
Schoolyard and Community Gardens

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Table of Contents

- Why a Schoolyard or Community Garden?
 - Resources for Schoolyard and Community Gardens
 - Container Gardening Resources
 - FAO Resource Manual: Setting Up and Running a School Garden
 - ECHO Community Gardens Toolkit
 - Examples of Garden Projects
 - Village of Manjacaze, Mozambique
 - Bishop Ngalamu Theological College, Mundri, South Sudan
 - Loma De Luz, Belfate, Honduras (written by Rebecca Garofano, ECHO's current Community Garden Intern)
- More Practical Examples of Schoolyard and Community Gardens
- And Finally, an Invitation



Figure 1: Students at a Honduran school preparing soil for planting.

Photo by Brad Ward.

In the United States, as in many other countries, schoolyard and community gardens are gaining popularity. Such gardens have potential for much more than just contributing to food security. Participants learn about nutrition and growing food, and they connect in a deeper way with where food comes from. Schoolyard gardens can provide practical connections between classroom lessons and life applications. Materials are available to help teachers incorporate aspects of the garden into subjects such as writing, biology, nutrition, personal finance and history. Those who work in schoolyard and community gardens learn to cooperate and work in community, as they learn practical skills together.

The challenges are real. Establishing a garden at a school or within a community requires coordination. Sometimes negative attitudes must be addressed. Often the technical know-how is not there. Significant cost can be involved. Challenges often lead to discouragement, but failures and set-backs can also be a point from which to move forward towards a stronger project in the future. Success will be greater if

project leaders become aware of common challenges that others have faced, and plan accordingly. The resources and examples in this article can help in planning a group garden.

I have just finished a special one-year internship at ECHO as a resource person for individuals and organizations in our own community who are planning for or already doing schoolyard and community gardens. This internship was established two years ago in response to the serious financial crisis in 2008 and the enormous increase in the number of families needing food assistance. An increased interest in gardening was a side-effect of that situation.

Why a Schoolyard or Community Garden?

Why plan a schoolyard or community garden? Is it worth the hassle? It depends. Is there a felt need in your community that could be addressed through a shared garden project? It is important to determine your main goal(s) before you begin. They might include:

1. Training students and adults in the area of agriculture;
2. Contributing to food security for the school or community;
3. Creating income from sale of produce;
4. Introducing participants to a potential life-long hobby.

Although you may have multiple objectives in mind, it is generally best to concentrate on only one or two at a time. For instance, if you are considering a schoolyard garden for income generation AND augmenting a school lunch program, you will probably want to focus on one or the other, at least until you are sure you have enough expertise and resources to do both.

Recent correspondence, which triggered the idea for this article, illustrates a situation where schoolyard gardens might be relevant even in areas where a felt need has not yet been articulated. An individual wrote to Mark Hare, a long-time member of ECHO's network, with questions about including a rooftop garden at a school in Haiti. Though interested in the idea, the head of the school had pointed out that they would need outside expertise to help establish and maintain the project and to incorporate such a garden in the science and other curriculum of the school.

A couple of questions accompanied the e-mail: "I should also mention that [I was candidly told] that parents of 'urban' students may not appreciate or understand the value of such a curriculum (i.e., they are sending their kids to school to become doctors, not farmers). Have you experienced this attitude before? If so, has it been overcome in other situations with which you are familiar?"

Mark Hare responded, "In terms of whether or not agriculture is a valid component of an urban school, there can be no doubt but that it is. The point, certainly, is not to teach children to be farmers instead of being doctors. The point is to give them options of being either, or both. Here in Hinche, we have a number of refugees from the earthquake who made the decision to return to their roots and become, again, farmers. Some of these were civil servants in previous administrations."

Mark also commented on the importance of cultivating and caring for God's Creation, whether we live in a rural, urban or suburban area. Collectively and historically, we have not done a very good job. He commented, "Now is the time to change who we have been and, together with our Creator, to re-create who we are to become....If the leaders of the school understand that vision, the parents will certainly follow."

