AMERICAN URBAN AGRICULTURE

A Report of a Senior Study

by

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ABSTRACT

Chapters I and II of this Senior Study analyze the practice, uses and benefits of urban agriculture, from its early origins in North America to its modern context in American cities. Chapter Three includes data and a report on an individual experiment that exposed urban youth to a curriculum based on a physical experience in a garden. The research took place at Tribe One, a youth center located in East Knoxville, Tennessee for six weeks in 2010. The research seeks to answer the question: “What impacts on urban youth’s opinions, knowledge, and choices regarding food can exposure to a garden facilitate?” The research used a curriculum that included lessons on basic biological functions, soil, and the food system. The subjects also learned from the 750 sq. foot organic garden on site. Subjects were given a pre-test and a post-test. Results for this research include a positive correlation with work in the garden and choosing a healthier diet, forming positive opinions about eating vegetables and fruit, and fostering interest in the origins and processes by which food is grown. The final chapter of the study advocates for greater acceptance, use, and government support of the practice of urban agriculture.
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INTRODUCTION

This thesis will seek to study and understand the social practice of urban agriculture. I will research its history, expand upon its significance, and explore the phenomenon it has become in recent American culture. Through a local non-profit and youth empowerment organization, Tribe One, I will study the effects of urban agricultural opportunities on inner-city youth. This will include education, individual rapport and actual gardening opportunities. I will be participating and observing in order to note particular changes in the youths’ attitudes towards food, understanding and knowledge of the food system, and gardening’s possible effects on their personal choices and future involvement. Finally, I will seek to draw conclusions from my study at Tribe One to conceptualize what urban gardening could look like on a nationwide scale. I will ask the questions, “What is urban agriculture?” “Where is it successful?” “Can it provide opportunities to urban residents? If so, how?” and “Is it feasible on a large scale?” These research questions will guide my literature review, my study at Tribe One, and my own theorizing on the topic.

The issue of feeding the world’s teeming hungry is seemingly insurmountable. World hunger is at an all-time high, as are rates of malnutrition and nutrient-related disease. As Americans, we often feel as though these are problems our country does not really face. In fact, throughout the United States, a shockingly high number of our urban
residents (and rural, for that matter) are overweight, malnourished, and sick from dietary-related illnesses. This affects the adults of our workforce, their children, the elderly, veterans, immigrants, and every other group. This snowballing issue is becoming more pertinent as our world population explodes towards an astonishing seven billion people in the immediate future. Where will these people go? To our cities, of course. As industrialization and capitalism continue to rock the world economy at a frenzied pace, the masses will go where the opportunities are. Sadly, this has removed the “human” factor from our relationship to what we eat and the earth on which we live. That is to say, we no longer understand what it takes to plant, cultivate, harvest, and ship what we eat, for example. What is out of our sight may be out of our minds, but it cannot escape our bodies. With more and more people moving into urban areas and losing their ties to an agricultural past, there is no better time than the present to begin a revolution of urban agricultural projects. It is a concept that has the potential to change our diets, our environments, our health, our destitute inner-city communities and our nation’s future.

The study of urban agriculture has personal significance for me. Ironically, I have been only a tourist to city life; I was raised my entire life in suburbia, and I have spent the years of my undergraduate studies in a rural/suburban community. To my great benefit, there has always existed a certain respect for food in my household. I have wonderful memories of gardening in the summertime with my parents, alongside my brother picking tomatoes for sauce, and teaching my sister the names of different herbs. I am fortunate that my family understands the importance of a healthy local food system, and that they shared this understanding with me at a young age.
This appreciation evolved into a hobby as I grew up and it became very interesting to me. In my freshman year at Maryville College, I declared that my major would be sociology. That January, after Freshman Seminar 130, Topics on the Environment, I added environmental studies as my second major. As a junior I received a Lily Grant to take an internship with an organization of my choosing. My original plan to work abroad fell through, and I happened upon a job with my favorite non-profit, Heifer Project International, at Overlook Farm in Rutland, Massachusetts. For three months I worked as an education volunteer. I led groups and facilitated discussions on everything from gender equity to organic food and even the distance food must travel to reach grocery stores. I cultivated a small organic garden on the side and worked in the main, two-acre garden when I could.

