



POLICY PAPER

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Why school gardens matter

Policy action for nutrition, learning, agriculture, livelihoods, and resilience.

Governments are facing growing pressures across public health, food security, and youth unemployment. There is a need for policy measures which tackle these problems together, supporting the development of more resilient food systems and ensuring young people grow up well-nourished and are equipped with skills for the future.

School gardens and farms can offer a solution. When children are involved in school garden and farming programs, it can improve food literacy, increase academic engagement, teach children practical agricultural skills, and support the dissemination of more sustainable and regenerative farming practices.

When recognized as platforms within national food, education, agriculture, youth, and resilience strategies, purpose-led school gardens and farms have the potential to strengthen students' nutrition, learning, and future livelihoods, while delivering wider benefits for local food systems.

Background

Schools are among the most extensive public institutions in the world, reaching millions of people each day. Around 1.4 billion children were enrolled in primary and secondary schools in 2024, each participating in a dynamic network of students, teachers, and caregivers.¹ Through the processes of learning and socialization, schools offer an unparalleled opportunity to engage with young people and their wider communities, interacting directly and indirectly with both over a period of many years.

This reach matters even more as governments are faced with growing and interlocking pressures across public health, food security, and youth unemployment.

Among the most critical is malnutrition, which continues to affect millions worldwide, straining public health systems and reinforcing cycles of poverty. In 2025, around 645 million people experienced hunger, while approximately 2.7 billion people - over a quarter of the planet's population - could not afford a healthy diet.²

At the same time, food systems are under increasing stress from climate shocks, deteriorating agricultural conditions, and geopolitical conflict. The United Nations Convention to Combat Desertification found that up to 40% of the world's land is degraded, weakening food security, and undermining agricultural livelihoods.³

This poses a particular problem in the Global South, where agriculture accounts for a large share of employment, including around half of employment in Sub-Saharan Africa and more than two-fifths in South Asia.⁴ There is therefore an urgent need to equip farmers with the skills to adopt more sustainable and resilient agricultural practices, preserve soil health, and grow food in a changing climate. These skills can also create opportunities for young people facing increasingly uncertain employment prospects: globally, about one in five are outside employment, education, or training, with the NEET rate in Sub-Saharan Africa around 22%, according to the International Labour Organization.⁵

These issues are interlinked, and their effects get amplified in the absence of the right interventions. The future of food security depends on productive natural systems, capable farmers and workers, healthier diets, and a new generation engaged in school and equipped to manage agriculture differently.

Proposition: Recognize schools as platforms within national food, education, agriculture, youth, and resilience strategies, and create the policy conditions that allow purpose-led school gardens and school farms to contribute effectively to those priorities.



School gardens as a solution

School gardens can strengthen children's food and nutrition literacy, improve academic engagement, create spaces for regenerative and biodiversity-focused farming practices, connect schools with Indigenous seed systems, and inspire a new generation of young people to see sustainable agriculture as a pathway to innovation, entrepreneurship, and future livelihoods. While evidence is stronger in some impact areas than others, it demonstrates numerous credible ways in which school gardens have improved outcomes for children, families, and communities.

These outcomes become stronger when school gardens are connected with people, processes, and systems around them. This includes school and agriculture curricula, teachers and school administrators, school meals, agricultural extension, students' families, seed systems, and technical services.

Government policy can create these connections and provide the continuity that individual school gardens cannot create alone.

Five areas where school gardens can contribute

Impact area	Evidence
Nutrition	Up to 26% increase in children's vegetable consumption in a Nepal cluster-randomized controlled trial (RCT) that combined school and home gardens ⁶
Learning & engagement	Attendance increased by 18 additional days and there was a 4-5% reduction in dropout in a RCT across 197 Liberian schools . ⁷
Agriculture & seed systems	1,360 seed accessions of cultivated and wild vegetables collected, rebuilding Eswatini's National Genebank ⁸
Climate & (agro)biodiversity	17 Indigenous vegetable types popularized through the Philippines BIG program ⁹
Youth livelihoods	71% of 112 agripreneurs reported income increases above 50% through Kenya's EKYAN/KUZA model ¹⁰

Evidence note: The strength of evidence varies across these outcomes. Nutrition, education, and school-to-household agricultural pathways include more mature evaluations. Evidence on agrobiodiversity and youth livelihoods is emerging and is observed through program monitoring and implementation experience.

