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I, Sucheta Bal, hereby submit this original work as part of the requirements for the degree of:
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Urban Agriculture/Community Gardening: Starting and Maintaining Successful Programs

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Urban Agriculture/Community Gardening:
Starting and Maintaining Successful Programs

Thesis Submitted
In partial fulfillment of the requirements for the
Master of Community Planning

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The School of Planning
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Abstract

Keywords: Urban agriculture, community gardening, community development, best practices, programming.

In recent years, urban agriculture and community gardening have increased in popularity almost as much for resulting social and economic benefits, as for the more traditional nutritional and beautification aspects of the activities. However, challenges still exist for those looking to start and maintain an urban agriculture or community gardening program that has the capacity to retain its impact into the future. This study creates a decision-making framework for activists, residents, and community leaders interested in starting programs that will change the community for the better and succeed for years to come.

This study examines nine long-running, successful urban agriculture/community gardening (UA/CG) programs from the United States. Selected programs have been in existence for at least five years and have been successful in their capacity to unite low-income or otherwise disadvantaged groups, build social capital within their communities, and also maintain organizational and financial stability. The history behind each program’s formation, the community problems addressed, and the contexts within which they operate were delineated. An operational framework then detailed the everyday activities, partnerships, leadership structure, and operational characteristics of the programs in this study.

The communities within which these nine programs operate are outlined in terms of demographic, social, and economic statistics, in order to develop community typologies.

The case study and community typology research contributed to the development of a Best Practices Matrix. This matrix provides a tool to interested parties for selecting operational features of future or newly formed UA/CG programs based on a community’s unique characteristics and issues.

Programs that face similar community issues, such as brownfields or food deserts, are found to share more common operational features. Programs in communities that have fewer social or economic problems, such as unemployment and poverty, also share common operational features at a higher rate than communities that do face these problems. Additionally, it was discovered that most programs do not own the land used for farming or gardening activities. This is contrary to the idea that ownership or keeping land in trust is the most failsafe method of ensuring that land is used for agricultural purposes in the future and the UA/CG program can continue operations uninterrupted.

Formational and broad-based guiding principles for long-term success emerged from the study of the nine cases. Programs generally address a specific community need, involve participants in meaningful ways that foster a sense of ownership, have a dedicated core leadership, partner with local governments, and form alliances with organizations that have related goals.
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Chapter 1: Introduction to Study and Methods of Research

Introduction-

Communities across America have started to reap the benefits of urban agriculture. Urban agriculture, commonly referred to as Community Gardening or Entrepreneurial Urban Agriculture in the US, has the potential to alleviate many of the problems faced by declining inner city neighborhoods and their surrounding environs. The United Nations Development Program defines urban agriculture as “an activity that produces, processes, and markets food and other products, on land and water in urban and peri-urban areas, applying intensive production methods, and (re)using natural resources and urban wastes, to yield a diversity of crops and livestock” (qtd. in Jacobi et. al.).

Luc J. A. Mougeot gives an alternative definition that is more comprehensive: “Urban Agriculture is an industry located within (intra-urban) or on the fringe (peri-urban) of a town, an urban centre, a city or metropolis, which grows or raises, processes and distributes a diversity of food and non-food products, using mainly human and material resources, products and services found in and around that urban area, and in turn supplying human and material resources, products and services largely to that urban area” (qtd. in Jacobi et. al.).
Community gardening is generally smaller in scale and Lawson (3) defines it as “the neighborhood garden in which individuals have their own plots yet share in the garden’s overall management.”

In the coming decades, given the inefficiencies (Paxton in Viljoen, Bohn & Howe (eds.), 2005) and unsustainable nature of a global food chain (Horrigan et. al., 2002; Providence Urban Agriculture Policy Task Force, 2006), urban agriculture/community gardening (UA/CG) has the potential to play a major role in increasing local food security, poverty and hunger alleviation, economic development, public health, and environmental protection (Viljoen, Bohn & Howe (eds.), 2005; Brown, 2000; Koc et. al., 1999).

Communities in America have traditionally used gardens for beautification of backyards, streetscapes, and neighborhood public areas; temporary solutions to joblessness, poverty, and other social ailments; and as a community building tool (Lawson). As urban agriculture provides multi-faceted benefits to communities and people (Viljoen et. al., Ch. 3), many programs have been started in inner cities and in declining neighborhoods by organizations or individuals looking to provide opportunities to improve nutrition, the environment, social capital, and more.

There is a recent national interest in consuming local foods and foods grown using organic methods. Frances Moore Lappe (202) writes, “The growth in demand for organic products reflects an increasing number of consumers who want to know that when they’re biting into their apple, carrot, or collard greens they are not endangering their health. They want to know that neither land nor laborers were hurt to grow their food. As these consumers awaken, they make a viable new breed of farmer.” This awareness is a boon to the demand for produce grown on urban farms or community gardens, since most sites use organic methods of production and serve local residents almost exclusively (McMillan).

History of Urban Agriculture- in America and the world-

Prior to the Industrial Revolution, cities were smaller and food was grown in and around existing settlements providing residents of cities with fresh produce. Delivery of
food to the city did not create many transportation or pollution issues, since farms were relatively close by. “For thousands of years, built and cultivated environments co-existed: homes, markets, public buildings, and sacred places were interspersed with kitchen gardens, farms and common grazing land delivering food for the settlements population” (Viljoen et. al., 98).

In Istanbul, a number of gardens or *bostans*, provided the city with fresh vegetables, fruits and herbs from the 15th century up until the last half of the 20th century. “They were spread throughout the neighborhoods, inside the city’s oldest parts, and around its edges on both sides of the Bosporus” (Kaldjian, par. 14). Even up until 1900, the more than 1200 *bostans* were productive enough to provide for the city’s fruit and vegetable needs. Different neighborhoods were known for their specialty crops and the master gardeners, who operated the *bostans*, were considered expert professionals, were organized into guilds, and respected throughout the city (Kaldjian, par. 17). Today the *bostans* are sparse, scattered, and in danger of becoming extinct as land prices increase and the temptation to sell the land becomes greater. But, many non-profits and academics are endorsing the preservation of the *bostans* as one way to promote a sustainable Istanbul. “The disappearance of Istanbul’s *bostans* is not inevitable, but neither should these historic gardens be retained as quaint relics from a romanticized past. Rather, urban agriculture can be used to renew derelict urban spaces, preserve green spaces, maintain cultural identity, feed people, and support livelihoods. The contributions of Istanbul’s *bostans* must be considered potential models for a sustainable Istanbul” (Kaldjian, par. 48).

In Britain during both World Wars, the government sponsored food production within cities to combat the threat of food shortages brought on by the blockades. Victory Gardens, were highly productive and provided Britain with 2,000,000 tons of vegetables in 1917, the year they were started. In 1939, at the start of World War II, the British government began its ‘Dig for Victory’ campaign. “By the middle of the war, a survey showed over half of all manual workers were producing food from either an allotment plot or garden, and by the war’s end there were approximately 1,500,000 allotments. In 1944, these, together with gardens and other plots of land, including parks, turned into fields, were meeting fully 10 percent of national food needs and around half the nation’s
fruit and vegetable requirements” (Viljoen et. al., 101). The Victory Gardens were not maintained after the wars and few people wanted to work them due to their association with wartime deprivation. However, a revival of urban food production started taking place in the UK during the 1970s with the start of the first city farm in Kentish Town, London. Today there are approximately 60 urban farms and over a 1000 community gardens in the UK, which “employ the equivalent of approximately 500 full-time paid staff and over 15,000 volunteers and have a combined annual turnover of up to £40 million” (Federation of City Farms and Community Gardens website).

America has had varied historical experience with growing produce within its major cities. During the late 19th and through the early 20th century, vacant lot cultivation societies sprung up across the country, first in Detroit then elsewhere, as a philanthropic endeavor of sorts to provide idle laborers and immigrants opportunities to grow their own food and become more self-reliant. However, land was never secured permanently for gardening; philanthropists and contributors were less concerned with the production value of the garden, rather “garden projects were intended to influence individual moral uplift and impel families to leave the city for the country or suburbs, where, through their own resources, they would acquire their own land” (Lawson, 50). During both World Wars, the federal government sponsored “war gardens” and “victory gardens” respectively. Although highly productive, the gardens were relegated to backyards as life returned to normal and federal funding was shifted elsewhere after the wars (Lawson, ch. 4 and 6).

A reason for America’s apparent disenchantment with urban agriculture is that, unlike Europe, America did not always consist of a multitude of large urban centers. In fact, a centerpiece of the American experience is the detachment between urban and rural areas.

Thomas Jefferson, who laid the foundation for many of this country’s basic ideals, believed that American democracy would be successful if this country relied on an agrarian work ethic, or what he referred to as agrarian republicanism. He believed that “Cultivators of the earth are the most valuable citizens. They are the most vigorous, the most independent, the most virtuous, and they are tied to their country and wedded to its liberty and interests, by the most lasting bonds” (qtd. in Shutkin, 24). While this may
sound as though Jefferson advocated urban agriculture, Jefferson’s vision of an agrarian republic was antiurban, built upon the notion of private property, and one in which agrarian activities took place outside of cities. Shutkin writes, “Having laid down the foundational political philosophy of America based on a decidedly antiurban environmental vision, and woefully limited and partial when viewed from a more modern, multicultural perspective, Jefferson forever linked Americans’ political identity with their relation to the land” (Shutkin, 25).

American environmentalism or attempts to protect the environment traditionally also focused on nature as separate from the built environment. Cities and human environments were seen as major threats to the natural environment.

“Traditional environmentalism has concerned itself with a narrow set of issues, failing to embrace a larger civic or social agenda. For example, American environmentalism has typically focused exclusively on wilderness preservation and the protection of endangered species. This is not surprising, especially in the light of the ideological significance of the American environment: the American environment was conceived as the sine qua non of the American democratic experience” (Shutkin, 27).

It comes as no surprise, given this historical disconnect between American natural environments and urban settings, that agriculture within cities is considered unhygienic or inappropriate by many (United Nations Development Programme, 7)

However, as cities in America began to grow, so did the health and environmental problems associated with rapid development without adequate planning measures. Starting in the late 19th century, prominent visionaries in the fields of architecture and urban design began calling for an incorporation of nature within urban environments or the creation of new developments that embraced green space and were the antithesis of the crowded and polluted cities that dominated the American landscape.

Ebenezer Howard, Frederick Law Olmsted, Le Corbusier, and Frank Lloyd Wright all at some point or other and to varying degrees, envisioned a city that used green space as a means to alleviate the poor health and psychological conditions of citizens. Although these spaces were created mostly to provide recreation space for inner city residents (such as Central Park in New York City), the idea of creating an agriculturally productive landscape was also imagined. “Urban food growing in general, and allotments in particular, featured prominently in Ebenezer Howard’s Garden Cities of
Tomorrow first published in 1898…food production within or around Howard’s garden cities was a key element. In each city, five-sixths of the area was devoted to food production” (Viljoen et. al., 99). Even Le Corbusier, whose monumental works of modernist architecture could hardly be considered a testament to nature, advocated the use of agriculture within his developments. Howe et. al write that,

“Although not named as such, Urban and Peri-Urban Agriculture play a central role in Le Corbusier’s urban thinking. In Chapter 13 of ‘The City of Tomorrow’, under the heading ‘Concerning Garden Cities’ he describes precisely how urban agriculture could be accommodated without reducing the overall density of suburbs. Analysing a typical suburban housing plot of 400 m he proposes allocating 150m to a communal market garden. ‘There would be a farmer in charge of every 100 such plots and intensive cultivation would be employed…Orchards lie between the houses and the cultivated land.’ (Le Corbusier, 1971)” (qtd. in Viljoen et. al., 100).

Frank Lloyd Wright, in the middle of the 20th century and towards the end of his career, wrote about the value of creating productive landscapes and advocated integrating agriculture into the city as a means of rebelling against the “dehumanizing aspects of ‘purism,’ the architecture emerging from Europe in response to the machine age” (Viljoen et. al., 100). He writes that the rural and the suburban need not be separate and in the future “architecture and acreage (agricultural land) will be seen together as landscape, as was the best in antique architecture and will become more essential to each other” (qtd. in Viljoen et. al., 101).

As the inner cities of America became more deprived of economic activity in the 1950s and 60s due to white flight and the subsequent departure of businesses from the inner cities to the suburbs, many remaining urbanites began gardening and cultivating vacant plots of land in order to supplement their daily intake of fruits and vegetables, beautify their neighborhoods, and fight crime. The urban gardening movement as it currently exists is largely attributed to Liz Christy, founder of the Green Guerillas, who in 1973 organized her neighbors in New York City’s Lower East Side to help clean up vacant lots and begin gardening on them (Green Guerillas website- History).

**Implications of current food system-**

The American food system as it currently exists, can hardly be considered “American” at all as many products are shipped thousands of miles from all over the
world to supplement our diets. Globalization has enabled us to have what we want when we want. But this variety in choice has come at a great cost to the environment, to the communities we live in and communities in developing countries. (Brown 2002; Paxton in Viljoen et. al.)

Modern agriculture consists of large farms and a focus on monocultures, since farmers can make a larger profit by creating an economy of scale by focusing their energy and resources on producing one crop. Farm subsidies also encourage this type of large-scale industrial agriculture. Industrial agriculture contributes to environmental degradation not just by the consumption of fossil fuels, water and topsoil, but also through air and water pollution and the reduction of biodiversity in and around farmed land. An excessive amount of energy is also used in manufacturing, packaging, transportation, and preservation of goods produced by industrial agriculture.

“The following environmental and public health concerns are associated with the prevailing production methods:

- Monocultures are eroding biodiversity among both plants and animals.
- Synthetic chemical pesticides and fertilizers are polluting soil, water, and air, harming both the environment and human health.
- Soil is eroding much faster than it can be replenished-taking with it the land's fertility and nutrients that nourish both plants and those who eat them.
- Water is consumed at unsustainable rates in many agricultural areas” (Horrigan, 445).

The distance most food travels to get from the farm to the table is excessive and often times unnecessary as some countries often import the same goods they export. “In 1997, the UK imported 126 million litres of milk and exported 270 million litres” (Paxton in Viljoen et. al., 42). Air pollution is caused by the shipment of food over large distances either by trucks or airfreight. In addition, most communities rely on large chain supermarkets for their shopping needs, which are often located at the edges of town and require shoppers to drive considerable distances to get to them (Viljoen et. al., 42).

The distances traveled by food in our system also require that more energy be used for processing and packaging foods in order to maintain their quality long enough to get from the processing center to the retail outlet. Paxton (Viljoen et. al., 42) writes, “The manufacture of processed foods from raw ingredients is an energy intensive procedure using up to ten times the energy needed to grow the crop in the first place. Processed foods are likely to have incurred greater food miles than fresh produce because
ingredients and packaging materials will be sourced from other parts of the country and abroad.”

A global food chain that relies solely on industrial, large-scale agriculture does more than just harm the environment; it also harms economies and communities. Rural communities can be devastated economically by the consolidation of farms into larger conglomerates as smaller producers are squeezed out of the market (Brown 2002, 6 & Paxton in Viljoen et. al., 44). The money that consumers spend at large chain grocery stores is largely lost to the local economy and “only a small amount of money spent will stay in the area, in the form of wages to local people working in the retail outlet” (Viljoen et. al., 45).

Many communities face the reality of becoming “food deserts” or being devoid of grocery stores that sell fresh produce and healthy products at a reasonable price. In many of these communities, retail outlets have pulled out since security costs and overhead have become too expensive, the ones that remain tend to charge higher prices than the larger chain stores and stock fewer fresh fruits and vegetables (Hendrickson, 372).

Of course, it is not just communities in our country that are affected by the global food market. Communities in developing countries have lost their economic self-sufficiency due to forced opening of their markets, by the World Bank, to subsidized imports. This may have given developing countries access to cheaper imported goods, however, it also took away opportunities for local farmers to make a living off traditional agriculture. Countries such as Kenya, then had to rely on commercial crops for export as their primary source of income in order to afford the subsidized imports. “Today Kenya is no longer a self-sufficient producer of basic foodstuffs. The country has become increasingly vulnerable to the vagaries of the world market. Kenya must now pay for vital food imports with the money it earns from exports. Unfortunately, the prices of two of its major crops- tea and coffee- are currently falling because of a glut in the world market” (qtd. in Viljoen et. al., 20).

The health impact of our current methods of producing and processing food are also well documented. Health issues such as obesity, diabetes, and heart disease are often the byproduct of a diet that is low in nutritional value and high in starch, sugar, and fat. In other words, the global food chain means that in order for food to reach consumers in a
relatively appealing fashion, food is “over-processed, over-preserved, and over-packaged”, but not overly nutritious (Viljoen et. al., 45).

Horrigan writes that industrial food production methods are the cause of acute and chronic health problems. These problems result from:

- “Animal-based foods contribute to chronic diseases.
- Pesticide residues enter our bodies through air, water, and food and raise risks for certain cancers as well as reproductive and endocrine system disorders.
- Concentrated, high-speed meat production leads to a greater risk from foodborne pathogens, some of them newly emerging.
- Excessive use of antibiotics in animal agriculture may create resistant strains of microbes in humans.
- Pollution from factory farms is harming the health of both workers and residents living downstream or downwind from these operations.
- New strains of foodborne pathogens (e.g., Listeria and toxigenic Escherichia coli) have emerged in recent years, and long recognized pathogens have been causing more widespread harm.
- The nonmedical use of antibiotics in animal agriculture may be threatening the effectiveness of antibiotics in treating human disease by creating selective pressure for the emergence of antibiotic-resistant bacteria.
- Genetically engineered foods present risks of new allergens in the food supply and may be harmful to immune systems and vital organs.
- These phenomena are due, in part, to production and processing methods that emphasize economic efficiency but do not give sufficient priority to public health or the environment” (Horrigan, 451).

For these and many other reasons, the current food system is unsustainable and will be impossible to continue in the same manner for much longer. Scientists, writers and activists have called for changes to be made in the way food is produced and distributed. Urban agriculture and community gardening has been proposed as one way in which the environmental, health, and economic problems of the current food system can be improved.

**Problem Statement**

Many communities view urban agriculture as a utopian vision or an anomaly, existing in only select areas or on a small scale. In fact, urban agriculture and community gardening (UA/CG) provide an avenue for changing and bettering communities. Whether by providing additional income for participants, beautifying neighborhoods, bringing
neighbors together, or providing creative outlets for children, the consequences of UA/CG go beyond just being able to use a plot of land to grow a few vegetables. Although there is an interest in starting urban agricultural/community gardening (UA/CG) programs in communities throughout America, many of these programs are short-lived and do not have longevity necessary to effectively realize the full impact of urban agriculture. UA/CG is often seen as a temporary solution to blight or vacant lots. Once these blighted or underserved areas start to become the target of revitalization or gentrification efforts, lots are sought after for other, more financially profitable purposes. Due to lack of interest, political support, or pressure from exterior forces (i.e. developers) many UA/CG programs are unable to succeed into the future.

There are cities and communities where urban agriculture has flourished and become a driving force of social, economic, and political change among the typically disadvantaged. Although programs may have started for various purposes, such as providing economic opportunities for the jobless, cleaning up polluted lots, or simply recreational purposes, there is much to be learned from programs that have had longevity in the communities they serve. These examples should be analyzed to determine the conditions of their success in regards to the areas of social, economic, and political change; and how these conditions can be applied to any community looking to institute urban agricultural programs of their own.

Urban agriculture is not a new concept and in fact food production has had its place within cities in the past. The current disconnect of food production from cities and the psyche of many city dwellers has come at a great cost to urban populations and the environment.

**Goals/Objectives of the Study**

The goal of this study is to create a best practices framework based on the analysis of the common strategies or best practices of established UA/CG programs in various American cities. The objective being that citizens, activists and policy makers could gain a better understanding of how to initiate programs in their own communities that have the potential for long-term success.
Most urban agricultural/community gardening programs are not started solely for the purpose of providing food, but also for the added benefit of alleviating a variety of social and economic issues. Analyzing the linkages between these benefits and program characteristics will give interested parties a better idea of how to structure local programs so resultant benefits such as supplemental income, social cohesion, and political participation are procured.

The study will focus on urban agricultural programs that have been in existence for at least 5 years and have been successful not only financially, but also in their capacity to unite low-income or otherwise disadvantaged groups and build social capital within the communities that the gardens are located in. These programs will then be analyzed to determine what key features or characteristics were essential to their success. The role of local, state, and federal government, the influence of educational institutions, the presence of one or two charismatic and influential leaders, and changes in land use policy will all be examined to understand how urban agriculture/community gardening programs can better serve their participants by effectively encouraging positive economic, social and political change.

**Research Question**-

- What are the operational characteristics of urban agriculture/community garden programs that have been in existence for longer than 5 years and have maintained participant interest, gained community and political support, or achieved economic success?

  - What features, if any, do programs within similar communities share?

  - What local government policies assist UA programs?

  - Can similar communities replicate key characteristics?

**Methodology**-

Although it would be difficult to determine one model of success from urban agricultural programs nationwide, it is possible to understand what models are most
successful for different types of communities. A study of examples of programs from across the nation would aid activists, planners, or other community members in similar cities in developing successful urban agricultural programs more efficiently.

The primary methods will be collective case study analysis and content analysis. According to Berg (283), Case studies are a method “involving systematically gathering enough information about a particular person, social setting, event or group to permit the researcher to effectively understand how the subject operates or functions.”

Collective case study- is the study of several instrumental cases to allow “better understanding, insight or improved ability to theorize about a broader context” (Berg, 292).

In this study, prominent urban agricultural programs are derived from the literature review and other sources to understand what characteristics contribute to programs’ longevity and success in a community. In other words, what “best practices” are prevalent amongst these programs?

Content analysis will also be performed to understand and to analyze the background under which certain strategies or practices have worked.

The methodology consists of 7 steps:

1. Literature Review- background study of urban agriculture in the US and throughout the world; its history, successes, failures, etc.
2. Case study selection criteria
3. Identification of programs that satisfied criteria
4. Case study research- context of program, demographics of community, problem faced, program goals, implementation of program, and current standing/results of program
5. Creating an operations framework matrix- structure of program, primary participants, government involvement, etc.
6. Deriving a “best practices matrix” based on community typologies.
7. Conclusion

1. Literature Review- A background study of the roots of urban agriculture in the U.S. and in the world as well as the benefits and obstacles associated with urban agriculture or community gardening was conducted. Unique models, such as the Cuban model and edible landscaping in the U.S. were also studied.
2. Case study selection criteria- Selected case studies meet both of the following criteria:
   - Have been in existence for longer than 5 years
   - Be noted for success in some particular aspect (economic, cultural, social, environmental, etc.) by journal articles, books, or newspaper articles.

