

Community Gardens

Empowering people and communities around the corner and around the world.

Objective: Students as "active citizens" gain the necessary understanding and skills to organize a community garden in their community or in another country (e.g. Ecuador or Mali).

Grade Levels: High School

Content Area: Social Studies

Connections to (Ohio) Model Curriculum (Social Studies)¹:

American Government: Content Statements #3 and #22

Contemporary World Issues: Content Statements #6 and #7

Skills: Problem solving, team building, active citizen

Vocabulary: community gardens, Liberty and Victory gardens, subsistence farming, food insecurity, farm to table, food deserts, Mali, Ecuador

Teacher Tip: This lesson could be used as a service learning unit or a blizzard bag assignment.

Steps in Strategy:

- 1.) Warm up activity: Show students the photo and ask for observations.
 - a.) Mention the photo was taken in 1918.
 - b.) What is the significance of the date of the photo?
- 2.) Essential / Compelling Question: Have students read the essential question. Ask students to do a "quick write" response. Limit the time and number of words. (For example, use 3x5 cards or sticky notes for the student's response.)
- 3.) Students complete readings #1 and #2 (these could be assigned a day ahead of the lesson / activity).
- 4.) Students complete the quiz individually or as a class.
- 5.) Activity Part # 1: Students read the following document on community gardens.
https://franklin.osu.edu/sites/franklin/files/imce/Program_Pages/ANR/Starting%20A%20Community%20Garden.pdf
- 6.) Activity Part # 2: Students individually, or as a class, develop an action plan to design and organize a public garden in your community or in Mali or Ecuador. Present the plan to local government officials and community stakeholders.

¹ Note: This lesson may be easily correlated to standards in states outside of Ohio.

Evaluation: Student Questions and Answers

- 1) Define subsistence farming?
A: Farming to meet the needs of the family for food and clothing (no surplus)
- 2) What are the trends in agriculture in the United States over the past one hundred years?
A: Less farms and farmers, larger farm size (use data to answer)
- 3) Define food insecurity and food desert.
A: Food insecurity is a lack of dependable access to food; food desert is an area where access to fresh produce is not possible or extremely expensive.
- 4) Which country / state has the largest land area? See Table 1.
A: Mali
- 5) How does the climate in Mali affect farming and lifestyles?
A: Rainy and dry seasons affect crop production; It may be difficult to support families, and some schools may have student-operated gardens.
- 6) Which country / state has the most annual rainfall? See Table 1.
A: Ecuador
- 7) How did the history of the hacienda system affect farming in Ecuador?
A: Hacienda families got the better land, while peasants farmed on mountainsides. Peasants would face challenges such as doing all farm work by hand.

Extension Activities

Research topics for a student, or the entire class

- 1.) Research the food needs of your local community; what fresh produce is available through the local pantry?
- 2.) Research agricultural challenges in Mali and Ecuador.
- 3.) Identify a food desert; research the origins of food deserts and strategies that could combat the problem.

Warm up Activity (Photo)²



Essential or Compelling Question

What can you and your classmates do to help combat food insecurity in your community and in your world?

² Photo courtesy of the Library of Congress

Reading #1

Gardens: An Overview

The history of gardens and gardening parallels the history of agriculture. Every civilization throughout history has endeavored to feed its people. Agriculture has evolved and developed over centuries. Subsistence farming is growing enough food to cover the needs of the family, hoping for small surpluses. Both historical and current societies practice subsistence farming. The family garden was, and still is, one of the most important parts of subsistence farming. The production of fresh vegetables, as well as vegetables that could be stored for longer periods of time, has been critical to families' food supplies around the world.

Agriculture in the United States has changed dramatically over the last one hundred years. In 1910 farmers made up 31% of the U.S. labor force. 6.3 million farms were in the U.S., with the average farm size at 138 acres. By 1990 the number of farms in the U.S. had dropped to 2.1 million and the average farm had expanded to 461 acres. In 2008 1.5 % of the U.S. labor force worked in agriculture.

Gardens have been used by the government to increase food production and aid war efforts. In World War I they were known as Liberty Gardens, and in World War II, Victory Gardens. Americans were encouraged to contribute to the war effort by gardening to increase food production.

The family garden transitioned alongside the growth and development of agriculture. Today, families in the United States get most of their fresh produce from the grocery store instead of a family garden. 12.3% of families in the United States experienced food insecurity during the course of 2016. Food deserts, areas where the population does not have access to affordable fresh produce, plagues parts of the United States. More recently, community gardens

and the farm to table movement have revived interest in the value of the traditional garden.

Today, gardens continue to provide needed fresh produce, a critical resource.

Reading #2

Comparing Locations: Ohio, Mali and Ecuador

Agriculture and gardening vary from place to place with climate, landforms, and culture.