Evaluating community needs and providing opportunity to dialogue about potential solutions can help build solid support for the community garden project. I (Katie) worked this past year with local schools and other groups, and also corresponded with people overseas who were interested in community and schoolyard gardens. From that experience, I recommend several resources that are highlighted here. Many of them can help you think through current needs and potential solutions in your own community.

Resources for Schoolyard and Community Gardens

The ECHO Community Gardens Initiative provides opportunity to share resources with many individuals, both in our region and in other countries. ECHO brings a unique perspective to the domestic community gardening movement, shaped by our work with small-scale farmers in many of the poorest regions of the world. We seek to communicate ideas that are practical, low-cost and that require minimal inputs. Our recommendations typically include the use of appropriate crops as part of sustainable agricultural systems. Considering that most of the world's poor live in warm climates, we focus mostly on the use of nutritious—and often perennial—food plants that thrive in tropical or subtropical environments.

We have found the following publications and websites helpful for both overseas and local audiences.

Container Gardening Resources

When contacted by a group interested in putting together a garden project, we encourage the members to a) discover what is available within their own community and b) start small. This is where container gardening becomes a manageable "first step" for many, including in urban locations where gardening might not at first seem feasible. In responding to inquiries of this nature, I have shared the following ECHO resources:

ECHO Technical Notes (www.echocommunity.org/?page=tech_notes)
(http://www.echocommunity.org/?page=tech_notes)

- Rooftop & Urban Gardening
- Vegetables for SW Florida in the Summer Months (This document was written to help gardeners in our own subtropical community learn about vegetables that will produce during our hot, humid summers, but it is also a good guide for people gardening in hot, humid seasons in the tropics.)

ECHO Live Presentations (www.echocommunity.org/?page=presentations).
(<http://www.echocommunity.org/?page=presentations>.)

[Martin Price, narrator of the presentations, commented, "Rooftop gardening became an important area of experimentation and demonstration at ECHO after my first visit to Haiti as CEO of ECHO in 1982. Ms. Beth Mayhood, now deceased, had just built a new orphanage in Port-au-Prince for "her" children, but the building took up most of the land and what was left was needed for playground. So as we stood on her 50 x 50-foot, flat rooftop we discussed how to garden there. Gardens would need to be light-weight and cost almost nothing. You can see that rooftop and watch the development of ideas for practical methods of rooftop gardening on ECHO's website."]

FAO Resource Manual: Setting Up and Running a School Garden

This manual by the Food and Agriculture Organization is the resource most commonly suggested by the ECHO Community Garden Intern, in response to both domestic and international inquiries for planning and starting school gardens. The FAO Manual contains a wealth of information regarding agriculture and nutrition, particularly relevant for small gardens in a developing world context. Highlighted topics include running a garden project, involving family and community members, goals and principles, raising environmental awareness, designing the garden site, methods of gardening and improving nutrition. In addition, it includes nutrition guides and fact sheets for common food crops (e.g., bananas, beans, green leaves, oil seeds, topical fruit trees). The nutrition focus of this resource is easy to understand; it offers guidelines for encouraging a healthy diet (particularly for school-aged children), information about nutrient acquisition and preservation, and lists of useful sources of particular nutrients. Each part of the manual presents objectives for that chapter, making it easy to access information and focus research. The manual encourages readers to consult local experts for detailed horticultural advice. Supplemental lessons are included and can be used in a classroom setting.

The FAO Manual is available as a free PDF document online (www.fao.org/docrep/009/a0218e/a0218e00.htm) (<http://www.fao.org/docrep/009/a0218e/a0218e00.htm>) and is available in Spanish, French, and English translations.

The "Teaching Toolkit" supplement to this resource was just recently published (2010) and made available online: www.fao.org/docrep/012/i1118e/i1118e00.htm (<http://www.fao.org/docrep/012/i1118e/i1118e00.htm>)

(Note: The FAO Manual has been suggested as a resource to ECHO network members working in Belize, Sudan, Bolivia, Sierra Leone, and Bahamas. It has also been suggested to representatives of several local projects.)

