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EXECUTIVE SUMMARY

# SCHOOL MEALS AND FOOD SYSTEMS:

## Rethinking the consequences for climate, environment, biodiversity and food sovereignty

Prepared by the Research Consortium for School Health and Nutrition, an initiative of the School Meals Coalition

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## The need for food systems transformation

Food is life. But the way we produce, consume, and market food is leaving millions either hungry or overweight, pushing the world towards environmental catastrophe and undermining public health. A different future is possible. This report sets out how school meals can help build a food system fit for the 21st century. New modeling work presented in this report shows that cultivating healthy and sustainable dietary habits is one of the best investments we can make for tomorrow.

Rethinking food systems, from production to consumption, has never been more urgent. The world is facing a global nutrition crisis, with malnutrition affecting most of the population, either as hunger, food insecurity, obesity, or diet-related diseases. Many countries experience multiple malnutrition burdens at the same time and very few are on course to meet nutrition related Sustainable Development Goals (SDGs).

At the same time, the need to feed an increasing population, coupled with prevailing agricultural practices and unsustainable food production and consumption trends, has altered the equilibrium of our planet, causing depletion and pollution of natural resources, habitat and biodiversity loss, deforestation, ocean acidification, and climate change. Food systems contribute to a third of all human-induced greenhouse gas (GHG) emissions. A third of all food is wasted along the value chain, accounting for 8%-10% of GHG emissions through its production. Food production accounts for 70% of freshwater use, and is the principal driver of biodiversity loss, mainly due to the conversion of natural ecosystems for crop production or pasture. These environmental changes affect our ability to produce high quality foods, further compromising food security and nutrition. These changes are especially damaging for countries in the Global South that will bear the brunt of the climate crisis sooner and more intensely than many other parts of the world.

## School meals: a unique opportunity to address multiple food system challenges

The environmental and nutrition crises disproportionately affect children. Approximately 180 million school age children live with malnutrition and 1 billion children are at high risk of suffering from food insecurity. This threatens the education, growth, and development of children and adolescents worldwide, as well as increasing the risks of morbidity and mortality.

School meals are increasingly recognized as a key investment for governments, especially in the Global South, to tackle these challenges for children and provide a platform for food systems transformation. School meals programs are amongst the most established and extensive parts of public food systems worldwide, currently reaching 418 million children every day worldwide. Because the policy levers are in the hands of governments, and because of their reach and scale, national school meals programs provide an exceptional opportunity for the implementation of change to planet-friendly policies which have enormous co-benefits for child health and wider society.

The message that investment in well-designed and holistic school meals programs yields substantial returns in terms of healthier, better educated, and empowered individuals who contribute positively to the overall advancement of society was reinforced at the recent 2023 UN Food Systems Summit +2 Stocktaking Moment. Governments of member countries of the School Meals Coalition, a network created with the goals of enhancing the reach, quality, and

sustainability of school meals, committed to support healthier diets, shorter and more sustainable value chains, and a more equitable smallholder farmers' and fishers' economy, especially for women. Implementing such sustainable and healthy school meals programs also acts as a catalyst for the creation of more resilient and sustainable food systems that benefit the local economy. This potential can be achieved especially when school food is linked to local and smallholder agriculture production such as in the home-grown school food (HGSF) approach, and when technical inputs and financial support are well targeted.

## Two key areas where school meals programs can drive systemic change:

### 1. Schoolchildren and adolescents as agents of change

Growing evidence indicates the importance of nutrition for the health and development of children across the full age spectrum up to adolescence, throughout what is now called the "first 8,000 days", building on the crucial early investments during the first 1,000 days of life. Optimizing the synergistic potential of health and education investment during this sensitive developmental period helps ensure children achieve their full potential as adults, thus creating a nation's human capital. School meals programs provide the world's most extensive safety net for vulnerable children and, for many children, the food they are served at school represents the most nutritious and, for some, the only meal of the day.

The benefits of school meals go beyond nutrition: they improve school enrollment, attendance, attainment, and cognitive development, and reduce dropout rate, especially for girls. School meals programs help bridge socioeconomic disparities, ensuring that all children, regardless of their background, have equal access to quality nutrition and education. Importantly, planet-friendly school meals coupled with consistent and action-oriented food education can empower future generations by fostering healthier and more sustainable food habits at a critical age when life-long dietary preferences and social attitudes are formed and carried into adulthood. By taking these messages home, children can also influence the dietary preferences of their family, and coupled with a whole school approach, which actively involves communities, the broader food culture and values can also be positively influenced.