3. Identification of programs that satisfied criteria- Case studies were derived from the literature; also other notable programs that were found throughout the course of research are used. Typically, since case study sites were not visited during the course of the study, the selected case studies have already been recognized in numerous articles and books for their achievements in the areas of urban agriculture or community gardening by various other authors. 9 case studies from various cities will be selected for further analysis.

4. Case study research- Each urban agricultural/community gardening program was then researched and described in terms of:
   - **Context of city**- demographics, size, racial composition, etc.
   - **Problems** faced by community that UA program serves
   - **Program Goals**
     - **Initiation**- financing, community/political support, key actors, primary participants.
     - **Results**- program as it currently stands

5. Creation of an operations framework matrix- An operational framework matrix then outlines the key features of each program that contributed to its success. Categories of this matrix includes:
   - Primary **activities** of each program
   - How is the program **structured**? (Who is in charge? How is it operated?, etc.)
   - **Institutional** supports- what organization (educational, non-profit, private), if any, is behind this program?
   - **Financial** supports- how are they funded?
   - **Land rights**- donations, zoning changes, land trusts, etc.
   - What **Educational** outreach/awareness does the program conduct?
- Is there Government influence/involvement/support?
- What other non profits do they collaborate with or have partnerships with?

6. Deriving a “best practices matrix” based on community typologies-
First a typology of the cities/areas whose programs were studied was created based on:

*Population size* - above 1,000,000 or below 1,000,000?
*Racial Composition* - is the area racially homogenous or mixed?
*Poverty rate* - Above 20% or Below 20%?
*Unemployment rate* - Above 5% or Below 5%?
*Density* - Above 10,000 persons per sq. mile or Below 10,000 persons per sq. mile?
*Median income level* - Above $45,000 or Below $45,000?
*Crime Rate (per 100,000 inhabitants)* - Above 1200 Violent and 5200 Property or Below 1200 Violent and 5200 Property?

*Problems Faced* - there may be a correlation between the types of problems a community is striving to solve and the features of their UA/CG program that might be more relevant than simply understanding program features as a product of a communities’ demographics.

For each program, the typology is based on the most statistically meaningful area that is serviced by the program. For instance, the Food Project may have farms in both Lynn and Lincoln, both suburbs of Boston, MA (Suffolk County), but for the purposes of this study, only Suffolk County, MA will be included as part of the typology. This is due to the lack of demographic information about smaller areas, but also in order to narrow the reach of the program to its primary target population.

The Best Practices Matrix then identifies trends or common operational features of successful programs in similar types of communities.

7. Conclusion - Findings will be summarized and analyzed to determine what significance the study may or may not have for individuals or communities wanting to start urban agricultural programs of their own.
Chapter 2: History of and Recent Experiments with Urban Agriculture

Literature Review-

The literature on urban agriculture and community gardening is not extensive, however, in recent years the topic has gained more attention in academic circles for its ability to provide food, education, nutrition, and social and cultural benefits. Since the 1970s, urban agriculture has been written about in terms of urban food security, informal economies, urban sustainability, and urban economic development (Kaldjian, 4). Many scholars have recognized the significance of UA/CG as a solution to the problems faced by urban centers and a number of books and articles have been written outlining the benefits of growing food within cities, as well as the costs or obstacles associated with starting UA/CG programs. These benefits and obstacles will be outlined in the following review of pertinent literature, as well as a review of various approaches taken or models of UA/CG that have been successful.

Benefits of Urban Agriculture-

The benefits of urban agriculture are numerous. Studies have shown that agriculture or gardens within a city can have a positive impact on the environment through reduction of air pollution, increasing the amount of democratic participation in a neighborhood, the psychological well being of residents, the health of residents through increasing the amount of nutritional food available, the economic well being of the farmers and gardeners and the community as a whole, and much more. Support of urban agriculture can certainly be tied to one particular community goal (such as economic development or environmental clean-up), but urban agriculture or community gardening programs are best appreciated when they are evaluated based on the cumulative benefits they provide communities. The following examines the prevailing literature detailing the benefits of urban agriculture or community gardening.

Environmental-
Environmental benefits of urban agriculture are derived by that which is provided and that which is prevented. Since urban lots are often vacant, littered, and sometimes contaminated, converting the land into gardens provides a use for what would otherwise be underused and undesirable land. In the case of brownfields, concerns of producing food on what might be contaminated land can be assuaged through the construction of raised beds or even phytoremediation, “a process that uses specially selected plants and trees to gradually detoxify soil by absorbing contaminants and neutralizing, containing, or releasing them into the atmosphere” (Pinderhughes in Boyce & Shelley, 305).

Gardens provide added green space to neighborhoods that can then help to absorb carbon dioxide in the air, providing cleaner air.

Gardens can help to prevent greater consumption of fossil fuels since the food tends to stay local and is transported fewer miles; consumers may also travel fewer miles to reach the produce. In addition, if organic wastes are used to make compost, urban agriculture can “reduce stress on local and regional waste management systems” and help reduce the amount of organic materials that get disposed of in dumps and landfills (Boyce & Shelley, 305).

**Civic and Democratic**

Urban gardens provide a space where those who participate are empowered to learn and create. Many inner city residents have been essentially excluded from mainstream politics due to their relative lack of wealth and resources when compared to their suburban counterparts. The lack of attention given to inner cities by politicians and society has an alienating effect on political and civic participation.

“Civic democracy is more than just community participation and conversation; it is rooted in a place, a physical environment conducive to collective action and community building” (Shutkin, 31). By providing a physical space that promotes collective action and decision-making, urban agriculture can give residents the confidence to voice their opinions in other arenas.

Charles Z. Levkoe (90) writes that participation in urban gardens “has the ability to increase the confidence, political efficacy, knowledge and skills of those involved.” Participants are given a sense of control over their lives by growing their own food and at
the same time by participating in a wider process that allows them to interact with others in their community as educators and advocates. “Participants learn that they have the ability to make change and influence larger policies. Many who have felt powerless in their lives recognize that through consciousness raising, knowledge and skill development, they can make a difference” (Levkoe, 95).

**Economic**

Food production in and around cities is of economic benefit to the city and its residents in a number of ways. First, it has the effect of bringing people closer to their food and thereby reducing the number of miles food must travel to reach consumers, in some cases this may reduce the cost of the product. Gardens provide modest employment and income to community members. More importantly, gardens create a multiplier effects for local businesses “generating output and income, both in related industries, such as tool manufacture, storage and processing, and in completely unrelated industries” (Petts in Viljoen et. al., 72). Revenues generated from urban gardens stay within the community rather than benefiting corporations outside the community. Further economic gain can be derived from urban gardens if niche markets are identified and specialty crops, such as Shitake mushrooms or Mesclun salad, are grown and sold to local restaurants (Kaufman & Bailkey in Greenstein & Sungu-Erylimaz, 184; Watson in Boyce & Shelley, 272). “Urban farmers often have a comparative advantage in specialty produce and markets (e.g. high value and organic) and these specialist UPA (urban-peri urban agriculture) activities often become the sole or major source of income” (Viljoen et. al., 71). Value added products, such as jams, jellies, or salsas, can also contribute to the profitability of urban gardens. Tourism or marketing efforts based around these specialty crops or urban gardening itself can provide an additional avenue for revenue for the community.

Given the benefits derived from the consumption of fresh produce on nutrition and public health, cities might also see a reduction in the amount of dollars spent on health care. Maintenance costs of vacant or derelict open spaces could also be reduced if areas were used for gardens.
Some projects can even become economically self-sustaining and have more of a business-oriented approach to selling and distributing food and services, these are often called *entrepreneurial urban agricultural* sites. While staying true to its core purpose, of teaching children and local residents the value of nutritional foods grown locally, Growing Power in Milwaukee, WI has become a premiere example of an urban agriculture program that has been able to move away from government or private foundation grants and maintain an self-sufficient income from both the sales of produce and fish and also from the service fees of some of their educational programs.

Started in 1993 by former professional basketball player, Will Allen, on land that he purchased with the intent to teach youth to farm and to learn where their food comes from, Growing Power now has an entire community food center on its site, including 6 greenhouses, a community kitchen, and market. It collaborates with other local farmers to sell produce which otherwise would have no way to get into the hands of local businesses and consumers.

Growing Power has also started a number of sites in Chicago, all dedicated to the mission of providing skills and food to local residents as well as selling the products at local markets and through Community Supported Agriculture (CSA) (Greenstein & Sungu-Erylimaz, 183).

**Social**

Community gardens, as their name implies, are often started with the purpose of bringing residents of a neighborhood or community together to participate in an activity that will foster friendship and bonds among the garden members, that might then spread to the surrounding area.

Glover, Parry and Shinew (2005) write that community gardens are benefited by the networks that are formed between members and throughout the community, in addition to gardens themselves being a place where bonds are forged among people who might otherwise have little in common. In order to increase participation, garden members, in the study, spoke with community members and acquaintances. In order to gain resources, gardens members forged connections with people in the community who might not have had interest in gardening activities, but had access to equipment or
materials from other activities or sources that might be beneficial to the garden (such as hoses, wheelbarrows, and bricks) Garden members used already established connections, such as with political and community leaders, to obtain support and tangible resources for the success of the garden. In their study, Glover et. al., find that garden members leveraged their social relationships (both weak and strong ties) to gain access to information and resources for their garden. This in turn, increased the level of community interest and participation in the garden. The garden members’ desire to preserve the garden led them to seek out new members by talking with people in their community, taking advantage of weak and strong social ties to gain resources and assistance, and forming friendships among one another. “The social interactions facilitated by the project can foster norms of reciprocity and trust- conventional forms of social capital” (Glover et. al., 454).

Since most community gardens and urban agricultural sites are situated in distressed or underserved communities, the gardens provide a safe space for residents to relax, converse, and enjoy nature in. The gardens also serve as a place where interracial interactions may occur. According to Shinew, Glover, and Parry (2004), leisure activities, such as community gardens, provide optimal settings for interracial interaction and “bridge building” between races, since they are voluntary and “give individuals the opportunity to freely choose their companions without the restrictions that often exist in work and other formal settings” (Shinew et. al., 338).

Hoffman et. al. write that students “who participated in the gardening program showed lower levels of ethnocentrism than the control group” (Hoffman et. al., 407). Students who participate in on-campus gardening programs are more comfortable working with people of other races and are also better able to understand others after working in the garden than before. Hoffman et. al. (408) goes on to say that students’ experiences in the garden serve as a “springboard” for greater campus involvement and more pro-active behavior.

**Aesthetic**-

Flowers, plants, and trees, have long been appreciated for their ability to bring beauty and color to the harshest environments. The effort to beautify can be as small as planting a
window box or as large as starting a national campaign to beautify the nation’s highways and inner cities through planting flowers and trees, as former first lady, Ladybird Johnson did when she worked to gain passage of the Highway Beautification Act of 1965 (Holley, par. 64).

Homeowners and landscapers alike recognize the value of ornamental gardens in increasing the overall appearance of a home, street, subdivision, park, or neighborhood. The problem lies in accepting land used for food production as having the same aesthetic value as a garden filled with roses, shrubs, and tulips.

The United Nations Development Programme (8) points out that “urban farming creates green spaces in the city, replacing vacant and unkempt lots and roadsides, thereby improving a city’s appearance…urban agriculture has vast potential and capacity for waste recycling; reducing haphazard dumping of solid and liquid waste clearly improves both a city’s appearance and its hygiene.”

During the early 20th century, US civic groups swept up in the City Beautiful movement, dedicated efforts toward cleaning up vacant lots and beautifying them with planting floral or food gardens, encouraging residents to adopt lots, and providing them with seeds and soil amendments (Lawson, ch. 3).

**Psychological**

Gardens and urban agricultural sites are often not thought of as natural settings for recreation. However, gardens can provide stress-relief and relaxation opportunities as more traditional recreational areas, such as a park or a forest. The foremost authors on nature and psychology are Stephen and Rachel Kaplan. In her 1973 article, “Some Psychological Benefits of Gardening”, Rachel Kaplan explores the garden as a natural setting and the types of psychological benefits derived from gardening. She writes that gardening provides two distinct benefits in regards to psychological well being related to nature: 1) a sense of fascination and 2) participating in a basic survival process—harvesting one’s own food. Gardens, like other nature experiences, evoke “involuntary attention”, which is effortless and “provides a rest from the effort otherwise required for attention.” It also provides a rest from the worries or cares of the day that might be vexing a person’s mind (Kaplan, 146). She writes that beyond just the peace and
tranquility that one might enjoy from a garden, there are other benefits such as having a sense of control that might increase the self-esteem of people who have lost control over many other things in their lives. Other psychological benefits are derived from the sensory joy of the colors and smells of the garden, the joy of growing new kinds of plants, and the rewards derived from sharing with others either information or the actual produce from one’s garden. “It is rewarding to give others the vegetables and flowers one has grown. There is also another form of sharing that many gardeners enjoy. This involves sharing information and being able to help others with gardening problems” (Kaplan in Altman et. al., 150).

**Academic Improvement**

Hoffman et. al. write that there is a correlation between gardening and academic performance. Gardening provides hands on experience and creates a direct link to what students are learning in the classroom, particularly with subjects such as science or environmental studies. It improves communication skills and self-esteem. “When students felt successful in maintaining a campus garden, this positive sense of self-esteem was generalized and academic performance improved” (Hoffman et. al., 405).

**Obstacles to Urban Agriculture-**

**Access to land-**

One of the biggest obstacles to instituting urban agriculture and community gardening programs is often access to urban land. Even if gardening activities are taking place on vacant land, if the community group or residents do not own the plot of land outright, they are at risk of someday losing the garden.

In 1997, over one hundred urban gardens were threatened in New York City when then mayor, Rudolph Giuliani, announced the city would be selling the properties. The urban gardening community moved quickly and eventually stopped the sale and acquired the land, but the story helps to articulate how even well established urban gardens (some New York gardens had been thriving since the mid-seventies) can become vulnerable if steps are not taken to secure the land either through purchase or long-term leasing agreements (Pinderhughes in Boyce & Shelley, 299-300).
**Initial capital investment**-

Since profits from growing food may not be realized immediately, gardeners may have to front initial costs, such as tools, soil, and seeds. The average cost of starting a garden with just the basic elements of 15 or so plots, raised beds with soil, irrigation, fencing, tools, and tool shed can be between $2500-$5000 (University of California Cooperative Extension).

**Other more economically beneficial uses**-

Gardens that do not have legal access to land may face pressure from government (as in the New York example) to develop land into what may be more economically profitable uses. When cities face housing shortages, governments may often feel that land is better suited for housing. In Cape Town, South Africa, where urban agriculture takes place in many of the poorer townships, “the use of open space in Khayelitsha [a South African township] for urban cultivation is restricted by competing demands. Formal housing is urgently needed, as about two thirds of residents live in informal dwellings…And given that the peripheral areas are proclaimed nature reserves or recognized as areas of high ecological significance, farming on the edges of Khayelitsha might not be viable as it could pose a threat to existing ecosystems” (Reuther & Dewar, 101-102).

As explained previously, benefits should be evaluated from not just a strict economic analysis of revenues from the garden, but also from the benefits derived from UA that affect seemingly unrelated fields- such as mental well-being and democratic participation. It should also be evaluated from the money saved on expenditures such as medical care for those with diseases stemming from poor nutrition, providing food assistance for families in need, or maintaining vacant lots.

**Approaches to UA/CG and examples of successful models**-

*The Cuban model*
Cuba provides a premiere model for sustainable agriculture that is produced primarily in urban areas. Spurred to action by the US trade embargo and the loss of support (equipment, pesticides, etc.) from the former Soviet Union, the Cuban government began sponsoring small farms and organic practices in the early 1990s. Small organic farms- many of which are in urban areas- now provide the country with 80% of its food supply.

The condition of many U.S inner cities today- abandoned and lacking resources- is analogous to the state of Cuba during its food crisis. What is striking about Cuba’s progression into sustainable urban agriculture is the grassroots nature of its inception. Cuba did not always rely on small farms and organic agriculture. During the Cold War, Cuba relied heavily on exports and large-scale industrial agriculture to satisfy its food requirements. “The Cubans sent sugar to the USSR, and in return received, most importantly oil, but also a range of industrial products, including farm inputs such as chemical fertilizers, pesticides, herbicides, and tractors…Approximately 50 percent of Cuba’s food came from abroad” (Mark, 33).

Once the Soviet Union collapsed, the Cuban economy contracted and food became scarce. Without direction from the government, citizens began planting gardens in old parking lots, abandoned spaces, and backyards. Once the government realized that this was an efficient way to feed the population, the old state sponsored farms were divided into smaller co-operatives and the Cuban government “started to set up an infrastructure of organic compost and organic pest and disease control centers to help farmers make the transition away from chemical inputs.” The government even allowed farmers to operate markets in the cities (Mark, 33).

The key lesson to extract from Cuba’s experience is the government support that was offered to farmers and in support of organic practices once it was realized that urban agriculture was a viable solution to the food insecurity faced by the Cuban population. The Cuban experience was brought on by an emergency situation and a need for an immediate solution to hunger, however it is not so far fetched to equate the dwindling natural resources, food insecurity, environmental degradation, and economic decline of many American communities to a pressing emergency that public officials should not ignore any longer.
Edible Landscapes - a practical and productive approach to landscaping

Cities and communities spend millions of dollars on landscaping, maintaining green spaces, planting trees, and pruning shrubs. The benefits associated with beautification of neighborhoods and cities by the addition of well-maintained natural elements is undisputed, however, many plants, trees and shrubs are purely ornamental and are often times not native to the area. A rather unique way to enhance city streets and create more productive urban environments is by the planting of edible plant species or fruit trees in the place of non-productive species. Apple and plum trees can be interspersed throughout the city, providing fresh fruits part of the year and beautiful natural landscaping the rest of the year. Orchards of fruit and nut trees can be planted in designated sections of parks.

The utilization of edible landscaping by cities could provide a unique way to provide jobs, supplemental income, and food for people in poverty stricken areas. Planting of trees or harvesting of fruits for sale at local markets can also be a method for prisoner rehabilitation or education.

Village Homes, a permaculture suburb in Davis, CA, uses edible landscaping to enhance its communal and private green spaces. The common spaces of Village Homes serve three main purposes: Enjoyment, Food & Flowers, and Profit.

“Enjoyment - A beautiful landscape invites us to stroll through it and exercise on the open greens and pedestrian/bike paths. The many fruit and nut trees in the community also provide wildlife habitat.

Food and Flowers - Residents can grow fruits, vegetables, and flowers on assigned plots in the ag [agricultural] lands or in their household commons. They can also harvest fruits and nuts from the orchards and vineyards.

Profit - The almond orchard bordering Arlington Boulevard is harvested by residents for their own consumption; excess almonds are sold” (Village Homes website- Commons and Gardens).
Although Village Homes is located in a more suburban and rural setting, there is no reason why urban areas could not also be designed with productive, rather than strictly ornamental, landscaping.

**Green Guerrillas- New York, NY**

The urban gardening movement in America, as it currently exists, is largely attributed to Liz Christy, founder of the Green Guerillas. In 1973, Ms. Christy organized her neighbors in New York City’s Lower East Side to help clean up vacant lots and begin gardening on them (Green Guerillas website- Our History & Mission).

The Green Guerrillas help operate 30 Bedford-Stuyvesant community garden groups grow hundreds of pounds of fruits and vegetables, some of which is donated to local food shelters. They are also currently partnering with two local emergency food providers, Brooklyn Rescue Mission and Neighbors Together, to develop an urban farm and community food education center on a vacant lot in the Ocean Hill/Bed Stuy area (Green Guerillas website).

**The Dudley Street Neighborhood- Boston, MA**

One of the most successful programs in the nation, the Dudley Street Neighborhood Initiative (DSNI) in 1988, became the first “community based nonprofit organization in the country to be granted eminent domain power over abandoned land within its borders” (Shutkin, 149). This legal power was the cornerstone of DSNI’s success during the coming years. William Shutkin writes extensively in his book, *The Land That Could Be: Environmentalism and Democracy in the Twenty-First Century*, about the area’s transformation from an abandoned and environmentally hazardous inner city area to a pioneer in the urban agricultural movement. By developing an Urban Agriculture Strategy (UAS) as a key strategy of the neighborhood’s overall urban village vision, the Dudley Street/ Roxbury area of Boston was able to clean up brownfield sites in the area that had been a blight upon the community for decades, curb Roxbury’s and Boston’s dependence on chemical-rich agribusiness for food, educating people on the area’s own rich agricultural heritage, and create a niche economic market for local produce.
**Nuestras Raíces - Holyoke, MA**

For 16 years, the Nuestras Raíces farm has helped a struggling community to embrace its roots and reclaim the land. The area of Holyoke, MA is mostly Hispanic and suffered through a series of paper mill closings that left a sizable portion of the population unemployed by the late 1970s. The program has grown from an alliance of gardeners and community members to a nine garden network with a budget of $800,000 and a partnership with the Holyoke Health Center to create the Food and Fitness Initiative (Kummer).

**Conclusion**

Since it is widely agreed that, if done properly, urban agriculture and community gardening programs can be beneficial to cities and their residents, this study aims to take the next step and help those looking to institute programs in their communities. There is a need for more literature that helps in starting and maintaining these programs in ways that are self-sustaining, so programs can grow and be beneficial to the communities they serve into the future.
Chapter 3 – Examination of Successful Programs

Case Studies:

Case 1- Growing Power: Milwaukee, WI
Case 2- Philadelphia Green: Philadelphia, PA
Case 3- The Garden Project: San Francisco, CA
Case 4- Southside Community Land Trust: Providence, RI
Case 5- The Food Project: Lincoln, Dorchester & Roxbury, MA
Case 6- Nuestras Raíces- Holyoke, MA
Case 7- Resource Center’s City Farm- Chicago, IL
Case 8- OSU Extension Cuyahoga County’s Community Gardening Program: Cleveland/Cuyahoga County, OH
Case 9- P-Patch Program: Seattle, WA

Introduction

The following chapter details each case study in terms of the specific context within which each program was initiated. A basic description of each program and the city or county that it serves will be provided.

The problems and demographics, of the areas that the nine programs service, are important in gaining a better perspective of the issues that many of these programs attempt to address. First a brief program overview is given, then the city or county that the program serves is examined in terms of its context or the history, layout, and demographics over time, such as population change, racial changes, median household income and other indicators of social and economic change. Each case study is described in terms of the primary motive for starting the program. In some cases, this is an abundance of vacant land, while in others it is unemployment or poverty. Maps are provided within the context portion to show the state and the boundary within which the program operates (i.e. the city, county, or region), and then if possible, a map showing the specific locations of each garden or farm is provided. A map visualizing the location of each of the gardens or farms for each program is sometimes not available if, for instance, the program focuses on training and not on running an actual agricultural
location. A table of demographic indicators for the area over time is also provided within the context portion. The problems faced by the city, county, or area, such as racial or ethnic shifts, economic downturns, population loss, or a rise in crime, are then identified. The program itself is then examined to delineate its stated goals; its initiation or how the program was started; and the results of the program, as they currently stand. After this chapter, an operational matrix will provide a more in depth examination of each program and how it functions.

