

e. School Organic Gardening and Curricula

Political justification

“As environmental concerns broaden and diet-related health and nutrition problems increase, governments and development partners are increasingly interested in the potential of school gardens” FAO observes¹²¹. School organic gardens and curricula have strong potential to teach fundamental lessons about biology, ecology, food and nutrition.

School gardens and curricula can also start the developmental pathway for acquisition of vocational skills in agriculture: in countries which are mainly agrarian, school gardens can play a direct role in training future growers and farmers.

Last but not least, they also have the potential to shape the values and expectations of children and their families about organic agriculture systems and food supplies. It can help increase awareness and demand for organic products. Government support at all levels from national to local to school organic gardening and education initiatives is among the effective options to support development of the organic sector in the country and help to create many related public goods.

Suitable contexts

Supporting the inclusion of organic gardening and organic curricula in schools can be implemented in all contexts.

Possible modalities of implementation

Governments can and should take the lead in providing appropriate political signals and resources for developing school organic gardens and curricula. At some point the implementation will have to be at local level, but governments may identify ways to help schools and local leaders to help themselves in their endeavors. The FAO observes that “Some well-documented success stories suggest that the most sustainable programs often grow organically: they start small, take little for granted and expect slow progress; they allow schools to opt in and later to ‘graduate’ and help others; they offer small incentives and long-term coordination. All of these factors should be taken into account when deciding the best way forward and how far the process of setting up, reviving or re-orienting school gardens should be divided between top-down facilitation and bottom-up initiative.” Governments can provide resources including support for training (train-the-trainer programs), primary school materials such as culturally and geographically appropriate lesson plans and activities linked to mainstream multidisciplinary curricula. There are many good resources worldwide that could be purchased or freely acquired and adapted.

¹²¹ A New Deal for School Gardens, FAO, 2010.

FAO notes that, “At the policy level, this multidisciplinary needs to be reflected in some intersectoral commitment. Government initiatives tend to be housed in the Education Ministry, with support from Agriculture. Health and nutrition services and environmental agencies should also be represented. NGOs and International Development Agency activities focusing on food production or horticulture also need to make sure that nutritional, educational and environmental aspects are not neglected. The balance needs to be redressed, especially in favor of nutrition, nutrition education and the environment. The multidisciplinary view also underlines the need to build capacity across the board. It is not only children and teachers who must learn: nutritionists and agriculturists need to learn about education; agriculturists need to learn about nutrition and nutritionists about agriculture; educators need to learn about both; everyone needs to learn about the teachers, the children and their families. Time must be allowed for this.”

Approaches to implementation may be either top-down or bottom-up. National governments, possibly in cooperation with international developmental agencies and other NGOs, may develop model curriculum modules for various grade levels and educational topics, and make them available to both public and private schools nationwide. National and regional governments could co-sponsor teacher training programs. Local governments could support and facilitate the provision of resources, both human and financial for constructing and maintaining school gardens. Whatever the implementation model, organizers should build into the projects means for measuring outcomes. Governments at all levels should publicize the garden initiatives, not only at launch but through performance measurement and dissemination of program results.

At the level of the schools, school garden projects are structured differently depending on the municipalities/schools. In some municipalities they are a mandatory part of the school curriculum; in some it is a voluntary offer as a part of the teaching; and in other municipalities it is an afterschool activity. It is beneficial if the crops grown are also used in the school kitchen and even better if pupils will participate in the cooking as it will extend the learning from growing into preparing food.

More information is available on the [FAO website](#) and in several FAO guides for supporting and implementing school gardens and curricula: in particular, the FAO publication, [A New Deal For School Gardens](#), outlines a 12 point program for how national governments can lead a top-down approach and offers an explanation of bottom-up approaches by local governments, schools and community. For the school level, good resources also exist, such as those on the [Schools Resources](#) page from GardenOrganic (UK), which contains practical advice and school activities for all ages on how to start and maintain an organic food garden.

