Policy Brief

School Gardens in Addis Ababa: Strengthening Experiential Learning and School Feeding Programs in Primary Schools

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Executive Summary

Traditional classroom activities frequently involve passive learning. However, activities in an outdoor class bring theoretical concepts to life through experiential learning. Recognizing the need for an experiential learning, the School Garden brings a solution to the disconnection between the students and the environment. This policy brief argues that school gardens should be institutionalized as a dual-purpose intervention for experiential learning and for supplementing the school feeding program in Ethiopian public primary schools. Evidence from the current shows that student pre–post test analysis demonstrated measurable learning gains, indicating that garden-based instruction positively influenced academic achievement. In addition outdoor class observations further confirmed high levels of student engagement, collaboration, inquiry, and problem-solving skills during garden-based activities. However, the findings also show that the contribution of school gardens to the school feeding program remains limited because only 12.5% of respondents reported that the garden currently supports school meals, and sustainability is constrained by space, water, time, funding, and coordination challenges. Ethiopia's School Feeding Policy Framework and Implementation Strategy already supports local food production, environmentally friendly school environments, and the use of school gardens to grow fruits, vegetables, and nutritious crops, which provides a strong policy basis for action.

1. Introduction

School garden programs have been used as a promising educational tool, implemented by schools all over the world. FAO (2006), defined school garden as "Vegetables, fruits, flowers, medicinal plants, trees, bushes and many other plants are usually grown in school compound. Occasionally, small animals such as ducks, rabbits, chickens, goats and even fish are also kept in

the School Garden. In cities where schools have limited space or lack open area, the School Garden can consist of plants growing in containers."

Global evidence demonstrates that garden-based learning significantly enhances students' science knowledge, 21st-century skills, and nutrition behaviours (Blair, 2009; Williams & Dixon, 2013; WFP, 2017). Desmond *et al*. (2002) reported that school gardens could impact students' development of physical skills (including fine motor skills) and community linkages. In Addition researches indicated the positive outcomes of garden based learning include increased awareness of students about the seasons, food production, nature of soil, composting process, traditional medicinal plants, a sense of responsibility and positive social behavior (Athman and Monroe, 2004; Ruiz-Gallardo *et al*., 2013; Pirchio *et al*., 2021). Other studies have confirmed that students participating in school gardens are more likely to garden at home (Davis *et al*., 2016). Additional experiences showed that, on harvest days, parents come to the school to collect vegetables together with their children and learn about modern gardening procedure, and get seeds/seedlings to use in their own home gardens (WFP 2020).

Nearly 7 million primary school children live in food-insecure areas and often go to school hungry in Ethiopia (MoE, 2022). In 2021, the government of Ethiopia has launched a nutrition program to address under nutrition with school feeding programs. To put into practice the school feeding program, the Ministry of Education has drafted a national school feeding policy and strategy. The School Feeding Policy Framework emphasizes locally sourced food, school-level production, community participation, and the establishment of sustainable systems that improve education, nutrition, and local economic development. School gardens were designated as a key mechanism to ensure long-term sustainability of the school feeding programs (Tamiru *et al*., 2024; AAEB, 2024). Based on this national policy direction, school gardens should be viewed not only as agricultural spaces but also as educational and nutritional resources. Thus this policy brief synthesizes findings from a 2026 empirical study to identify the gap between potential and practice, and to propose concrete, evidence-based recommendations for policymakers, school administrators, and practitioners.

2. Policy Problems

Despite clear benefits, school garden implementation faces several policy and operational problems. First, school gardens are often underfunded and lack formal integration into school curriculum, planning and budgets, which makes them dependent on short-term enthusiasm rather than stable institutional support. Second, the study shows weak sustainability due to limited space and time, water scarcity, all of which reduce production capacity and continuity. Third, professional development programs, coordination among school leaders, teachers, education offices, and community partners is often weak, which limits the integration of garden products into learning activities and school meals. Finally, although Ethiopian policy supports school feeding and local production, the link between school gardens and instructional practice is still not consistently operationalized across schools.

3. Opportunities

School gardens offer strong opportunities for both education and nutrition. Table 1 indicates the School gardens present a strong opportunity to improve both learning and nutrition in Ethiopian schools.

Table 1: Opportunities for Strengthening School Garden Programs

Opportunity	**Description**
Existing garden infrastructure	All surveyed schools already have operational gardens, and principals rated them as "good" or "very good". This means scale-up can build on existing assets rather than starting from scratch.
Supportive policy framework	Ethiopia's Education Sector Development Programme VI and the National School Health and Nutrition Strategy already provide entry points for institutionalizing garden-based education.
Teacher readiness	About 75% of teachers recommend curriculum integration, and the same proportion support professional development, showing strong demand for structured guidance.
School Feeding Program synergy	The School Feeding Program serves all 264 public schools and can function as a distribution channel for garden produce, reducing logistical barriers.
Student motivation	Outdoor classroom observations showed high engagement, collaboration, and curiosity, suggesting that students are likely to support and sustain garden activities.
Proven regional	Experiences from Brazil, Burkina Faso, Indonesia, Nepal and Uganda where a school

and global models	garden directly supplies vegetables to daily school meals while also supporting practical learning through a resource-efficient garden model. In Guatemala and Sierra Leone, where FAO-supported school garden initiatives have supported education and nutrition.

