

ABSTRACT

As a class, we came together through our sustainability first-year fellowship and focused on sustainability through urban farming. Hilltop Urban Farm is a regional organization that provides access to fresh produce in a food desert and educates the community about urban farming. The mission of this class project is to raise funds for Hilltop Urban Farm so that they can continue to benefit the community.

Hilltop Urban Farm

Hilltop Urban Farm is a community centered and non-profit farm that is located on 107 acres in Pittsburgh's South Hilltop area. This area of Pittsburgh is considered to be a food desert, which is a community (usually low-income) that lacks fresh, healthy, and nutritious food. These communities also face a lack of grocery stores and farmers' markets in the area. (Feeding a Food Desert 1&2). Their mission is to "create and sustain a new, regional asset in south Pittsburgh's Hilltop community, that is committed to growing food, growing farmers and growing a community" (Our Mission & Vision 1). The land is currently owned by the City of Pittsburgh, but ideas of the Allegheny Land Trust purchasing the land and leasing it to Hilltop are in the works. Because of this, they can't build permanent structures or keep their gate open which creates problems with their farmer's market and other projects that are open to the public. Given the size of Hilltop Urban Farm and all the areas they work with/reach, eventually it will become the largest urban farm in the United States (About Hilltop Urban Farm 1).



Hilltop's Programs

- Farmer Incubation Program: 3-year workforce program; each farmer is given 1/4 acre
- Youth farm: teach children about farming, healthy eating, and the environment
- Plans to create more programs in the future to get children in the area more involved

Please consider donating!

Hilltop has many programs planned for 2020. First, they want to create an afterschool program which happens three days a week and will teach the children about the importance of urban farming and the environment. They also want to create a summer camp program which would allow roughly 30 students to spend 27 days at the farm and give them enhanced learning opportunities. Another plan is having youth employees that will 'learn & earn' and assist with infrastructure projects and help out with the youth camps. Hilltop also plans to give tours of the farm and workshops for classes and students (2020 Youth Farm Plans 1).

Help the Hill achieve their goals! Donate!



Urban Farming in the region: Farming for the Future

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Information

Urban Farming

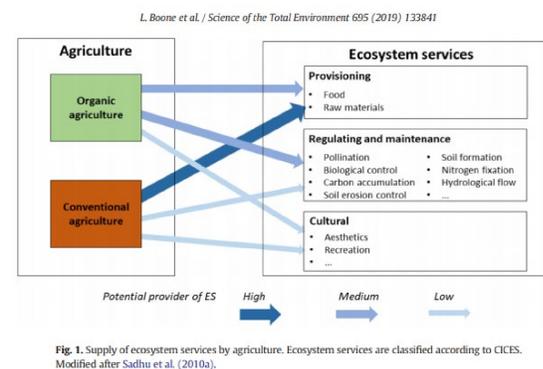
Urban farming, as described by the Greensgrow organization, is the practice of cultivating and distributing food in urban areas ("What is Urban Farming?"). The food itself can range from crops, to animal products, to even bee products like honey. It depends on city regulations, so most areas tend to only keep crops, selling them to local shops or citizens. Those same citizens actually participate in the upkeep of the farm. There are a lot of pros to keeping up urban farms within a community. For example, they help to strengthen the bonds between everyone in the area as they work together on the farm. It builds unity as they ignore factors like old versus young, white versus black, and even new to the community versus having lived there a long time. They are brought together through the produce. The farms are also nutritionally beneficial, allowing them to have food with good value as well as not having to worry about pesticides or the product declining in benefits through travel. They are also wonderful for the economy. New businesses are created as they sell the produce, lowering unemployment with the creation of new jobs. With those new businesses comes a raise in land value, as well as revenue being built through the local government. The farms are not only good for the people, however, as they also provide tons of help to the environment. When they're placed within urban areas, which tend to have more pollutants in the air, they improve air quality and biodiversity, as well as acting as buffer zone within the city ("Pros and Cons of Urban Agriculture"; Veenhuizen). This all sounds wonderful, however there can be cons as well.