**Case Study Research**

Case 1- Growing Power: Milwaukee, WI (1993)

*Program Overview*- Growing Power is a farm and educational center based in Milwaukee, WI, with a sister program in Chicago, IL, that focuses on teaching young people and low income residents the value of growing their own food. The Milwaukee farm is on the last remaining agricultural land within the city and has 6 greenhouses that house herbs and produce grown using hydroponics and a fishery, as well as a demonstration area known as the Community Food Center where groups can come for hands-on lessons about nutrition and healthy cooking methods. The program has three main areas of focus: Projects and Growing Methods, Educational and Technical Assistance, and Food Production and Distribution.

*Context of city*- The city of Milwaukee boasts a proud German heritage and nearly 48% of residents claim some German ancestry. Industrious Germans began arriving to the city during the mid 19th century. “Drawn by cheap land, fluid social conditions, and the security of their own numbers, German immigrants reshaped the demographic face of the region.” As part of the “frontier” during this era, Milwaukee attracted many newcomers, however, “for reasons almost entirely circumstantial, it became the most German city in the most German state in the Union” (Gurda, 61). Germans began the breweries that the city is famous for around this time. “The foundations of fortunes later associated with the Miller, Pabst, Schlitz, and Blatz families were all in place well before the Civil War” (Gurda, 64).
Milwaukee, WI is a city that is losing population, particularly to surrounding suburban communities. Between 1970 and 2000, population for Milwaukee County decreased from 1,054,063 to 940,164. However, as the city and Milwaukee County experienced population loss, the surrounding counties of Waukesha, Washington, and Ozaukee experienced a 95% increase in population (Gurda, 383). The white population has decreased steadily since the 1970s, while the African American and Hispanic population have increased. This might appear to have created a more mixed race setting, however most African Americans are concentrated in the center and northwest of the city, while the outer edges of the county are mostly white (See Figure 3.1.1). Many African-Americans began arriving after World War II increasing the black population from 2% in 1945 to 14.7% by 1970. The influx of African Americans and the outward migration of whites changed the social geography of Milwaukee, along with several other demographic and cultural shifts since 1970. Table 3.1.1 gives a glimpse into recent demographic trends, between 1970 and 2000, in both Milwaukee County as a whole and also census tract 12, which is where Growing Power’s original farm, now called The Community Food Center and Farm, is located.

In addition to this social change, the physical space of Milwaukee was changing due to the process of deindustrialization that contributed to the devolution of its inner city and job loss in the region as a whole. “The metropolitan area lost more than 50,000 manufacturing jobs between 1979 and 1983- a quarter of the total- and most have not returned. Although the transformation is hardly complete, the community’s rapid fade as an industrial powerhouse has upset ancient expectations, challenged Milwaukee’s traditional self-image, and caused untold social havoc” (Gurda, 378).

All throughout Milwaukee, the vestiges of old manufacturing and brewing industries have been refitted for modern, though not always attractive, uses, such as business parks, apartments, and retail.
### Table 3.1.1 - Demographic Statistics for Tract 12 and Milwaukee Co., WI

#### Demographic Statistics for Tract 12

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<tr>
<td></td>
<td>Unemployment</td>
<td>16,878</td>
<td>2.3^</td>
<td>27,333</td>
<td>5.7^</td>
<td>32,744</td>
<td>6.8^</td>
<td>32,379</td>
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<tr>
<td></td>
<td>Avg. Home Value</td>
<td>unavailable</td>
<td>unavailable</td>
<td>$86,698</td>
<td>$100,500</td>
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<tr>
<td></td>
<td>Total Households</td>
<td>363,929</td>
<td>364,460</td>
<td>373,048</td>
<td>377,729</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Female head, no husband present</td>
<td>30,979</td>
<td>2.9^</td>
<td>45,451</td>
<td>12.5</td>
<td>58,778</td>
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<td>61,497</td>
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<tr>
<td></td>
<td>Living in Poverty</td>
<td>46,326</td>
<td>12.7^</td>
<td>96,211</td>
<td>10.2^</td>
<td>148,184</td>
<td>15.9</td>
<td>139,747</td>
</tr>
<tr>
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<td>Total Vacant Units</td>
<td>8,007</td>
<td>2.4</td>
<td>14,261</td>
<td>2.9</td>
<td>17,667</td>
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#### Demographic Statistics for Milwaukee Co.

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<th>%</th>
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<td>Unemployment</td>
<td>16,878</td>
<td>2.3^</td>
<td>27,333</td>
<td>5.7^</td>
<td>32,744</td>
<td>6.8^</td>
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<td>Avg. Home Value</td>
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<td></td>
<td>Total Households</td>
<td>363,929</td>
<td>364,460</td>
<td>373,048</td>
<td>377,729</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Female head, no husband present</td>
<td>30,979</td>
<td>2.9^</td>
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<td>12.5</td>
<td>58,778</td>
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<td>61,497</td>
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<td>Living in Poverty</td>
<td>46,326</td>
<td>12.7^</td>
<td>96,211</td>
<td>10.2^</td>
<td>148,184</td>
<td>15.9</td>
<td>139,747</td>
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<tr>
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<td>Total Vacant Units</td>
<td>8,007</td>
<td>2.3</td>
<td>14,261</td>
<td>3.8</td>
<td>17,667</td>
<td>4.5</td>
<td>22,364</td>
</tr>
</tbody>
</table>

* Based on Total Population, not total households
** Based on Total City Population
^ Percentage based on Population Aged 16+
Map 3.1.1- State of Wisconsin

Source: Google maps
Map 3.1.2- Milwaukee, WI

Source: Google maps
Map 3.1.3- Growing Power locations

Source: Google maps
Problems- The founder of Growing Power, Will Allen, saw that many of the children in his area were not eating a nutritious diet. Many times, the only meals they would receive were at school and often those meals were not very healthy and large proportions of which were processed foods. In addition, he saw that children did not understand where their food came from. As the table above details, the area surrounding the Growing Power farm is far worse off in terms of poverty, unemployment, income, and almost every other demographic characteristic than the rest of Milwaukee County.

Program Goals- The program centers around the following goals: building a sustainable food system, providing food security for local residents, and equality for all.

Initiation- Founded by Will Allen, an ex-basketball player, on land he bought that had two greenhouses in place. In 1999 he became partners with Hope Finkelstein and the program changed its name from Farm City Link to Growing Power.

Results- Currently Growing Power has six greenhouses, a community kitchen and a food distribution center/market at its two acre Community Food Center and offers fee-based training programs for those wanting to learn about gardening or how to start their own community gardens. The site also serves as an outlet for local farmers to sell goods through its “Market Baskets” program, in which produce from local farms is shipped to Growing Power’s farm and bags of mixed produce are sold to local residents on a weekly basis for about $12 a sack.
Figure 3.1.1- Milwaukee, WI- 2000 Census Tracts- Percent of African American

% Black (non Hispanic)

- Missing Data
- n/a (<100 base cases)
- < 1%
- 1% to 5%
- 5% to 10%
- 10% to 15%
- 15% to 30%
- 30% to 40%
- 40% to 60%
- 60% to 75%
- 75% to 90%
- 90% to 95%
- 95% to 100%

Source: Social Explorer online

Program Overview- The Philadelphia Green program uses gardening and greening as a means for beautification of neighborhoods and community building in Philadelphia, PA. The program does not have a single farm or location, but rather works with neighborhood groups and organizations throughout the city/county to develop and maintain gardens and public green spaces. It focuses on greening the city rather than solely farming or gardening. This can include the planting and maintenance of flowers and trees as well as growing food. Philadelphia Green develops and maintains community gardens, neighborhood parks, and high-profile public green spaces throughout the city. The program is an offshoot of the Philadelphia Horticultural Society (PHS) and is funded in part by proceeds from PHS’ Annual Flower Show.

Context of City- Like most urban centers, Philadelphia has been losing population to its suburban communities over the last half century and becoming less dense from decade to decade. The amount of white Philadelphians has decreased since the 1970s, the African American population has stayed relatively stable, and the Hispanic population has nearly doubled in 20 years. The population of Philadelphia is fairly segregated according to race, with African Americans in the south, west and northern parts of the city and whites populating the northeastern section of the city. Although this segregation has become less dramatic since the 1980s, Figure 3.2.1 shows that prominent racial segregation is still noticeable. Households with female heads have also increased steadily since the 70s. See Table 3.2.1 for additional demographic shifts since 1970.

Vacant properties have also increased over time, giving rise to a general aesthetic deterioration of many neighborhoods. A 2000 Licenses and Inspections survey, reported over 30,000 vacant lots in Philadelphia (UPenn Cartographic Modeling Lab website). The following map (Figure 3.2.2) shows that most vacant lots are concentrated in the south and west of the city.
Map 3.2.2- Philadelphia County (City and County line are same)

Source: Google Maps
Figure 3.2.1- Philadelphia, PA- 1980 & 2000 Census Tracts- Percent African American

Source: Social Explorer Online
Table 3.2.1- Demographic Statistics for Philadelphia Co.

Demographic Statistics for Philadelphia County

<table>
<thead>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Population- Total</td>
<td>1,948,609 %</td>
<td>1,688,210 %</td>
<td>1,585,577 %</td>
<td>1,517,550 %</td>
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<tr>
<td>Pop- White</td>
<td>1,282,215</td>
<td>983,084</td>
<td>825,839</td>
<td>644,395</td>
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<td>Pop- Black</td>
<td>653,747</td>
<td>638,878</td>
<td>623,510</td>
<td>646,123</td>
</tr>
<tr>
<td>Pop- Hispanic</td>
<td>26,702 1.4%</td>
<td>63,570 3.8%</td>
<td>89,193 5.6%</td>
<td>128,928 8.5%</td>
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<tr>
<td>Pop- Asian</td>
<td>unavailable</td>
<td>17,764 1.1%</td>
<td>42,156 2.8%</td>
<td>67,119 4.4%</td>
</tr>
<tr>
<td>Median Income</td>
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<td>$30,289</td>
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</tr>
<tr>
<td>Unemployment</td>
<td>36,806 2.6%</td>
<td>80,599 11.4%</td>
<td>70,000 9.7%</td>
<td>71,582 10.9%</td>
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<td>Avg. Home Value</td>
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<td>unavailable</td>
<td>$64,856</td>
<td>$61,000</td>
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<tr>
<td>Total Households</td>
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<td>603,075</td>
<td>590,071</td>
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<td>Female head, no husband present</td>
<td>90,699 4.7%</td>
<td>113,489 18.3%</td>
<td>122,370 20.3%</td>
<td>131,332 22.2%</td>
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<tr>
<td>Living in Poverty</td>
<td>134,947 19.3%</td>
<td>340,517 20.6%</td>
<td>313,374 20.3%</td>
<td>336,177 22.9%</td>
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<tr>
<td>Total Vacant Units</td>
<td>19,375 2.9%</td>
<td>65,490 9.6%</td>
<td>71,824 10.6%</td>
<td>71,887 10.9%</td>
</tr>
</tbody>
</table>

*Number and Percent derived from total city population

Source: US Census as found on Social Explorer online
Figure 3.2.2- Philadelphia, PA- 2000 Census Tracts- Number of Vacant Parcels per Tract

Source: Philadelphia Neighborhood Information System (NIS) neighborhoodBase
**Problems**- A decline in population had left many lots vacant and strewn with trash. This led to many neighborhoods becoming blighted and further exacerbated depopulation of urban areas.

**Program Goals**- Primary goals, as ascertained from Philadelphia Green’s website are: education and empowerment, beautification, community development, attracting new residents and investments.

**Initiation**- Started by the Pennsylvania Horticulture Society (PHS) with a staff of two. The program was initiated as a response to a cut in funding for the city's pocket park program. Pennsylvania Green is funded in part by PHS' Annual Flower Show.

**Results**- 40 employees work with more than 1,100 neighborhood groups, corporations and government organizations on nearly 2,000 greening projects. These projects can be anything from cleaning up and maintaining existing parks, to planting trees, to organizing neighbors to start a community garden on a vacant lot. Philadelphia Green is also contracted by the city of Philadelphia as part of the Neighborhood Transformation Initiative under the Green City Strategy, to clean up and manage vacant lots throughout the city. Philadelphia Green coordinates this effort with 9 community organizations in what is known as the Community Based Vacant Land Maintenance Program. According to the Philadelphia Green website, they also offer “Training in group development, project planning, and fundraising, horticultural education, landscape architecture services, and ongoing technical services.” It also works with community-based organizations to link greening to new commercial and housing developments, street improvements, and other community development projects (PHS- Building Community Through Greening). Additional funding comes through a variety of sources including the PHS Annual Flower Show, Corporate and individual contributions, and the United Way.
Case 3- The Garden Project: San Francisco, CA (1982)-

Program Overview- The Garden Project is a rehabilitation and training program for prisoners in the San Francisco County jail. It uses both a farm onsite at the jail and a few outside the jail to teach prisoners the value of healthy lifestyles and making good decisions. Those who excel and show good behavior at the prison’s farm are offered jobs at the farms outside the jail once they are released, in an effort to prevent a return to the negative lifestyles involving crime and drugs and prevent recidivism. Garden Project’s produce is now used in many local high-end restaurants such as Alice Waters’ Chez Panisse Restaurant and Café.

Context of City- Since the Garden Project primarily focuses on the prison population, this section will focus on the context of San Francisco’s prisons, inmates, and those who are released from prison, rather than the city or county as a whole. See Maps 3.3.1 and 3.3.2 for location of county.

San Francisco County jails house about 2200 prisoners on any given day and nearly 55,000 prisoners are booked into the county’s jail system annually (San Francisco Sheriff’s Department website). San Francisco’s rate of incarceration is 257 per 100,000 residents, over half of its 2200 prisoners are “Black/African American, nearly nine out of ten are male, three quarters are awaiting sentence, and nearly half are held for drug crimes. Of the 956 held for a drug-related charge, nine out of ten were held for possession or sale of a narcotic or opiate and less than one out of ten were held for possession or sale of marijuana” (Van de Water, par. 4). In comparison, the notorious national rate of incarceration is 751 per 100,000 in population or 1 in every 100, if only the adult population is counted (Liptak). The following chart (Figure 3.3.1) shows the differences in racial and ethnic composition of the prison population of San Francisco versus the city as a whole.
Map 3.3.1- State of California

Source: Google Maps
Map 3.3.2- San Francisco County, CA

Source: Google Maps
The majority of San Francisco’s prisoners are held on drug related charges. The chart below (Figure 3.3.2) details inmate offences. Since the prison population changes daily, demographic information of the incarcerated is obtained through “snapshots” of the population on a given day (Van de Water, par. 6).

The San Francisco County jail system, which has been run under Sheriff Michael Hennessey since 1979, has been noted for its innovative solutions to prisoner rehabilitation. “Instead of passing their time staring at their cell walls, the inmates mostly
stay in open dormitories and spend up to 12 hours each day in some of over 50 separate treatment, counseling, training, and education programs” (Benner, par. 4). Reform minded and progressive, Sheriff Hennessey has pioneered many of these programs to rehabilitate prisoners (San Francisco Sheriff Department website- Jail Programs). Programs include GED prep, counseling and therapy groups, and substance abuse recovery programs that include acupuncture, yoga and meditation as a way to reduce cravings for drugs or violent impulses (Benner, par. 5).

**Problems-** Prisoners were coming in and out of the criminal justice system with no way to support themselves or their families other than illegal means. Stain of arrest or prison term on their background prevented them from getting gainful employment. This created a revolving door, where once a prisoner was released; it was far too easy and often necessary, for them to slip back into illegal livelihoods.

**Program Goals-** The program has sought to provide prisoners with an activity that would be educational, therapeutic, and give them job skills while they are behind bars, but also provide a way to stay connected and extend benefits of gardening even after prisoners are released. Community gardens located on the outside, allow prisoners who show promise on the inside, to participate in a healthy, legal activity once they are released. Since many prisoners in San Francisco are behind bars on drug related charges, the community gardens are a toxin free zone where former inmates are paid for their assistance, allowing them to break free of the addiction from either taking drugs or selling drugs.
Initiation- Catherine Sneed (with the blessing of Sheriff Michael Hennessey) started a garden in the San Francisco County Jail, while she was a counselor there. Upon realizing that prisoners were simply going through a revolving door in the criminal justice system, Sneed started a garden on the "outside", on a small, unused lot that was donated by a local restaurant owner whose restaurant was adjacent to the lot, which hired prisoners upon their release and provided them with a means for escaping the cycle.

Results- The Garden Project has hired over 600 people; Signed a contract with the city to create Tree Corps, where released prisoners are hired to plant trees; created the Earth Stewards Program, which helps at risk youth and is contracted by the San Francisco Public Utilities Commission; and operates an organic farm, a perennial ornamental nursery, and a California Native Plant Nursery. The recidivism rate for prisoners who participate in the Garden Project is 24% even after two years, compared with a 55% of prisoners who are arrested within a year of their release, who do not take part in the program (Van Cleef, par. 6).
Case 4- Southside Community Land Trust: Providence, RI (1981)-

Program Overview- The Southside Community Land Trust (SCLT) is a Providence, RI urban agricultural program that focuses on creating a sustainable urban food system using a five-pronged approach. This approach includes teaching people how to grow food on urban land; locating and obtaining land for the trust; increasing access to resources, skills, and markets; creating supportive communities for sharing knowledge, tools, and inspiration; and modeling replicable and financially viable programs.

Context of City- Situated along the Providence River, Providence RI has seen its share of decline and disinvestments (See Maps 3.4.1 and 3.4.2 for location). Average home prices have been declining since the 1980s and total vacant units were at their peak for both Providence Co. and Census Tract 7, when the Southside Community Land Trust started City Farm there in 1981. A Brookings Institution study found that Providence had 1,776 acres of vacant land, in other words, 15% of the city’s total area is vacant (Pagano & Bowman, 5). Since the 1970s, the white population has declined and the African American population has increased slightly. The Hispanic population has increased dramatically, from comprising only 0.6% of the county population in 1970 to 13.4% in 2000. In the area where City Farm is operated (Census tract 7), the Hispanic population is up from 9.1% in 1980 to 39.7% in 2000. The city has also experienced an increase in its foreign born population since the 1980s, particularly from Southeast Asia and Central and South America (Southside Community Land Trust website- History). Since the 1980s, the city’s foreign-born population has more than doubled (See Tables 3.4.1- 3.4.2 and Figure 3.4.1).
Map 3.4.1- State of Rhode Island

Source: Google Maps
Map 3.4.2- Providence, RI

Source: Google Maps
Table 3.4.1- Demographic Statistics for Tract 7 and Providence Co., RI

Demographic Statistics for Tract 7- Providence, RI

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<td>Total Vacant Units</td>
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Demographic Statistics for Providence Co., Rhode Island

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<td>5.8</td>
</tr>
<tr>
<td>Pop- Hispanic</td>
<td>3,706</td>
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<td>6.8</td>
<td>83,232</td>
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<td>Foreign Born^</td>
<td>18,231</td>
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<td>31,532</td>
<td>19.6</td>
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<td>Unemployment (population 16+)</td>
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<tr>
<td>Total Households</td>
<td>521,000</td>
<td></td>
<td>209,223</td>
<td></td>
<td>226,362</td>
<td></td>
<td>239,936</td>
<td></td>
</tr>
<tr>
<td>Female head, no husband present</td>
<td>19,407</td>
<td>3.3</td>
<td>24,875</td>
<td>11.9</td>
<td>29,890</td>
<td>13.2</td>
<td>35,637</td>
<td>14.8</td>
</tr>
<tr>
<td>Living in Poverty</td>
<td>34083*</td>
<td>6.5</td>
<td>65,543</td>
<td>11.9</td>
<td>68,373</td>
<td>11.9</td>
<td>92,164</td>
<td>15.5</td>
</tr>
<tr>
<td>Total Vacant Units</td>
<td>6,321</td>
<td>3.2</td>
<td>14,950</td>
<td>6.7</td>
<td>16,862</td>
<td>6.9</td>
<td>13,278</td>
<td>5.2</td>
</tr>
</tbody>
</table>

* households

^ number and percent derived from city population- http://www.census.gov/population/www/documentation/twps0081/twps0081.pdf

Source: US Census as found on Social Explorer online
Figure 3.4.1- Providence, RI- Percent Foreign Born 1980-2000 U.S. Census Tracts

Source: Social Explorer online
**Problems**- During the 1980s, property values in certain Providence neighborhoods were so low, city was selling plots for as little as $50 (Meade Kirk, par. 3). Blight and deteriorating structures were also major concerns. Old homes with lead paint were crumbling, leaving many lots contaminated (SCLT video 2006).

**Program Goals**- Goals are centered around gardening education for youth and adults, securing of land for gardening, providing resources to gardeners, and building community in low income or immigrant neighborhoods (SCLT website and SCLT video).

**Initiation**- Debbie Schimberg, a Brown University graduate, who bought a house in a blighted neighborhood in order to convert it into a model for sustainable living, started the Southside Community Land Trust in 1981. Using a $5000 donation from a local philanthropist, she also bought several vacant lots in the surrounding neighborhood with plans to turn one into a community garden. The initial response from the neighborhood was positive. The parcel of land converted into a garden was a success and many residents, it turned out, were interested in gardening.

**Results**- SCLT currently owns "nine community gardens sprinkled over five acres around the city, and has served as inspiration for similar efforts throughout the state. It has its own headquarters in South Providence, an annual budget of $500,000 and a staff of seven full-time employees (not including more than a dozen regular volunteers who help with the myriad programs the trust oversees)” (Meade Kirk, par. 9).

“**It runs City Farm, an organic inner-city farm that serves as a national model for “bio-intensive” urban farming, concentrating on high-yield farming in compact areas, and it provides food for local soup kitchens, farm stands and restaurants. That is in addition to its several youth gardens, its cooperation with local schools to teach young people about gardening, and its 50-acre Urban Edge farm in Cranston, where budding farmers, most of whom are women, are trained in the art of raising and marketing their crops”** (Meade Kirk, par. 10-11). See Map 3.4.3 for the farms and community gardens throughout
Providence that the Southside Community Land Trust has assisted with or has in its trust, including City Farm and the Urban Edge farm.
Map 3.4.3- Southside Community Land Trust garden/farm locations

Source: Google maps
Case 5- The Food Project: Lincoln & Roxbury, MA (1991)-

Program Overview- The Food Project is a Massachusetts based sustainable agriculture program that focuses on both suburban and urban scale agriculture on a 31 acre farm in the suburban community of Lincoln and in Boston’s Roxbury neighborhood. The program has extensive volunteer and youth programs with over 2,000 people volunteering annually and 100 young people employed with the organization. Over 250,000 pounds of chemical free produce is grown on its locations annually.