One evening my colleagues and I stumbled upon a DVD produced by Heifer Project International titled “Hope, Seeds, and Concrete.” It introduced me to a side of farming with which I was completely unfamiliar. At first, I did not understand how a side plot in the middle of Brooklyn or in Milwaukee could be so meaningful. I quickly learned that in successful farms, high school students, recovering addicts and even the disabled, for example, were able to markedly improve their success rates at graduation, recidivism, future employment, and even business opportunities. It was from here that my interest and passion for urban agriculture linked with my love of sociology and social issues to create my inspiration for my senior study.

Urban agriculture has an ancient history, and more recently, a modern revival. This thesis will concentrate on its implications for a 21st century population. But first, to
better understand it, one must examine its history, including its exit from and reentry into urban areas, and its historical popularity, use, and purpose in the United States. This will lead to its contemporary context in Chapter Two. There I will explore the modern urban farm, the social implications for urban agriculture, the benefits, and its challenges. In Chapter Three, I will be discussing my work as a field researcher at Tribe One, a community center for youth in Knoxville, Tennessee. I will share my findings with my research project of preparing for and founding an urban garden program with at-risk youth. This will also include a discussion of the social disparity of urban dwellers’ experiences in relation to food supply and quality and the effect urban agriculture can have to ameliorate the situation. Finally, in Chapter Four, I will examine urban agriculture in the 21st century. I will attempt to answer questions about urban agriculture’s future on a larger scale and its challenges.
CHAPTER I

A HISTORY

At first mention, the term “urban agriculture” may seem too paradoxical to be taken seriously. After all, in modern consciousness, at least, American agriculture has existed almost exclusively in rural communities, spanning acres beyond acres, occupying vast tracts of land to feed the bustling populations which exist anywhere but in the heartland. America’s amber waves of grain, however, are not limited to a rural existence any longer. Modern urban agriculture is an international trend which has caught on in the United States since the late 19th and early 20th centuries and continues to grow, city by city. Urban agriculture has become recognized and practiced for the economic, social, and health benefits it so readily provides and is a hallmark of many urban communities nationwide.

To begin, one must first examine what urban agriculture is and what it includes. Practicing urban agriculture has provided many cities worldwide with the tools and self-reliance necessary to provide food, work, proper nutrition, and opportunities to relieve the many kinds of oppression from which the urban poor suffer. According to the United Nations (UN), urban agriculture may be defined as,
An industry that produces, processes and markets food and fuel, largely in response to the daily demand of consumers within a town, city or metropolis, on land and water dispersed throughout the urban and peri-urban area, applying intensive production methods, using and reusing natural resources and urban wastes, to yield a diversity of crops and livestock. ("Cities" 3)

From this it is clear to see that urban agriculture encompasses much more than what one might originally think. Indeed, urban agriculture takes on many forms and ranges from supplementary to crucial in terms of its significance to metropolitan life.

What is, perhaps, most ironic about calling urban agriculture a “new” phenomenon, is that most agriculture historically began as a means to create a stationary way of living- that is to say, before people densely settled cities, those who lived in them shared the space with their gardens, orchards, fountains, and growing spaces that sustained them (Mougeot 2.1). The beginnings of society formed solely because early populations were able to domesticate several varieties of corn and other vegetables ("America Before Columbus"). With the domestication of animals such as turkeys and dogs, once-nomadic peoples were able to settle down and create the ancient civilizations we study today ("America Before Columbus"). The switch from “foraging to farming” altered life in pre-European America significantly (Lambert). There is much archeological evidence showing that early populations had significant agricultural infrastructure, “to produce food, feed, and fodder crops; to provide wood for fuel, building, shade, fencing, and windbreaks; to grow shrubs, ornamental, medicinal, and
other useful plants; and raise livestock for food, materials, traction, transport, and trade, sacrifices and status” (Mougeot 2.1).

