Rethinking general subsidies.** As food and energy prices have spiralled, many governments have expanded general subsidy programmes. Using direct targeted subsidies is often a more equitable and efficient option – and a natural vehicle for delivering school meal programmes.
- **Leveraging local government finance.** In devolved finance systems, governments can use national resources to trigger local revenue streams. For example, the Kenyan government's plan to

expand school meals includes a proposal to match local resources with national government grants. In Brazil, municipalities co-finance school meal programmes.

For many of the poorest countries, where the need for expanding school meals is most pressing, national action will have to be backed by international support. As government budgets shrink and debt service payments mount, there is a danger that, even with enhanced national efforts, school meal ambitions will be reduced and existing programmes cut.

### ***The international aid effort – not enough finance, weak strategic leadership***

Developing country governments in the School Meals Coalition have rightly emphasized that domestic revenue provides the only sustainable route to school meal financing. As revenue streams recover, the share of domestic budgets in financing expanded programmes should rise towards at least 80 per cent in all countries by 2030. International aid can help them reach that target.

Timebound and well targeted official development assistance can help countries become self-reliant more quickly. Several countries – including Bangladesh, Kenya, and Rwanda – have successfully taken over and expanded what were largely donor-funded programmes. This is a rare model of international cooperation that has a demonstrated potential to build capacity while producing results.

All of which raises a question mark over the current aid effort. In 2021, just \$214 million in bilateral and multilateral aid was directed to school meal programmes – around 0.1 per cent of global official development assistance. Expressed differently, the aid effort represents less than half a day's worth of spending on farm subsidies in OECD member countries. Overall bilateral development assistance was overwhelmingly dominated by the United States, which provides over 90 per cent of the total. The bulk of this aid comes in the form of US farm surpluses, which is often less cost-effective than local purchase and can weaken the links between schools and local farming communities. While the data is limited, school meals appear to be a minor line-item in financing delivered through multilateral development banks, including the World Bank.

The aid effort has suffered also from fragmentation. While individual donors can point to portfolios with high-performing projects that are delivering results, there has been a lack of sustained and coordinated leadership directed towards countries who need support for credible plans. The European Union is well placed to play a greater role in this area, not least given the strength of school meal programmes across most of its 27 member states. Unfortunately, the EU Farm-to-Fork strategy for food systems reform lacks a compelling agenda for projecting its principles and values onto the international stage.

Aid donors and multilateral agencies have an opportunity to close the funding gap. Over the period 2025 to 2030, the aim should be to provide \$2 billion annually in new and additional financing through bilateral and multilateral aid.

### ***Debt relief – delayed action is limiting fiscal space***

Debt relief has the potential to unlock new resources. Under the Heavily Indebted Poor Countries (HIPC) framework, debtor governments undertook commitments to convert debt service savings into priority areas, generating new resources for health, education, and other priorities. A major complicating factor in efforts to address the current debt problem has been the well-documented increase in the share of expensive commercial debt owed to private creditors, especially bondholders, who are not covered by existing debt relief frameworks. Efforts to address this gap in the debt governance architecture have achieved little progress.

There is no substitute for a comprehensive debt relief framework – but the absence of such a framework places a premium on innovative approaches. Ecuador's experience provides an example. In 2020, with

support from the IMF, the country secured a write-down and rescheduling of its sovereign bond debt servicing operations. More recently, in May 2023, it negotiated a debt restructuring with Chinese creditors that will save \$1.4 billion to 2025.<sup>88</sup> Separately, Ecuador negotiated the world's biggest debt-for-nature-swap – a deal that will channel \$323 million into the Galapagos Life Fund. While each country faces different debt challenges, the combination of commercial debt rescheduling supported by the IMF and G20 governments and innovative “debt-for-school-meals” programmes could marshal new resources.