Context of City- The city of Boston, situated in Suffolk County, Massachusetts (See Maps 3.5.1- 3.5.2), is well regarded for its institutions of higher learning. With Harvard, Massachusetts Institute of Technology, Boston University, and numerous other colleges and universities in the area, it is sometimes easy to forget that Boston, like other urban areas, has experienced decline and demographic shifts. Suffolk County has lost over 45,000 people since 1970. The white population has declined and continues to do so, the African American population has increased, but not dramatically, and the Asian and Hispanic populations have both increased significantly. These demographic changes are typical of the cities in this study. The foreign born population has also increased in Boston, from 12.5 percent of the county population in 1970 to just over 25 percent in 2000. Unemployment has been on the rise from 1970-1990, but saw a slight decrease in 2000 to 7% of the population. Those living in poverty currently comprise about 19 percent of the population and this number has been relatively steady over the past three decades. See Table 3.5.1 for more demographic statistics on Suffolk County, as well as the Roxbury area of Boston, where The Food Project runs 4 urban agricultural projects.

Map 3.5.3 shows the low-income areas of the city that also contain a large minority population, as well as town and neighborhood boundaries within the city of Boston. The Roxbury neighborhood is shown as a high minority, low-income area of the city.

The Boston area and Suffolk County have also received funding by the Environmental Protection Agency (EPA) for several waste site clean ups and reuse projects. 16 projects total have been funded in Suffolk County. There are far too many individual sites to map and many of the funds received were given to the city of Boston.
for general brownfield assessment or job training. However, the map below shows several of the site-specific projects that were funded by the EPA for clean up and reuse throughout the city of Boston (Map 3.5.4).

Map 3.5.1- State of Massachusetts
Map 3.5.2- Suffolk County, MA

Source: Google Maps
# Demographic Statistics for Suffolk Co., MA

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Suffolk Co.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Population- Total</td>
<td>735,190</td>
<td>650,142</td>
<td>663,906</td>
<td>689,807</td>
</tr>
<tr>
<td>Pop- White</td>
<td>619,009 84.2</td>
<td>478,227 73.6</td>
<td>412,210 69.7</td>
<td>359,535 52.1</td>
</tr>
<tr>
<td>Pop- Black</td>
<td>105,218 14.3</td>
<td>127,232 19.6</td>
<td>138,695 23.5</td>
<td>143,817 20.8</td>
</tr>
<tr>
<td>Pop- Hispanic</td>
<td>19,462 2.6</td>
<td>40,061 6.2</td>
<td>72,844 11</td>
<td>107,031 15.5</td>
</tr>
<tr>
<td>Pop- Asian</td>
<td>unavailable</td>
<td>15,501 2.4</td>
<td>32,665 5.5</td>
<td>47,970 7</td>
</tr>
<tr>
<td>Foreign Born</td>
<td>91,925 12.5</td>
<td>unavailable</td>
<td>unavailable</td>
<td>176,031 25.5</td>
</tr>
<tr>
<td>Median Income</td>
<td>$34,202</td>
<td>$29,435</td>
<td>$39,395</td>
<td>$39,355</td>
</tr>
<tr>
<td>Unemployment (population 16+)</td>
<td>13,869 2.5</td>
<td>19,459 6.2</td>
<td>30,099 8.3</td>
<td>25,017 7</td>
</tr>
<tr>
<td>Avg. Home Value</td>
<td>unavailable</td>
<td>unavailable</td>
<td>$214,802</td>
<td>$201,300</td>
</tr>
<tr>
<td>Total Households</td>
<td>611,109</td>
<td>252,443</td>
<td>264,061</td>
<td>278,722</td>
</tr>
<tr>
<td>Female head, no husband present</td>
<td>35,199 4.8</td>
<td>39,494 15.6</td>
<td>43,732 16.6</td>
<td>45,362 16.3</td>
</tr>
<tr>
<td>Living in Poverty</td>
<td>54,328 19.2</td>
<td>117,754 19.1</td>
<td>114,748 18.1</td>
<td>124,918 19</td>
</tr>
<tr>
<td>Total Vacant Units</td>
<td>11,758 4.5</td>
<td>24,558 8.9</td>
<td>25,215 8.7</td>
<td>13,798 4.7</td>
</tr>
</tbody>
</table>

# Demographic Statistics for Roxbury, MA

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Roxbury</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Population- Total</td>
<td>19,639</td>
<td>14,554</td>
<td>15,329</td>
<td>10,958</td>
</tr>
<tr>
<td>Pop- White</td>
<td>4,402 22.4</td>
<td>855 5.9</td>
<td>549 4.4</td>
<td>950 8.7</td>
</tr>
<tr>
<td>Pop- Black</td>
<td>15,163 77.2</td>
<td>12,618 86.7</td>
<td>11,727 93.9</td>
<td>7,043 64.3</td>
</tr>
<tr>
<td>Pop- Hispanic</td>
<td>1,335 6.8</td>
<td>1,300 8.9</td>
<td>2,836 18.5</td>
<td>2,245 20.5</td>
</tr>
<tr>
<td>Pop- Asian</td>
<td>unavailable</td>
<td>37 0.3</td>
<td>62 0.5</td>
<td>154 1.4</td>
</tr>
<tr>
<td>Foreign Born</td>
<td>1,199 5.9</td>
<td>unavailable</td>
<td>unavailable</td>
<td>1,930 17.6</td>
</tr>
<tr>
<td>Median Income</td>
<td>$23,600</td>
<td>$19,762</td>
<td>$21,231</td>
<td>$26,887</td>
</tr>
<tr>
<td>Unemployment (population 16+)</td>
<td>456 3.7</td>
<td>583 10.9</td>
<td>988 16.6</td>
<td>555 11.3</td>
</tr>
<tr>
<td>Avg. Home Value</td>
<td>unavailable</td>
<td>unavailable</td>
<td>$150,953</td>
<td>$168,294</td>
</tr>
<tr>
<td>Total Households</td>
<td>16,839</td>
<td>5,410</td>
<td>5,788</td>
<td>4,207</td>
</tr>
<tr>
<td>Female head, no husband present</td>
<td>1,975 10.1</td>
<td>1,987 36.7</td>
<td>2,254 38.9</td>
<td>1,428 33.9</td>
</tr>
<tr>
<td>Living in Poverty</td>
<td>2,335 32%</td>
<td>4,167 29.3</td>
<td>5,351 35</td>
<td>3,023 27.6</td>
</tr>
<tr>
<td>Total Vacant Units</td>
<td>973 12.6</td>
<td>1,117 17.3</td>
<td>697 10.7</td>
<td>528 11.2</td>
</tr>
</tbody>
</table>
Map 3.5.3- Low Income & Minority Populations in Boston, MA neighborhoods
Problems- The program was started in reaction to several problems: environmental degradation/brownfields, people who were not connected to the land or each other, and racial and socioeconomic conflicts.

Program Goals- The Food Project’s goals are centered around: Encouraging an appreciation of diversity among young people by creating a space where all races and
ethnicities work together; creating a sustainable food system, and creating opportunities for teenagers and youth.

*Initiation*- Founded by Ward Cheney and funded for the first three years by the Massachusetts Audubon Society (MAS), The Food Project used the MAS' environmental education center, Drumlin Farm, as their primary site. After three years, it leased 21 acres over time and in 2002 leased an additional 10 near the farm. Also partnered with Dudley Street Neighborhood Initiative (DSNI) in Roxbury to clean up and start farming on the Langdon Street Lot.

*Results*- Has 31 acre lot in Lincoln; farms in Lynn and Beverly; and 3 city farm lots plus one rooftop garden in Boston’s Dudley neighborhood in the Roxbury area (See map 3.5.5). "It employs over 100 young people and 25 full-time staff and engages nearly 2,000 volunteers annually. Every Tuesday and Thursday afternoon from June to October, TFP operates a farmers market at the Dudley Town Common in Roxbury, MA. It has offices both in Lincoln and in Boston. It grows over 250,000 pounds of chemical-pesticide-free food each season for charitable donation, subsidized sale at farmers’ markets, and youth-driven food enterprises" (The Food Project website).
Map 3.5.5- Food Project locations in Lynn, Lincoln, and Beverly, MA; Suffolk County, MA (purple) and Roxbury neighborhood (pink)

Source: Google Maps
Case 6- Nuestras Raices: Holyoke, MA (1992)-

Program Overview- Nuestras Raices is an urban agricultural program in Holyoke, MA that focuses on helping and engaging the city’s immigrant population, particularly the Puerto Rican population, many of whom are unemployed. The program attempts to use the agrarian skills of older immigrants, who have had experience farming in their native rural Puerto Rico, to educate the younger generation and keep traditions alive in agriculture, cuisine, and culture.

Context of City- Holyoke, Massachusetts is situated in Hampden County, MA on the state’s western half (See Maps 3.6.1- 3.6.2). The eastern half of the city borders the Connecticut River and for many years provided power to paper mills, which were the city’s primary employers. Once these and other industries began shutting down or leaving, the city began to face problems with poverty, crime, and drugs. The city has experienced a dramatic increase in its Hispanic population over the past 30 years, even while the city’s overall population has been steadily decreasing (See Figure 3.6.1- 3.6.2). A sizeable Puerto Rican population settled here during the 60s and 70s drawn by factory jobs and on the nearby tobacco farms. Median income has hovered around $32,000 and while the poverty rate in Holyoke has always been higher than the county’s rate, the 2000 census shows that Holyoke’s rate of poverty at above 26 percent is almost double that of the Hampden County. Table 3.6.1 provides more detailed comparison of Holyoke demographics versus Hampden County.
Map 3.6.1 - State of Massachusetts

Source: Google maps
Table 3.6.1- Demographic Statistics for Holyoke and Hampden Co., MA

### Demographic Statistics for Holyoke, MA

<table>
<thead>
<tr>
<th>Year</th>
<th>Holyoke %</th>
<th>Holyoke %</th>
<th>Holyoke %</th>
<th>Holyoke %</th>
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<tbody>
<tr>
<td>1970</td>
<td>50,032</td>
<td>44,678</td>
<td>43,704</td>
<td>39,838</td>
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<tr>
<td>1980</td>
<td>48,739</td>
<td>38,276</td>
<td>28,519</td>
<td>21,508</td>
</tr>
<tr>
<td>1990</td>
<td>1,145</td>
<td>1,045</td>
<td>1,145</td>
<td>1,016</td>
</tr>
<tr>
<td>2000</td>
<td>1,870</td>
<td>6,165</td>
<td>13,573</td>
<td>16,485</td>
</tr>
</tbody>
</table>

#### Population- Total

- **Foreign Born**: 5,150 (10.3%) 1970, unavailable 1980, unavailable 1990, 2,152 (1%) 2000

#### Median Income

- 1970: $36,746*
- 1980: $30,873
- 1990: $33,090
- 2000: $32,592

#### Unemployment (population 16+)

- 1970: 18.5%
- 1980: 3%
- 1990: 7%
- 2000: 10.1%

#### Avg. Home Value

- 1970: unavailable
- 1980: unavailable
- 1990: $158,445
- 2000: $104,948

#### Total Households

- 1970: 12,414
- 1980: 16,562
- 1990: 15,850
- 2000: 14,967

#### Female head, no husband present

- 1970: 18.5%
- 1980: 3%
- 1990: 7%
- 2000: 10.1%

#### Living in Poverty

- 1970: 20.5%
- 1980: 13.4%
- 1990: 19.3%
- 2000: 25.7%

#### Total Vacant Units

- 1970: 6.3%
- 1980: 7.8%
- 1990: 6.3%
- 2000: 7.7%

### Demographic Statistics for Hampden Co., MA

<table>
<thead>
<tr>
<th>Year</th>
<th>Hampden Co. %</th>
<th>Hampden Co. %</th>
<th>Hampden Co. %</th>
<th>Hampden Co. %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>459,050</td>
<td>443,018</td>
<td>456,310</td>
<td>456,228</td>
</tr>
<tr>
<td>1980</td>
<td>434,410</td>
<td>396,175</td>
<td>373,426</td>
<td>339,625</td>
</tr>
<tr>
<td>1990</td>
<td>23,774</td>
<td>27,794</td>
<td>32,105</td>
<td>34,034</td>
</tr>
<tr>
<td>2000</td>
<td>9,913</td>
<td>22,742</td>
<td>45,785</td>
<td>69,197</td>
</tr>
</tbody>
</table>

#### Foreign Born

- 1970: 36,847 (8%)
- 1980: unavailable
- 1990: unavailable
- 2000: 5,835 (1%)

#### Median Income

- 1970: $42,880*
- 1980: $37,182
- 1990: $41,674
- 2000: $39,718

#### Unemployment (population 16+)

- 1970: 2.6%
- 1980: 5.8%
- 1990: 7%
- 2000: 12.351 (5.6%)

#### Avg. Home Value

- 1970: unavailable
- 1980: unavailable
- 1990: $164,150
- 2000: $113,700

#### Total Households

- 1970: 115,269
- 1980: 157,768
- 1990: 169,906
- 2000: 175,288

#### Female head, no husband present

- 1970: 12.3%
- 1980: 12.7%
- 1990: 15.4%
- 2000: 15.9%

#### Living in Poverty

- 1970: 13.4%
- 1980: 11.7%
- 1990: 13%
- 2000: 14.7%

#### Total Vacant Units

- 1970: 4,642
- 1980: 7,792
- 1990: 10,119
- 2000: 10,588

* Average Family Income
Figure 3.6.1- Holyoke, MA- 1970 & 1980 Census Tracts- Percent Hispanic

Source: Social Explorer online
Figure 3.6.2- Holyoke, MA- 1990 & 2000 Census Tracts- Percent Hispanic

Source: Social Explorer online
Problems- As ascertained from Nuestras Raices’ website and several articles, the problems faced by Holyoke are as such: Deindustrialization, unemployment (as a result of paper mills shutting down), soil and water pollution, and a growing immigrant population. Holyoke, one of the poorest cities in the state of Massachusetts, is also notorious for drug use amongst its population and its crime rate (Kummer).

Based on data collected by the Bureau of Justice Statistics, the violent crime rate in Holyoke is more than 4.5 times the national or state level and its property crime rate is 1.6 times the national rate and more than double the state’s rate (BJS Crime and Justice Data Online).

Program Goals- Nuestras Raices focuses on Community building, Education, and Building upon gardening skills of immigrants. It seeks to “let the people the program was intended for, set its agenda”, in other words, running the program from the bottom up or where the members have more control, instead of having a top down system where prerogatives are dictated from above (Kummer).

Initiation- "Nuestras Raíces was founded in 1992 by the members of La Finquita community garden in South Holyoke to manage the garden and with the goal of developing a greenhouse in downtown Holyoke" (Nuestras Raíces website). Seth Williams, an undergraduate at Hampshire College, worked with "several experienced gardeners and community leaders in South Holyoke to find land, water, and tools for a new community garden to replace one lost to development. To keep the garden and the alliances around it alive, community members founded Nuestras Raíces in 1992" (Kummer, par. 5). Daniel Ross became executive director in 1995 and much of Nuestras Raíces’ success has been due to his leadership.

Results- The program has received numerous grants, including USDA Food Projects grant, EPA grant, a Kellogg Foundation planning grant, and Massachusetts Cultural Council grants.

It currently manages 8 community gardens, 2 youth gardens, Centro Agricola (an entrepreneurial education site that houses a greenhouse, a Puerto Rican restaurant,
library, bakery, and a shared use community kitchen), several Farmers Markets, and the 30-acre Tierra de Oportunidades farm project along the Connecticut River. See Map 3.6.3 for community gardens, Centro Agricola, and Tierra de Oportunidades locations.
Map 3.6.3- Nuestras Raices’ locations

Source: Google maps
Case 7- Resource Center’s City Farm: Chicago, IL

*Program Overview*- The Resource Center’s City Farm is located near the Cabrini Green neighborhood and former housing project in Chicago, IL. It is an urban farm that strives to provide training and employment opportunities to low-income residents and youth. The farm is unique because of its mobility. The program does not attempt to maintain permanence on city owned lots, but rather has perfected a model of a mobile farm. The land is farmed, and then the compost can be moved and reused as other lots become available, or if the plot is to be used for development.

*Context of City*- The political and social landscape of Chicago has long been defined by its many varying neighborhoods. The city is comprised of 75 neighborhoods, each unique from the other. See maps 3.7.1- 3.7.3 for location and boundaries of Chicago and its various neighborhoods, including Cabrini Green.

In the 19th century, the city was home to steel mills, slaughterhouses, train yards, and corrupt politicians (Wiland et. al., 21). Today, Chicago is revitalizing itself. With the creation of Millennium Park, the installation of green roofs throughout the city, and a newfound commitment to nature and civic life that has been championed by Mayor Richard M. Daley, Chicago finds itself at the forefront of the urban sustainability movement (Wiland et. al., 26).

But, even with the new efforts, poverty rates continue to rise in the city of Chicago. Recent figures show 21% of the city’s population below the poverty line and a $1,696 decrease in median household income since 2000 (Mid America Institute on Poverty of Heartland Alliance). Despite this decrease in income, Chicago housing prices have gone up by almost 40% since 2000, making affordable housing or government subsidized housing a necessity. However, Chicago has begun the process of demolishing the public housing or “projects” of the past, in favor of more modern endeavors; combining public housing and market rate housing in mixed income neighborhood projects throughout the city. “By the end of 2009, all 53 of Chicago’s public housing high-rises will be gone. It's the largest demolition of public housing in the nation's history, and it will uproot some 40,000 people” (CBS News).
The city is hoping that deconcentration of the crime ridden public housing projects will give a better life to those who require government subsidized housing. See Table 3.7.1 for demographic statistics for both the Cabrini Green neighborhood and Cook County, IL.
Map 3.7.1- State of Illinois

Source: Google maps
Map 3.7.2- Chicago city (shaded purple)

Source: Google maps
Map 3.7.3- Chicago Neighborhoods

Source: City of Chicago website
Table 3.7.1 - Demographic Statistics for Cabrini Green neighborhood and Cook County, IL

**Demographic Statistics for Cabrini Green neighborhood, IL**

<table>
<thead>
<tr>
<th>Year</th>
<th>Cabrini Green %</th>
<th>Cabrini Green %</th>
<th>Cabrini Green %</th>
<th>Cabrini Green %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>21,595</td>
<td>17,557</td>
<td>9,732</td>
<td>10,261</td>
</tr>
<tr>
<td>1980</td>
<td>812 3.8</td>
<td>74 0.4</td>
<td>176 1.8</td>
<td>1,087 11</td>
</tr>
<tr>
<td>1990</td>
<td>20,706 95.9</td>
<td>17,287 98.5</td>
<td>9,454 98</td>
<td>8,909 87</td>
</tr>
<tr>
<td>2000</td>
<td>535 2.5</td>
<td>258 1.5</td>
<td>81 0.8</td>
<td>223 2.2</td>
</tr>
<tr>
<td></td>
<td>N/A</td>
<td>15 0.1</td>
<td>11 0.1</td>
<td>73 0.7</td>
</tr>
</tbody>
</table>

- **Population- Total**: 21,595, 17,557, 9,732, 10,261
- **Pop- White**: 812, 74, 176, 1,087
- **Pop- Black**: 20,706, 17,287, 9,454, 8,909
- **Pop- Hispanic**: 535, 258, 81, 223
- **Pop- Asian**: N/A, 15, 11, 73
- **Foreign Born**: 312, N/A, N/A, 113
- **Median Household Income**: $25,352, $13,793, $9,327, $16,804
- **Unemployment (population 16+)**: 578, 744, 860, 820
- **Avg. Home Value**: N/A, N/A, $281,400*, $394,441
- **Total Households**: 5,169, 5,098, 3,157, 3,522
- **Female head, no husband present**: 2,052, 3,044, 1,822, 1,827
- **Living in Poverty**: 2,194, 12,074, 7,291, 1,364
- **Total Vacant Units**: 835, 365, 1,893, 923

**Demographic Statistics for Cook County, IL**

<table>
<thead>
<tr>
<th>Year</th>
<th>Cook Co. %</th>
<th>Cook Co. %</th>
<th>Cook Co. %</th>
<th>Cook Co. %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>5,488,328</td>
<td>5,253,655</td>
<td>5,105,067</td>
<td>5,376,741</td>
</tr>
<tr>
<td>1980</td>
<td>4,251,742</td>
<td>3,511,803</td>
<td>2,915,634</td>
<td>3,025,760</td>
</tr>
<tr>
<td>1990</td>
<td>1,811,025</td>
<td>1,346,464</td>
<td>1,301,196</td>
<td>1,405,361</td>
</tr>
<tr>
<td>2000</td>
<td>286,882</td>
<td>499,322</td>
<td>694,194</td>
<td>1,071,740</td>
</tr>
</tbody>
</table>

- **Pop- White**: 4,251,742, 3,511,803, 2,915,634, 3,025,760
- **Pop- Black**: 1,811,025, 1,346,464, 1,301,196, 1,405,361
- **Pop- Hispanic**: 286,882, 499,322, 694,194, 1,071,740
- **Pop- Asian**: N/A, 111,602, 181,285, 260,170
- **Foreign Born**: 503,106, N/A, N/A, 1,064,703
- **Median Income**: $49,760, $44,130, $43,782, $45,922
- **Unemployment (population 16+)**: 86,121, 189,937, 211,083, 197,487
- **Avg. Home Value**: N/A, N/A, $135,206, $154,300
- **Total Households**: 1,879,464, 1,880,486, 1,879,488, 1,974,181
- **Female head, no husband present**: 185,652, 259,228, 289,381, 307,079
- **Living in Poverty**: 246,575, 705,684, 713,255, 135,038
- **Total Vacant Units**: 835, 365, 1,893, 923
Problems- The Resource Center’s City Farm is located adjacent to the public housing project, Cabrini Green. Although currently home to about 4700 residents, at its height, Cabrini Green housed more than 15,000 people on its 70 acre lot in a total of 3500 public housing units (Chicago Housing Authority website- Cabrini Green Homes). Cabrini Green became a symbol of the ills of large public housing projects. Gangs, violence and drugs plagued the development to such an extent that residents were often too scared to leave their homes and mesh fencing affixed to balconies for children’s safety, added to the perception of residents that they were in a prison (Everything on Cabrini Green website).

Surrounding the project, are some of Chicago’s wealthiest neighborhoods and most coveted public areas, such as the Near North neighborhood, the Gold Coast and Grant Park. As the city slowly gentrified, the differences in wealth and income between the residents of Cabrini Green and their neighbors became greater Figures 3.7.1- 3.7.3 illustrate the disappearance of wealth from the neighborhood between 1980 and 2000.