Specifically in North America, an ancient people called the Mississippians contributed massively to the agricultural beginnings of early America. Settling in the river and tributary valleys of primarily the Mississippi, Ohio, and Tennessee Rivers, the Mississippians were an advanced civilization (King). By harnessing the power of domesticated crops, the Mississippians were able to create stable chiefdoms that lorded over vast tracts of North America. A stable source of their food and culture, maize became an incredibly significant part of why the Mississippians were so successful for so many centuries. Archeology points to the advent of maize domestication and production as occurring around 200 to 800 A.D. (McNutt 126). Evidence suggests that other crops, such as pigweed and smartweed, were also domesticated (McNutt 66). It is the development and continuing domestication of maize that archeologists suggest were able to stabilize population and create early American cities (McNutt 230). From 800 to 1100 A.D., a production of maize allowed for “complex sociopolitical formations” (Smith 1570). Therefore, the longer Mississippians remained in a location, the more successfully they were able to domesticate crops, and, therefore, flourish in their locales. However, the eventual presence and influence of European explorers, like that of Hernando DeSoto, who first traveled in what is now the southern United States in 1539-1543, led to a rapid and brutal decline in the Mississippian culture (King). Surviving pockets of Mississippians, who took their knowledge of domestication and agriculture to develop the agriculturally-based societies of later Native Americans, are believed to be the ancestors of the Creek, Cherokee, and Seminole tribes (King). One can see the correlation between
farming and the development of prehistoric cities: humans depended on predictable crops grown themselves in order to survive.

So, if agriculture and domesticated crops and animals were so central to sustaining and creating cities, why did they leave? What led to the schism that exists between urban life and the rural agricultural industry that pervades American culture today? The answer lies in the notion that American farming originated for both export and subsistence farming. Eventually, farming for subsistence yielded to the pressure to make a more stable income, namely in cities. Finally, this led to trend of large-scale agriculture outside of the city to support the city. Smaller campaigns for urban agriculture have appeared throughout history, namely “in times of crisis” (Lee-Smith and Memon 70). It is, therefore, only in the past half century or so that the public’s consciousness has made a shift towards revitalizing and recognizing urban agriculture. In order to understand farming’s shift from cities to the country and now back to the cities, it is practical to examine how foreign cities, which profit from being well-established, experienced that change.

Lee-Smith and Memon (1994) argue that cultural implications for what “rural” and “urban” should include may have their beginnings as far back as the Greco-Roman era. These may have contributed to the forced exit of farming from cities. In some African cities, for example, ill-informed Western European influences mistook the sanitation and sickness problems in cities as negative consequences of the presence of farms within city limits. In fact, their presence possibly ameliorated such problems, which were likely caused by overcrowding and unsanitary living conditions (Mougeot 2.2). However, perhaps the largest push for the exodus of agriculture from cities came
with the enormous change brought on by the Industrial Revolution (Lee-Smith and Memon 70). For example, the Marais, a section of Paris, was home to one of the most productive and widely successful urban agriculture projects in recent history during the nineteenth century (“Urban Agriculture” 31). It annually produced 100,000 tons of “high-value, out-of-season salad crops” (31). Farmers used manure from the city’s horses and were able to harvest up to six times a year (31). However, even this massive farming system, which, at its peak in the late 1800s, covered one sixth of the city, fell in the early twentieth century to the overwhelming demand for housing space, and the lack of horse manure due to the spread of the car (32).

