

2003

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Ridge, Rosamarie, "The History of Community Gardens in New York City: The Role of Urban Agriculture and Green Roofs in Addressing Environmental Racism" (2003). *Student Theses 2001-2013*. 76.
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Rosemarie Ridge

The History of Community Gardens in New York City: The Role of Urban Agriculture and Green Roofs in Addressing Environmental Racism

Environmental Racism

Environmental racism exists within New York City. Environmental racism occurs when environmental resources are not distributed among a particular minority or income population and when environmental regulations are not observed. Low income neighborhoods tend to observe an overrepresentation of waste dumps, pollution, and health problems as a result of environmental racism. Suburban neighborhoods filled with middle to upper class residents refuse to allow these things “in their backyards” and instead impose waste upon those who cannot defend themselves as a result of their lack of freedom in choosing where to live.

One important aspect of environmental racism includes access to green space. As New York City is a crowded city filled with buildings and residents it is often hard for anyone to have access to green space, but this is especially rare in low-income neighborhoods. Urban community gardens provide space for people of all races and income levels to connect with the earth and cultivate a piece of land. The gardens provide a serene and peaceful location but also allow gardeners access to both fresh fruits and vegetables and a means for learning nutrition skills.

Another aspect of environmental racism is the ability to enjoy a “green” and environmentally friendly lifestyle. Environmentally friendly products are generally a costly investment but will save the individual or homeowner an extensive amount of money in the long run. “Green” products are attractive to the middle and upper class who use them regularly. Rarely are low income populations able to take advantage of these products. Introducing green roofs throughout New York City could help to reduce environmental racism and improve air quality. The vegetation of green roofs can help to purify air, lower air and building temperatures, and reduce roof maintenance costs for landlords. Low income populations who generally suffer from high rates of asthma could benefit from green roofs throughout their area.

Community Gardening and Urban Agriculture

Urban community gardening provides a variety of benefits for both the environment and the surrounding community. Urban gardens create green space, absorb and dilute waste and can help to reduce dependency on fossil fuels by decreasing the travel distance of food products. Gardens are also great because they reduce the cost spent on fresh fruits and vegetables. This is especially beneficial to a family struggling with their budget, as fresh seasonal foods are expensive (Pinderhuges 300). Community gardening provides education about food and nutrition to those who otherwise may not have access to such information (Pinderhuges 300). Not only do community gardens allow gardeners to grow fresh produce but they provide satisfying labor, a sense of self worth, neighborhood improvement and a sense of community (Hanna and Oh 209). The gardens have the ability to generate as well as maintain relationships between neighbors, give rise to community activity, and empower residents who now have a piece of their own land

to cultivate and assume responsibility for (Pinderhuges 300). The gardens promote social networks and can initiate an experience equal to that of community organizing and development. Gardeners will often eat their own produce and many will share it with friends and family showing pride for what they have grown (Pinderhuges 300).

Gardening is also a legitimate form of physical activity and is accompanied by numerous health benefits. Hanna and Oh (209) write that “many studies include gardening as a beneficial form of exercise comparable to swimming, biking, running or walking. Garden also includes people of all ages, sizes and gardens can easily be made handicap accessible”. Gardens are great for establishing a connection to oneself as well as a connection to the earth (Hanna and Oh 210). It’s also important for children to feel a connection to the earth, “plants put you in close touch with the cycle of life in seeds, sprouts, fruits, flowers, and harvest, with the change of seasons, and plants’ dependence on other living things such as bees, insects and worms” (Hanna and Oh 210). The benefits of community gardens are numerous including the large benefit to the physical environment. The garden vegetation is able to filter toxins from the air, reduce noise pollution, increase urban wildlife, and act as a buffer against the wind (Schmelzkopf 376).

Gardens provide a place of peace contained by a neighborhood and create a safe haven for community members. Parks are another means of accessible green space but they are wider and much more public than a community garden (Hanna and Oh 210). Gardens create a sense of unity from the moment they are created because most often a group must gather to initiate a garden association. People have to organize, discuss strategies and plan for the garden which establishes strong connections between neighbors (Hanna and Oh 211). Gardens can be the

initial step in community development efforts that may lead to more frequent neighborhood clean up or building playgrounds etc. (Hanna and Oh 211). Nowadays, it has become more of a concern to incorporate food growing as well as the organic production of food into the lives of Americans (Hassell 35). Hassell (35) writes, “In the current community garden movement, utilitarian concerns and aesthetic concerns are most closely allied in the environmental movement, where food production, in particular organic food production, and greening or beautification of the environment are part of the same efforts.

