

Hunter Taylor  
Eustis High School  
Eustis, FL, USA  
Cuba, Sustainable Agriculture Practices

## **Cuba: An Environmentally Friendly Approach to Food Production**

By definition, food insecurity is the condition of not having access to enough food for a person or family. In the past, seventy to eighty percent of Cuba's food came from exports around the world. With the collapse of the Soviet Union in the early 1990s, Cuba no longer received enough materials to produce their large-scale agricultural food production. The government of Cuba is communist, and this led to the country developing a food system called ration banks. With this, families were only allowed to purchase certain items at a store based on how many and who lives in your household. As a result of this, their economy suffered, and this then caused major food shortages throughout the country. However, in present-day Cuba, thanks to sustainable agricultural practices, Cubans are now growing more food, and shortages are becoming smaller. Their primary solutions to sustainable agriculture are urban farming, agroecology, and organic agricultural practices.

Firstly, a solution to help fix and improve sustainable agricultural practices is urban farming. In the country of Cuba, the population is eleven million people, and twenty-three percent of the Cuban population is rural, while seventy-seven percent is urban. The average size of the farms in Cuba are only thirty two acres, and most are private. As a result of this, the twenty-three percent can only feed their own families, not the remaining seventy-seven percent of the urban population. The average Cuban household size ranges from three and five people. Typically, it is a mother, father, and their children. Additionally, it is common to see the grandparents with them, all living under the same roof. To help grow more food, the urban community has implemented the idea of Urban Farming. The seventy-seven percent, decided to use vacant lands throughout their city, and turn them into community gardens. This idea was called, "Huertos Populares." With this method, the government gave access to local community members to turn unoccupied land into a garden to produce food for the city. This helped create smaller-scale farms that could produce enough food for their communities.

Additionally, another method that came from urban farming was the idea of Organoponics. This method grows plants in boxes with soil, on top of concrete. With the use of prior crop remains and organic matter, it is possible to grow food on the pavement in the cities. Other methods of urban agriculture are being put to use, such as vertical farming and private gardens. Vertical farming is the practice of growing crops on the tops of buildings, or on the sides of houses. These new methods have caused a shift in the amount of food that is needed from overseas. According to a writing by Appropedia, "In Havana, 90% of the city's fresh produce comes from local urban farms and gardens". (Appropedia, 2009). With the

development of new farming techniques, such as urban agriculture, more food is being produced for the population of Cuba.

Secondly, another way to provide a sustainable amount of food for the Cuban population is through the idea of agroecology. With Cuba's close proximity to the equator, it makes it an excellent place to grow crops year round. The climate for this area in the summertime is between the eighties and the nineties (Fahrenheit). In the winter time, it only drops to the mid seventies. With this ideal temperature year round, farmers have been implementing new ideas such as agroecology. The common crops grown are sugar cane, tobacco, and corn. Agroecology allows for diversification of both food and animals. With the practice of agroecology, farmers are using more natural ways to grow food. With doing this, they are using less machinery, and using more of the farm animals to tend to their crops. For example, using oxen or horses to pull a trailer. By doing this, Cubans are improving their carbon footprint, as they are not supplying fumes of harmful gasses to our atmosphere. This is allowing for more diversification of the animals, as they are working different jobs on the farm. In Cuba, this method has offered a chance to guarantee increased production of food. An article written by La Via Campesina, with the Department of Agriculture for the United Nations, is about the effects of agroecology in Cuba. It talks about how, "compared to the conventional model, agroecology offers Cuba food sustainability, sovereignty, and security. It also gives greater resilience in the face of climatic adversities which happen to the island, such as hurricanes." (La Vía Campesina, 2016). Using this method, farmers have been using more environmentally friendly methods to produce food, such as not using pesticides. An article written by Debora Ioozi, a research associate at the Council on Hemispheric Affairs, writes, "Furthermore, they used repellent plants such as common thyme, basil, marigold, maize, or ruddles to reduce pest infestation or to attract beneficial insects." (Ioozi, 2016). Farmers are using more natural ways to grow crops that are benefiting the environment. With these new methods, many farms in Cuba have already begun to see the benefits. Due to the proximity of how close the island is to the ocean, it faces many hurricanes. With this method of agroecology, farmers on the island are seeing their crops recover faster. Ioozi states, "A survey conducted in the provinces of Holguin and Las Tunas forty days after hurricane Ike hit Cuba in 2008 found that diversified farms experienced losses of 50 percent compared to 90 or 100 percent in monocultures. Likewise, agro-ecologically managed farms showed a faster productive recovery (80–90 percent) 40 days after the hurricane hit." (Ioozi, 2016). Since using agroecology can help farmers produce crops more quickly, even after a disaster, this can help to bring in a constant amount of food, and is another example of a solution to help achieve sustainable agricultural practices.

Lastly, another solution for sustainable agriculture is to purchase more natural, organic products. Many families do not receive the correct nutrition and amount of food they need. Buying more natural, organic products can help these families improve their diet. Organic agriculture is stopping the use of pesticides, and substituting organic plant remains such as thyme and basil, instead of pesticides. Using this method can help to improve the environment, and make food healthier for people and animals. An article written by The Organic Center is about the facts of organic farming. It states that, "The fact that organic food has fewer pesticides means that the organic standards are working. These standards require organic farmers to implement rigorous preventive systems to avoid pesticide drift and even the need for using organic-approved materials to combat pests. Organic farmers are required to use non-toxic, integrated pest, weed, and disease prevention plans prior to considering organically approved material application."