The pocket of despair and poverty that was Cabrini Green, was undesirable to city officials who were looking to revitalize Chicago and attract a larger tax base. In 2000, Chicago Housing Authority (CHA) unveiled its Plan for Transformation, which includes demolishing all of the high rises and developing mixed income neighborhoods, although a majority of the new neighborhoods will be market rate housing (CHA website).

Program Goals- The Resource Center started its City Farm in 2000 and is currently situated North of Division St and just west of N. Clybourn St. It aims to serve the remaining residents of Cabrini Green as well as other area residents with fresh food and education on farming, with the belief that anyone can farm. The programs ultimate goal is to become a model for for-profit, self-sustaining farming operations within the city. Basically, to demonstrate to residents that farming is a viable use of land and Chicago has the potential for plenty more operations such as City Farm.
**Initiation-** City Farm, known as such since the move to Cabrini Green location, was started in 2000 out of previous efforts to aid community groups in starting gardens. The Resource Center’s recycling program was producing nutrient rich compost and the idea to start a farm was a natural next step. The farm serves as a model of mobile farming; obtaining yearly leases from the City for free, but agreeing to move if the city ever wishes to sell plot. If/when the city requires the land, it has agreed to lease another plot to City Farm. “Originally with the 70th Street Farm, hired staff organized crop production for sales to Medici Restaurant and then to the Hyde Park Farmers Market. Since the move to the Cabrini Green CHA Projects in 2000, “City Farm” has grown to incorporate educational programming, a broad sales network with restaurants, and increased involvement with the growing movement for local sustainable agriculture around Chicago. The farm employs trucks and tractors to produce the initial garden site. First, salvaged clay is used as a protective sealer on the brick rubble or fill characteristic of the abandoned lot. On the surface, the entire farm could be considered a giant raised bed. Alternating beds of compost and woodchip walking paths surface two feet above street level. Once the garden is constructed all farm work is done by hand and sustained by natural and productive planting” (The Resource Center).

**Results-** Currently, City Farm sells its produce to 24 area restaurants, 11 CSA subscription members, and at its onsite farm stand, which sells approximately 11,000 pounds annually from their one acre lot. They have also currently started reclamation of another lot in Cabrini Green and over the years have worked with over fifty youths from the CHA housing projects and hope to continue new lots as educational space local residents can utilize for personal produce. Adults from Cabrini, Lawndale, and Grand Crossing are also hired and trained continually (The Resource Center).
Figure 3.7.1- Chicago, IL- 1980 Census Tract- Median Household Income
Figure 3.7.2- Chicago, IL- 1990 Census Tracts- Median Household Income
Figure 3.7.3- Chicago, IL- 2000 Census Tracts- Median Household Income

2000 Census Tract
Median Household Income
- Missing Data
- NA (<100 base cases)
- $<15,000
- $15,000 to $20,000
- $20,000 to $25,000
- $25,000 to $30,000
- $30,000 to $35,000
- $35,000 to $40,000
- $40,000 to $45,000
- $45,000 to $50,000
- $50,000 to $75,000
- $75,000 to $100,000
- $100,000 to $200,001

Cabrini Green boundary
City Farm
Case 8- OSU Extension Cuyahoga Co.- Community Gardening Program: Cleveland, OH

Program Overview- The Community Gardening Program is one of several run through the Ohio State University’s Extension program. The program works with the city of Cleveland to run educational programs for youth and nutritional programs to combat obesity. It aims to educate and train residents about sustainable gardening practices and starting community gardens. The program focuses on community building, environmental sustainability, economic stability, and healthy lifestyles.

Context of City- The city of Cleveland has experienced its share of highs and lows since the turn of the twentieth century. Like many so-called “rust belt” cities, a majority of its wealth and development was a by-product of manufacturing industries and once these industries faltered, so did the rest of the city. As sprawl and economic decline became rampant, so did the decline of the inner city.

Regeneration efforts on a regional scale brought Cleveland back to life by the late 1990s. Krumholz (in Bennett & Giloth, pp. 135-136) identifies three main developments that contributed to Cleveland’s turnaround: First, a newly appointed planning team focused on equity issues rather than the status quo planning duties of zoning regulations, design standards, and comprehensive land use planning. Second, a network of well organized and productive community development corporations set about turning distressed neighborhoods around. These groups were a by-product of the advocacy planning movement in the 1970s and thus were able to build homes, recruit businesses and reduce crimes with efficiency and without the hostility and combativeness that often plagues organizations of this sort in other cities. The third event that contributed to Cleveland’s turnaround was the amount of attention paid to the downtown. During the 1980s and 1990s, Cleveland “witnessed a powerful downtown building boom, with several major banks and corporations building new office headquarters” (Krumholz in Bennett & Goliath, 136). Cleveland began to be known as the “Comeback City”, proof that with good planning, determination, and funding, even cities in dire straights can pull themselves back up (Rusk in Sweet et. al., 39).
Problems- However, in recent years, the nation’s economic downturn combined with population loss has begun to take the wind out of Cleveland’s sails. Between 1970 and 1980, the population of Cuyahoga County declined nearly 13% from over 1.7 million to just under 1.5 million people (See Table 3.8.1). Each decade after this saw population losses as the residents moved further out to neighboring counties, expanding the region into a combined metropolitan statistical area that includes eight counties, making it the 14th largest Combined Metropolitan Statistical Area (CMSA) in the nation (See Maps 3.8.1-3.8.2).

Cuyahoga County is now synonymous with the problems of the city of Cleveland itself. Unemployment rates for Cuyahoga County are continuing to increase, rising from 6.4 percent at the beginning of 2008 to 7.8 percent in just 8 months, well above the national unemployment rate for August 2008 of 6.1 percent (Bureau of Labor Statistics online). Recently, Cleveland received the notorious distinction of being the “poorest big city” in America, with a poverty rate within city boundaries of over 32% (Schweitzer & Rudick).

Median household income has gone down significantly over the past three decades in Cuyahoga County. Wealth and financial assets have drifted away from the central city and county and have spread to the surrounding counties. Figures 3.8.1 illustrates this change, showing median household income of Cuyahoga County in 1970, in which a larger percentage of high-income households lived within the county, versus in 2000, where the surrounding counties now have a higher proportion of wealthier households.

The problems addressed by the Ohio State University Extension office in Cuyahoga County are related to these downward trends. The urban garden programs it organizes are meant to address poverty, obesity (30% of Clevelanders are obese and diabetes accounts for 10% of hospital discharges), and limited access to fresh produce in poor neighborhoods (there is a lower density of grocery stores in the inner city and due to the lower income of most residents, the temptation to buy low-cost, low-nutrient food is great).
Table 3.8.1- Demographic Statistics for Cuyahoga Co., OH

**Demographic Statistics for Cuyahoga County, OH**

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Population- Total</td>
<td>1,721,300</td>
<td>1,498,400</td>
<td>1,412,140</td>
<td>1,393,978</td>
</tr>
<tr>
<td>Pop- White</td>
<td>1,385,053</td>
<td>1,129,966</td>
<td>1,011,481</td>
<td>938,863</td>
</tr>
<tr>
<td>Pop- Black</td>
<td>328,312</td>
<td>341,003</td>
<td>348,153</td>
<td>382,634</td>
</tr>
<tr>
<td>Pop- Hispanic</td>
<td>unavailable</td>
<td>24,028</td>
<td>31,447</td>
<td>47,078</td>
</tr>
<tr>
<td>Pop- Asian</td>
<td>unavailable</td>
<td>11,470</td>
<td>17,736</td>
<td>25,245</td>
</tr>
<tr>
<td>Foreign Born</td>
<td>126,688</td>
<td>unavailable</td>
<td>unavailable</td>
<td>88,761</td>
</tr>
<tr>
<td>Median Household Income</td>
<td>$49,069*</td>
<td>$41,421</td>
<td>$38,317</td>
<td>$39,168</td>
</tr>
<tr>
<td>Unemployment (population 16+)</td>
<td>26,383</td>
<td>50,447</td>
<td>51,371</td>
<td>41,778</td>
</tr>
<tr>
<td>Avg. Home Value</td>
<td>unavailable</td>
<td>unavailable</td>
<td>$95,408</td>
<td>$110,100</td>
</tr>
<tr>
<td>Total Households</td>
<td>439,838</td>
<td>563,277</td>
<td>563,243</td>
<td>571,457</td>
</tr>
<tr>
<td>Female head, no husband present</td>
<td>55,991</td>
<td>71,056</td>
<td>83,683</td>
<td>89,793</td>
</tr>
<tr>
<td>Living in Poverty</td>
<td>78,081</td>
<td>169,240</td>
<td>191,149</td>
<td>92,976</td>
</tr>
<tr>
<td>Total Vacant Units</td>
<td>17,716</td>
<td>32,853</td>
<td>41,295</td>
<td>45,446</td>
</tr>
</tbody>
</table>

*Average Household Income
Map 3.8.1 - State of Ohio

Source: Google maps
Map 3.8.2- Cuyahoga County (gray), City of Cleveland (purple), and Cleveland CMSA (pink)

Source: Google maps
Figure 3.8.1- Cleveland, OH- 1970 & 2000 Census Tracts- Median Household Income

Source: Social Explorer online
Program Goals- The Ohio State University Extension (OSUE) office in Cuyahoga County has attempted to deal with issues of suburbanization and population loss by bringing communities together through gardening and food cultivation. The Urban Gardens program has a three-pronged set of goals- Fiscal, Ecological, and Social, with all three ultimately leading to a more equitable way of life for participants. Fiscally, participants are able to save money on produce or earn income from selling their produce. Ecologically, food is grown with less energy and with little or no toxins. Socially, healthy lifestyles are promoted in communities and interaction between neighbors fostered. The stated goal of the Community Gardening program of OSUE is to “support local, neighborhood efforts to organize community gardens by cultivating community leadership skills, providing technical assistance, and teaching educational workshops in order to create long-­loved, productive food gardens” (Cuyahoga County Extension website- Community Gardening).

Initiation- Extension programs were established by the Smith-Lever act of 1914, as a means of extending the education purposes of land grant universities. These institutions were to provide outreach, mostly to farmers, to further their knowledge and give them instruction on more modern farming techniques. As the program progressed, economics and youth development were also included in the educational outreach of these universities. Today, every county in every state in the country has an extension office of the university that receives funding for that purpose. In Ohio, this university is Ohio State University. Modern extension offices can offer education and training in a variety of areas such as community development, environmental enhancement, and healthy lifestyles. OSUE Cuyahoga County has had a community garden program since 1978. They have several focused initiatives and are also partners with several city and non-profit agencies to help coordinate other programs. A list of initiatives is provided below (Table 3.8.2).
Table 3.8.2- OSU Extension Cuyahoga County- Programs & Initiatives

<table>
<thead>
<tr>
<th>Program name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market Gardener Training</td>
<td>A 12 week course for entrepreneurs to develop the small-scale agriculture and business skills necessary to sell produce at local markets and to restaurants.</td>
</tr>
<tr>
<td>Garden Preservation</td>
<td>Empowering communities and advocating with local government and community organizations to develop models of permanency for garden sites.</td>
</tr>
<tr>
<td>STEPS to a Healthier Cleveland</td>
<td>Working with the Cleveland Department of Public Health, staff of the Community Gardening Program is helping to develop gardens in targeted neighborhoods in order to increase residents’ access to fresh produce and to provide opportunities for physical activity through gardening.</td>
</tr>
<tr>
<td>Suburban Gardening in Cuyahoga County</td>
<td>Engaging suburban gardeners to connect their communities through growing nutritious foods.</td>
</tr>
<tr>
<td>Summer Spouts</td>
<td>Started and funded, in part, by the City of Cleveland. This program, now run by OSUE is aimed at engaging children in the gardening process.</td>
</tr>
</tbody>
</table>

Source: Cuyahoga County Extension Community Gardening and Urban Agriculture website- http://cuyahoga.osu.edu/horticulture/community-gardening/community-gardening

Results- The impacts of an educational institution partnering with the community to provide sustenance and jobs have been significant. In 2008 alone, more than 1200 people
in the Cuyahoga county community were “reached” by the extension’s programs and services according to their website. In addition-

- Over 20 urban farms and one bee-keeping enterprise have been established in Greater Cleveland as a result of the Market Garden Training course.
- More than 200 Urban Gardens in the City of Cleveland, tended by more than 4000 gardeners, produced more than $2.1 million worth of produce, providing nourishment and well-being to every neighborhood in the City.
- *Urban Garden Zoning Districts* were created in Cleveland resulting from the collaborative efforts of the Community Gardening Program, Cuyahoga Community Land Trust, Cleveland Botanical Garden, and the City of Cleveland (Cuyahoga County Extension website- Community Gardening).

The Urban Garden Zoning Districts are an item of distinction that deserves further attention. On March 5\textsuperscript{th}, 2007, the Cleveland city council voted to create the nation’s first zoning designation for community gardens. The Urban Garden District zoning ordinance adds a measure of protection against the loss of community gardens to development. “Rezoning a garden, however, does not guarantee that it can never be lost. It simply makes replacing a garden a public process, giving neighbors a voice to protect it” (Brady, par. 3).
Case 9- P-Patch program: Seattle, WA

Program Overview- The Seattle P-Patch program is a long running urban gardening program that is currently housed in the city’s Department of Neighborhoods. The program works in conjunction with the P-Patch Trust and aims to keep gardening alive in the city by offering gardening plots in 70 urban neighborhoods throughout the city. Seattle P-Patch has four areas of focus: community gardening, market gardening, youth gardening, and community food security.

Context of City- The city of Seattle is known for its uniqueness and willingness to embrace progressive and cutting edge ideas. The technology boom that was spurred on by the founding of Microsoft in 1979 did much to project this image globally, as did the hyperbolic worldwide expansion of Starbucks Coffee in the 1990s. Seattle, however, was not always so urbane. Founded as a pioneer town, Seattle has its roots in the logging and fishing industries. Unlike other major cities, Seattle was populated not by an influx of immigrants, but rather by those who made a special effort to get there. “It is this property of being “far out” that has most influenced the nature and variety of Seattle’s population. It first attracted an odd lot of frontier-prone adventurers from diverse origins” (Andrus, et. al., 19). See Maps 3.9.1-3.9.2 for location of Washington and Seattle, WA.

Seattle’s economy has always prospered from the exploitation of its natural resources. Early industry focused on fishing and lumber mills, later during World War I, shipbuilding became a major force in the region for jobs and money. World War II increased demand for planes and Boeing, which had been founded in Seattle in 1916, was the major supplier to the government. After the wars, Boeing found a new market in supplying commercial airlines. Seattle soon became a company town and nearly 100,000 people were employed at Boeing by 1968, plus thousands more in related and support industries. However, sales soon plummeted due to saturation of the market. “Boeing had over expanded and was forced in a single year 1969-1970 to cut employment from 100,000 to 38,000 as demand for jet aircraft collapsed” (Andrus et. al.,12). In addition, an estimated “35,000 people in related support industries and services also lost their jobs and the ripples spread outward” (Moody, 14). The “Boeing Bust”, as it is known, had a
devastating effect on Seattle. Unemployment grew to 15% and 100,000 people left the area during this time (Andrus, et. al., 12).
Map 3.9.1- State of Washington

Source: Google maps
Map 3.9.2- City of Seattle

Source: Google maps
Problems- Seattle faces cycles of boom and bust due to the nature of its industry. When the P-Patch Program started in 1973, Seattle residents were coping with economic uncertainty and population loss due to the ‘Boeing Bust’ in which nearly 100,000 people became unemployed.

In recent times, high tech companies like Microsoft and Amazon have offered some stability, but even these industries have their share of highs and lows. While new 21st century jobs have offered more opportunity and placed Seattle on plenty of “most livable cities” lists, the influx of newcomers, new jobs, and new money have increased the cost of living dramatically over the past few decades. Figure 3.9.1 below details the change in the consumer price index (CPI) for Seattle from 1970 to 2007. In 2007, Seattle’s CPI, at 215.7, is more than double the national average of 100. From 1990 to 2000, the average home value nearly doubled, increasing from $137,900 in 1990 to $252,100 in 2000. Median household income also increased from $29,353 in 1990 to $45,736, making Seattle a wealthier city, but increasingly a difficult one for poorer residents to survive in. The poverty rate has held fairly steady over the past two decades, falling between 11 and 12 percent of the population. See Table 3.9.1 below for additional Seattle demographic statistics between 1970 and 2000.

Figure 3.9.1- Seattle, WA- 1970-2007- Consumer Price Index

Source: Bureau of Labor Statistics (as found on http://www.seattle.gov/financedepartment/cpi/historical.htm)
Table 3.9.1- Demographic Statistics for Seattle, WA

**Demographic Statistics for Seattle (city), WA**

<table>
<thead>
<tr>
<th>Year</th>
<th>Population- Total</th>
<th>Pop- White</th>
<th>Pop- Black</th>
<th>Pop- Hispanic</th>
<th>Pop- Asian</th>
<th>Foreign Born</th>
<th>Median Household Income</th>
<th>Unemployment (population 16+)</th>
<th>Avg. Home Value</th>
<th>Total Households</th>
<th>Female head, no husband present</th>
<th>Living in Poverty</th>
<th>Total Vacant Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Seattle, WA</td>
<td>Seattle, WA</td>
<td>Seattle, WA</td>
<td>Seattle, WA</td>
<td>Seattle, WA</td>
<td>Seattle, WA</td>
<td>Seattle, WA</td>
<td>Seattle, WA</td>
<td>Seattle, WA</td>
<td>Seattle, WA</td>
<td>Seattle, WA</td>
<td>Seattle, WA</td>
<td>Seattle, WA</td>
</tr>
<tr>
<td>1970</td>
<td>530,831</td>
<td>493,846</td>
<td>392,766</td>
<td>10,616</td>
<td>22,077</td>
<td>45,655</td>
<td>$41,674*</td>
<td>20,048</td>
<td>unavailable</td>
<td>223,342</td>
<td>16,899</td>
<td>32,928 (households)</td>
<td>11,346</td>
</tr>
<tr>
<td>1990</td>
<td>516,259</td>
<td>388,858</td>
<td>51,948</td>
<td>18,349</td>
<td>60,819</td>
<td>67,736</td>
<td>$29,353</td>
<td>14,006</td>
<td>$137,900</td>
<td>236,702</td>
<td>21,303</td>
<td>61,681</td>
<td>12,330</td>
</tr>
<tr>
<td>2000</td>
<td>563,374</td>
<td>394,889</td>
<td>47,541</td>
<td>29,719</td>
<td>73,910</td>
<td>94,952</td>
<td>$70%</td>
<td>17,342</td>
<td>$252,100</td>
<td>258,499</td>
<td>20,916</td>
<td>64,068</td>
<td>12,025</td>
</tr>
</tbody>
</table>

Sources: US Census; Social Explorer online*

*Statistics from 1970 & 1980, except Population, are estimates based on census tracts 1-121 in King County, WA
Program Goals- According to the P-Patch program’s website, the program “provides organic community garden space for residents of 70 Seattle neighborhoods”. Emphasizing immigrant populations, low-income populations, and the youth, P-Patch has four program areas- community gardening, market gardening, youth gardening and community food security (Seattle Department of Neighborhoods online- P-Patch Community Gardens).

Initiation- In 1973, around the time of the ‘Boeing Bust’ and heavy job losses and population drain in Seattle, Rainie Picardo opened his family’s farm to community members for gardening. A University of Washington student, Darlyn Rundberg Del Boca, worked with a city council member to get the city to lease the land on Picardo’s farm. The program initially worked with a local elementary school to teach children about growing food and donate the resulting produce to Neighbors in Need, a food-banking program. In addition to helping those in need, the children and their families were offered smaller 8-foot by 8-foot plots that surrounded the larger plots in the center of the garden.

In that same year, the city purchased this original P-Patch garden, for $75,000. “Through the efforts of City Councilman John Miller and Mayor Wes Uhlman, the city authorized a community gardening program to promote recreation and open space. The program was adopted by the Department of Human Resources and community gardens were offered throughout the city, united as the P-Patch Program” (Seattle Department of Neighborhoods online - History of the P-Patch Program).

Results- The P-Patch Program is now housed in the city’s Department of Neighborhoods and receives additional support from a non-profit advisory organization called The P-Patch Trust. The Trust attempts to purchase or get deeded land, so gardens can remain permanent fixtures for generations. The Trust owns 5 permanent community gardening sites. Government support for community gardening has been maintained and the city’s most recent comprehensive plan “Toward a Sustainable Seattle”, “includes the goal of one community garden per 2,500 households” and gardens are represented on planning maps to ensure their consideration when development plans are being made (Lawson 247). Currently, the P-Patch program serves all the citizens of Seattle, offers 2500 plots
and engages 6000 urban gardeners on 23 acres of land (Seattle Department of Neighborhoods online- P-Patch Community Gardens). See Map 3.9.3 below for P-Patch locations throughout the city.
Map 3.9.3- Seattle P-Patch locations

Source: Google maps
Case Study Research Findings:

The data collected in this chapter is meant to give an overview of the conditions of the communities within which each of the programs got its start. The primary issues that each program sought to address, such as lack of fresh produce, economic opportunity, or environmental degradation are also outlined, as well as the goals and current standing of each program. All the programs studied sought to provide nutritional food and/or an educational experience to populations in need. The community problems most frequently addressed by the programs were:

- Little or no presence of grocery stores selling fresh produce left residents with little access to nutritional foods (food deserts)

- Vacant, blighted, or polluted land that was reducing property values and the appeal of neighborhoods.

- A large or increasing immigrant population that needed a place to socialize and pass on cultural and culinary traditions.

- Decreasing population and increasing poverty rates.