History of Community Gardens in America

Throughout history community gardens have become important in times of poverty. In times of war and depression, community gardens flourished to provide people with necessary and low cost sustenance, as well as a



feeling of belonging. During economic depressions and in times of war, gardening space was the only relief the government was able to provide for its economically poor people. The idea of gardens as a means of relief traveled from Britain and Europe to America. From 1894 to 1917 Potato Patch gardens existed (Hassell 38). The Potato Patch gardens enveloped a period during the 1893 depression. The mayor of Detroit, Hazen Pingree, pushed a plan that would relieve the poor by allowing them to cultivate the land of abandoned lots. Those who utilized gardens during this period grew mainly potatoes, beans and turnip (Hassell 38). By 1895, other cities including

Chicago, Boston and Providence had implemented similar relief programs. However, as economic crises improved the food production in gardens generally decreased to the point of abandonment (Hanna and Oh 209). School gardens then began to develop throughout the early 20th century (Hassell 39). Schools were able to provide land for the gardening and it involved the children in the growing of their own food (Hassell 39). Bassett (35) writes “children were taught to ‘acknowledge a systematic operation and its components – individual responsibility, cooperation, interchangeability, a steady, uninterrupted flow of movement and production, efficiency and progress’”.

World War I brought about the Liberty Garden which was the country’s attempt to provide relief for its poor. The National War Garden Committee promoted the use of Liberty Gardens with media and advertisement (Hassell 39). In 1917 the War Garden Committee reported that 3,500,000 war gardens produced \$525,000,000 worth of produce for the citizens of the United States” (Bassett 63-70). From approximately 1930 to 1939 Relief Gardens emerged out of desperation caused by the Great Depression (Hassell 39). Local and state governments implemented garden programs in 23 states to help relief burdens of food shortage (Hassell 39). The community gardens made another comeback during WWII. The War Food Administration reinstated gardening under the National Victory Garden Program (Hanna and Oh 209). Dubbed “Victory Gardens”, these community gardens again came to the rescue during a food crisis. The difference this time is that gardening was gaining perception as a recreational activity and something that should be incorporated into daily life (Hassell 40).

Urban Community Gardening in NYC

Urban community gardening in New York City grew out of concern for degrading neighborhoods that were at the time characterized by abandoned lots and vandalism. Through community organizing and clean ups, tenants took it upon themselves to start vacant lot clean ups and environmental projects. In many New York City neighborhoods the green space that gardens created were the closest thing to a park.

In 1976 New York City became involved in urban community gardening. The Department of Housing Preservation and Development (HPD) deemed it necessary to incorporate green space into its housing facilities and so for the cost of 3.6 million they decided to reconstruct vacant lots awaiting construction and create garden space (Schmelzkopf 375). HPD intended for residents to upkeep the gardens but the city did not provide tools or supplies for maintenance (Schmelzkopf 375). As a result of this, the gardens were soon abandoned and residents complained because they were not involved in the planning or construction of the gardens in their own neighborhoods. The city had given the residents a plot of land and had assumed that they would take responsibility and maintain something they weren't able to create in a cooperative way.

In 1978, the City of New York began supporting the development of community gardens through Operation Green Thumb. The Green Thumb program was designed to support gardeners in an already existing garden instead of creating garden space. Through its Plant and People Grant program, Green Thumb provided funds and expertise for vacant land to be utilized in neighborhood revitalization efforts (Schmelzkopf 375). Operation Green Thumb was funded by federal grants and would lease vacant property to gardeners for a monthly price of \$1 (Schmelzkopf 375). The program taught various gardening workshops and would support

gardeners by providing supplies such as soil; gardening tools and seeds (Schmelzkopf 375). To obtain a lease from the City of New York gardeners would have to first form a block association and then petition for the land (Schmelzkopf 375). The leases could be obtained for one year and with the condition that there was no future development planned for the site. If the gardeners were able to maintain the site according to Green Thumb guidelines, it was possible for the lease to be extended to five or ten years (Schmelzkopf 375). By the mid 1990's there were over 700 gardeners linked to Green Thumb (Edler 776) and the gardeners were producing more than one million dollars in fruits and vegetables each year (Schmelzkopf 375).