While other, older countries experienced a notable shift in the presence and cultural acceptance of farms in the city, the United States’ experience was quite different. In the nineteenth century, the population of the United States was growing rapidly (McKelvey vii). Americans increasingly relocated to cities, as lives of rural self-sufficiency were clouded by hope and obscured by the allure of making more money in an urban factory. Consequently, cities began to grow. This migration pattern stalled during the Civil War, but antebellum American industry accelerated and quickly spread throughout the country, bringing with it the population boom to urban areas (Green 86). It is during this period, the late nineteenth century, in which the first urban gardens began to flourish. The following sections will cover the roots of the American urban agriculture movement, from its beginnings in poverty to wartime.

“Potato Patches” are thought to be the first kinds of urban agriculture in the modern United States. Stemming from the economic hardships Americans faced from 1893 until 1897, urban citizens were encouraged to grow their own food as a way to
supplement their diets (Williamson 6). Especially in Detroit, Mayor Hazen S. Pingree encouraged land holders to donate land to the unemployed so they could supplement their diets and incomes (Williamson 6). Meanwhile, the city of Detroit contributed over $3,000 to the program, which eventually led to the inclusion of thousands of families across the Great Lakes region whose plots produced hundreds of thousands of pounds of produce over more than a decade of farming (Warner 13-14). Overall, the Potato Patch Movement was largely seen as a success. As the 1893 Depression declined into the 1900s, so did the enthusiasm and support for these urban farms. Like so many of their peers in other nations, programs like “Pingree’s Potato Patches” and its cohorts ended due to the ever-increasing demand for the valuable metropolitan land they occupied (Williamson 7).

Though the Potato Patch Movement did not endure, it served as a foundation for future urban agricultural movements as America faced the political and economic challenges of the twentieth century.

Before the popular movement of Liberty Gardens in 1917 and after the Potato Patch movement, urban agriculture was largely a function of the poorer classes. However, with the call to action after the onset of the Great War, gardening at home and in public spaces became a popular movement. To further the movement, Charles Lathrop Pack founded the National War Garden Commission in 1917, just before the United States entered the war. This was not a federal program; instead, it worked largely from the encouragement of patriotism and duty. A comprehensive examination of the National War Garden Commission was written by Pack in 1919. In The War Garden Victorious, he explains his rationale for creating what was a remarkably successful program of food production for the war effort:
The author, wishing, as every patriot wished, to do a war work which was actually necessary, which was essentially practical, and which would most certainly aid in making the war successful, conceived the idea in March, 1917, of inspiring the people of the United States to plant war gardens in order to increase the supply of food without the use of land already cultivated, of labor already engaged in agricultural work, of time devoted to other necessary occupations, and of transportation facilities which were already inadequate to the demands made upon them. (1-2)

The success of this campaign can be attributed to mass distributions of propaganda and educational literature on everything from planting to drying to canning (Williamson 10). “The sole aim of the National War Garden Commission was to arouse the patriots of America to the importance of putting all idle land to work, to teach them how to do it, and to educate them to conserve by canning and drying all food they could not use while fresh” (Pack 10). Liberty Gardens caught on in cities across America. In the inaugural year of the National War Garden Commission’s efforts, over 3.5 million Americans participated, amassing over $350,000,000 worth of produce (Bassett 5). Americans were encouraged to utilize every space possible, including public urban areas. Below is a picture of the Boston Commons in 1918, courtesy of The War Garden Victorious.
The caption below it reads,

Boston Common was credited with having one of the finest demonstration war gardens in the United States in 1918. This shows the quarter-acre section given over to potatoes with Girl Scouts assisting in the cultivation. The gardens were planted by the Women’s City Club, with experts on hand to give instruction and advice to visitors. (6)