Most of the programs studied are in the eastern half of the country, in either New England or in the declining Midwestern Rust Belt. Only two programs, the Seattle P-Patch and the Garden Project in San Francisco are on the west coast. Many of the programs, particularly those on the east coast or in the Midwest, dealt with the blowback from depopulating inner cities and increased wealth and population in the surrounding suburbs. In fact, many of the programs service areas that have a lower median income, fewer people, and a higher unemployment rate than the surrounding county or region. The programs studied were initiated in one of two ways, either by a single person or small group of people who saw a need in their communities for such a program or as an extension of an existing program or organization.
Community Demographic Observations

The following observations are based on community demographics collected in order to develop the typologies by which the communities and programs are compared (See Table 3.0.1). The program comparisons within these typologies will be presented in the Best Practices Matrix (Chapter 4).
Table 3.0.1- Community Social and Economic Statistics

Community Demographic Statistics

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>National rate (where applicable)</td>
<td>Nation</td>
<td>301,621,159</td>
<td>281,421,906</td>
<td>75.6% White 12.7% Black 15.1% Hispanic</td>
<td>13%</td>
<td>4.63%</td>
<td>Violent: 466.9 Property: 3,263.5</td>
<td>$50,740</td>
</tr>
<tr>
<td>US MSA's Average rate</td>
<td>National MSA's</td>
<td>225,981,679</td>
<td>225,981,679</td>
<td>73.2% White 12.7% Black 4.7% Asian</td>
<td>12.7%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Milwaukee, WI</td>
<td>Milwaukee County</td>
<td>951,252</td>
<td>940,164</td>
<td>62.9% White 26.1% Black 11.6% Hispanic</td>
<td>17.80%</td>
<td>5.40%</td>
<td>3892.1</td>
<td>Violent: 1,403.3 Property: 6,667.2</td>
</tr>
<tr>
<td>Philadelphia, PA</td>
<td>Philadelphia County</td>
<td>1,449,634</td>
<td>1,517,550</td>
<td>43.7% White 44.3% Black 10.7% Hispanic</td>
<td>23.80%</td>
<td>6.30%</td>
<td>11233.6</td>
<td>Violent: 1,475.4 Property: 4,304.7</td>
</tr>
<tr>
<td>Providence, RI</td>
<td>Providence County</td>
<td>629,435</td>
<td>621,602</td>
<td>77.2% White 8.4% Black 18.4% Hispanic</td>
<td>16%</td>
<td>4.80%</td>
<td>1504.1</td>
<td>Violent: 560.1 Property: 4,756.0</td>
</tr>
<tr>
<td>Boston, MA</td>
<td>Suffolk County</td>
<td>713,049</td>
<td>689,807</td>
<td>60.5% White 21.0% Black 17.7% Hispanic</td>
<td>19.7</td>
<td>5.40%</td>
<td>11788.4</td>
<td>Violent: 1,155.2 Property: 4,152.9</td>
</tr>
<tr>
<td>Holyoke, MA</td>
<td>Holyoke city</td>
<td>38,993</td>
<td>39,838</td>
<td>50.4% White 2.6% Black 45.8% Hispanic</td>
<td>31%</td>
<td>6.70%</td>
<td>1871.4</td>
<td>Violent: 1,249.7 Property: 5,539.5</td>
</tr>
<tr>
<td>Cuyahoga Co., OH</td>
<td>Cuyahoga County</td>
<td>1,295,958</td>
<td>1,393,978</td>
<td>63.4% White 28.7% Black 4.1% Hispanic</td>
<td>15.50%</td>
<td>5.60%</td>
<td>3040.4</td>
<td>Violent: 1,464.9 Property: 6,141.6</td>
</tr>
<tr>
<td>Chicago/Cabrini Green, IL</td>
<td>Chicago city</td>
<td>2,737,996</td>
<td>2,896,016</td>
<td>37.6% White 35.5% Black 28.2% Hispanic</td>
<td>20.50%</td>
<td>6%</td>
<td>12750.3</td>
<td>Violent: 1,178.7 Property: 4,471.6</td>
</tr>
<tr>
<td>Seattle, WA</td>
<td>Seattle city</td>
<td>577,231</td>
<td>563,374</td>
<td>74.5% White 7.4% Black 6.2% Hispanic 14.6% Asian</td>
<td>13.10%</td>
<td>3.80%</td>
<td>6717</td>
<td>Violent: 626.7 Property: 5,804.0</td>
</tr>
<tr>
<td>San Francisco (based on population served)</td>
<td>SF County prison population</td>
<td>55,000 per year</td>
<td>20% White 54% Black 21% Hispanic 4% Asian</td>
<td>13.10%</td>
<td>3.80%</td>
<td>6717</td>
<td>Violent: 626.7 Property: 5,804.0</td>
<td>$57,849</td>
</tr>
</tbody>
</table>

* Estimate based on American Community Survey
^ per 100,000 inhabitants, Bureau of Justice Statistics- http://bjsdata.ojp.usdoj.gov/dataonline/
Eight indicators were looked at for each of the program communities- 2007 population, 2000 Census population, racial composition, poverty rate, unemployment rate, density (persons per sq. mile), 2007 crime rate, and median income.

Three programs have a service area of over a million people, most were racially homogenous, and all the communities had poverty, unemployment, and crime rates that were above that of the national average and median household incomes that were below the national average. It is clear that the urban agriculture/community gardening programs developed out of a need for help in somewhat distressed communities.

**Conclusion**

Based on the demographic statistics and the case study research, it appears that many of the communities were suffering from a disproportionate amount of poverty and racial segregation than the areas surrounding them. They had also seen a decrease in population over the decades since the 1970’s or an increase in recent immigrant populations. Population decline combined with low median income of the residents made these communities easy prey for industries that polluted the land and once gone, left degraded land known as brownfields.

A few of the programs were started to help clean up and make use of these lots. Many of the programs were started to address the issue of food deserts or areas where residents lack access to traditional grocery stores supplying fresh produce because too many stores have had to close due to the high costs of security and maintenance. The needs addressed by the programs are multi-faceted and have been tailored to the problems of each individual community. And although these communities may appear similar when compared against the national average, when compared to each other, the differences begin to emerge. For instance, some communities are large, some small; some have gained population over the past several years, some have lost; some have populations that are mixed in both income and race, some are not. The diversity of communities proves that successful urban agriculture and community gardening programs are not delimited to a specific community type.

The next chapter further details each program and the ways in which they operate.
Chapter 4: Program Details and Analysis: The Operational and Best Practices Matrices

Operational Matrix-

In order to analyze the everyday functions, activities, and operational organization of the programs in this study, an operational matrix (Table 4.1) was developed to give more detail to the case study research in the previous chapter. The matrix is split into three functional categories—Targeted Population and Activities; Functional Organization; and Partnerships and Supports. For each program, in each of these three categories, a set of questions were sought to be answered regarding operational characteristics that give greater insight into the differences and similarities of the programs across these functional categories.

The Targeted Population and Activities category seeks to answer what location(s) are the programs targeting, who the primary participants are, and what primary activities are the programs focusing on.

Functional Organization explores a program’s leadership and structural organizations, in other words, how they function and who is given control of the short-term and long-term priorities, maintenance, and activities. A focus is placed on understanding whether the program emphasizes a top-down or bottom-up organizational structure in both their administrative and leadership functions, as well as on the program sites themselves (farms, gardens, schools, etc.) The land rights of the program are also explored in this category because depending on the type of land rights, different organizational structures may arise.

The Partnerships and Supports category looks at what types of collaboration has occurred within each program and from what type of institution. Collaboration with other non-profits, educational or research institutions, and government entities can be anything from financial support to educational materials. A program’s primary sources of financial supports, or how they are funded, are also included in this category.
<table>
<thead>
<tr>
<th>Program Name</th>
<th>Location/Size</th>
<th>Population Served</th>
<th>Primary Activities</th>
<th>Educational Outreach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groening Power- Milwaukee</td>
<td>40 acre site in Heartland, WI</td>
<td>Mostly youth from surrounding area, but training programs reach out to young and old from all over the country.</td>
<td>Hands-on training, on-the-ground demonstration, outreach and technical assistance through the development of Community Food Systems that help people grow, process, market and distribute food in a sustainable manner.*</td>
<td>Milwaukee Youth Corps program partners with Silver Spring Neighborhood Center, as well as Browning Elementary. Students ranging in age from 10-16 come to either the Growing Power farm or SSNC for weekly after school sessions where they are trained in sustainable urban food systems (Aquaponics, Vermiculture, Sprouts Systems), taught how to install an urban prairie or community garden, and how to cook nutritious food using fresh local ingredients.</td>
</tr>
<tr>
<td>Philadelphia Green</td>
<td>Throughout city of Philadelphia</td>
<td>People of all ages and income levels participate; mostly people from neighborhood in which clean-up or greening is taking place.</td>
<td>Community greening projects focus on cleaning and using vacant land, revitalizing parks and public spaces, and blight removal. Gardening activities include education and providing some materials and resources to aid in the starting and maintenance of community gardens and public spaces.</td>
<td>The resulting produce is distributed to food pantries. RI also teaches nutrition education and starting gardens.</td>
</tr>
<tr>
<td>Garden Projects- San Francisco</td>
<td>One farm is located on the property of San Francisco County Jail. A garden outside the prison, as well as a youth planting program, for once-prisoners are released.</td>
<td>Prison population - while incarcerated and once released.</td>
<td>Rehabilitation through gardening, education, and training programs reach out to young and old from all over the country.</td>
<td>Since participation is limited to a select group of people, most outreach takes place on site and is mostly in the form of hands-on experience and creating a therapeutic and positive environment that benefits the participants by helping them to get involved with a healthy and productive activity.</td>
</tr>
<tr>
<td>Southside Community Land Trust- Providence, RI</td>
<td>A 50-acre farm in nearby Division</td>
<td>Youth and adults</td>
<td>Teaching people how to grow food; Education on sustainable agricultural techniques; public workshops, garden demonstration sites, and in-field mentoring with growers.</td>
<td>Hands-on agricultural and environmental education through out-of-school-time programming for children and teens, teaching people how to grow food, and using vacant land, revitalizing parks and public spaces, and blight removal. Gardening activities include education and providing some materials and resources to aid in the starting and maintenance of community gardens and public spaces.</td>
</tr>
<tr>
<td>The Food Project- Boston</td>
<td>Boston (4 sites, including 1 Rooftop garden), Lincoln (31 acre farm), Lynn (1 acre farm), and Beverly (2 acre farm), MA.</td>
<td>Youth and adults</td>
<td>Growing produce on 1 acre lot in Lincoln and several smaller sites throughout Boston; help urban gardeners remediate lead contaminated soil; serve as a resource center for capacity building for individuals and organizations.</td>
<td>Mostly running educational sessions and lessons on site at farms. Youth volunteer program gives children and teens leadership skills and teaches them about cultivating the land.</td>
</tr>
<tr>
<td>City Farm- Chicago</td>
<td>Cabrini Green neighborhood</td>
<td>Target participants are those who live in and around the Cabrini Green neighborhood, however, volunteers come from all throughout the Chicago area.</td>
<td>Growing produce on 1 acre lot; host annual Harvest Dinner; $50 a person to raise money; off-site market stand.</td>
<td>Educate neighborhood residents and volunteers through on-site hands on work.</td>
</tr>
<tr>
<td>OSU Extension Community Gardening- Cuyahoga County</td>
<td>Entire Cuyahoga county</td>
<td>Programs are available for youth and adults</td>
<td>Teach residents how to start gardens; provide educational materials and some staff to projects.</td>
<td>Other members serve as teachers for younger members to pass on cultural traditions in agriculture. Workshops are generally in subject areas of Health and Organic Gardening practices, and field trips destinations have ranged from the New York Botanical Gardens to local farms.</td>
</tr>
<tr>
<td>R-Patch- Seattle</td>
<td>Throughout entire city of Seattle</td>
<td>Youth, low income people and immigrants; however, many plots are open to all.</td>
<td>Run 70 community gardens around the city; community gardening, market gardening, and programming and advocacy surrounding community food security.</td>
<td>“Youth program: Cultivating Youth, teaches hands-on nutrition and gardening classes through their Nutrition Education Program at West Seattle Elementary and a variety of after school locations each week.&quot; Through the Cultivating Communities program, Dept. of Neighborhoods provides staff to work with low income residents to develop and manage gardens that provide produce for the Market Garden program as well as income for its participants.</td>
</tr>
<tr>
<td>Program Organization</td>
<td>Leadership Structure</td>
<td>Land Rights</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------</td>
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<td></td>
</tr>
<tr>
<td>1. Growing Power - Milwaukee</td>
<td>Multiple upper level leaders, with one primary leader. Will Allen is CEO and founder of program. 2 co-directors and 3 employees (office manager, financial manager, additional paid staff) are directly under Mr. Allen.</td>
<td>Top down structure. The Marketing Manager and Facilities Manager of each site report to the co-directors and the volunteers report to the Facilities Manager. * 2 acre farm in Milwaukee was purchased in 1993 by Will Allen, founder of Growing Power. * 5 acre plot leased from City of Milwaukee for Maple Tree School and Community Garden program.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Philadelphia Green</td>
<td>Run through the Philadelphia Horticulture Society, which has 40 plus member Board of Directors.</td>
<td>Philadelphia Green receives contracts from the city to revitalize vacant and blighted lots; community gardens are often started on plots from the city's land bank, however the organization working to make gardens permanent is the Neighborhood Garden Association (with which PG works to identify prominent gardens); PG also has a program, Keystone Gardens Project, to assist large scale farms and gardens that have a high profile and * that occupy a special place in the city's community-gardening history.*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Garden Project - San Francisco</td>
<td>Single person leadership - Katherine Sneed is executive director and founder of program.</td>
<td>Farm manager and supervisor are in charge of activities. * Apprentices (former offenders) perform the daily tasks necessary to maintain the farm and make deliveries under the direction of a supervisor and the farm manager. * Prison plot is part of prison grounds, second lot is leased from baker who owns adjacent property.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Southside Community Land Trust - Providence, RI</td>
<td>Extensive Leadership organization - Board of Trustees, Executive Committee, Administrative staff, and site managers.</td>
<td>Top Down structure - 40 year round full time staff. Each farm has site supervisor, who supervises the workings of the farm and the Crew Leaders (usually college age), who are assisted by Assistant Crew Leaders (usually from summer youth program); both Crew Leaders and Asst. Crew Leader are in charge of 10 crew members (youth or students who are paid). Leased.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. The Food Project - Boston</td>
<td>Extensive Leadership organization - Board of Trustees, Executive Committee, Administrative staff, and site managers.</td>
<td>Community gardens are managed and run by members and even the majority of the board of directors are former or current members - very grassroots, ground up approach. Nuestras Raices owns land</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Nuestras Raices - Holyoke, MA</td>
<td>Extensive Leadership organization - Board of Trustees, Executive Committee, Administrative staff, and site managers.</td>
<td>The staff also includes an assistant director, and economic development director, and three others who manage the farms and fiscal matters. A 7 person board also provides guidance. Along with Mr. Wilson, some paid residents from the surrounding neighborhood, as well as volunteers from throughout Chicago run the farm and organize produce sales. Leased.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. City Farm - Chicago</td>
<td>Single Person leadership - Tim Wilson runs the farm and manages the site.</td>
<td>The Horticulture/Urban Gardening/Master Gardner department is one of five that is run by the OSU Extension Cuyahoga County. Michael Loos is head educator and along with 2 program assistants, one program coordinator, and an office assistant, coordinate the programs and activities of the extension. Program is focused primarily on education, so gardens themselves are typically run by participants. OSUE has a Master Gardener program that is an intensive training program for those interested in volunteering in their communities to teach others about horticulture and gardening.Uses plots from city that have been land banked (usually confiscated property due to delinquent taxes or vacancy that are sold at low rate) &quot;Urban Garden Districts&quot; were approved by zoning board Dec. 2007. Added layer of protection/ permanentcy to gardening in the city</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. OSU Extension Community Gardening - Cuyahoga County</td>
<td>The Horticulture/Urban Gardening/Master Gardner department is one of five that is run by the OSU Extension Cuyahoga County. Michael Loos is head educator and along with 2 program assistants, one program coordinator, and an office assistant, coordinate the programs and activities of the extension.</td>
<td>All P-Patch gardens are run by the members themselves who are required to contribute a certain number of hours per week or month. Members break up into teams to help coordinate the cleanliness and order of the garden, as well as activities. * &quot;Gardens like you volunteer to team up and coordinate the tasks and activities that keep your garden running smoothly. This leadership group organizes work parties, watches over the site and coordinates with Program staff and P-Patch Trust.&quot; P-Patch Trust owns 5 gardens outright and the city has set aside or leased the rest for use by the program, with many gardens mapped into the most recent comprehensive plan.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. P-Patch - Seattle</td>
<td>Program is overseen by Department of Neighborhoods; SuS' Chin is Manager of P-Patch Community Gardens and reports to a Deputy director who reports to the Department of Neighborhoods director.</td>
<td>Program is overseen by Department of Neighborhoods; SuS' Chin is Manager of P-Patch Community Gardens and reports to a Deputy director who reports to the Department of Neighborhoods director. All P-Patch gardens are run by the members themselves who are required to contribute a certain number of hours per week or month. Members break up into teams to help coordinate the cleanliness and order of the garden, as well as activities. * &quot;Gardens like you volunteer to team up and coordinate the tasks and activities that keep your garden running smoothly. This leadership group organizes work parties, watches over the site and coordinates with Program staff and P-Patch Trust.&quot; P-Patch Trust owns 5 gardens outright and the city has set aside or leased the rest for use by the program, with many gardens mapped into the most recent comprehensive plan.</td>
<td></td>
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</tr>
<tr>
<td>Program Name</td>
<td>Partnerships with Other Non-Profits</td>
<td>Institutional Support</td>
<td>Financial Support</td>
<td></td>
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<tr>
<td>--------------</td>
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<td></td>
</tr>
<tr>
<td>1. Growing Power- Milwaukee</td>
<td>Has collaborated with schools, churches, community groups, providing training and materials to help these groups start gardens.</td>
<td>Student volunteers from the following schools: University of Milwaukee, Marquette University, UW-Milwaukee, and Marquette University, helped to install 1000 ft. of raised garden beds.</td>
<td>Has leased land from the city for 20 years for the Melanie Tree School and Community Garden. Funding received from 4 major sources: Grants, fee-for-service programs (50% of budget), product sales, and contributions.</td>
<td></td>
</tr>
<tr>
<td>2. Philadelphia Green</td>
<td>Works with a large number of community partners such as non-profits and community development organizations to carry out its work. There are too many to list, but cooperation with public and private entities is clearly evident. Some partners include- SHARE, The Urban Nutrition Initiative, Greater Philadelphia Coalition Against Hunger, the New Kensington Community Development Corporations, and the Norris Square Neighborhood Project.</td>
<td>In early years, collaboration between PG and the Penn State Urban Garden program resulted in a strong urban gardening presence in the 1980s through the 1990s. Wharton School did a real estate study correlating greening efforts of PG in the New Kensington neighborhood to a rise in real estate values.</td>
<td>The city of Philadelphia contracts PG to manage vacant land as part of its Neighborhood Transformation Initiative. PG also partners with the city’s Department of Recreation to clean, beautify, and maintain more than 70 neighborhood parks.</td>
<td></td>
</tr>
<tr>
<td>3. Garden Project- San Francisco</td>
<td>Partners with several non-profits, including the Cambodian and Hmong associations of Providence; Citywide Green-an advocacy group for the city’s parks and public spaces; and Amos House-which provides services to homeless or transitional residents.</td>
<td>Providence College Feinstein Institute for Public Service is listed as a partner-SCLT is one of the organizations students can volunteer with.</td>
<td>Gardener fees usually cover the cost of water and compost; however, donations and government grants are major source of funding.</td>
<td></td>
</tr>
<tr>
<td>4. Southside Community Land Trust- Providence, RI</td>
<td>Work with some local schools to teach food cultivation skills. Work with the city on Food Policy; also work with the Boston Area Health Education Center to teach nutrition; Most contact with other non-profits however, comes from being an advisory organization to other non-profits across the US-being a model for success and providing training and education on starting urban ag. programs.</td>
<td>Have a working relationship with Wellesley IF remediation soil and administration of EPA grant.</td>
<td>Most through individual donors: 12-14% from the sale of produce; some grants-try not to use government grants because there are too many restrictions on how the money should be used. Also have about 330 members of CSA plus 50 winter members that pay for monthly pick up of produce.</td>
<td></td>
</tr>
<tr>
<td>5. The Food Project- Boston</td>
<td>The ROOTSUP program also partners with New England Farm Workers Council and Co-Op Power; They have also partnered with several schools to start youth gardens and provide educational opportunities for students; have partners with Holyoke Youth Task Force, Alternatives for Community &amp; Environment (ACE) and The Farm School, among others.</td>
<td>Work with evaluation consultant from UMass Extension.</td>
<td>Leases tend to City Farm, with guarantees that a plot will be available for farming, even if current plot is somehow developed.</td>
<td></td>
</tr>
<tr>
<td>6. Nuestra Raices- Holyoke, MA</td>
<td>Work with many non-profits and community groups to train gardeners, advocate for urban garden district zoning, and public health.</td>
<td>Nuestra Raices has recently partnered with the Department of Youth Services and the Holyoke Mayor’s Office to train youth in “green jobs” such as solar hot water systems installation, energy audits and efficiency, sustainable landscaping and agriculture in a program known as the ROOTSUP Green Jobs program.</td>
<td>$45,000 in Produce Sales (80% to Restaurants and 20% to CSA and market stand) and $12,500 in RecycledFreeway Sales.</td>
<td></td>
</tr>
<tr>
<td>7. City Farm- Chicago</td>
<td>Work with many non-profits and community groups to train gardeners, advocate for urban garden district zoning, and public health.</td>
<td>“High government involvement; since purpose of extension is to educate, they are able to accommodate more when they partner with other organizations. STEPS program and City Fresh programs are both collaborative efforts between the City’s Department of Public Health and OSUE. OSUE also manages the city’s Spring启动 program, designed to teach elementary students gardening basics.</td>
<td>Federal government funds extension programs through land grant universities as a means of educating the general populace.</td>
<td></td>
</tr>
<tr>
<td>8. OSU Extension Community Gardening- Coshocton County</td>
<td>Primary cooperative institution is the city; additional institutional supports are not very evident or consequential. While the program was not always a part of a city department, from early on in the program, the city has been a partner of the program mostly through providing land and funds.</td>
<td>P-Patch Trust raises money for and directly funds the following P-Patch programs: Cultivating Communities, Lettuce Link and the Gardenership Fund. It also writes grants and raises money for acquiring land. Through its matching funds program, the city also contributes a matching amount to any money raised by neighborhood organizations, such as the P-Patch Trust. To help neighborhood organizations, several gardens in housing projects are funded in part by the city, the Seattle Housing Authority, and the P-Patch Trust.</td>
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</tbody>
</table>
The characteristics gleaned from the operational matrix will be used along with demographic and socioeconomic statistics of each program location, to develop the best practices matrix.

*Observations from the Operational Matrix*

Although the operational matrix presents the functional features of the nine programs in detail, the following attempts to summarize the key findings and similarities of the programs across categories.

**Targeted Population & Activities**

The selected case studies all varied in terms of the size of the locations they service. One thing that all programs have in common, no matter what size or spread of locations throughout a vicinity, is that surrounding communities and people other than the targeted participants of each program benefited by having access to produce. The methods by which produce is distributed differed among each program, but whether through a community supported agriculture program, a store on the site itself that sold produce, selling to local restaurants, or donating to food banks, the people living in and around the farms and gardens still benefited even if they were not direct participants in the program. Beyond food, many programs attract volunteers from outside the original target population. For instance, the City Farm program of Chicago meant to target the people of Cabrini Green for work and food production, but volunteers now come from all over Chicago to learn and lend a hand.