ECHO Community Gardens Toolkit

The ECHO Community Gardens Toolkit was completed this past year during my time as a Community Garden Intern. The toolkit is relevant for both domestic and international audiences, and many elements are applicable for schoolyard gardens. It suggests several key considerations for beginning a small garden project. The information is meant as a guideline to assist leadership teams as they organize and implement particular elements crucial to making a garden project successful. While each element may initially require a significant time commitment, we believe that approaching these considerations thoroughly and creatively from the beginning

will make the project more sustainable. We hope that this toolkit will motivate community groups to discover the diversity of resources available within their community to meet felt needs, as well as promote inter-cultural understanding of issues relating to hunger, poverty, and justice in sustainable agriculture around the world.

The Community Gardens Toolkit builds on the experiences of ECHO staff members, interns, and network members over the years in a collaborative overview of key considerations for starting a garden project. As you organize the details of the garden, the Toolkit can encourage you to think through the following areas of consideration by presenting practical information, suggestions, and organizational resources:

- Who is interested?
- Who will lead?
- What are your purposes and goals?
- Local support and sustainability concerns (e.g. garden location and accessibility of water; options for growing: containers, raised beds; education, safety, and publicity; availability of resources; volunteer support and financial assistance)
- Agricultural management considerations (e.g. site planning and maintenance organization; planting and mulching; insect and disease prevention)

The Toolkit also provides several printable resources for brainstorming these considerations for your own school or community. The document is available in PDF format online: <http://tinyurl.com/cg-toolkit> (<http://tinyurl.com/cg-toolkit>)

[Note: Brad Ward has written a helpful document for planning a schoolyard or community garden, which addresses many of these same issues. It is mentioned on page 5 of this issue, but can be accessed from here: <http://tinyurl.com/planning-community-garden> (<http://tinyurl.com/planning-community-garden>)

Examples of Garden Projects

The range of circumstances that give rise to garden projects, and the experiences of those involved, are quite broad. To illustrate this, the global garden projects that were shared in past issues of the ECHO Community Gardens Newsletter are excerpted here.

Village of Manjacaze, Mozambique

Manjacaze in Mozambique is a town of approximately 20,000 people. Fairly isolated, the community in this city often faces challenges in obtaining a consistent supply of nutritious foods. Maize is the main crop, with little else grown. Many members of the community are struggling to receive the daily nourishment they need to fight the symptoms of HIV. At such a time as this, the men and women of a local church in this community have come together. Their focus is to teach the community about the nutrition in plants and to help the community grow nutritious food to supplement the diets of the orphans and widows in their community.

Through an organization known as Mozaic Upliftment Trust, Manjacaze has been transformed by its hardworking, innovative, and strong people. A variety of perennial and annual vegetables flourishes on raised beds established on a plot of land approximately 24 x 24 feet (7.3 x 7.3 m). Each garden area is the responsibility of one family; watering resources are shared, but families are generally able to access a well or borehole.

Moringa, papaya, beans, carrots, pumpkin, chaya, and garlic chives thrive during the hot and dry seasons from September to December. When the long-awaited rains come, tomatoes, cabbages, pumpkins, and beans are popular crops.

These garden projects in Mozambique involve and affect entire communities, bringing hope.



Figure 2a, b: MOZAIC Upliftment Trust or Associação Mozaic (in Mozambique) is a network of churches in South Africa that assists and equips churches and leaders in Mozambique to bring change to their communities, through training in nutrition, agriculture, and church planting. *Photos by Gerhard 'Geraldo' Erasmus.*

Bishop Ngalamu Theological College, Mundri, South Sudan

In the southern region of Sudan, a small group of students are both learners and teachers at the Bishop Ngalamu Theological College.