### **Climate and food systems – making the link to school meals.**

School meal programmes can play an important role both in countering the adverse impact of current food systems on climate change, and in supporting adaptation. As highlighted earlier, public procurement systems for food can nudge markets away from highly intensive agricultural approaches that focus solely on yields and ignore external costs, and towards regenerative, sustainable farming practices that reduce the length of supply chains by contracting with local producers. School canteens can help shift diets away from foods that are high in fat, sugar, and sodium, and towards healthy plant-based alternatives. They can also create a market for farmers adapting to climate change through new seeds and production practices.

Building recognition of these powerful links could enable governments to tap into new sources of climate finance. There is currently a striking omission of the role of school meals in climate-related food system transformation. The Green Climate Fund (GCF), a critical part of the Paris Agreement architecture, has mobilized around \$10 billion across its first replenishment period.<sup>89</sup> Yet across an extensive portfolio of mitigation and adaptation projects covering food security, health, and land use, there are no school feeding programmes. Another UN climate body, the Adaptation Fund, has prioritized agriculture and food security, with a focus on Sub-Saharan Africa and South Asia.<sup>90</sup> Yet none of the listed projects includes support for school feeding programmes.<sup>91</sup> Both cases illustrate the degree to which school meal programmes represent a climate finance blind spot.

As the drive to increase climate finance gathers paces, there is a risk that school meal programmes will be bypassed – a risk that will be magnified if they are seen as narrow social protection or education interventions. Take the case of the multilateral development banks. Collectively, the World Bank and regional development banks mobilized \$50 billion in climate finance for low-income and middle-income countries in 2021, around one-third of it for adaptation.<sup>92</sup> This surpassed the target set for 2025 at the 2019 UN climate summit – a remarkable achievement. Investing even a small part of these funds could transform the financing environment for school meals. Yet there is little evidence to suggest that any multilateral development bank is connecting the dots from school feeding to food systems.

It should be emphasized that this is not just a donor or multilateral development bank problem. Nationally Determined Contribution (NDC) papers are at the heart of the Paris Agreement. They set out government commitments for mitigating and adapting to climate change. While most NDCs refer to food systems, few include detailed targets or costed strategies for changing diets, reducing food waste, or supporting sustainable farm practices.<sup>93</sup> As one review concluded: “Opportunities to reduce global emissions of the food systems sector remain largely untapped.”<sup>94</sup>

This reflects a wider neglect of the interaction between food systems and climate change. Currently, food and land use are poor cousins in the climate finance family. Financial flows to agriculture, forestry, other land uses, and fisheries stood at \$16 billion in 2021. On one estimate, transition to a pathway compatible with the Paris Agreement will require a nearly 26-fold increase in annual funding.

This backdrop is changing. Food systems are set to figure with more prominence at CoP28 than at any previous climate summit, reflecting growing recognition and rising concern over the threat posed by the

current system to the Paris Agreement. This represents an important opportunity to put school meal programmes more squarely on the climate agenda.

Seizing that opportunity will require sustained engagement. The starting point is the NDC process, which provides governments and their partners with an opportunity to develop more ambitious food system transformation plans that integrate school meals. The second replenishment of the Green Climate Fund (GCF-2, 2024-2027) is already securing record financing pledges, which will expand resources available for the type of interventions supported by well-designed school meal programmes. The GCF could also work with governments and multilateral agencies like the World Food Programme and the Global Partnership for Education to support the integration of school meal programmes into National Adaptation Strategies and NDCs.

## 4. An agenda for action

The global food system is in crisis. It is leaving millions of people undernourished, undermining public health, damaging the natural environment, and driving the world towards climate catastrophe. If we are to achieve the world envisaged in the Sustainable Development Goals, we need a food system reset that puts people and planet before profit and anachronistic approaches to productivity.

School meal programmes can play a key role in that reset. Clearly, such programmes are not a stand-alone mechanism for the transformation of food systems. But integrated into wider strategies they provide a powerful lever for change. Beyond the immediate benefits for nutrition, education and, through procurement systems geared towards sustainable and equitable farming, the environment, they provide a link in the chain connecting food justice and climate justice. Ultimately, school meal programmes provide policy makers with a practical policy lever for reconnecting food systems to people – and to human development goals.