Examine Table 1 and the World Map to compare the state of Ohio with two countries, Mali and Ecuador. Use these as a reference as you complete the following reading.

Table 1: Comparing the state of Ohio with the countries of Mali and Ecuador

	Ohio	Mali	Ecuador
Continent	North America	Africa	South America
Capital	Columbus	Bamako	Quito
Population	11.6 million	14 million	16.39 million
Land Area	44,825 sq mi	482,077 sq mi	109,483 sq mi
Rainfall	37.57 "	43.2 "	114 "
Life Expectancy	77.8	58.4	76.1

Map

World Map³



1. State of Ohio, United States
2. Country of Ecuador
3. Country of Mali

The land of Ecuador was divided into 13 large tracts called haciendas to encourage Spanish settlement following the Spanish arrival in Ecuador in 1531. The family received the hacienda land and ownership of all who were living on the land. The owners did not speak the local

³ https://upload.wikimedia.org/wikipedia/commons/thumb/4/41/Simple_world_map.svg/2000px-Simple_world_map.svg.png

Kichwa language and often gave these people who had become their slaves or indentured workers the last name of the hacienda so they could be identified. Today in small villages the last names of the residents are usually the same. When the country had land reform in 1964 the peasants received a small amount of land, usually close to their house and high up on the mountainsides, whereas the hacienda families received the land in the valleys. The country is located on the equator and has a wide variety of climates, allowing a variety of crops, flowers, and trees⁴ to be farmed. Hacienda families also received water rights so their fields could be irrigated using modern farming equipment. These lands are now often used for rose plantations where roses are grown year-round in greenhouses for export.

The indigenous farmer grows corn, beans, and squash in traditional “three sisters” fashion; this is similar to the farming styles of the early Native Americans in the Southwestern regions of the United States. Their small plots are often on mountainous land too steep for equipment and must be tilled, planted, and harvested all by hand. Some of the plots are filled with potato plants, fava beans or various kinds of squash. Because Ecuador is on the Equator, their planting and growing season is different from the times farmers tend fields in the United States. They often prepare their fields for planting from August to October and harvest their main crop from March to June. Farmers are dependent on the naturally rich volcanic soils and adequate rain to survive and feed their large families.

School gardens are a source of food for the children's lunches. In the elementary schools, several mothers will come each day to cook the lunch over an open wood fire and will use the vegetables from the school garden to enhance the lunch that is mostly potatoes, beans, or rice.

⁴ Note: If you study invasive plants, the eucalyptus tree in Ecuador is an example of an imported tree that has forced out most of the indigenous ones. You may also study how the local population has adjusted to this.

In Mali, the weather, as shown in Table 1, is completely different. The country's climate in the Sahel, the land just below the desert, is very harsh. Following a cooler season, the land experiences a dry season from around March to mid-June when there is little to no rainfall and plants go into survival mode or die. This is followed by a rainy season from mid-June to October, when severe thunderstorms deluge the land, make gullies, and wash away much of the top soil. Subsistence farmers in this Dogon region have a hard time raising enough millet, their staple food, to feed their families for several months, much less a year. These farm families try to build dikes to keep the soil from washing away during the rainy season. They plant, weed and harvest by hand in methods used for centuries.

Fresh vegetables are almost unheard of in Mali. Many schools have planted small plots of vegetables that are tended by the students, who then sell the produce in the village markets and use the profit to buy school supplies. Lettuce, onions, tomatoes, African eggplant, okra, cabbage, and black-eyed peas are examples of crops the children may grow. Often a well is dug to provide water in the dry season to keep their crops alive. The gardens are also used to teach academic concepts such as math, science, and economics. School gardens help to supply practical survival knowledge to children raised in a harsh environment.

When looking to support school garden initiatives in either Ecuador or Mali, it is considered better to send money to a sister school through a supportive organization, such as the Tandana Foundation⁵, then to send seeds. There are several reasons for this. First, sending packages to Ecuador and Mali is problematic due to postal services and conditions. Second, seeds raised for planting in the U.S. may not be bred to grow in other climates, and the length of the growing

⁵ Note: Tandana is a root word in Kichwa that means to bring together. Kichwa is the language of the people who have lived in the Andes mountains of South America since before the Spanish arrived.

season makes some varieties of plants more successful than others. Some U.S. seeds may also be good for only one season, and additionally, U.S. seeds could spread invasive plants to other countries. Starting a school garden in Mali requires about \$4500, and in Ecuador, about \$1500. However, any amount of money in either country can be put toward purchasing fruit tree seedlings, vegetable seeds, and/or tools that will help an established garden grow a wider variety of produce.