The land in southern Sudan is fairly flat, and the air is dry. In an area of approximately one-and-a-half acres (a little over half a hectare), the students at Bishop Ngalamu are cultivating crops. Beginning in April of 2010, the agricultural project at Bishop Ngalamu brought together a farmer, a hole digger, a handful of seeds, and a community of learners. The purpose of this project is primarily to feed the students of the theological college one lunch meal per day and to provide an opportunity for the practice of agricultural principles taught at the college. If there is extra produce left over from the harvest, it is usually sold locally in the market.



Figure 3: Students at Bishop Ngalamu Theological College, getting practical experience in agriculture.
Photo by Larissa Wolowec

The gardening project at the college is happening at a significant time. As a result of Sudan's most recent civil war, many families in the area were forced to flee their communities to open lands in the bush areas of the country. This meant a change in the food resources available. Tree leaves and berries became common foods in the family diet. Now

many people are transitioning back to a lifestyle of farming the land that has been restored to them. For the community, this project is an opportunity to practice and restore hope.

Students have now worked through the cultivation of crops over a complete yearly growing cycle, noting the differences and similarities as each environmental change occurs throughout the year. Learning from this year's experiences, the students will build on their knowledge, encountering new challenges and resolving old issues as a new year begins. [Note: For the sake of preserving knowledge over time, and recognizing that students graduate and leave the project, teacher involvement can significantly contribute to the long-term success of a schoolyard garden project.]

Regardless of where you are growing food, it is important to celebrate your successes! Celebrations occur in gardens all throughout Mundri, especially just before the beginning of planting season. For some individuals, this typically

includes a time of anticipating the goodness of a harvest and a time of asking for God's blessing over each seed and over the available water resources.

This agricultural project has also provided an opportunity for students and community members to experiment with different ways of cooking the garden produce. Training events have been held in the garden as well as in the kitchen, giving opportunity to teach how to plant, harvest, and cook with some of the vegetables—in particular, moringa!

Loma De Luz, Belfate, Honduras (written by Rebecca Garofano, ECHO's current Community Garden Intern)

Four hundred moringa trees filled the back of a truck. Throughout the afternoon, they were proudly carried away by new owners that were ready to plant the nutritious trees. In the end, not one tree was left in the truck. That's how a slightly shocked and excited Brad Ward, an ECHO network member, described families involved in a Honduran schoolyard garden program. Brad explained that the community's excitement for planting these trees grew out of a unique relationship between their local school garden projects and hospital.

Brad Ward has been working for the "Loma De Luz" hospital in Belfate, Honduras since 2008. While facilitating an agriculture project to support a 30-bed hospital in a rural community on the northern coast of the country, Brad began coordinating four after-school garden programs in 2009. He visits each of these schools approximately once a week (one of them is a three hour walk away). "Garden club" meetings involve 30 to 40 children, a ten-minute lesson, and approximately a half-hour of working in the garden. As schools are a public gathering place for these Honduran communities, schoolyard gardens provide an ideal platform for students and families to learn about growing food and to develop problem-solving skills. The program participants have learned from their mistakes (e.g. after its first year, the group decided to simplify their efforts by growing only plantain, papaya, and moringa) and have experienced both challenges and successes (some schools have taken to the project more than others).

One of the more exciting stories to emerge from this project involves the Loma De Luz hospital. When doctors heard about the many benefits of moringa for malnourished individuals (especially children and pregnant women; see <http://tinyurl.com/Moringa-Leaf-Powder> (<http://tinyurl.com/Moringa-Leaf-Powder>)), the hospital began prescribing a powder made from the leaves. Where did they turn to purchase moringa? The four schoolyard gardens! At ten dollars a kg (1 kg = 2.2lbs) of dried moringa leaves, selling moringa to the local hospital has become a small, income-generating project for the schools. One of the schools was able to purchase a ceiling fan with their proceeds!

In the future, Brad hopes to focus more on perennial plants (e.g., chaya - <http://tinyurl.com/chaya-tech-note> (<http://tinyurl.com/chaya-tech-note>) and katuk - <http://tinyurl.com/katuk-information> (<http://tinyurl.com/katuk-information>)) as a resource for the school. He also likes the idea of giving opportunities for older children to become "master gardeners"; older students could become more involved as they begin to teach younger students in the schoolyard garden.