Community Gardens vs. Affordable Housing

In February of 1993, HPD compiled a list of 22 gardens that would be put up for sale for development of affordable housing (Schmelzkopf 379). Beginning in 1994, the City stopped approving new requests for Green Thumb gardens and in 1996 began to sell off its entire disposable land inventory (Edler 777). Beginning in 1998, the City also began a policy of non-renewal of Green Thumb leases resulting in the auctioning off of community garden spaces (Edler 777).

At the end of 1997 and after much protest HPD was willing to release 30 of the gardens on its list to be demolished (treebranch.org). Community board approval was necessary to determine if the land would be under the ownership of the Parks Department or would be used as garden space (treebranch.org). For this to take place, the community board would first conduct a formal review of the gardens to see if the land would be better used for housing or as open space.

In May 1998 the City wanted to speed the process of housing development and so it deemed that all Green Thumb licenses were no longer valid. In December of 1998, the City

issued a list of 114 gardens that would be auctioned off over a three week period (treebranch.org). Many of the gardens had existed for years and were a central space for the communities in which they existed. Greening activists and various non profit groups as well as community groups mobilized to protect the community gardening spaces. Various lawsuits were filed and foundations led by the Trust for Public Land fought for the chance to purchase the gardens (treebranch.org). City Hall agreed to sell the endangered gardens to Trust for Public Land and New York Restoration Project, saving 114 gardens (treebranch.org).

Case Study: Green Guerillas Organization in NYC



Various community organizations developed over the struggle to preserve the garden space in New York City, but one pivotal and influential group was the Green Guerillas Organization. The Green Guerillas organization serves to support gardeners and provide resources for them to upkeep and continue to produce community gardens. The organization provides material, support and expertise to gardeners helping them to cultivate the land. Green Guerillas originated as a group who wanted to convert an abandoned lot on Bowery Street and Houston (Edler 775). The Green Guerillas group continued to protest for use of the abandoned lot until they received permission from the city to garden. This particular lot is considered to be the first community garden on the lower east side of Manhattan (Schmelzkopf 366). The Guerilla Organization doesn't do any gardening themselves and instead they facilitate self-sufficient gardens by teaching gardeners technical and organizational skills and by supplying them with garden materials that green guerillas obtains through donation, "the criterion for receiving this

aid is that there is public access to the gardens and that the gardeners themselves request the materials” (Schmelzkopf 374). Other nonprofit organizations heavily involved in community gardening are The Trust for Public Land which is a land conservation organization that exists nationwide, the Neighborhood Open Space Coalition which provides garden insurance and Cornell University Extension which tests soil for gardeners and provides instructions for planting specific crops and protecting crops from pollution (Schmelzkopf 374)

Community Gardens and Environmental Racism

Community gardens provide a form of justice for those suffering from environmental racism. The gardens provide green space in an otherwise crowded and polluted area. The gardens also allow impoverished residents of New York City to grow their own food which puts ease on their budget and is more accessible to them, as many areas such as West Harlem and the South Bronx have few grocery stores that carry fresh vegetables at an affordable price. In addition, community gardens can begin the process of restoring the environment within an impoverished neighborhood. Residents of city blocks often have high asthma rates and the green space can help to filter the air and trees can help to provide more oxygen.

Lastly, the sense of community is important in low income neighborhoods and gardens can provide that. The gardens offer a space for community activities as well as children and youth programming. This helps to keep kids structured and involved in programming that is meaningful because they can produce. The community garden allows adults to develop social networks which are vital to newly arrived immigrants who have no social capital and may feel isolated. Gardening also connects many immigrants to their homeland where they had greater

access to green space and probably either tended to a garden on their own land or cultivated farmland regularly. Low-income people should be able to fulfill their rights to open space and a quality of air that will not lead to future respiratory problems and hospitalizations. Community garden space allows people to access the same serenity and connection with the earth that many suburban communities enjoy surrounding their property.