The UNFSS+2 Stocktaking Moment, the SDG summit, and the CoP28 climate summit provide the international community with opportunities to forge that link.

Many of the ingredients for a breakthrough are already in place. Governments in many of the world's poorest countries are providing leadership. The School Meals Coalition is their forum. Beyond the 82 governments who lead the Coalition, there are dozens of NGOs and research institutes with the capacity to provide technical support. One of the Coalition's goals is to get another 73 million children into school feeding programmes by 2030. That goal can be achieved through school meal programmes that support wider food system reform.

**Set a course for school meals for all, with an immediate focus on the most disadvantaged.** The more extensive the reach of school meal programmes, the greater their potential to advance wider food system reform goals, including promoting sustainable farming and reaching those left behind. Governments should set a course for universal school meals by 2030, backing bold targets with clear objectives, effective planning, engagement with key stakeholders, and – critically – finance. Many governments are leading by example, but a big push on school feeding will require technical support and capacity building. Organisations like the World Food Programme, the Global Partnership on Education, the European Union and others could play an expanded role in supporting planning efforts.

**Make the link – connecting school meal programmes to food system reform and the climate agenda.** Many governments are connecting the dots between school meals, the environment, poverty reduction, and climate change – but old partitions between sectors and agencies are crumbling too slowly. The European Union's Farm-to-Fork Strategy, Brazil's PNAES, farm-to-school legislation in the United States and other frameworks provide a template, but not a blueprint.

**Include school feeding in Nationally Determined Contribution (NDC) papers.** Every NDC should include a costed outline of mechanisms through which school meal programmes will support both climate adaptation – through more resilient, sustainable, and equitable agriculture – and wider mitigation goals, by reducing food waste, changing diets, and developing agriculture and land-use practices that produce more diverse and better food with fewer inputs.

**Put school meals on the climate finance agenda.** Multilateral climate funds play a critical role in supporting efforts to adapt to climate change and elaborate low-carbon development trajectories. They contribute to capacity building, offer technical advice, and support planning. The largest of these funds is the Green Climate Fund (GCF), which approved \$3.4 billion of projects in 2020. Around 40 per cent of the allocation was directed to agriculture. Home-grown school meal programmes provide an opportunity to support low-carbon, sustainable farming, yet there are no programmes in the current portfolio of the Green Climate Fund (GCF), the largest multilateral climate fund. The second replenishment of the GCF (GCF-2) provides an opportunity to address this omission. The GCF, the Global Environment Facility, the Adaptation Fund and other multilateral entities should convene with the FAO and the World Food Programme to put school meals on the climate finance agenda.

**Deploy the full power of public procurement.** Procurement rules should be geared toward local farmers, especially smallholder producers, local supply chains, and environmentally sustainable, low-carbon farm practices, including regenerative agriculture. Ensuring that procurement contracts are supported by predictable budgets is critical for building trust with farmers. Brazil's PNAES and the Good Food Purchasing rules developed for farm-to-school programmes in the United States provide potential models.

**Link sustainable and equitable procurement to investments in infrastructure and smallholder farming.** Increasing demand for sustainably produced and equitably sourced local food is just one part of the equation. Without increased investment in storage, cold chains, and marketing, and wider support for smallholder farmers and traders, there is a risk that local producers will be unable to increase supply.

**African governments, donors, and partners should work together to pilot large-scale programmes for school meal programmes that combine productivity goals with support for sustainable smallholder farming.** AGRA's current five-year strategy provides a ready-made focal point.<sup>95</sup> The strategy aims at the development of food system transformation strategies in 12 countries, with the goals of mobilizing \$3 billion and reaching 28 million farmers, 30-40 per cent of whom adopt sustainable practices and biofortified, climate-smart crops. Women-led small and medium enterprises occupy a pivotal role in the strategy. School meal programmes provide a platform for delivery, with clusters of schools linked to agricultural cooperatives. CGIAR institutes researching climate-resilient crops and biofortified foods are well placed to provide technical support to farmers, with governments, donors, the World Bank, FAO and WFP supplying wider support.