When asked what advice Brad would give to others involved with schoolyard gardens, Brad immediately responded “Start small!” When starting their own gardens at the school, Brad shared how he had looked at mature, well established gardens and assumed that their school gardens should also start with large plots. He explained that, after the first year, they realized they had started with too much ambition and needed to scale back to a more manageable size. Brad encourages groups to learn from the lesson he realized—to start first with container gardens, focus efforts on starting a few plants, and then build from that foundation. Brad has also written and shared more information on planning a schoolyard or community garden, based on his unique experience. It can be accessed here: <http://tinyurl.com/planning-community-garden> (<http://tinyurl.com/planning-community-garden>).

More Practical Examples of Schoolyard and Community Gardens

In our region of southwest Florida, I have seen several unique ways of incorporating the garden into the classroom, as well as the community. At Avalon Elementary School in Naples, Florida, fourth-grade students are given an opportunity to apply to be in the Global Garden after-school garden mentorship program. Students exercise writing and communication skills and are encouraged by teachers throughout the application process. After students complete the program as fourth graders, they have an opportunity to come back as fifth-grade student mentors to the following year's class of garden students, at the same time developing skills in personal leadership.

Although not directly a part of the classroom curriculum, the school has incorporated the Global Garden as a valuable part of their school campus and a location for observation and experiential activities for their students. Periodically the garden is used by classrooms and students outside the Global Garden mentorship program. For example, the garden has been designed in an inviting manner; students and teachers have room to work on activities, talk about lessons, and eat under the shade of a pavilion at the center of the garden.

Bonita Springs Elementary School is another example. A third grade teacher designs science lessons around the processes that happen in the garden, including decomposition and the formation of compost. The garden has also become a place for physical education activities.



Figure 4: Students at this Honduran school have a chance to be involved in the whole process of plant growth, from seed to transplant to harvest.

Photo by Brad Ward.

At Classical Christian Academy, a small private school, teachers are informed of new activities happening in the garden on a regular basis. One class is in charge of the planning and upkeep of two raised box beds, but all teachers are invited to observe and use the garden as a teaching tool for their students and individual lessons.

At Bayshore Elementary School, six classrooms have each been given their own raised box bed, with dimensions about 3 x 6 ft (0.9 m x 1.8 m). The teachers and students in each class decide what and how to plant in their raised box. One teacher provides overall supervision and maintenance.

A teacher in one school told me that their school harvested a full box of produce and donated it to their local food bank. I remember being surprised and impressed because it wasn't a large garden, and I thought the students would have wanted to take the vegetables home rather than give them away. These students talked about the needs around them and sought to meet this specific need for others in their community.

Our Daily Bread Food Pantry Garden in Lehigh Acres, Florida, is an example of incorporating a garden into the community. The garden is the backyard of a local food pantry. The food bank has open community garden work hours on Saturday mornings, just two hours before the food bank opens. Anyone is welcome to work in the garden. Those visiting the food pantry can work in the garden that morning, then receive a sticker note allowing them to go to the front of the line to pick up their food items for that week. Several individuals have taken advantage of this opportunity. The garden includes plants grown in a variety of different ways (tires, bags, containers, box beds) and provides an opportunity to teach others (particularly those who visit the food pantry) about some possible options for trying it on their own.

And Finally, an Invitation

If you are interested to pursue the idea of a schoolyard or community garden, please consider joining the Community Gardens Group on www.echocommunity.org. Several people have already joined the group. We hope it will become a place where helpful ideas are shared. Here is the direct link to the group page: <http://members.echocommunity.org/group/CmtyGarden> (<http://members.echocommunity.org/group/CmtyGarden>)

Be encouraged as you seek to address the needs in your community. Find others who will commit to problem-solving with you. Most importantly, seek to learn from your mistakes and build on your successes, valuing the experiences and input of others in your community.

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