4. Challenges

Taken together, these challenges show that school gardens need stronger support systems to function effectively for both learning and feeding.

Table 2: Challenges in using school gardens to serve both academic and feeding purposes

Challenge	Description
Limited land and time	Many schools have too little space for gardening, and garden activities often compete with other school priorities.
Water scarcity	Lack of reliable water makes it difficult to maintain gardens consistently.
Inadequate funding	Insufficient financial support limits tools, seeds, inputs, and garden maintenance.
Limited teacher professional development	Teachers may not have enough training to start and manage gardens as learning spaces or connect them to the curriculum.
Weak timetable integration	Garden activities are often not built into the school timetable, which reduces continuity and instructional value.
Weak institutional coordination	Poor coordination makes it difficult to align garden production, learning goals, and school feeding needs.

5. Policy Recommendations

The following recommendations are organized by actor and priority, grounded in the study's triangulated evidence. Taken together, these policy options can make school gardens more effective as both learning and nutrition support systems.

Table 3: Policy Recommendations for effective use of School Garden Programs

Policy option	Key actions	Pros	Cons	Stakeholders

Policy option	Key actions	Pros	Cons	Stakeholders
Integrate school gardens into the curriculum (garden-based pedagogy)	Approve school gardens as an experiential learning strategy for science, environmental education, and practical skills.	Improves hands-on learning, links theory to practice, and strengthens student engagement.	Requires curriculum adjustment and teacher readiness.	Ministry of Education, curriculum developers, school leaders, teachers.
Design and deliver at least two garden-based lessons per term across all subjects	Use structured reflection activities and garden journals to build higher-order thinking skills alongside practical competencies.	Strengthens experiential learning, improves student engagement, and develops both practical and reflective thinking skills.	Requires teacher preparation, extra planning time, and support to align lessons with the curriculum.	Teachers, school leaders, curriculum support staff, students.
Allocate dedicated budget lines	Provide specific funding for garden establishment, maintenance, irrigation, tools, and training. Develop a school-level garden action plan with targets for instructional use, crop diversity, and SFP contribution.	Reduces dependence on irregular support and improves sustainability.	Competes with other school priorities and may face funding constraints.	Ministry of Education, City education bureaus, school administrations, finances offices.
Embed garden-based pedagogy	Train teachers to connect garden	Improves instructional quality	Needs time, trainers, and	Teacher training institutions,

Policy option	Key actions	Pros	Cons	Stakeholders
in teacher professional development programs	activities to lesson objectives, assessment, and outdoor classroom management.	and effective use of gardens.	ongoing support.	education offices, school leaders, teachers.
Improve water access and irrigation	Install reliable water sources (rainwater harvesting) and small-scale irrigation (drip irrigation) systems and water access infrastructure (storage tanks)	Increases productivity and reduces seasonal disruption.	Can be costly to install and maintain.	Schools, local government, water offices, community partners, NGOs.
Establish coordination committees	Create school-level committees with principals, teachers, parents, agriculture officers, and education officers. Appoint a part-time or full-time Garden Coordinator in every school	Improves planning, supervision, and shared responsibility.	Coordination may become slow if roles are unclear.	Principals, teachers, parent groups, agriculture offices, education officers.
Link produce to school feeding	Use garden produce in school feeding menus when food safety and quality standards are met.	Supports nutrition, reduces food costs, and strengthens school feeding.	Requires strong storage, handling, and safety procedures.	Schools, school feeding coordinators, health officers, agriculture offices, parents.
Promote community and	Mobilize support for fencing, land	Increases resources and community	Support may be inconsistent or	Communities, local leaders,

Policy option	Key actions	Pros	Cons	Stakeholders
partner support	preparation, composting, seedlings, and technical assistance.	ownership.	project-based.	NGOs, private partners, schools.
Include gardens in monitoring and evaluation frameworks	Track both learning outcomes and feeding contributions regularly.	Provides evidence for improvement and accountability.	Requires tools, indicators, and data collection capacity.	Education offices, school leaders, teachers, monitoring and evaluation teams.
Development partners and NGOs	Co-fund pilot schools with rainwater harvesting, tool kits, and seed banks; document and disseminate replicable models for garden-to-feeding-program linkages, building on WFP and FAO frameworks.	Provides extra funding and technical support, helps pilot innovative models, and improves the chances of scaling up successful practices.	May depend on donor funding, which can be temporary or uneven, and may create sustainability concerns if local ownership is weak.	Development partners, NGOs, WFP, FAO, Ministry of Education, schools, local education offices.

6. Conclusion

The evidence indicates that school gardens can serve as effective tools for experiential learning while also contributing to school feeding when properly supported. The study demonstrates clear gains in student engagement and achievement, but also reveals that sustainability and feeding impact remain limited by resource and coordination gaps. Ethiopia's school feeding policy already provides a strong policy foundation for using school gardens to grow nutritious crops and strengthen local food systems, so the next step is implementation through budgeting, teacher training, curriculum integration, and institutional coordination. With these measures, school gardens can become a practical and sustainable education support system in Ethiopian schools.

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