Beyond organic gardening, some governments have promoted organic theoretical education in schools through the financing and dissemination of educational materials and toolkits (e.g. France). Another model for on-farm learning is the partnership between schools and organic farmers. In Denmark, for example, there are 30 such so-called ‘organic school yards’, whereby organic farms take in groups of schoolchildren

for farm visits. The government has provided funding for compensating the organic farmers for their time in showing the farm to children.

In France Agence Bio, the public agency in charge of organic agriculture organizes an annual national competition named “the little reporters for organic agriculture” which, since 2002, has rewarded those groups of schoolchildren that have prepared the most interesting school journals regarding topics connected to organic farming.

Country examples

Costa Rica has long-established policies of associating school gardens with school food and improving children’s nutrition and eating habits. The Food and Nutrition department within the Ministry of Education runs a program entitled “[Programa Nacional del Huertas](#)” which provides financial resources, capacity building and advice for schools to initiate their own garden projects, with a strong focus on environmental practices including organic gardening. For more information, see Best Practice textbox below.

In the **EU**, historically information measures were mainly addressed to consumers to make the EU and/or national organic logos better known at national level. Today, however, more targeted promotion and information campaigns have been developed, including e.g. building awareness at the municipal level in schools. Some of the recent national organic action plans contain measures to raise awareness about organic agriculture in school. This is the case in Denmark, France, and Andalusia (Spain).

In **Denmark**, the government promotes educational activities in schools in connection with the distribution of organic food. In 2009, the government provided funding of around EUR 300,000 for the production of teaching materials on organic food for school children. In the 2015-2018 Danish national organic action plan, the government calls on “schools to include organics in education, for instance through organic cultivation of school gardens, visits to organic farms, focusing on organic products in school kitchens, or studying and comparing conventional and organic production forms”. The Ecology Gardens in Odder, the largest organic display and demonstration gardens in the Nordic countries, receives a governmental support of EUR 50,000 per year and works with schools to organize organic educational activities.

In **France**, the national organic action plan includes raising awareness among schoolchildren, their parents and their teachers in conjunction with a Ministry of Education program using school gardening, visits to organic farms, taste education classes, school activities, etc. Some of these activities have been organized by regional chambers of Agriculture. Agence Bio, the public agency in charge of organic agriculture, has produced a pedagogic toolkit (with a pedagogic guide, a set of activities and some posters) for educating school children about organic farming. The toolkit can be downloaded in high definition on the [Agence Bio website](#) and freely reprinted.

In **Germany**, the Federal Ministry for Food and Agriculture supported the development of resource materials for teachers to teach about organic agriculture in schools. These

are offered on the national platform

<https://www.oekolandbau.de/lehrer/unterrichtsmaterialien/>.

In **Ireland**, the Department of Agriculture, Fisheries and Food financed the production of the resource "[Organic Gardening for Primary Schools – Curriculum Linkages and Lesson Plans - Teachers' Resource](#)".

In **England**, the project Food Growing Schools has an ambitious target to get every school in London to grow their own food. The three-year project is managed by Garden Organic. The Soil Association's Food for Life project is one of the partners. The Greater London Authority is one of the project funders.

In the **USA**, California has been a national leader in the school garden movement since 1995, when then Superintendent of Public Instruction collaborated with chef Alice Waters to create the Garden in Every School initiative through the California Department of Education. In 1999, the state established the Instructional School Gardens Program to support garden-based learning. The program then evolved and changed over time from an initiative and movement to a funded piece of soft legislation: the State Bill 1535, passed in 2006, which provided around EUR 12 million to support public schools in setting up or maintaining school gardens, for a period of three years. It covered thousands of schools. There is now in the USA a nationwide Farm to School program that often includes organic gardening and cooperation between organic farmers and schools.