In many ways, this was the first large-scale movement for urban agriculture in American history. Even children were encouraged to do their part as “soil soldiers” by learning about planting and persuading their parents to join the movement (Warman). What is ultimately significant about the Liberty Gardens is that they made urban agriculture accessible and popular to the upper and middle classes, who historically did not need them as a supplement. However, that would change for many when the war ended and the Great Depression swept America only a decade later.
Relief Gardens were the third big urban agriculture movement in American history. When the Great Depression hit, gardening in any space possible became almost a necessity to much of the urban poor. In his research, Thomas Bassett divided Depression-era gardening into three phases: from 1930-1933, 1933-1935 and 1936-1938. The first stage saw the historical demand for assistance from all sectors of society. Eventually, Americans began to understand that those who needed help were not personally responsible-- that there was a larger, structural malfunction at work (74). The second phase included the election of Franklin Delano Roosevelt and his platform of “The New Deal.” Government funded urban gardens were now seen in various parts of America. To become federally funded, there were strict guidelines to follow (95). The final shift of urban agriculture during the Depression occurred when, once again, the zeal and infrastructure for urban agriculture dropped off, and it became socially stigmatized. Factors for this included the “drastic drop and categorisation of federal assistance, the weakening of local self-reliance, the availability of food through the surplus Commodities Corporation, and an improved economy” (103). Yet again in America, urban agriculture rotated into the shadows of the sociopolitical spotlight until the next big demand created a nation-wide patriotic fervor for food: World War II.

Perhaps the most famous example of urban agriculture in American history is the Victory Garden. There exists a great amount of documentation on the movement, which lasted from 1941 to 1948 (Bassett 1). Charles Lanthrop Pack used the term “Victory Gardens” towards the end of the Liberty Garden campaign from the first World War, in hopes of firmly planting community gardens’ place in American culture (115). While the gardens themselves did not necessarily last throughout the generations, the name
certainly did. Bassett maintains that the necessity for community and urban gardens is fivefold:

Victory gardens should help (1) to lessen the demand on commercial supplies of vegetables and thus make more available to the Armed Forces and lend-lease programs, (2) to reduce the demand on strategic materials used in processing and canning operations, (3) to ease the burden on railroads transporting war munitions by releasing carriers formerly reserved for produce, (4) to maintain the health and morale of Americans on the home front through the production of nutritious vegetables in the out-of-doors; and (5) to preserve as much fruit and vegetables for now and for future use when shortages might become even worse. (114)

Indeed, the American Victory Garden achieved these goals. At the pinnacle of wartime in 1944, over twenty million gardeners were contributing to reduce the mass hunger, malnutrition and overall food shortage experienced at home and abroad with the troops (Bassett 104). However, there was a small movement in the nation speaking out against personal and community Victory Gardens. Initially, the Secretary of Agriculture, Claude Wickard, labeled such efforts as “unpatriotic” competition for traditional farms (Tucker 134). Wickard’s point did not go very far, however. Predictably, with the help of both governmental and non-governmental campaigns, the Victory Garden movement took off. Besides the numbers detailing the production, the “United States Public Health Service released findings that praised gardening for meeting physical needs through food and exercise and mental needs of satisfaction and a sense of power” (Williamson 14). Gardening was therapeutic and meaningful to the men and women of World War II
America. In a time of despair and disconnection from world politics, there remained the ability for individuals to be positive, patriotic and self-reliant.

The Victory Garden Movement was highly propagandized, which was key to its widespread success. Posters detailing the benefits of growing food at home and committing one’s patriotic duty were popularized (See Figure 1). Many of these depicted women, a growing theme in the push to create livelihoods for the wives, mothers, and daughters left at home when the men went off to war (See Figure 2).

(L-R) Figure 1. Source: Google Image Search “World War Two Victory Gardens” Figure 2. Source: Google Image Search “World War Two Victory Gardens”

In the end, despite the fever pitch of patriotism, the Victory Garden movement ultimately faltered and ceased to hold the attention of the American public. After the war
ended, community farmers were unwilling to continue the effort in light of newer “activities [that] were exciting and stylish” (Warman).