As was expected, most programs focus on education pertaining to horticulture and nutrition. For programs that have a large farm or garden, training sessions and education took place on site. Only two programs, the OSU Extension Cuyahoga County and Philadelphia Green, did not have a specific site where they taught with regularity. In these cases, program representatives (employees or volunteers) go to schools or connect with neighborhoods and citizens to clean, plant, and maintain sites throughout their respective areas. Many of the programs have partnerships with local schools to work with children, on the farm or at the school, to teach basic growing techniques.
Functional Organization

The case studies’ leadership structure and organization on-site were examined based on whether they conformed to a more traditional top-down structure or a more participatory, bottom-up structure. Most of the programs have either a top-down, stratified leadership structure that include an executive board or board of directors, as well as a stratified managerial or administrative staff, or a strong-leader leadership structure, where either the founder or executive director serve as a central guiding force for the goals and activities of the program. Eight out of nine of the programs have leadership structures that fall into either the top-down or strong-leader types. Only one program subscribes to the bottom-up or participatory method of leadership.

There does not seem to be any correlation between the type of leadership structure and the way the farm/garden/site is run. Five programs have a more bottom-up on site structure, while four programs lean more toward a top-down structure with managers on site to supervise and direct activities, volunteers, and participants. Oddly enough, organizations with top-down or strong-leader leadership structures are still able to have bottom-up or member-run sites. The stratified organization needed at the administrative level does not necessarily translate into a top-down structure on the farm or garden site.

The majority of the programs in this study are either leasing or outright own the land upon which they are farming. Many employ a combination of leasing some plots and owning others. Some programs have formed relationships with the cities or counties within which they are working to lease or use plots from the city’s land bank— the vacant plots of land that have not been used or built on and are owned by the city or county. In the case of the Garden Project in San Francisco, the program has a partnership with the county to operate a farm on prison grounds. The problem with leasing land from a group or individual or using land from a land bank is that the owner can decide at some point to stop leasing it, sell it, or simply use it for some other (usually more profitable) function.

The OSU Extension program and The Seattle P-Patch have used their partnerships with local governments to distinguish some of their cultivated lots by having them written into the city’s comprehensive plan or zoning code. In the case of OSU Extension, advocacy on their part combined with good relationships with local politicians led to the
zoning board approving “Urban Garden Districts”, which does not necessarily prevent a
garden from being lost to development, but “makes replacing a garden a public process,
giving neighbors a voice to protect it” (Brady, par. 3). Currently, four such zoned districts
exist, with the hopes of adding more in the future.

Partnerships & Supports

Most of the programs studied are partners with one or more non-profits in their
respective communities. The level and nature of cooperation varied in intensity from one
program to the next with some programs taking full advantage of the benefits of working
with another program and others preferring to run everything on their own, but still
assisting other non-profits by providing produce (food banks) or serve in an advisory
role.

In most cases, a local university provides some measure of support such as
volunteers or funding, but strong support such as running programs together or receiving
funding or personnel was found in only one program, OSU Extension.

Government influence and involvement, in the cases where it exists, is generally
split into two levels- providing funding and land or partnering with organizations to run
educational and training programs. The latter is most likely to be the case in the programs
studied. Programs such as Nuestras Raices and OSU Extension, partner with local
governments to run programs pertaining to youth and in turn receive funding and
resources, creating a mutual benefit to both the local government and the program and
increasing the reach and value of the programs throughout their communities.

The nine programs are all funded variously through combinations of government
grants and contracts, revenue from produce sales, fees for services, and charitable
donations. About half the programs are more reliant on fees for services, produce sales,
and donations than they are on government contracts. In other words, they are more self-
sustaining in that they use their own goods and services to ensure their survival.

The following table (Table 4.2) summarizes which operational features each
program utilizes.
<table>
<thead>
<tr>
<th>Primary Activity</th>
<th>Growing Power</th>
<th>Philadelphia Green</th>
<th>Garden Project</th>
<th>Southside Community Land Trust</th>
<th>The Food Project</th>
<th>Nuestras Raices</th>
<th>City Farm</th>
<th>OSU Extension</th>
<th>P-Patch</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growing/Selling Produce/Gardening</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>9</td>
</tr>
<tr>
<td>Running a Farm(s)/Garden(s)</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>7</td>
</tr>
<tr>
<td>Education/Training (how to start garden)</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>8</td>
</tr>
<tr>
<td><strong>Leadership</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strong leader- single person leadership</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Stratified/Top Down leadership</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
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<td></td>
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</tr>
<tr>
<td>Member driven/ Bottom up leadership</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>On site (farm or garden) Structure</strong></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Member run</td>
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<tr>
<td>Top Down</td>
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<td></td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td><strong>Education Institutional Support</strong></td>
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<td></td>
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</tr>
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<td></td>
<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td><strong>Financial Support</strong></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self sustaining (Fees for services; Revenue from produce sales; Charitable donations)</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Government contracts and grants</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td><strong>Land Rights</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trust/Owned</td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
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<td></td>
<td>4</td>
</tr>
<tr>
<td>Leased</td>
<td>x</td>
<td>x</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Cooperation with city/county to use land</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hands on training at a farm or garden</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>9</td>
</tr>
<tr>
<td>Providing educational materials</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Visiting local schools/ workshops</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td>4</td>
</tr>
<tr>
<td><strong>Government Involvement</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strong (Running programs together)</td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>5</td>
</tr>
<tr>
<td>Medium (grants, lease land)</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>2</td>
</tr>
<tr>
<td>None</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td><strong>Partnerships with Other Non Profits</strong></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strong (Running programs together)</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Medium</td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>None</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>
The Best Practices Matrix (Table 4.3) categorizes the various options in operational features, while taking into consideration the unique demographic and socioeconomic characteristics of the program communities. The Best Practices Matrix draws from the case study research as well as the operational matrix and gives the rate at which operational features were used amongst the nine programs studied.

The typologies are split into two categories—demographic and community issues. The demographic category is based on census and community statistics for the statistical area that is serviced by the program (city or county). Community issues were identified from the case study research as problems the programs attempted to address. (See Figure 4.1)

Population, racial homogeneity, poverty rate, unemployment rate, density, crime rate, and median income are included in the demographic category and population loss, large or increasing immigrant population, environmental degradation/brownfields, and food deserts are in the community issues category.

Statistics for each program location were given in Chapter 3 (see Table 3.0.1). One program, The Garden Project in San Francisco, could not be easily placed into many of the typologies because unlike the other programs, it focuses on one specific population group, prisoners in the county’s jail. Comparison with the other programs is not always possible, since all other programs serve broader populations within cities or counties that have demographic statistics available for analysis.
Figure 4.1- Explanation of Best Practices Matrix

Demographic Typologies:
Based on community statistics for the city or county serviced by each program.

<table>
<thead>
<tr>
<th>Features</th>
<th>Demographic Population</th>
<th>Community Issues Population change 2000 to 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt; 1,000,000</td>
<td>&gt; 1,000,000</td>
</tr>
<tr>
<td>Total Number of programs</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Primary Activity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Growing/Selling Produce/Gardening</td>
<td>6 (1.00)</td>
<td>3 (1.00)</td>
</tr>
<tr>
<td>Running a Farm(s)/Garden(s)</td>
<td>6 (1.00)</td>
<td>1 (0.33)</td>
</tr>
<tr>
<td>Education/Training (how to start garden)</td>
<td>6 (1.00)</td>
<td>2 (0.66)</td>
</tr>
<tr>
<td>Leadership</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strong leader- single person leadership</td>
<td>2 (0.33)</td>
<td>1 (0.33)</td>
</tr>
<tr>
<td>Stratified/Top Down leadership</td>
<td>3 (0.50)</td>
<td>2 (0.66)</td>
</tr>
<tr>
<td>Member driven/ Bottom up leadership</td>
<td>1 (0.15)</td>
<td>1 (0.33)</td>
</tr>
<tr>
<td>On site (farm or garden) Structure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Member run</td>
<td>3 (0.50)</td>
<td>2 (0.66)</td>
</tr>
<tr>
<td>Top Down</td>
<td>3 (0.50)</td>
<td>1 (0.33)</td>
</tr>
</tbody>
</table>

Number of programs that correspond to typology.

Community Issues Typologies:
Drawn from case study research; identified as problems addressed by several programs.

| Primary Activity          |                    |                          | 4 | 4 |
|---------------------------|--------------------|--------------------------|   |   |
| Growing/Selling Produce/Gardening | 4 (1.00)  | 4 (1.00) |      |      |
| Running a Farm(s)/Garden(s) | 2 (0.50)   | 4 (1.00) |      |      |
| Education/Training (how to start garden) | 3 (0.75) | 4 (1.00) |      |      |
| Leadership                |                    |                          |   |   |
| Strong leader- single person leadership | 1 (0.25) | 1 (0.25) |      |      |
| Stratified/Top Down leadership | 2 (0.50) | 3 (0.75) |      |      |
| Member driven/ Bottom up leadership | 1 (0.25) | 1 (0.25) |      |      |
| On site (farm or garden) Structure |         |                    |      |      |
| Member run                | 3 (0.75) | 2 (0.50) |      |      |
| Top Down                  | 1 (0.25) | 2 (0.50) |      |      |

Operational Features:
Drawn from operational matrix.

Source: Author
### Table 4.3: Best Practices Matrix

**Demographic**

<table>
<thead>
<tr>
<th>Community Size</th>
<th>Population</th>
<th>Racially Homogenous</th>
<th>Poverty Rate</th>
<th>Unemployment Rate</th>
<th>Density</th>
<th>Median Income</th>
<th>Crime Rate (per 100,000 inhabitants)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 1,000,000</td>
<td>9 (1.00)</td>
<td>6 (1.00)</td>
<td>5 (1.00)</td>
<td>7 (1.00)</td>
<td>2 (1.00)</td>
<td>4 (1.00)</td>
<td>0.00 (1.00)</td>
</tr>
<tr>
<td>&gt; 1,000,000</td>
<td>6 (1.00)</td>
<td>5 (1.00)</td>
<td>7 (1.00)</td>
<td>2 (1.00)</td>
<td>4 (1.00)</td>
<td>0.00 (1.00)</td>
<td>0.00 (1.00)</td>
</tr>
</tbody>
</table>

**Features**

### Primary Activity

<table>
<thead>
<tr>
<th>Activity</th>
<th>Count (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selling Produce/Gardening</td>
<td>9 (1.00)</td>
</tr>
<tr>
<td>Running a Farm(s)/Garden(s)</td>
<td>6 (1.00)</td>
</tr>
<tr>
<td>Education/Training (how to start)</td>
<td>7 (1.00)</td>
</tr>
</tbody>
</table>

### Leadership

<table>
<thead>
<tr>
<th>Leadership Type</th>
<th>Count (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong leader - single person</td>
<td>5 (1.00)</td>
</tr>
<tr>
<td>Stratified/Top Down leadership</td>
<td>2 (1.00)</td>
</tr>
<tr>
<td>Member driven/Bottom up leadership</td>
<td>1 (1.00)</td>
</tr>
</tbody>
</table>

### On site (farm or garden) Structure

<table>
<thead>
<tr>
<th>Structure Type</th>
<th>Count (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Member run</td>
<td>6 (1.00)</td>
</tr>
<tr>
<td>Top Down</td>
<td>4 (1.00)</td>
</tr>
</tbody>
</table>

### Education Instutional Support

<table>
<thead>
<tr>
<th>Type</th>
<th>Count (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational materials</td>
<td>7 (1.00)</td>
</tr>
<tr>
<td>Visiting local schools/workshops</td>
<td>2 (1.00)</td>
</tr>
</tbody>
</table>

### Financial Support

<table>
<thead>
<tr>
<th>Type</th>
<th>Count (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self sustaining Revenue from sales</td>
<td>6 (1.00)</td>
</tr>
<tr>
<td>Grant/loan/lease</td>
<td>7 (1.00)</td>
</tr>
</tbody>
</table>

### Land Rights

<table>
<thead>
<tr>
<th>Type</th>
<th>Count (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trust/Owned</td>
<td>9 (1.00)</td>
</tr>
<tr>
<td>Leased</td>
<td>4 (1.00)</td>
</tr>
</tbody>
</table>

### Government Involvement

<table>
<thead>
<tr>
<th>Type</th>
<th>Count (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong (Running programs together)</td>
<td>7 (1.00)</td>
</tr>
<tr>
<td>Medium (grants, lease land)</td>
<td>7 (1.00)</td>
</tr>
</tbody>
</table>

### Partnerships with Other Non Profits

<table>
<thead>
<tr>
<th>Type</th>
<th>Count (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong (Running programs together)</td>
<td>7 (1.00)</td>
</tr>
<tr>
<td>Medium</td>
<td>3 (1.00)</td>
</tr>
<tr>
<td>None</td>
<td>1 (1.00)</td>
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</table>

### Total Number of Features

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Total number of significant features</td>
<td>20 (1.00)</td>
</tr>
<tr>
<td>Total number of common features (majority)</td>
<td>75 (1.00)</td>
</tr>
</tbody>
</table>

---

**Community**

<table>
<thead>
<tr>
<th>&lt; 1,000,000</th>
<th>&gt; 1,000,000</th>
<th>Yes</th>
<th>No</th>
<th>&lt; 20%</th>
<th>&gt; 20%</th>
<th>&lt; 5%</th>
<th>&gt; 5%</th>
<th>&lt; 10,000 persons per sq. mi.</th>
<th>&gt; 10,000 persons per sq. mi.</th>
<th>&lt; $45,000</th>
<th>&gt; $45,000</th>
<th>Violent &lt; 1200</th>
<th>Violent &gt; 1200</th>
<th>Property &lt; 5200</th>
<th>Property &gt; 5200</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
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<td>7</td>
<td>6</td>
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<td>16</td>
<td>12</td>
<td>20</td>
<td>4</td>
<td>25</td>
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</tr>
</tbody>
</table>

---

**Crime Rate (per 100,000 inhabitants)**

- Violent < 1200
- Violent > 1200
- Property < 5200
- Property > 5200

**Features**

- Primary Activity
- Leadership
- On site (farm or garden) Structure
- Education Instutional Support
- Financial Support
- Land Rights
- Government Involvement
- Partnerships with Other Non Profits

**Total Number of Features**

- 20
- 75 (majority)

---

**Community**

- < 1,000,000
- > 1,000,000
- Yes
- No
- < 20%
- > 20%
- < 5%
- > 5%
- < 10,000 persons per sq. mi.
- > 10,000 persons per sq. mi.
- < $45,000
- > $45,000
- Violent < 1200
- Violent > 1200
- Property < 5200
- Property > 5200

---

**Crime Rate (per 100,000 inhabitants)**

- Violent < 1200
- Violent > 1200
- Property < 5200
- Property > 5200

---

**Features**

- Primary Activity
- Leadership
- On site (farm or garden) Structure
- Education Instutional Support
- Financial Support
- Land Rights
- Government Involvement
- Partnerships with Other Non Profits

---

**Total Number of Features**

- 20
- 75 (majority)
<table>
<thead>
<tr>
<th>Features</th>
<th>Community Issues</th>
<th>Large or Increasing Immigrant Pop</th>
<th>Environmental Degradation/ Brownfields</th>
<th>Food Deserts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Community</td>
<td>Population change 2000 to 2007</td>
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<td>no</td>
</tr>
<tr>
<td></td>
<td>Typology</td>
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<td>no</td>
</tr>
<tr>
<td></td>
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<td>gain</td>
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</tr>
<tr>
<td>Features</td>
<td>Primary Activity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Growing/Selling Produce/Gardening</td>
<td>4 (1.00)</td>
<td>4 (1.00)</td>
<td>5 (1.00)</td>
</tr>
<tr>
<td></td>
<td>Running a Farm(s)/Garden(s)</td>
<td>2 (0.50)</td>
<td>4 (1.00)</td>
<td>3 (1.00)</td>
</tr>
<tr>
<td></td>
<td>Education/Training (how to start garden)</td>
<td>3 (0.75)</td>
<td>4 (1.00)</td>
<td>4 (1.00)</td>
</tr>
<tr>
<td>Leadership</td>
<td>Strong leader- single person leadership</td>
<td>1 (0.25)</td>
<td>1 (0.25)</td>
<td>1 (0.20)</td>
</tr>
<tr>
<td></td>
<td>Stratified/Top Down leadership</td>
<td>2 (0.50)</td>
<td>3 (0.75)</td>
<td>3 (0.60)</td>
</tr>
<tr>
<td></td>
<td>Member driven/ Bottom up leadership</td>
<td>1 (0.25)</td>
<td>1 (0.20)</td>
<td>1 (0.25)</td>
</tr>
<tr>
<td>On site (farm or garden) Structure</td>
<td>Member run</td>
<td>3 (0.75)</td>
<td>2 (0.50)</td>
<td>3 (0.60)</td>
</tr>
<tr>
<td></td>
<td>Top Down</td>
<td>1 (0.25)</td>
<td>2 (0.50)</td>
<td>2 (0.40)</td>
</tr>
<tr>
<td>Education Institutional Support</td>
<td>yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>strong</td>
<td>1 (0.25)</td>
<td>1 (0.25)</td>
<td>1 (0.20)</td>
</tr>
<tr>
<td></td>
<td>weak</td>
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<td>2 (0.50)</td>
<td>3 (0.60)</td>
</tr>
<tr>
<td></td>
<td>no</td>
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<td>1 (0.20)</td>
<td>1 (0.25)</td>
</tr>
<tr>
<td>Financial Support</td>
<td>Self sustaining (Fees for services; Revenue from produce sales; Charitable donations)</td>
<td>1 (0.25)</td>
<td>4 (1.00)</td>
<td>4 (0.80)</td>
</tr>
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<td></td>
<td>Government contracts and grants</td>
<td>3 (0.75)</td>
<td>1 (0.25)</td>
<td>2 (0.40)</td>
</tr>
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<td>Land Rights</td>
<td>Trust/Owned</td>
<td>1 (0.25)</td>
<td>3 (0.75)</td>
<td>4 (0.80)</td>
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<td></td>
<td>Leased</td>
<td>1 (0.25)</td>
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<td></td>
<td>Cooperation with city/county to use land</td>
<td>2 (0.50)</td>
<td></td>
<td>3 (0.75)</td>
</tr>
<tr>
<td>Education</td>
<td>Hands on training at a farm or garden</td>
<td>4 (1.00)</td>
<td>4 (1.00)</td>
<td>5 (1.00)</td>
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<tr>
<td></td>
<td>Providing educational materials</td>
<td>1 (0.25)</td>
<td></td>
<td>1 (0.25)</td>
</tr>
<tr>
<td></td>
<td>Visiting local schools/ workshops</td>
<td>3 (0.75)</td>
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<td>2 (0.40)</td>
</tr>
<tr>
<td>Government Involvement</td>
<td>Strong (Running programs together)</td>
<td>3 (0.75)</td>
<td>1 (0.25)</td>
<td>2 (0.40)</td>
</tr>
<tr>
<td></td>
<td>Medium (grants, lease land)</td>
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<tr>
<td></td>
<td>None</td>
<td>2 (0.50)</td>
<td>2 (0.40)</td>
<td>2 (0.66)</td>
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<tr>
<td>Partnerships with Other Non Profits</td>
<td>Strong (Running programs together)</td>
<td>3 (0.75)</td>
<td></td>
<td>1 (0.20)</td>
</tr>
<tr>
<td></td>
<td>Medium</td>
<td>4 (1.00)</td>
<td></td>
<td>4 (0.80)</td>
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</tr>
<tr>
<td></td>
<td>Total Number of Significant Features</td>
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<td>4</td>
<td>5</td>
</tr>
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<td>Total number of common features (majority)</td>
<td>7</td>
<td>7</td>
<td>8</td>
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</table>
Observations from the Best Practices Matrix

The programs were split into typologies and then categorized based on what operational features they used. The Best Practices Matrix (Table 4.3) highlights the feature within each category (in pink) that was prevalent amongst the programs that fell into that particular demographic or community issue type. The features highlighted in green are those that were deemed “significant” and were observed in 80% (0.80) or more of the programs within the type.

Two operational features, “Growing/Selling Produce & Gardening” under Primary Activities and “Hands-on Training at a Farm or Garden” under Education, were observed in all the programs in this study. Due to this congruence, the row is highlighted in gray and not included as a significant or common feature when tallying the Total Number of Significant (or Common) Features at the bottom of each typology column. At first glance, programs in two community typologies share a larger number of significant operational features - those in communities where unemployment rates are lower than 5% and those in communities where the poverty rate is lower than 20%.

An interesting pattern emerges after tallying the number of significant (a rate of 0.80 or higher) operational features which programs of similar community typologies share. In every typology, except one, the programs that fell into the left-hand column have more features in common than those on the right. In other words, programs in communities with less population, less racial diversity, lower poverty and unemployment rates, less density, and lower crime rates share more operational features than those that have higher levels of these demographic characteristics. The only exception to this “left-hand” observation was in the Median Income column, where programs in communities with median household incomes greater than $45,000 share more operational features than those that are not. Since communities with lower levels of social and economic challenges have programs that are operated similarly, this may indicate that facing these challenges causes programs to experiment with different types of activities, structures, and collaborations that better suit their individual needs.
In the community issues typologies, programs in communities that have gained population, have a large or increasing immigrant population, and are not food deserts shared more operational features than those that do not have these characteristics.

The following will go through each typology and outline the most popular features (pink and green highlights on best practices matrix) that programs used in each category.

### Population:

**Under 1,000,000 people:**
- All programs run a farm or garden and run educational training programs
- Organizational leadership is stratified/top down.
- Programs have weak support from educational institutions.
- The majority of programs have self-sustaining methods of financial support.
- Strong government involvement is the norm in half.
- A medium level of collaboration with other non profits

**Over 1,000,000 people:**
- Organizational leadership is stratified/top down.
- On-site farm or garden structure is member run.
- Financial support mostly from government contracts and grants.
- Cooperate with city/county to use land.
- Have strong levels of collaboration with other non profits.

### Racially Homogenous:

**Yes:**
- Most or all run a farm or garden and run educational training programs
- Organizational leadership is stratified/top down in most.
- The majority of programs have self-sustaining methods of financial support.
- Most lease the land they use for farming or gardening efforts.
- Strong government involvement is the norm in half.
- The majority of programs have a medium level of collaboration with other non profits.

**No:**
- On-site farm or garden structure is member run
- Weak support from educational institutions.
- Majority of programs receive financial support from government contracts and grants.
- Strong government involvement in most.
- Strong level of collaboration with other non profits.
Poverty Rate:
Less than 20%:
- Most or all run a farm or garden and run educational training programs.
- Organizational leadership is stratified/top down in most.
- On-site farm or garden structure is member run
- The majority of programs have self-sustaining methods of financial support.
- Most have a medium level of collaboration with other non-profits.

Greater than 20%:
- On-site farm or garden structure is member run
- Weak support from educational institutions.
- Most receive financial support from government contracts and grants.
- Strong government involvement in most.
- Most have a strong level of collaboration with other non-profits.