Bronx Community Garden Spaces (represented by green dots)



Manhattan Community Garden Spaces (represented by green dots)



Green Roofs

Green Roofs are beneficial in helping cities to fight urban heat island effect, air pollution, noise, and they provide a space of green. Green roofs work to:

- Reduce storm water runoff

- Vegetation of green roofs captures precipitation. The precipitation will then either evaporate from the soil or it will be released back into the atmosphere as the vegetation plants undergo transpiration (Getter and Bradley Rowe 1278).

- Filter air pollution

- Plants have the ability to filter out pollutants in the air. The elimination of contaminate particles can help to decrease respiratory problems, increase lung function and decrease respiratory hospitalizations (Getter and Bradley Rowe 1279)

- Moderate urban heat island effects

- Green roofs provide shade which results in energy savings, as the extra heat of the roof is not given off because plants are absorbing the heat as opposed to concrete or brick (Getter and Bradley Rowe 1278). Air temperatures above the building are reduced as a result of the vegetation. It has been shown that air temperatures surrounding the building can be reduced by 30°C (Getter and Bradley Rowe 1278).

- Create habitats for birds and invertebrates

- Most green roofs are not readily accessible to the public. This allows for undisturbed biodiversity and the creation of ecosystem on the roof, green roofs are often a location for

various invertebrates and sometimes the habitat of endangered organisms (Getter and Bradley Rowe 1278).

- Increase thermal insulation of buildings, thus reducing heating and cooling costs

-Green roofs provide insulation which results in energy savings, they have been shown to reduce indoor temperatures by 3 to 4°C. This allows for lower energy costs and a reduction in air conditioning costs during the summer months. (Getter and Bradley Rowe 1278)

- Reduce costs of roofing maintenance and replacement

- Green roofs are generally covered with vegetation which blocks the harsh effects of the sun on the roof structure. The roof is kept cooler in the summer months which also limit wear and tear and general breakdown. The roof vegetation is natural and only needs to be watered regularly.

- Noise Pollution Reduction

- Hard surfaces in urban area reflect sound. Green roofs absorb sound waves and can reduce surrounding sound by decibels. At the airport in Frankfurt Germany, a 10cm green roof was able to reduce noise levels by 5 decibels (Getter and Bradley Rowe 1280).

Green roofs exist in two main types, intensive roofs and extensive green roofs (Wark and Wark 3). The two types differ in their structure, durability and physical appearance so the decision of which type to use depends on the building structure and what the roof area will be used for. Intensive green roofs resemble gardens and usually have trees, bushes or wildflowers (Wark and Wark 3). They serve a dual purpose in that they are usually accessible by the public

or the residents of a particular building which makes the roof more like a park area. Sometimes these types of green roofs will even have benches or paths.

Intensive roofs are “labor-intensive” and require regular maintenance (Wark and Wark 3). Intensive roofs are constructed with many layers and are found on a flat roof surface (Wark and Wark 4). They can support more weight, which allows them to be accessible by the public. Extensive roofs on the other hand don’t support as much weight and are not open to the public (Wark and Wark 4). Because of their limited access, extensive roofs are more environmentally beneficial because the vegetation and any life forms are undisturbed. Extensive roof vegetation and soil rests on a drainage layer that filters rainwater and also protects the roof structure of the building (Wark and Wark 4).



← Intensive Green Roof

Extensive Green Roof →



Green Roofs and Environmental Racism

Green roofs help to address issues of environmental justice in multiple ways. First, green roofs provide green space which may be lacking in low income areas. Some green roofs are designed for people to enjoy their beauty in the form of gardens or wildflowers. Green roofs are great for schools or elderly communities, allowing children and residents to enjoy a tranquil area of green.

Additionally green roofs help to combat health problems that exist as a result of environmental injustices. The roofs are sufficient in reducing toxins in the air as the plant vegetation acts as a filter. Enough green roofs in a specific area can help to reduce asthma rates and purify the air. Green roofs also help to reduce the urban heat effect which can lower the temperatures in a particular area as well as on top of a building.

Green roofs are also an innovative method that can be used in low income/affordable housing. Green roofs reduce the temperature in buildings, including the top apartments, allowing money to be saved on energy costs. Tenants will use the air conditioners less often because of the reduced temperature. The energy savings allows what little affordable housing development or non-profit money there was to begin with to be used elsewhere. The green roof also reduces the cost of roof repairs, and roof repair will take place less often.