**Make school meals a campaigning issue.** School meal programmes developed out of the great campaigns of the late 19th century to break the link between hunger and nutritional deprivation. We now need campaigns to develop school meal programmes that respond to 21st century challenges, including food systems that protect people and planet. There are many countries in which school meals advocacy has galvanized new campaigns, cutting across the divides between social justice and climate justice – and in some cases cutting across political divides. What is missing is a global campaign initiative supporting the goals of the school meals coalition.

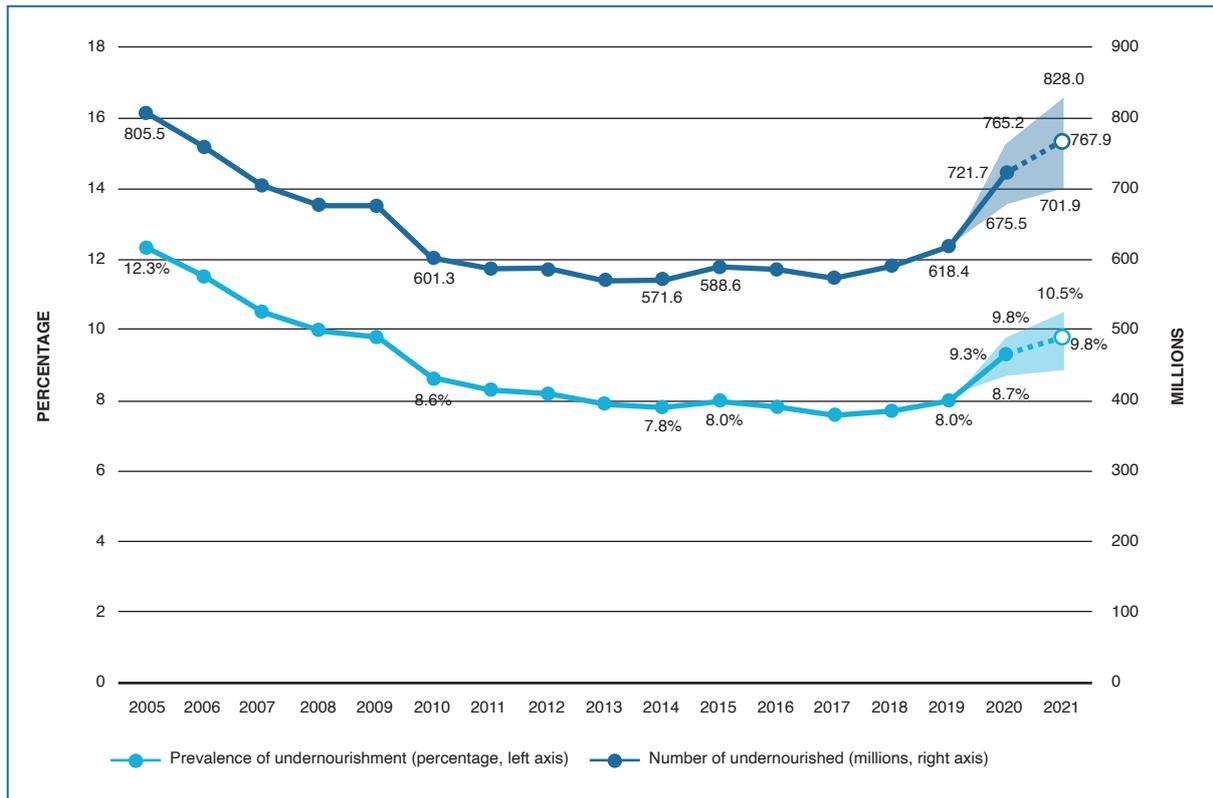
**Increase aid and strengthen international cooperation.** To finance the expansion of school meal plans, low-income and some lower-middle-income countries will need support from the international aid

system. Current levels of aid for school feeding – \$214 million in 2021 – are too low, and the distribution of aid is not strategically coordinated. Bilateral donors and multilateral agencies should increase aid to school meal programmes to \$1.7-\$2 billion a year by 2025. They should also pool resources and direct them towards countries needing support. The European Union could play an expanded role by projecting the principles behind its Farm to Fork strategy into an international cooperation initiative backed by finance.