### 2. The power of procurement

Alongside the direct benefits for children, changes to the world's national school meals programs can also create demand-driven planet-friendly actions in local food systems. When properly designed and accompanied by adequate policy and regulatory frameworks, as well as support measures, sustainable school food procurement can promote the adoption of planet-friendly production practices, broaden the local food basket and stimulate crop diversity, along with other social and economic development outcomes. This is particularly true when school food demand is linked to local and smallholder agriculture production, such as in the home-grown school feeding (HGSF) approach. The link between school meals provision and local agricultural change is already established in many countries, and the mechanisms for policy change already exist. In Africa, for example, school meals provision is a specified demand in the African Union 2014 Malabo Declaration, and 42% of national school feeding programs currently have agriculture policy objectives, which include ecological elements such as agrobiodiversity and climate-smart foods. Government and community-led changes to national school meals programs can catalyze regenerative agricultural practices which, if appropriately designed, can promote biodiversity and climate change resilience. Procurement practices have also been shown to support food sovereignty.

## Economic and financial implications of the policy changes

Policies that are environmentally sustainable are almost always economically sound, providing long-term returns especially to human capital and agriculture. Studies suggest that the returns from school meals programs are substantial, in the order of up to $8 for every $1 spent, because of the additive returns across multiple sectors, including returns to education, health, human capital, social protection, and agriculture. The additive long-term returns will be even greater if the investments are sustainable from the perspectives of agroecology, biodiversity, food sovereignty and climate, and especially if they contribute to regenerative agriculture.

Financial affordability may be of more immediate concern to policymakers, especially in resource-limited settings, and here too the analyses suggest positive outcomes. Careful choices of sustainable dietary change can be largely cost-neutral, as shown for fortification in low-resource settings, and for a switch to more sustainable programs in Finland and Sweden. In some cases, changes can reduce costs, for example: the move to flexitarian diets from those based on some current food standards; the switch from open fires to more fuel-efficient cooking stoves; and waste reduction procedures to make savings that effectively reduce the per-capita cost of food.

All change implies some costs, especially capital costs for start-up and transition, and here too there are positive options. The Sustainable Financing Initiative of the School Meals Coalition has supported the move by external donors to specifically target their support for school meals in low-income countries which seek to strengthen and launch national school meals programs, and in countries with established national programs which need marginal and temporary support to transition to sustainability. Other sources of support for planet-friendly school meals to tap into in creative ways are Debt Swaps that specifically target human capital creation and climate financing resources. For example, climate finance could be tapped into to support farmers, Micro, Small and Medium Enterprises (MSMEs), entrepreneurs, innovators and start-ups to deliver climate resilient foods for schools. However, so far, only 1.7% of total climate finance targets small-scale agriculture, which represents a third of all food produced globally.

## A focus on two areas of policy change can create nutritious and sustainable planet-friendly school meals sourced from ecologically sustainable agriculture

Systemic changes and collaboration between multiple actors across school food systems are required to move towards healthier school meals with lower environmental impacts. By starting with the meal and working backwards through the supply chain to the farmer and fisher, innovation can be driven across the entire food system using a 'fork-to-farm' approach. This entails changes in two sets of policies:

1. **Policies directed at making immediate changes to school meals programs** for the benefits of all young people. Depending on the local demography, these changes will affect the lives of between 38% and 15% of the population, in low and high resource settings respectively. The biggest effects on population and planet health are made by policy changes in the following four priority areas: menus, energy, waste and education.
    - Menu changes which encourage dietary shifts which promote planetary and human health
    - Clean and energy efficient cooking solutions

- Prevention of food loss and waste, and reduction of plastic use
- Action-oriented and holistic food education to help establish life-long healthier and more sustainable food practices

2. **Demand-driven policies built on the power of procurement to promote food system transformation.** School meals programs can create demand from the agricultural sector for school foods from ecologically sustainable local farm systems, with the goals of stimulating local approaches to agriculture which are regenerative, and which can promote biodiversity, resilience, and food sovereignty.