Case Study: Jacob's Place

Jacob's place is an 8 story, 63 unit apartment building located at 2350 Webster Avenue in the Bronx, NY (fordham-bedford.org). Jacob's place also includes 6 classrooms that will be used



for early education (fordham-bedford.org).

Jacob's place is funded and run by Fordham Bedford Housing Corporation and the units are 100% affordable. Tenants are chosen through a lottery and make no more than 60% of the median income (fordham-bedford.org). In addition, the tenants are to pay no more than

30% of their income for rent (fordham-bedford.org).

What makes Jacob's place so special is the environmental focus throughout the building. The building is one of the few "green" buildings that also provide affordable housing. The building is characterized by bamboo floors, energy efficient elevators, low energy windows, non V.O.C. paint which reduces the amount of fumes released from the paint, a rainwater harvesting system and a green roof (fordham-bedford.org). Jacob's place also has solar panels on the roof that are used to light the common areas (fordham-bedford.org).

The green roof atop Jacob's place is used for two main purposes. The roof is used to help cool the building which reduces the costs Fordham Bedford has to bear during the summer months. Fordham Bedford also installed the green roof in hopes of reducing the asthma rates in

the Bronx area. They hope that if they can install green roofs on enough of their local buildings they will be successful in both purifying the air and reducing asthma.



Conclusion

Both community gardens and green roofs provide approaches to addressing environmental racism in New York City Communities. Community gardens offer not only a financial benefit by allowing gardeners to grow and eat their own produce but they also provide a private and serene green space. Community gardens build community in neighborhoods where there may otherwise be no strong ties. The gardens allow people to build human capital and develop networks as well as provide programming for children and youth. The community gardens are “easy on the eyes” in a fast paced urban environment and they help to close the gap between city dwellers and suburbanites because both groups in some way are able to experience earth.

Green roofs help to address issues of environmental racism in a slightly different way. The roofs have environmental benefits that on a larger scale can help to bring down asthma rates and filter the polluted city air. Some green roofs provide aesthetic benefits to residents and can be used to engage communities who don't have much access to the outside air. Fordham Bedford is now working on building affordable elderly housing where they will include an intensive green roof where the elderly can enjoy the roof space and garden on small plots. Green roofs may not offer the individual connections that community gardens do but they allow those who would otherwise be ignored a chance to experience fresh air and participate in an "environmentally friendly" lifestyle.

Works Cited

Bassett, Thomas J. "Vacant Lot Cultivation: Community Gardening in America, 1893-1978."
M.A. Thesis University California Berkeley (1979):1-49.

- Elder, Robert F. "Protecting New York City's Community Gardens." N.Y.U. Environmental Law Journal 13 (2005): 769-800.
- Getter, Kristin L. and D. Bradley Rowe. "The Role of Extensive Green Roofs in Sustainable Development." Hort Science 41.5 (2006): 1276-1285.
- Hanna, Autumn K. and Pikai Oh. "Rethinking Urban Poverty: A Look at Community Gardens." Bulletin of Science, Technology & Society 20.3 (2000): 207-216.
- Hassell, Malve von. The Struggle for Eden: Community Gardens in New York City. Westport, CT: Bergin and Garvey, 2002.
- "Housing Initiatives." Fordham-Bedford.org. 2006. Fordham Bedford Housing Corporation. 16 Apr. 2008 <<http://www.fordham-bedford.org/affordable.html>>.
- "New York City's Community Gardens: A History." TreeBranch.org. Neighborhood Open Space Coalition. 5 Apr. 2008. <http://treebranch.org/community_gardens.htm>.
- Pinderhughes, Raquel. "Poverty and the Environment: The Urban Agriculture Connection." Natural Assets: Democratizing Environmental Ownership. Ed. James Boyce and Barry Shelley. Washington D.C.: Island Press, 2003. 299-311.
- Schmelzkopf, Karen. "Urban Community Gardens as Contested Space." Geographical Review 85.3 (1995): 364-381.
- Wark, Christopher G. and Wendy Wark. "Green Roof Specifications and Standards: Establishing an emerging technology." The Construction Specifier 56.8 (2003): 1-12.

**History of Community Gardens in New York City and the ability of
both Urban Agriculture and Green Roofs to Address Environmental
Racism in New York City**

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Environmental Project

Due: 4/30/2008