1. Nutrition

Improving children's diets requires access to fresh, nutritious food. School gardens provide a practical environment in which children can grow, prepare, and taste local fruit and vegetables, supporting healthier choices among children and their caregivers. A cluster RCT in Nepal tested an intervention combining school gardens with home gardens and caregiver nutrition education across 30 schools and 779 children and caregivers. Children's vegetable consumption increased by up to 26%, caregivers' food and nutrition knowledge by 26%, and home-garden productivity by 15%.⁶

The Nepal program deliberately connected what children learned at school with what families could grow and eat at home. National school-food systems provide a natural platform for these connections: gardens can reinforce food and nutrition education, introduce locally relevant crops to home gardens, and, where production and food-safety conditions allow, contribute fresh produce to school meals.

However, school gardens, nutrition education, school meals, and household food programs frequently operate through separate structures. Policy can connect them through curriculum guidance, school-food standards, home-garden linkages, and clear rules for how garden production can complement school feeding.

2. Learning and engagement

Agriculture, STEM, nutrition, and environmental topics become tangible when children learn them through practice, e.g. planting, measurement, experimentation, farm management, and problem-solving.

An RCT in rural Liberia across 197 junior-high schools showed that a school-based agricultural education program that also included parental engagement influenced whether students remained engaged with the school. Across the 19,500 targeted students, attendance increased by 18-28%, and dropout rates fell by 4-5%.⁷ The RCT also recorded a 9% increase in girls' grade progression and a 45% increase in girls' junior-high public exam pass rates, in a context of high female dropout and restricted access to agricultural resources for girls.

This impact is particularly significant for rural areas where students often combine schooling with agricultural work. It demonstrates how practical education that directly includes parental linkages can strengthen the relevance of school while building skills that children and households can use in their daily lives.

Further evidence points to the importance of curriculum links, instructional time, appropriate teaching resources, regular teacher training, and support from school leadership as key success factors associated with garden-based learning - all of which can be consolidated through education policy.^{11,12}

3. Agriculture and seed systems

As institutions where children, teachers, families, extension workers, and local government interact, schools can become local centers for disseminating agricultural knowledge and inputs (for example, seeds).

Through the Taiwan-Africa Vegetable Initiative in Eswatini, WorldVeg and government partners collected 1,360 seed accessions of cultivated and wild vegetables. The initiative rebuilt Eswatini's National Genebank and distributed more than 10,000 seed kits, while school, demonstration, and household gardens became part of the wider system through which traditional African vegetables were conserved and grown.⁸

This shows how school gardens can save, grow, and share locally adapted crops, helping keep useful and Indigenous varieties in circulation and improving food system resilience. Agriculture and education ministries can define how participating schools connect with genebanks, extension officers, research institutes, farmer organizations, seed multiplication, and household distribution.

4. Climate and biodiversity

School grounds create practical spaces where children can experience how bio-intensive systems work and participate in their restoration, equipping them with sustainable agriculture skills that can be used outside the classroom.

In the Philippines, schools used Bio-Intensive Gardening (BIG) to diversify their gardens and support feeding and nutrition education. The project introduced 17 Indigenous vegetable types into school gardens; 22 vegetable types were documented in participating gardens, 64% of them Indigenous.⁹

This example demonstrates effective policy mechanisms to connect climate education with local food systems, as well as opportunities for stronger environmental impact measurement.

5. Youth livelihoods

School gardens can provide early exposure to agriculture and enterprise, including climate-resilient farming practices. For older students, school farms can provide a more substantial vocational environment that includes larger-scale production, farm management, livestock husbandry, agribusiness, and entrepreneurial activity.

In Kenya, the Engaging Kenyan Youth in Agriculture and Nutrition (EKYAN) program links school demonstration plots with youth agripreneur training. All 112 young agripreneurs reported improved economic livelihoods, while 71% reported income increases of more than 50%, with an average monthly gain of approximately KES 18,000 (US\$140). These livelihood figures relate to the broader program and cannot be attributed specifically to the school plots.¹⁰

Governments are also beginning to create larger school-farm systems. Ghana's School Farms Initiative is designed to establish agricultural production and experiential learning in senior high schools. The current government initiative, launched in April 2025, envisages more than 700 school-based farms across approximately 15,000 acres, combining food production with practical agricultural training.¹³

School gardens can introduce knowledge, experimentation, and skills in agriculture; school farms can deepen these skills into vocational experience; enterprise platforms can help young people convert this experience into livelihoods. Governments can strengthen this pathway through secondary and vocational curricula, technical instruction, market exposure, and links to agricultural incubation, finance, and employment programs.