(Organic Center, 2017). Organic farming requires no use of pesticides, or anything that is harmful to humans. As a result of this, when farmers are growing organic foods, they are healthier. Moreover, in Cuba today, many people are using more organic matter to mix with the soil. There are many regulations that organic foods follow that are beneficial to the nutrition they provide. The Organic Center writes, “In contrast, no raw manure is used in organic systems without an extended waiting period between application and harvest (i.e. 90 and 120 days), and the use of sewage sludge is prohibited in organic farming. Organic regulations are especially stringent when it comes to livestock and other animals, because organic regulations do not allow confined cattle feeding operations, considered to be one of the primary sources of *E. coli* 0157.” (Organic Center, 2017). Many organic crops and meat cannot be treated with certain substances such as pesticides and antibiotics. Many Cubans are using their natural resources to help grow healthy food. This can involve using resources such as compost to mix with the soil. By doing this, farmers are helping to improve the growth of their crops, by using a natural biological process. An article from Appropedia mentions a sustainable agriculture technique known as “Vermiculture”. With this process, “Each organoponic has a worm bed for recycling waste and creating compost. There are approximately one hundred and seventy-five vermicomposting facilities in Cuba that have created one million tons of compost.” (Appropedia, 2009). Using biological processes helps the environment. While these methods are very efficient and easy to replicate, there are some weaknesses to these ideas. For example, limited access to farming technology still lowers productivity and only allows for small diverse diets, which can lead to malnutrition. Another weakness is the availability of space. With a population of eleven million people, there needs to be a sufficient amount of land to grow crops. Using land to build structures, or add a parking lot, is only taking away land that can grow food.

Furthermore, other countries are using the same practices as Cuba, to achieve the same results as Cuba has seen. In Sub-Saharan Africa, there is a population growth of almost three point six percent, and this rate is much higher than most other countries. Just like Cuba, this region of Africa is practicing Urban Farming. Many Africans that move from the rural to the urban, take their agricultural practices with them, and use them in the city settings. There are a large number of homes that have their own small gardens to collect food for the family. Also, many communities are turning unused land into larger plots that help to produce more crops for Africans. Within the cities, local residents are turning the side of riverbanks, roads, and even lands on schools, into an area to produce more food for the people of Sub-Saharan Africa. Just like Cuba, this region of Africa is doing everything in its power to help improve their food nutrition, abundance of food, and health. In areas of Sub-Saharan Africa, the countries of Kampala and Uganda are already starting to see improved nutritional status in children. (PRB, 2013). With these methods of Urban Farming, countries like Uganda and Kampala, are starting to see an improvement in health and access to healthy food for Africans.

In summary, some solutions to sustainable agriculture are urban farming, agroecology, and organic agricultural practices. If the country of Cuba continues to implement these solutions that are listed above, then this will keep them on track for a consistent supply of food, as well as an improvement in their sustainable agriculture. People in the communities need to participate. They need to help manage these community gardens, and need to take action on vacant lots, to turn those into small farms. Farmers need to adopt more organic methods, such as compost and natural pesticides, and start to use agroecology to improve yields. By doing all of these actions, Cubans are also helping the environment, as well as their

own health. With help from trade negotiations between the United States Department of Agriculture (USDA), and the Cuban government, raw materials can be received by Cubans that aid in the production of crops. Sustainable agriculture can continue for generations if everyone does their part to help. Vacant lands need to be available for community purposes, and there needs to be assistance from local government agencies that can assist with questions or concerns about these methods. Also, if jobs can open up to help these farmers maintain and implement these processes, this can as well produce more food for the country. All of these solutions can help Cuba become more independent of food from outside countries, and can depend on it being grown on their own land.

## Bibliography

Lindsey Sheridan Byers (2009). “Sustainable agriculture in Cuba”. Appropedia. Retrieved May 18, 2022.

[https://www.appropedia.org/Sustainable\\_agriculture\\_in\\_Cuba](https://www.appropedia.org/Sustainable_agriculture_in_Cuba)

La Via Campesina (2016). “Agroecology in Cuba: For the farmer, seeing is believing”. Food and Agriculture Organization of the United Nations.

<https://www.fao.org/family-farming/detail/en/c/429742/?msclkid=cf09bad1cfe411eca05f6e037b9d1903>

Isabel Morales. “Sustainable Agriculture in Cuba: Urban Farming and “Organoponicos”. Panoramas.

<https://www.panoramas.pitt.edu/health-and-society/sustainable-agriculture-cuba-urban-farming-and-%E2%80%9Corganop%C3%B3nicos%E2%80%9D?msclkid=97e96663cfd611ec8e48c499949aaf59>

Debora Iozzi (December 12, 2016). “Cuba, a Model of Sustainable Agriculture Towards Global Food Security”. Council on Hemispheric Affairs.

<https://www.coha.org/cuba-a-model-of-sustainable-agriculture-towards-global-food-security/?msclkid=97e9dc9dcfd611ecbb853d40a6d1bad1>

The Organic Center Editors. (August 10, 2017). “Know the facts about organic agriculture before forming your perceptions.” The Organic Center.

<https://www.organic-center.org/know-facts-about-organic-agriculture-forming-your-perceptions?msclkid=037e564fd0b011ec9351042dc073fa12>

Honor Eldridge. (April 18, 2018). “Agroecological Farming is Key to a Sustainable Future”. AgriLinks.

<https://www.agrilinks.org/post/agroecological-farming-key-sustainable-future?msclkid=a5f5cd9dd16511ecb85836140c89930d>

Christopher D. Cook (Spring 2022). “Cuba’s Harvest of Supplies” The Craftsmanship Initiative.

<https://craftsmanship.net/cubas-harvest-of-surprises/>

Michelle Beach. (April 4, 2013). “Urban Agriculture Increases Food Security for Poor People in Africa”. PRB.

<https://www.prb.org/resources/urban-agriculture-increases-food-security-for-poor-people-in-africa/>