Activity #1: Community Gardens

Starting a Community Garden in your Community

https://franklin.osu.edu/sites/franklin/files/imce/Program_Pages/ANR/Starting%20A%20Community%20Garden.pdf

- 1.) Read the information in the link above. This could be done as individuals, in small groups, or as a class.
 - 2.) Develop a strategy to create a community garden using information from the link above.
 - 3.) Brainstorm what possible challenges and problems may be encountered.
 - 4.) Use the information above to think globally. Work to develop a strategy to help with a garden in Mali or Ecuador. What challenges might you encounter?
 - 5.) Invite a representative of the local food pantry, county extension office, or The Ohio State University College of Agriculture to discuss food insecurity and community gardens.
 - 6.) Meet with community stakeholders and elected officials; share your plan with these community leaders. Work with stakeholders and government officials to make the plan a reality.
- Note: Ideally, at the conclusion of the project, you would hold a community celebration event for stakeholders and community members. This celebration can include sampling produce from the community garden you and your classmates planned, organized, and grew!
- 7.) Work with an international organization to put your knowledge and skills of community gardening to work globally.

Activity #2: Help with a Community Garden (virtually) in Mali or Ecuador

- 1.) Establish a contact with a community in Mali or Ecuador; the Tandana Foundation can help facilitate a connection. Contact: info@tandanafoundation.org
- 2.) Once the contact has been established, have students learn about their "sister community."
- 3.) Help your students identify needs of a community garden in your sister community. The students can create an action plan based on the needs of their virtual garden. Ask students to include potential challenges their garden will face.
- 4.) Have your class help provide resources for seeds and plants. Your class could "adopt" plants or vegetables in their virtual garden.
- 5.) Students can have pen pals and monitor the progress of their virtual community garden.
- 6.) Culminating event / Celebration: Invite community members, stakeholders, elected officials to a celebration of their virtual garden. Students could share their thoughts and feedback from the activity.

* **Teacher Tip:** This activity is an example of guided service learning, a method that combines community service, project learning, and academic instruction. The link below from Austin Community College is helpful for teachers, both experienced and new to service learning, to better comprehend service learning and its principles. It also provides guided reflection questions to develop the student voice before, during, and after the project.

<https://sites.google.com/a/austincc.edu/service-learning/sample-guided-reflection-questions>

Additional Resources

1.) The Ohio State University: College of Agriculture: Community Gardens

<https://cuyahoga.osu.edu/program-areas/agriculture-and-natural-resources/community-gardening>

2.) Volunteer Tennessee

<https://www.tn.gov/volunteer-tennessee.html>

3.) The Tandana Foundation

The foundation has been working within the Otavalo region of Ecuador and the Dogon region of Mali since 2006 and has many long-standing relationships; this foundation could support your students in finding a sister school in Ecuador or Mali.

http://www.tandanafoundation.org/main_page.html

info@tandanafoundation.org

4.) We Now

Information on improving cooking in Mali with modern, fuel-efficient cooking stoves

<https://www.wenow.com/en/portfolio-item/efficient-household-cooking-stoves-mali/>

5.) Project to Mobilize Food Initiatives in Mali (report)

http://fsg.afre.msu.edu/mali_fd_strtgy/PROMISAM_final_technical_report_2008.pdf

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Sarah Lane is an educator with teaching and research experience in early and middle childhood classrooms. She has also co-developed curriculum and correlated it to state standards to analyze issues of food insecurity in both local and global settings. Sarah continues her work as a teacher, researcher, and consultant.

Hope Taft is President of The Tandana Foundation's Board of Trustees. She has committed most of her life to volunteerism, not only working with Tandana, but also with young people in alcohol and drug prevention programs and on various environmental and native plant projects. As the first lady of Ohio, she helped to create the Heritage Garden at the Governor's residence. Hope has seen the positive changes that Tandana has made in her role as a board member as well as a participant in Tandana's Volunteer Vacations. When she is not busy with her many community efforts, Hope likes to work in her garden and enjoys helping keep the Little Miami River watershed in good condition.

Anna Taft spent four months in Panecillo, Ecuador after graduating from high school in Ohio. In Panecillo she taught at an elementary school and built the connections that inspired her to start The Tandana Foundation. She earned a bachelor's degree from Whitman College with honors in Politics and a minor in Environmental Studies. After graduation, she worked for The Traveling School, teaching Spanish, history, and literature to high school students in the Andes and in New Zealand. She gained additional experience through eight summers of leading teenagers in wilderness and community service for Deer Hill Expeditions. Anna founded Tandana to increase opportunities for intercultural sharing in experiential education programs. For the last ten years, she has led the foundation in its partnership with communities in Mali and Ecuador by developing relationships, guiding projects, creating volunteer programs, managing staff, fundraising, and overseeing the innumerable details necessary to the organization's success.