In the years following WWII and the Victory Garden movement, the practice of urban agriculture continued, even if not widely popular. Under the Johnson administration, the War on Poverty highlighted the plight of the American poor, and several programs led to the funding of urban projects, several of which included urban agriculture initiatives. Money flooded from Washington to aid such issues as education, housing, poverty, unemployment, and urban renewal (“Social Planning” 4:57). Community organization and input were hallmarks of Johnson’s social reform, much of which led to “an increasing emphasis on policy, planning, and administration in social work and in practice” (“The Profession Changes in the Sixties” 162-3). Additionally, in 1965, the executive branch took a huge step toward urban reform when Johnson created the cabinet position of Housing and Urban Development (HUD), “to support community development” as well as address housing issues (“War On Poverty” 4:870).

The largest contributor to urban agriculture of the decade, however, came from the Office of Economic Opportunity, which then created Community Action Programs (CAPs) ("War On Poverty" 7:1880). CAPs gave money to smaller principalities on the condition that “maximum feasible participation” from the impoverished occurred within the programs ("War On Poverty" 7: 1880-1). Since much of this money went to state and local governments, it is difficult to accurately detail the number or scope of urban garden projects that were made possible by the War on Poverty’s funding (“Social Planning” 4:57). Unfortunately, several highly politicized tensions arose between the federal mandates and local opinions which made the CAPs less effective than originally planned.
("War On Poverty" 1881). Regardless, there still exist some urban garden programs that received aid from the War on Poverty, and they remain examples of positive change to the urban renewal movement of the Johnson administration.

In the 1970s, Congress became involved. As a growing response to the environmental movement and “inflammatory food prices” in the United States, urbanites showed renewed interest in urban farms (Brown and Jameton 22). Community organizers were the first to hail the benefits of the practice, citing good stewardship and anti-poverty action in their neighborhoods. In 1975, a subcommittee meeting of the House of Representatives attempted to pass legislation that “would have authorized the distribution of seeds and plants for use in home gardens” (22-23). Despite testimonies that food price had indeed risen, and that this action would not harm agribusiness, the legislation failed under pressure from seed companies and big agribusiness. However, in 1975, Congress allocated $1.5 million for the Urban Gardening Program in six cities (23). The money was divvied up by the Cooperative Extension Service. In 1993 the program expanded to cover 23 cities and include $3.6 million. Unfortunately, the program was eventually discontinued (23).

And so began the foundational years of the community garden in America. It is clear that only in the relatively recent past, the last two hundred years, has agriculture migrated from peoples’ living spaces, and out of the present generations’ skill sets and memories. Slowly, through hardship and limited governmental support, it has crept back in the American urbanite’s consciousness. It is at this point in American history that the context in which a community or urban farm exists, changed. The farming practices of the Potato Patch Movement, Liberty Gardens, Relief Gardens, Victory Gardens, and the
War on Poverty Community Action Programs all grew out of necessity and crisis. As America moved into the success of the post WWII era, and later into the Cold War, neither of those times precluded the need for widespread urban and community farming as Americans had seen in the past. For even under the stress of the Cold War, Victory Gardens could not be used to beat the USSR. The renewed sense of environmentalism, common sense, and community action seen in the 1970s sets the groundwork for the modern urban agricultural movement.
CHAPTER II

THE MODERN URBAN LANDSCAPE AND THE FARMER

In Chapter Two, the modern context and popularity of urban agriculture will be explored, with a special emphasis on youth and gardening programs. The questions, “What are the driving forces behind this new approach to urban agriculture?” and “Where is it being implemented successfully?” will be addressed. In particular, this chapter will focus on successful urban farming projects with youth programs as models for urban renewal and social opportunity. This will serve as the background history and context for Chapter Three, the subject of which is a case study at Tribe One in east Knoxville, Tennessee, a youth center that is seeking to implement a gardening program.

Urban gardening is exploding across America. While desperation may have been the impetus for growing food in cities in the past, urban agriculture is experiencing an economic, social, and demographic facelift across the country. More often consumers are demanding that they know where their food is grown and how it is grown. American cities are responding.