The **USA** White House food garden in Washington D.C., includes activities for children from various local schools. The garden provides the White House kitchen with fresh organic vegetables and serves as an educational tool for school children, but its biggest impact is symbolic, promoting healthy food, good nutrition and organic gardening through the media.

In **Belize**, an NGO-led program assisting some 50 schools in developing organic school gardens is tied to the government school-feeding program. The Telefood Report 2005 described the scheme as "a working model worthy of replication".

The Ministry of Education of **Rwanda** implemented, in 2005-2006, the Rwandan school garden pilot project, funded by FAO with a grant of about EUR 300,000. Implemented in 20 schools, it aimed to make schoolchildren and their local communities aware of the importance of good nutrition, to develop their garden skills, and to supplement children's diets. The pupils and their parents at the pilot schools have identified environmental protection through organic gardening as one of the advantages of the gardens.

In **The Philippines**, the Organic Agriculture Act of 2010 mandates that "the National Government, through the Department of Education and in coordination with concerned government agencies, NGOs and private institutions, shall strengthen the integration of organic agriculture concerns in school curricula at all levels". As a result, many organic school gardens were implemented at primary school level.

In **Bhutan**, the Ministry of Agriculture and the Ministry of Environment collaborate on an organic school agriculture program, involving 200 middle schools where school children in the agricultural club grow organic vegetables and sell to the school kitchen. Organic agriculture is now also included as a chapter in the agriculture textbook for high schools.

Best Practice Example(s)

Best Practice example 1: The National Program for school vegetable gardens in Costa Rica

For more than 20 years, the Costa Rican government has been operating the “Programa Nacional de Huertas Escolares”, a national program to promote vegetable gardens in schools. The program provides financial resources, capacity building and advice for schools to initiate their own garden projects, with a strong focus on environmental practices including organic gardening.

The objectives of the program are:

- To supply school canteens with fresh and healthy food;
- To capacitate the teachers to strengthen food security within Costa Rican communities by promoting environmental consciousness, team work and the importance of healthy food;
- To support the development of the pupils’ healthy eating habits, particularly a balanced diet, rich in vitamins, minerals and proteins;
- To make the children agents of change in order to encourage families to also develop small auto-consumption gardening projects.

The program has existed for more than 20 years but in the past 10 years it has put a focus on non-chemical gardens. The program’s budget is about EUR 254,000 per year. It supports about 1,000 school garden projects throughout the country, 75% of which are organic (others consist of various environmentally-friendly projects such as biogas production, small livestock production, tree nurseries, etc.).

The program is managed by the Equity Programs Unit in the Department of Food and Nutrition within the Ministry of Public Education. Other public institutions, such as the National Institute for Learning, or the Ministry of Agriculture, participate in the promotion of the program. The program provides technical agronomic advice to the schools, but only employs two technicians for the whole country. Schools must therefore seek advice also from the extension staff of the Ministry of Agriculture. In 2010, FAO established a program to support family farming in Costa Rica, which also supports organic production for supply to the school canteens in rural areas.

It is considered that this program has contributed significantly to raising awareness of organic agriculture in the country in the past decade.

Best Practice Example 2: California’s Approach to Instructional School Gardens

From 1995 to 2005, about one quarter of California’s public schools had instructional gardens. Seeking to enhance the role of school gardens in education, leaders in the California Department of Education and the sustainable food and farming movement created the “Garden in Every School Initiative.” Housed in the Department of Education, the initiative provided encouragement and information resources on school gardening to citizens and local school

systems. Over time, this initiative evolved to include funding for school gardens through the passage in 2006 of the State Assembly Bill 1535, the California Instructional School Garden Program. This legislation established a non-competitive grant program to California schools over a three-year period in 2006-2009 to establish, maintain, expand and renew school gardens provided that they are used for academic instruction. The aim for California's children was that they learn how to make healthier food choices, participate more successfully in their educational experiences, and develop a deeper appreciation of their community. The funds could be used for equipment, supplies, garden-related professional development, but not for salaries for educators or garden coordinators. Administered by the California Department of Education, grants up to USD 2,500 were available to schools with less than 1000 students and grants up to USD 5000 available to schools with more than 1000 students.