**Convert unsustainable debts into school feeding investments – encourage “debt-for-school-meal” swaps.** Debt servicing is crowding out investment in social priorities, including school meals. Whatever the origins of the debts in question, allowing repayments to creditors to take precedence over child nutrition is ethically indefensible and economically harmful. In the absence of agreement on a comprehensive debt relief framework, the IMF, the World Bank, and G20 governments should help governments to reschedule and reduce debts to release finance for vital social investments, including school meals. “Debt-for-school-meal” swaps – along the lines of existing “debt-for-nature” swaps – could be negotiated to provide direct financing for school meal programmes linked to wider food system reform initiatives.

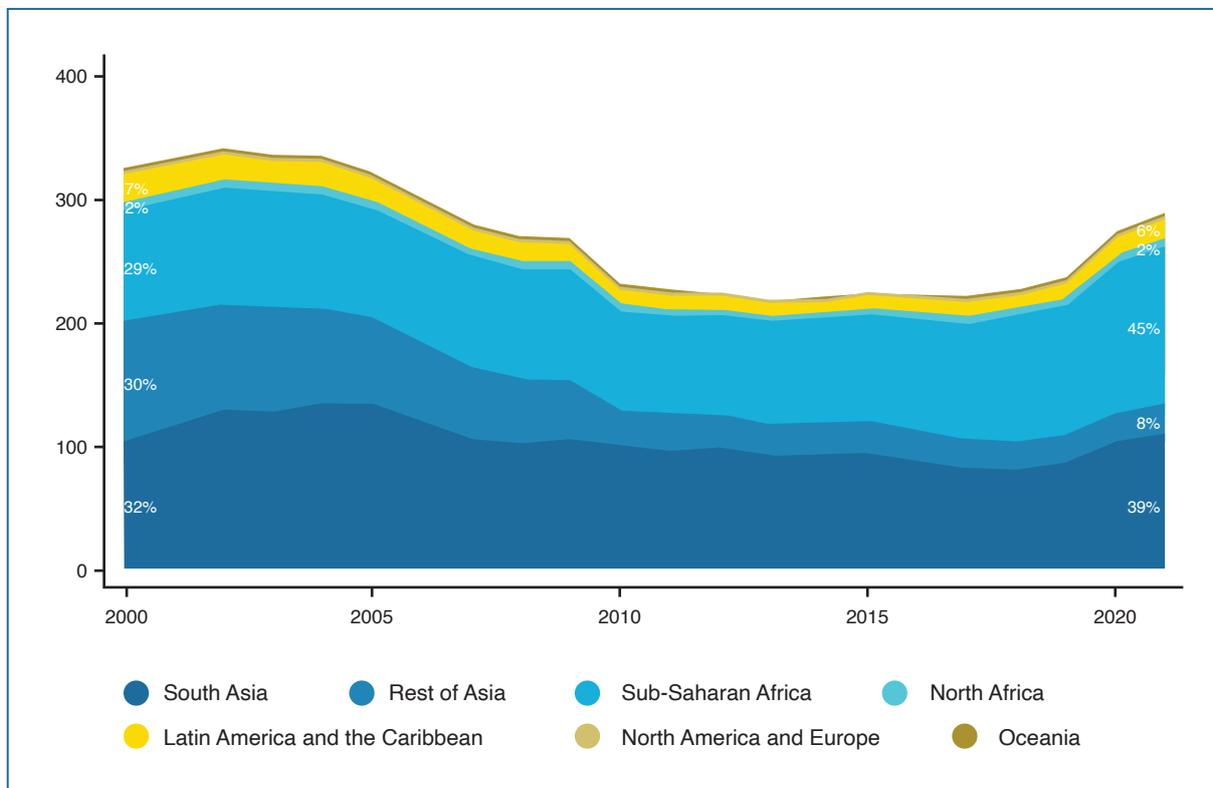
## Data Annex

Figure 1 Prevalence of undernutrition (FAO)



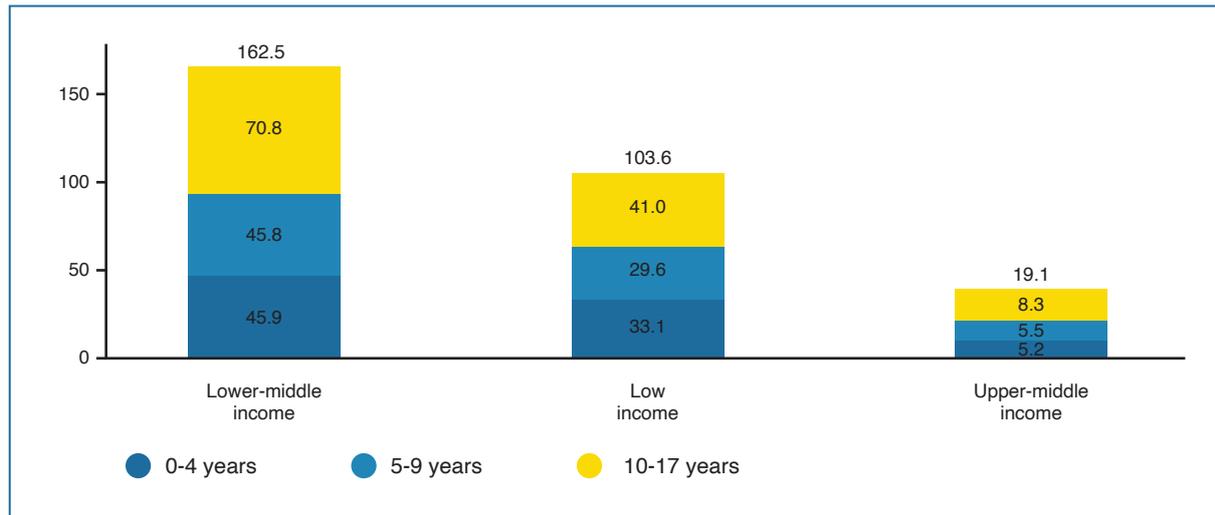
## Estimated undernutrition for children under 18, 2000-2021