## Turning policy into action

There are two areas for action:

### 1. Policy changes to national school meals programs

- Nutrient rich diverse menus:
  - Establish context-specific, evidence-informed national nutrition and food standards for school meals that adequately integrate sustainability considerations.
  - Shift to nutrient rich, climate resilient, and culturally relevant foods, ensuring a diverse school diet including whole grains, legumes, fruits, and vegetables and small amounts of low impact animal foods, such as sustainable aquatic foods: there is a particular role here for menu planning tools which address crops which are indigenous, local, planet- and climate-friendly.
  - Support and engage with Micro, Small and Medium Enterprises (MSMEs) and other value chain actors to be able to better handle this diversity of food and ensure delivery in terms of quantity and quality.
  - Reduce meat, especially ruminant, where this is overconsumed, with the goal of shifting to predominantly plant-based diets. Our analyses show, for the first time for school-age children and adolescents, that relatively modest changes to standard school menus (a flexitarian diet) can reduce environmental impacts by 26% (and by 43% with a vegetarian diet). These changes need to be context specific and take into account the interdependence across global regions, with stronger imperative for reduction in meat on school menus in, for instance Europe and North America, while recognizing the desirability of more animal proteins for child nutrition in other regions of the world.
  - Use planning and monitoring tools to ensure nutrition and environmental targets are planned for and met.
  - Integrate sustainability aspects to the vocational training of chefs and kitchen personnel and invest in teaching planet-friendly recipes and cooking. Secure resources for further training and capacity building of chefs and kitchen staff responsible for school meals provisioning.
- Clean efficient energy for cooking:
  - Ensure access to energy efficient, cooking solutions, with the goal of moving to modern energy cooking (MEC) services powered by renewable energy; in low-income settings, a switch from open fires to electric cookers can significantly reduce pollution with additional benefits for the health of the cooks and reduced deforestation.

- Minimal waste:
  - Prevent food loss by using methods such as better storage, cooling and preserving methods, and ecological pest control.
  - Reduce food waste at all stages, using monitoring and planning tools to control orders and portion size, and raise awareness among students to help take only what they will eat: halving food waste could reduce environmental impacts by 13%. It can also reduce costs and potentially reduce overweight and obesity.
  - Adopt planet-friendly methods of disposing of food waste, such as share tables to redistribute surplus food to hungry students first and foremost, and then composting or food recycling for any foods that can't be rescued.
  - Reduce package and plastic waste by using the Zero Waste Hierarchy, "refuse, rethink, redesign", and limiting packaged processed foods. Packaging, mostly for food and drink, accounts for 40% of global plastic waste, with enormous environmental damage, resource waste and potentially detrimental health impacts
- Food systems education:
  - Ensure that holistic food education is institutionalized in national school systems, designed with an action-oriented focus and implemented with regularity and available to all grades. Prioritize real-life and practical activities such as having students participate in food waste audits, farm visits, cooking produce from school gardens, taste sessions, and waste awareness.
  - Make mealtimes an integral part of the educational experience, as in for examples, Finland and Japan
  - Adopt whole school food approaches to help children and young people develop a new understanding of healthy and sustainable food environments and the role of food in their development.
  - Make the interconnectedness of food systems, climate change and environmental impacts part of the national curriculum to ensure a future generation is better prepared to make planet-friendly decisions.
  - Strengthen food education and sustainability aspects in the education of teachers.

**2. Policy changes to promote sustainable farming practices and transform food systems.**

- Recognize the potential of school food procurement as an entry point for local food systems transformation at policy level and promote policy coherency, including among nutrition, environmental, agriculture, and public procurement.
- Include climate and other environmental and social considerations in policies, recommendations and procurement rules guiding school meals provisioning at national, regional, and local levels.
- Ensure that the public procurement regulatory framework is aligned with the school meals sustainability objectives and provide the necessary instruments to support its implementation.
- Actively promote and formally give preference to agricultural production systems that ensure environmental sustainability and agrobiodiversity, such as regenerative or organic

farming, agroecology and agroforestry (all defined within the local context) to source school meals ingredients.

- Where possible, prioritize and/or set specific targets for local procurement from smallholder farmers, support to and capacity building of farmers and their organizations to respond to demand for planet-friendly school meals, including measures to support local smallholder farmers to increase, adapt and diversify production based on environmentally friendly production practices as well as to organize themselves collectively and participate in public food procurement processes.
- Link farmer organizations and cooperatives to the growing range of planet-friendly technologies and practices, climate services and knowledge products, tailored agro-advisory services, innovative insurance etc., promoting coherence among the different initiatives and programs. Support and capacity building of MSMEs, women and youth entrepreneurs, and other value chain actors, to respond to demand for planet-friendly school meals and adopting planet-friendly practices across supply chains including adoption of appropriate infrastructure.

# CONTACT

This is a working paper. Please direct any consultation comments to:

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