Nearly 40% of California schools applied for and received grants during the funding cycle and USD 10.9 million was awarded. Applicants were required to provide information about what the grant would support, and when and for what subjects the garden will be used for instruction. About half of the applicants stated that they would use funds to start a new garden and purchase equipment and supplies. Nearly all applicants indicated that they would use the garden during regular class hours for academic instruction. The academic subjects for garden education mostly frequently cited by applicants were science (94%), nutrition (82%), environmental science (76%) and health (66%).

Parallel in time and complementary to Instructional School Garden Initiative was the formation of the California School Garden Network. Now called the Collective School Garden Network, it includes a variety of state government agencies, private companies, educational institutions, and NGOs with a vision of school gardens in every California school who work on further developing school gardens. It serves as a central hub for distributing school garden information resources. Another California-based NGO, LifeLab also provides training and resource information for implementing, managing, and teaching in school gardens. The resource materials place strong emphasis on organic gardening techniques such as pest prevention approaches and composting.

Possible pitfalls and challenges

FAO notes the following¹²²: "It is not easy to choose what to imitate from the many models of school gardens that exist around the world. Many projects disappear from public view after they are launched. Mistakes and failures, which could be instructive, are seldom published. There is a serious lack of evaluation of the long-term impact of projects that may have had impressive initial results. Do these gardens still exist? Are they still productive? Some of the most demonstrably successful initiatives are long-term 'garden movements', characterized by slow growth over a number of years, continuity of support, and gradually increasing involvement of the community. They often take a holistic approach, integrating gardening, nutrition, school food, education and environmental concerns. With organic approaches, inputs are low, except where irrigation infrastructure is called for. Such schemes start small, taking little for granted in terms of capacity and interest. Schools opt in, inspired by other schools or motivated by small grants, choose their own pace and measure their own progress. In most cases the gardens are seen as important contributors to self-reliance and aim eventually to be

¹²² A New Deal for School Gardens, available at <http://www.fao.org/docrep/013/i1689e/i1689e00.pdf>

self-supporting; schools ‘graduate’ when they no longer need help. There is a long-term coordinator or a coordinating group, which helps with resources and promotes mutual support and exchange of experience and information”.

It is essential for the success of the project that the actual growing is somewhat successful. In places with long school holidays during the growing seasons it can be a challenge to have someone tending the garden. Similarly it can be challenging to engage pupils if the harvest takes place after they finish school.

f. Export support

Political justification

Increasing the export of organic products is a way for countries to earn foreign currency and improve their trade balance. It is even more so than with conventional agriculture, because organic agriculture requires proportionally much less commercial inputs (which are often imported) and relies more on the countries’ own local resources. Combined with premium prices for organic, this results in better national value creation. In addition, as organic markets are demanding markets, it helps moving exports into a quality segment, instead of a bulk segment.

A well-developed organic export sector can represent a significant amount of the overall national trade balance. Growth can also be achieved in a relatively short time. For example, Tunisia increased the value of organic exports from EUR 7 million in 2004, to EUR 35 million in 2008 and to around EUR 140 million in 2015. This represents an average growth rate of 30% per year over the decade. This spectacular growth was the outcome of very pro-organic government policies and particular pro-organic export policies.

Developing organic exports is also a way for countries that do not yet have a significant domestic demand for organic products to still encourage production development, stimulated by foreign markets. Tapping into the growing global demand for organic products represents a significant economic opportunity for agricultural export economies.

Hence government support to kick-start and boost organic export market chains is a sound investment for countries to make, with returns that will be, not only in terms of environmental protection and job creation (public goods afforded by organic agriculture) but also in terms of earning foreign currency.