Unemployment Rate:
Less than 5%:
- All programs run a farm or garden and run educational training programs
- Organizational leadership is stratified/top down in all.
- On-site farm or garden structure is top down.
- All have self-sustaining methods of financial support.
- All have medium level of collaboration with other non profits.

Greater than 5%:
- Most run educational or training programs
- Organizational leadership is stratified/top down in half.
- Weak support from educational institutions in half.
- Half of the programs lease the land they use for farming or gardening efforts.
- Government involvement is strong in half.
- Collaboration with other non profits is strong in half.

Density:
Less than 10,000 persons per sq. mile:
- Most or all run a farm or garden and run educational training programs.
- Organizational leadership is stratified/top down in most.
- On-site farm or garden structure is member run in most.
- Most own or have land in a trust.
- Government involvement is strong in majority.
- Majority of programs have medium level of collaboration with other non profits.

Greater than 10,000 persons per sq. mile:
- Organizational leadership is stratified/top down in majority.
- On-site farm or garden structure is member run in majority.
- Majority of programs have self-sustaining methods of financial support.
• Majority lease land used in farming or gardening efforts.

**Median Income:**

**Less than $45,000:**
• All run educational training programs.
• Organizational leadership is stratified/top down in half.
• On-site farm or garden structure is member run in most.
• Most receive financial support from government contracts and grants.
• Government involvement is strong in most.
• Most have strong level of collaboration with other non profits.

**Greater than $45,000:**
• All run a farm or garden.
• Organizational leadership is stratified/top down in most.
• Support from educational institutions is weak in half.
• All have self-sustaining methods of financial support.
• Most lease land.
• No government involvement is present in half.
• Most have medium level of collaboration with other non profits.

**Crime Rate (per 100,000 inhabitants):**

**Violent crime rate less than 1200:**
• Most or all run a farm or garden and run educational training programs.
• Organizational leadership is stratified/top down in majority.
• On-site farm or garden structure is member run in majority.
• Most have self-sustaining methods of financial support.
• Most have leased land.
• Majority of programs have medium level of collaboration with other non profits.

**Violent crime rate greater than 1200:**
• All run educational training programs.
• Organizational leadership is stratified/top down in half.
• On-site farm or garden structure is member run in most.
• Most receive financial support from government contracts and grants.
• Strong government involvement is present in most.
• Most have strong level of collaboration with other non profits.

**Property crime rate less than 5200:**
• Most run a farm or garden and run educational training programs.
• Organizational leadership is stratified/top down in majority.
• On-site farm or garden structure is top down in majority.
• Support from educational institutions is weak in majority.
• Majority of programs have self-sustaining methods of financial support.
• Majority lease land.
Property crime rate greater than 5200:
- All run educational training programs.
- Organizational leadership is stratified/top down in half.
- On-site farm or garden structure is member run.
- Support from educational institutions is strong in half.
- Most receive financial support from government contracts and grants.
- Most own or have land in a trust.
- Most have strong level of government involvement.

Population change 2000 to 2007:
Loss:
- Organizational leadership is stratified/top down in half.
- On-site farm or garden structure is member run.
- Support from educational institutions is strong in half.
- Most receive financial support from government contracts and grants.
- Cooperate with city/county to use land.
- Government involvement is strong.
- Strong level of collaboration with other non-profits.

Gain:
- All run a farm or garden and run educational training programs.
- Organizational leadership is stratified/top down.
- Support from educational institutions is weak in half.
- All have self-sustaining methods of financial support.
- No government involvement in half.
- All have medium level of collaboration with other non-profits.

Large or increasing immigrant population:
Yes:
- All run a farm or garden and run educational training programs.
- Organizational leadership is stratified/top down.
- On-site farm or garden structure is member run.
- Support from educational institutions is weak.
- Most have self-sustaining methods of financial support.
- Most own or have land in trusts.
- Medium level of collaboration with other non-profits.

No:
- Receive financial support from government contracts and grants.
- Cooperate with city/county to use land.
- Strong levels of government support.

Environmental Degradation/ Brownfields:
Yes:
• All run educational training programs.
• Organizational leadership is stratified/top down in all.
• On-site farm or garden structure is member run.
• Support from educational institutions is weak in all.
• Self-sustaining methods of financial support.
• No government involvement in most.
• Medium level of collaboration with other non-profits.

No:
• Most run a farm or garden and run educational training programs.
• Organizational leadership is single person or strong leader based.
• Financial support from government contracts and grants.
• Land is leased.
• Strong level of government involvement.

Food Deserts:
Yes:
• On-site farm or garden structure is top down.
• Support from educational institutions is strong.
• Self-sustaining methods of financial support.
• Land is leased.
• Medium level of government involvement.
• Medium level of collaboration with other non-profits.

No:
• All or most run a farm or garden and run educational training programs.
• Organizational leadership is stratified/top down.
• On-site farm or garden structure is member run.
• Support from educational institutions is weak.
• Financial support from government contracts and grants.
• Land is owned or in trusts.
• Strong level of government involvement.

**Findings**

• Programs in similar typologies that run farms usually tend to also have educational and training programs on farming/horticulture. However, having educational training programs does not necessarily translate into running a farm or garden. This seems natural since education can take place in many locations and does not necessarily require the program to own or operate a farm or garden itself.
• Organizational and administrative leadership is often top down or stratified, while on-site farm or garden structure is more likely to be member run or bottom up, meaning that participants were responsible for the workings and maintenance of site. Organizational leadership structure does not necessarily impact on-site structure. A top-down leadership structure may be preferable to provide the stability necessary for year-to-year continuity and long-term success, while on-site structures can be more flexible.

• Programs in the same community issues typologies are more likely to share similar features. This might mean that the issue(s) tackled by programs play a larger role in determining which features are adopted and which prove successful.

• Over one-third of programs have a single person/strong leader approach to leadership, meaning that staff and administrative personnel report back to a single person who is looked to for guidance in setting goals, fundraising, and many other aspects of the program. This usually is the result of one of the founders continuing to have a strong presence in the organization and administration of the program. Sometimes this even extended to day-to-day farm activities, but the programs in this study have been in existence long enough that activities on-site have been delegated to farm/garden managers or participants.

• Programs with self-sustaining methods of financial support are generally in the “less than” or left hand column of each typology. One possibility for this pattern might be that in communities not suffering from as many economic or social challenges, UA/CG programs have more customers in the immediate and surrounding areas that are willing and able to take advantage of their products and services.

In the community issues typologies, self-sustaining methods of financial support are prevalent among programs that are categorized as facing a particular issue (in the “yes” or “gain” columns). In these cases, the community members’ need for access to fresh, affordable, or uncontaminated produce might create an existing
consumer base to which programs sell their goods and services, reducing reliance on government funding.

**Conclusion**

One purpose of this study was to understand what features these notable urban agriculture/community gardening programs shared. After organizing the information gathered on these nine programs into the operational matrix, several operational characteristics stood out as being more prevalent amongst the programs in this study.

- All programs grow or sell produce and all but one are focused on training or educating members of the community in starting gardens;
- Organizational leadership is top down (stratified or single person), while on-site structure is participant driven or bottom up;
- Educational institutions generally provide some measure of support, but usually in the form of volunteers or some funding;
- Land is usually leased, owned or in a trust;
- All programs provide hands on training at a farm or garden;
- Government involvement is strong, meaning that programs collaborate with local governments to run educational or training programs and usually receive funding from the government for these initiatives;
- Partnerships with other non-profits are neither high nor non-existent, but somewhere in between. Meaning that there is some collaboration on an occasional or one time basis, but not too much long-term collaboration.

Another purpose was to discover what operational features, if any, programs in similar types of communities have in common. The Best Practices Matrix tool was used to determine this and some similar community types emerged as having more common operational features than others:

Communities with less than a 20% poverty rate, an unemployment rate of less than 5%, a density of less than 10,000 persons per square mile, or a violent crime rate of less than 1200 per 100,000 inhabitants tend to have more statistically significant features
 (>80% of programs within the typology utilized this feature) than those in other typologies.

Programs addressing similar community issues also tend to have more statistically significant features in common than those that did not. Common operational features are found at significant levels amongst programs in communities where the population has increased; there is a large or increasing immigrant population; brownfields or polluted land is present; or the phenomena of “food deserts” has left certain portions of the population without access to fresh produce.

It is important to note that common features existed within typologies that, though not above the 80 percent threshold for significance, are still used in a majority of programs within that community type, usually greater than 50 percent (see Best Practices Matrix, those features highlighted in pink). Programs within similar typologies tend to share between 5-7 similar features when using this standard of measurement.

**Land Rights and Permanency Issues**

Urban farms and community gardens straddle the line between private ownership and the commons or land open to the public. Land is owned either by a program or individual, but is farmed by members of the community. Ownership or keeping land in trust for the sole purpose of gardening or farming provides a measure of protection to a UA/CG site from the threat of development. However, as the programs in this study show, ownership of land is not the only method used to ensure that a program is able to continue its activities into the future.

Only four programs have land that is owned outright or have land trusts by which land can be donated to the organization. Programs in communities with lower densities, or less than 10,000 people per square mile, are more likely to own or have land in trusts than programs in any other community typology. This is the result of the availability of land and vacant lots at affordable rates. In fact, many of the programs that own their own farms or gardens, such as Growing Power and Southside Community Land Trust, acquired the land during a period of population and economic decline in their respective cities (Milwaukee and Providence), when land was cheap and often undesirable. Programs in communities with higher densities and higher median incomes are more
likely to lease land, rather than own. This is likely a result of higher property values and less availability of affordable land to purchase.

The nine programs in this study have all been in existence for several years and the issue of garden or farm permanence is one that many still struggle with, however, creative solutions to the permanency issue, beyond simply purchasing plots of land, are a key part of their continued existence and ability to serve their respective communities. While most of the programs lease lots in combination with owning or keeping lots in trust, at least three programs have come to some sort of arrangement or contract with their city or county to use vacant land parcels for agricultural purposes. This strategy creates a partnership, whereby the local government has a vested interest in the activities and success of a program.

Two communities, Seattle and Cleveland, have included community gardens in official documents- the city’s comprehensive plan and the zoning code, respectively. Approval of this nature usually requires that a community recognizes the importance of urban agriculture or community gardening activities and contributes to permanence. Since both political and public forces have come together to advocate for the designation of these areas, greater partnership is fostered between non-profit and political entities, possibly encouraging future collaborative efforts.

All programs focused on hands-on training and education, however, one program made this their primary method of continuity. City Farm in Chicago has an agreement with the city to lease land for farming, but will relinquish the land if and when the city requires it. Their unique model of “mobile” farming ensures that activities can continue beyond one particular plot of land.

Role of Government

Five out of the nine programs have a strong level of government involvement or collaboration with local governments. In this study, a program is considered to have a “strong” level of government involvement if the program and the local government cooperate on running one or more activity together. The collaboration usually creates a mutually beneficial situation where the government finds an existing organization to
provide a needed service to the community and the program benefits from the additional funding and resources provided by the government.

Programs in communities with higher crime rates, lower median incomes, and lower densities are more likely to have a strong level of government support. This may indicate that the higher the level of distress a community is in or the more sparse the population, the more a UA/CG program might seek out the assistance of the local government. However, there are no typologies that test “significant” in this category. One program, The Food Project, chose to remain self-reliant and not accept government assistance in the form of grants, nor partner with them in running programs because of the complexity of obtaining government assistance and complying with the many requirements of government grants. This may indicate the existence of dichotomy in strong government involvement and self-reliance, however the programs with strong involvement do not appear to be burdened by these partnerships.

Some local governments also have a role in setting policies that aided UA/CG programs. Actions such as allowing use of a city’s land banked land for gardening or farming (Philadelphia, Chicago), including urban garden plots in the city’s comprehensive plan (Seattle), or designating urban garden districts in a city’s zoning code (Cleveland), can greatly improve the permanency of an urban farm or garden. Government endorsement of this nature also adds a level of validity to UA/CG programs, officially recognizing the worth of their activities.

Financial Stability

Although no non-profit is completely immune to financial ups and downs, many of the programs in this study have found strategies to ensure their survival financially throughout the years. Most often partnering with a local government, as explained above, ensures greater funds and resources. An equal number of programs are self-reliant on revenue from sales, member fees, fees for services, and charitable donation, as they are reliant on government funding (Seattle P-Patch uses both methods). Financially self-sustaining programs tend to be in communities with higher median incomes, lower crime rates, lower unemployment rates, and a lower poverty rate. In short, they are in communities where there are fewer socioeconomic issues and where the population is
wealthier and perhaps more able to support such programs through CSAs (Community Supported Agriculture) or through fees for membership and services. For communities in higher crime areas or a higher poverty rate, collaborating with the local government or applying for government grants might be a more stable option, than relying on the wealth and financial resources of participants or patrons.
Chapter 5- Findings and Recommendations

The purpose of this study was to identify what, if any, common operational features are shared by notable urban agriculture/community garden programs that have been in existence for over five years. The nine case studies were outlined in terms of their respective community contexts, the social or economic problems they attempted to address, their initiation, and how they stand today. These outlines (Chapter 3 Case Study Research), along with the operational matrix and best practices matrix (Chapter 4), provide the background and detail to analyze each program alone and in comparison to each other.

Although all programs focus on the growing and/or selling of produce and providing hands on training at a farm or garden, the community problems that triggered their formations, the issues they seek to address, and the processes by which they became established in their respective communities differed. These differences were taken into account and a Best Practices Matrix was developed. Future or newly formed programs can use the Best Practices Matrix to determine the most popular operational approaches used, given the typology a community fits into.

Differences in community typologies aside, some common formational strategies were observed that contributed to the long-term success of the programs in this study:

- **Understanding community needs**- Programs in this study generally formed out of a specific community need. Understanding the community’s needs, whether it is environmental, aesthetic, economic, or nutritional, allowed programs to establish the necessity of their presence within a community. Residents and participants place greater value upon the program’s activities when it addresses a specific problem.

- **Establishing core leadership**- whether a program was started by one person, a group of people, or as an extension of an existing program, dedicated leadership was necessary to set goals, obtain grants and funding, and seek relationships with community leaders. In top-down leadership structures, the core leadership may also outline the nature and limits of farm/garden participants in organizational decision-making.
• **Identifying key participants**- Programs sometimes target a particular population for participation. In these cases, farms and gardens are located in areas that are in close proximity to the populations they aim to serve. Participants are involved in meaningful activities that foster ownership of the garden and outreach efforts to others. Meaningful activities imply a level of autonomy and include running educational sessions, maintaining their own garden plot, maintaining a collective space, and taking part in decision-making processes for the program’s goals.

• **Forming alliances**- Case study programs were sometimes approached by government officials to implement and run programs that align with a community’s priorities. Often, program leaders made outreach efforts to cooperate with educational institutions and existing non-profits to build their presence and credibility in a community. Partnerships with local schools (K-12) are often starting points for building a program’s reputation.

   Given the challenges faced when starting and maintaining an urban agriculture/community gardening initiative- justifying urban agriculture within a community, maintaining community interest, obtaining access to land, and gaining public support (see Chapters 1-2), the programs in this study can be considered successes in that they developed and executed strategies to address and overcome these common challenges.

   Broad-based guidelines for successful Urban Agriculture/Community Gardening programs can be formulated based on the nine programs examined in this study. The common operational approaches found within these varied programs provide lessons for future or newly formed UA/CG programs. These lessons should be understood as foundational principles and taken into consideration when developing strategies and goals for the future of the program.

**Key Lessons:**

1) **Validation of principles**

   Urban agriculture or community gardening programs face challenges in their formative years such as gaining the trust of community residents and proving the
worth of their activities. Since UA/CG often addresses and is a solution to issues beyond food cultivation, such as health, nutrition, racial tension, and economic disparities, local governments often support or work with programs for the peripheral benefits in addition to the more obvious benefits such as cleaner neighborhoods and fresh produce for underserved communities. This type of official endorsement by local leaders might lead to feelings of trust or acceptance for the program’s activities from community members, in the way FDA approval on new pharmaceutical drugs is reassuring to consumers. Gaining a community’s trust is important to getting participants and volunteers.

Government support or partnerships creates a mutual benefit to the program and the government. Particularly for programs in lower income or otherwise distressed communities, partnering with the local government can provide funding, personnel, materials, equipment, land, or other necessities that would otherwise be difficult for a newly formed program to obtain. In cities where property values are high and land is not readily available or affordable for agricultural programs to purchase, programs might seek to work with the local government to farm on land in the city’s land bank or on parkland. New programs could also seek opportunities for running educational or training programs for the local government. This might increase a program’s prominence in the community, increasing its chances of getting local or federal grants, or charitable donations.

However, government endorsement might not necessarily be the validation that programs desire, particularly in communities that are distrustful of government or have had negative experiences with government run programs. In these cases, validation might come from word of mouth, involvement in schools, or partnering with other community organizations/non-profits.

2) Permanence of Presence:

Owning the land upon which gardening or farming activities take place is one of the surest ways by which a program can achieve a high level of permanency in a community. Ownership of land is not always possible, especially for a young program that may not have the financial means necessary to purchase land and leasing
agreements may be formed instead. However, program leaders should be vigilant for opportunities to purchase affordable plots, if and when they become available. Many of the programs in this study own the land they farm on because the founder or founders bought land while it was cheap, before real estate development or gentrification increased property values. Land trusts may also be a method of acquiring land for urban agriculture or community gardening, when purchasing is not an option.

Community actions such as inclusion of gardens and farms in zoning code or comprehensive plan increases level of permanence of UA/CG location and emphasizes or validates the importance of the benefits of UA/CG to a community.

Permanence in a community, while often related to the presence of one piece or multiple pieces of land, does not necessarily have to be tied to ownership. In fact most of the programs in this study did not outright own the land on which they farm or garden. A program that reaches many people and excites people may be able to continue without a permanent location. Movements such as the Green Guerillas are based almost as much on spreading ideas, as they are about gardening. As we have seen through City Farm, which prides itself on its mobile farm model, it is the education and training that lasts, even if the farm itself must move to another location.

3) Leveraging existence of related organizations:

This is important at all stages in the development of an UA/CG program. Working with existing organizations will provide resources, connections to community leaders, and may also contribute to validation of principles. Existing organizations may want to partner with an UA/CG program, if they are working in a field that is somewhat related to or could benefit from the activities of an UA/CG program.

A few of the programs in this study were started as an extension of already existing program that had a related function or mission. OSU Extension, Philadelphia Green, and City Farm, all benefited from being associated with larger, well established organizations. The parent organizations are involved in education, horticulture, and recycling, respectively. Urban agriculture or community gardening is seen as a natural extension of the organization’s goals or activities. Finding and
working with an existing organization can be beneficial in raising funds, providing organization and leadership, connections to political or community leaders, and possibly access to land for gardening or farming. Association with a well-known or well-respected organization lends a measure of credibility to a UA/CG program’s activities as well.

4) Continuity of Goals and Mission:

Success and longevity can only be achieved if the goals and mission of a program are carried out beyond the leadership of one person or group of people. Founders of programs should ensure that a leadership structure is capable of transition from one set of leaders to another without impacting the core activities of the program. This can be difficult when a program’s leadership is based around a single person/strong leader. Executive structures are more easily adaptable and encourage a passing on of information.

The leadership in nearly all of the case studies is based around a strong single leader, usually the original founder, or in an executive structure (with Executive Director, Managers, and staff reporting to higher ups on a chain). Though this might seem domineering or unsavory to some, a strong administrative leadership provides continuity and stability. Gardeners and participants are likely to change year-to-year or even month-to-month, however, maintaining a strong and consistent leadership structure allows a program to continue its activities, fundraising, and educational activities uninterrupted.

Education and involvement are at the core of continuing a program’s mission. The structure of the administrative leadership does not impact the participatory and member-run nature of the farms or gardens in this study’s programs; therefore, participants are not deprived of feelings of ownership and control over the farm activities, which is important in attracting and retaining participants. The combination of participants’ enthusiasm for a program’s activities combined with effective, adaptable leadership to organize technical aspects such as acquiring land and funding will ensure a program’s viability and relevance into the future.
Recommendations for Future Study

- Next steps might include tracking a forming or recently formed UA/CG program to understand which operational features are in use or plan to be used. This might lead to a better understanding of the decision making process related to the selection of operational features and comparing it to the options suggested in the Best Practices Matrix. Testing the Best Practices Matrix for applicability in a real world situation is a pertinent future study.

- Although this study attempted to draw out the common operational features of successful programs, the challenges that programs faced during the formative years might give greater insight as to why certain operational features were selected over others.
  - What were the primary hurdles each program faced when getting started and what steps did they take to overcome them? What additional lessons can be drawn from studying how a program started?

- A comparison of successful programs to failed programs might also give better insight into what specifically contributes to successful programs and what causes programs in similar community typologies to fail. Do failed programs and successful programs have common features, or do significant differences emerge between the two in the types of operational features chosen?

- Access to land is an issue that is of specific concern to UA/CG programs (versus other community development programs). Future study could focus on urban agriculture and community gardens as a means of bridging the gap between privately owned land and the public commons, and what impact UA/CG might have on traditional land use patterns and theories of public vs. private space.
Critique of study

During the course of this study, several issues arose regarding the number and types of case studies that were selected. Selecting more case studies would have given an even more accurate representation of the types of operational features large, well-established UA/CG programs utilize. A more geographically-minded selection of case studies spread across the US and not just concentrated primarily on the East and West coasts, as the programs in this study are, would give a better representation of features necessary to start and maintain a successful program, no matter where the location. The South and Mountain regions of the country were inadvertently neglected in this study. Future studies might seek to rectify this oversight. Additional areas of exploration in future studies regarding successful urban agricultural programs are listed below:

• Explore zoning codes of cities, in relation to their furtherance or hindrance of urban agricultural activities.
• Study the variations in programs across climates.
• Include a more geographically diverse selection of case studies.

Urban agriculture and community gardening provide well-documented benefits to communities across the country and throughout the world. This study sought to provide a decision-making tool or framework for individuals and communities that are interested in starting or have already started urban agriculture programs. This tool, The Best Practices Matrix, serves as a guide to program leaders and participants on what operational features are best utilized, based on the community’s unique demographic, social and economic characteristics. These operational suggestions are based on the experience of nine long-running urban agriculture/community gardening programs from across the United States.

Ultimately, any newly formed program will use some method of trial and error to determine the most effective means of operation and no program will be able to replicate another exactly. However, the lessons learned through the examination of the nine programs in this study will hopefully guide future programs or those in their infant stages in making decisions for their long-term success.
Bibliography-


Appendix A: Glossary of Terms

CSA- Community Supported Agriculture
UA- Urban Agriculture
CG- Community Gardening
UA/CG- Urban Agriculture/Community Gardening
UPA- Urban/Peri-urban Agriculture
UAS- Urban Agriculture Strategy