As American metropolitan areas sprawl and burgeon with more people, cars, developments, and buildings each year, urban garden projects are widely hailed for their positive impact on the communities in which they exist. “City beautification, improved
storm water management and air quality, temperature moderation, dietary improvements among lower income populations, and greater community protection and control over troubled parts of the city,” as well as improved income and health, and even reduced incidence of crime rate are all considered to be directly affected by the presence of urban agriculture programs (Flisram 16). That is not bad for something that is done voluntarily, and on a small-scale at that.

The notion that there could be public health benefits to urban agriculture has encouraged the scientific community to explore such possibilities. The use of pesticides known to cause cancer, endocrine disruption and reproductive dysfunction in workers, as well as the exorbitant use of carbon-emitting resources like fossil fuels used in production and shipping are two of the most widely discussed pitfalls to the conventional American farming practice (Horrigan et al 446-9). By contrast, small-scale urban agriculture encourages biodiversity in crops, a less confusing field-to-table connection between producers and consumers (which uses less fossil fuel and encourages a closer relationship that fosters local business growth), and an emphasis on a plant-based diet which reduces overall environmental degradation by reducing the demand for cheaply produced beef, chicken, and pork (452-3). According to the U.S. Environmental Protection Agency (EPA), current farming practices that utilize genetically modified seeds, mass animal production, and/or monocultures account for a stunning 70% of the nation’s overall pollution. These practices have contributed to polluted ground water, aquifers, and approximately 173,000 miles of polluted waterways (Cook and Stanley). For many Americans, it is imperative that they contribute to the solution to the problems of an industry that contributes nearly three-quarters of the nation’s pollution.
Additionally, for the poorer segment of American society, personal agriculture can account for significant increases in nutrition, as well as reduced grocery bills and fewer nights without food on the table. Researchers have deduced that “In a 130-day temperate growing season, a 10’x10’ meter plot can provide most of a 4-person household’s total yearly vegetable needs, including much of the household’s nutritional requirements for vitamins A, C, and B complex and iron” (Bellows et al. 2).

The importance of food options in the inner city is not lost on those who study nutrition and urban planning. In 2005, a report released from the Royal Institute of Public Health found that “lower real prices for vegetables and fruits were found to predict a significantly lower gain in BMI between kindergarten and third grade; half of that effect was found between kindergarten and first grade” (Sturm and Datar 1059). Older children also enjoy the benefits of available fresh fruits and vegetables. Denia, a student worker at Added Value, a farm in Brooklyn that emphasizes youth entrepreneurism, said, “I used to go McDonald’s… Oh man, every day I used to go to McDonald’s eat, eat, eat, eat, until I got this job, then I quit it. Now I know what organic food [is], now I know what is good or bad for you” (“Seeds, Hope, and Concrete”). The presence of an urban garden program could not only mean significant changes for education and knowledge of food and food systems, but also help at-risk communities overcome the serious threats to food security that they face regularly.

There is overwhelming support for small-scale agriculture that emphasizes biodiverse, regional crops and sustainable methods of raising meat animals. Monocropping necessitates the use of heavy-duty pesticides and fungicides that combat the possibility of blight or infestation (Horrigan et al. 448). On the other hand, by raising
many different crops, the natural biodiversity present acts as a natural bolster against pests and disease. Additionally, this practice promotes the use of regional crops and varieties that are best adapted to the local climate without the need for industrial aid. Practicing farming with these modifications also acts as a cultural preservative of heritage and heirloom varieties which are in danger every day of becoming endangered or extinct in favor of specific, altered varieties used in commercial and conventional settings.