Food Desert

A food desert occurs when there are no grocery stores, supermarkets, or farmers markets within walking distance. This can happen in many communities. However, they typically occur in low-income communities where there is no access to fresh fruits and vegetables. Some researchers have identified that communities of minorities also experience food balance issues. For some it is hard to afford food when they do not have financial security. Many that make an income below the poverty line experience food insecurity because of the high costs of nutritious foods. A 2,000-calorie diet can cost \$3.52 a day if it consists of just junk food. However, it can cost \$36.32 a day for a diet of low-energy dense foods. Food deserts increase healthcare costs because they deny poor neighborhoods access to nutritious diets.

Table 1
Number of Stores by Type and Distance

Store type	Number of stores	Availability of produce	Average distance (mile)
Chain convenience stores	2	Yes	2.5
Chain drug stores	0	None	2.4
Chain supermarkets	3	Yes	3.5
Discount supermarkets	1	Yes	3.5
Dollar stores	4	None	0.5
Independent grocery stores	2	Yes	0.5
Gas stations	3	Yes (bananas, apples, oranges)	0.9
Liquor stores with food	0	None	
Liquor stores without food	5	None	4.7
Special stores	1	None	5.6
Farmer's market	1	Yes	1.2



Organic Farming

Organic farming is defined as "farming sustainably without the addition of artificial chemicals" (Laffan 1). In summary, this means that no artificial chemicals are used to alter the natural factors such as the soil or the growth of the plant. A common example of this is Genetically Modified Organisms (GMOs). Most of the food and produce you find in the grocery store is genetically modified. What is **Genetic modification (GM)**? According to the U.S Agricultural Biotechnology Glossary, GM is "the production of heritable improvements in plants or animals for specific uses, via either genetic engineering or other more traditional methods." It also has many benefits, and the demand is increasing every year. (Laffan 3) One significant benefit is its nutritional value over conventional foods. Selenium (Se), for example, is an essential nutrient to human and animal health. Many organic produces are high in this protein. Studies show that having low Se proteins is often associated with diseases and/or can be detrimental to physical health. The issue is more prominent in the elderly because the micronutrient decreases in the blood as you age (Givens 70).

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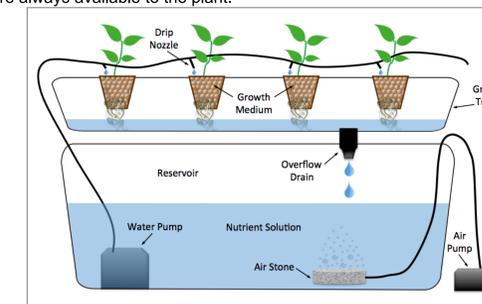
LLCAP

The LLCAP is an organization that supports families in poverty. They provide food to the elderly and an education for the less fortunate children about sustainable gardening. One of these methods of sustainable gardening is through the usage of hydroponics. Hydroponics are a water-based system that is used to help supply energy, power, and water to the needed subject. The subject at play is most likely a crop or another various plant lifeform. One of the LLCAP's goals is to persuade children who are picky eaters by introducing them to gardening and various types of vegetables. LLCAP uses many different techniques for growing produce. Things like Hydroponic systems, vertical growing systems, raised beds, greenhouses, and even more. Using different techniques allows them to produce even more and grow food of all different types all year long.



Hydroponics

Hydroponics has many definitions, but the most common definition is "the science of growing plants without the use of soil, but by the use of an inert medium, such as gravel, sand, peat, vermiculite, pumice, perlite, coco coir, sawdust, rice hulls, or other substrates, to which is added a nutrient solution containing all the essential elements needed by a plant for its normal growth and development" (Resh 2). There are many techniques and types of hydroponics. The most common form of hydroponics is substrate based, where, as mentioned previously, the plant is anchored with some medium, like gravel, stone wool, or polyurethane. These mediums are preferred because the production process tends to keep it disease and pest free. In fact, hydroponics initially emerged as a way to keep plants from spreading disease, which is extremely common in plants planted in soil. Soil also places stress on plants, because the amounts of water and oxygen available to the plant are not always enough when the plant needs them. In hydroponics, they are always available to the plant.



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