Why policy matters now

There is evidence that school gardens can operate at national public-system scale. In the Philippines, the Department of Education reported 44,965 schools participating in the 'Gulayan sa Paaralan Program' in the 2025 school year, an increase of 50.6% compared with 2022-23. Around 94% of public schools were reported to have active garden interventions. The program is linked to the country's school-based feeding program and receives government budget support.¹⁴

There has also been a rapid expansion of the public infrastructure surrounding school food, with almost all of the recent increase in investment coming from domestic public budgets. According to the World Food Program, Africa alone added around 20 million children to school meal programs between 2022 and 2024.¹⁵

These trends mean that national action for school gardens is far more feasible than it was a decade ago. Governments are already expanding the systems through which children receive food, health, and nutrition support at school. National garden programs such as in the Philippines, Ghana, or Zambia, demonstrate that gardens can also become part of a national public education system.

The opportunity is to connect these systems more deliberately, linking school gardens with national priorities in nutrition, education, agriculture, youth skills, and environmental resilience.

Policy proposition

Recognize schools as platforms within national food, education, agriculture, youth, and resilience strategies, and create the policy conditions that allow purpose-led school gardens and school farms to contribute effectively to those priorities.

Many countries have existing school gardens, agricultural clubs, school feeding programs, or farm schools that provide a starting point.

Governments can map current school gardens and farms, identify the outcomes they are expected to support, establish institutional responsibility, and define the operating budget and monitoring conditions required for delivery.

Government priorities for school gardens

Countries first need to decide what they want school gardens to achieve. That decision should shape who leads the program, what resources the schools need, and what results get measured. Six areas of policy action can create the conditions for successful delivery.

1. Define national priorities and desired outcomes

Countries should identify the objectives where school gardens can make the greatest contribution. These may include healthier food choices, experiential education, agricultural skills, seed conservation, school feeding, youth livelihoods, or environmental, climate, and biodiversity literacy. Clear objectives give governments a basis for deciding which model belongs where and how success will be measured.

2. Establish clear institutional ownership

School gardens touch several ministries at once - education, agriculture, nutrition, environment, and health - and typically interact with cross-cutting national and local government competencies. National policy can identify a lead institution and define complementary roles across ministries. The same clarity is needed vertically, with national government responsible for policy and standards, local governments coordinating technical support and implementation, and school administrations adapting delivery to the local context.

3. Embed delivery in existing public systems

Existing systems should be leveraged to maximize the efficacy of school gardens and ensure resource efficiency. For example, education systems can provide curricula, teacher training, timetables, and, where available, student organizations. Agriculture systems can provide seed and planting material, technical support and links to farmers.

4. Ensure minimum operating conditions

Gardens need water, usable land, clear roles and responsibilities, technical support, and a plan for school holidays, along with child safeguarding and a clear link to their purpose - for example, supplying produce to school kitchens where gardens support meals.¹⁶ Evidence shows that weakness in these operating conditions can interrupt otherwise promising programs. National standards can define these basics while allowing design to adapt to climate, available land, school stage, and rural or urban context.

5. Move recurring costs into public planning

Water, seeds and planting material, teacher development, technical support, maintenance, coordination, and monitoring costs recur every year. Government planning can identify which of these costs belong within school budgets, agricultural services, school-feeding programs, or other public systems. Leaving schools to raise these resources themselves can widen inequalities between communities.

6. Measure public outcomes and scale according to evidence

Governments should measure the outcomes each program is designed to produce. For example, nutrition programs can measure food knowledge, preferences, and consumption, while youth models should track skills, enterprise participation, income, and employment. National monitoring can show governments which models are delivering, where implementation needs strengthening, and which approaches are ready to expand.

About this paper

This policy paper draws on a CIAT-led systematic review of more than 650 journal articles, complemented by regular consultations and one-to-one interviews with more than 15 experts, practitioners, and funders over a period of five months. The research examined evidence across nutrition, education, agriculture, livelihoods, community resilience, climate, and biodiversity, alongside the operating and institutional conditions associated with sustained school-garden programs.

This policy paper is augmented by a School Gardens Toolkit and a longer systematic review, which provide additional evidence, case studies, and guidance on program design, implementation, and scale.

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