By world region and age cohort based on FAO and UN population data



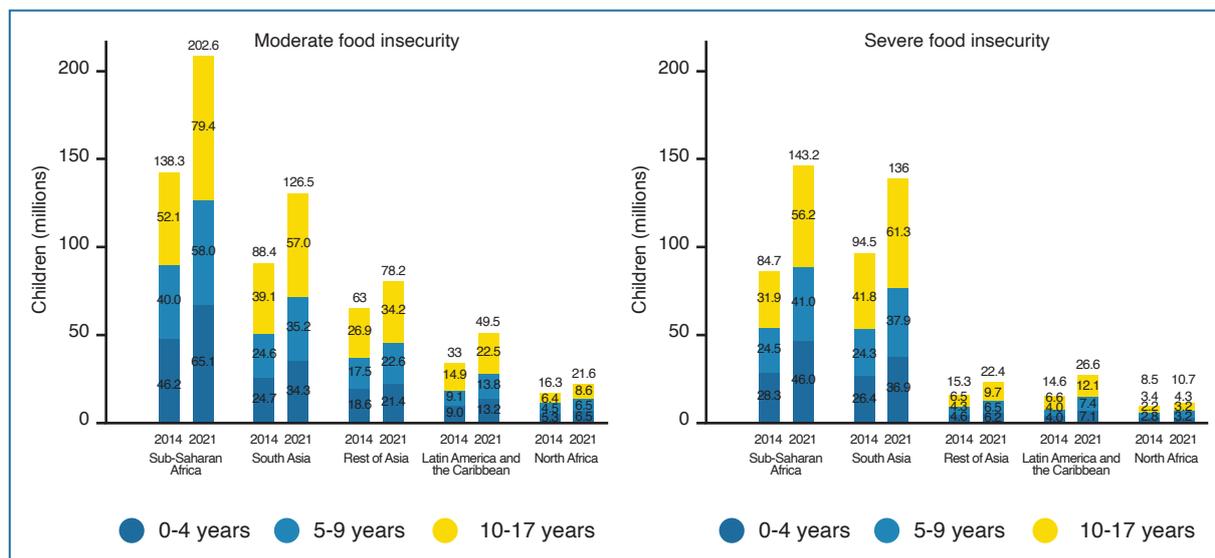
### Estimated undernutrition for children under 18

By income group and age cohort based on FAO and UN population data



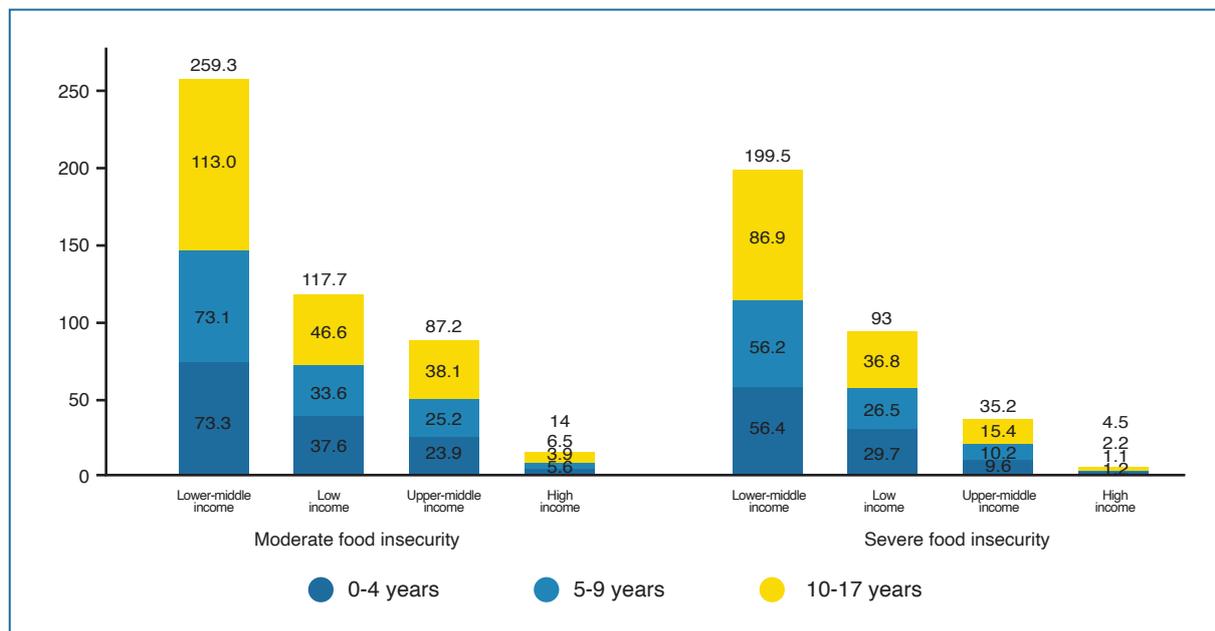
### Estimated undernutrition for children under 18

By world region and age cohort based on FAO and UN population data



### Estimated undernutrition for children under 18

By income group and age cohort based on FAO and UN population data



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