While urban agriculture offers a positive alternative as a response to traditional agricultural methods and as social repair, there are many more benefits to small-scale, urban agriculture. Urban gardens have the advantage of utilizing indoor spaces and neglected lots, as well as local populations to provide specialty products to a willing and local market. By cutting down on production and shipping costs, urban farmers can outsell foreign or distant markets with the same products, such as highly-prized non-seasonal items, like fresh greens in January. Moreover, there is a special niche in the movement that is providing job-related, social, mental, or educational opportunities to local youth and other residents who are willing and interested in the myriad benefits found by practicing gardening. It is for good reason that urban agriculture finds itself in a new spotlight.

While health benefits may be the most widely cited and obvious, there are also incredible social positives to the presence of an urban garden. The physical labor of working in an outdoor setting has long been hailed by horticulturists as soothing, relaxing, and promoting healthy living. Additionally, the therapeutic effects for mental health patients have been well-documented. Through Food Share Toronto’s Sunshine Garden, which is located on the grounds for the Center for Addiction and Mental Health,
patients have been able to appreciate their surroundings and environment better. Through the garden and its twice-weekly farmer’s market, the center is “changing its relationship to the neighborhood.” Most patients suffer from schizophrenia and are able to work for privileges and positive healing through the garden (“Seeds, Hope, and Concrete”).

Even those who are not directly involved in the physical work can reap the benefits. Research conducted by the American Journal of Community Psychology found that the mere presence of vegetable gardens featured significantly as positive community influence in regards to issues like mental illness, juveniles delinquency, and violent deaths (Brogan and James 507-22). Some reports also argue that city beautification, including the presence of community gardens, has led to “reductions in burglaries, thefts, and illicit drug dealing” (Layzer 28-29).

While the American urban agricultural movement has eked slowly into the consciousness of metropolitan dwellers, international actors have helped guide the movement. In 1989, a major force behind today’s urban agriculture movement was born. Italian food lover Folco Portinari came together with representatives from fourteen other countries to protest the world’s increasing dependence on machinery, fast-paced living, and most notably, the ubiquitous highly-processed fast foods as major sources of sustenance (slowfood.com). Instead, they proclaimed, humans should halt the separation of man from the earth, and go back to the consumption patterns that past generations followed. Food should be respected, procured with zeal and joy, and produced with care in a natural environment. Furthermore, their manifesto urged, humans must reclaim their future eating habits from certain loss by savoring regional cooking and once again
finding the gustatory pleasure past generations achieved through slow cooking and communal dining.

They argued that excessive processing or alteration to raw food products is not necessary to have a healthy, fulfilling dining experience. Additionally, every person has the right to good tasting, healthy food that is safe and comes from a local area. Following these premises, the Slow Food Movement was born. According to its website, the Slow Food Movement now has over 100,000 members in 132 countries (slowfood.com).

In order to “counteract fast food and fast life, the disappearance of local food traditions and people’s dwindling interest in the food they eat, where it comes from, how it tastes and how our food choices affect the rest of the world,” Slow Food International seeks to reintroduce “pleasure and responsibility” into the human consciousness (slowfood.com). In its approach, the Slow Food Movement redefines what it means to eat food. Instead of “consumers,” humans are “co-producers,” they argue. This is the term that is integral to the Slow Food Movement’s mission that resonates so widely amongst urban farmers. There must be a definite interaction between the grower and the eater. To be a co-producer, the movement maintains, one must go “beyond the passive role of a consumer and [take] interest in those that produce… food, how they produce it and the problems they face in doing so” (slowfood.com). With this understanding, the consumer can begin understand food production and simultaneously becoming more involved in the process.

Additionally, the Slow Food Movement is designed to work in communities as the foundation for spreading its message and educating the public. Through “convivia” (a term the Slow Food Movement pulled from the Latin “convivium,” from com- + vivere---
“to live” or “eat/feast” or “live together”) (babylon.com), the movement encourages its local leaders to host events, lobby, develop rapport with producers, and promote the education of the movement’s principles in schools, to chefs, and to the community at large (slowfood.com). In 2000, Slow Food reached the United States. A decade later, its website boasts an impressive 25,000 members in more than 200 chapters nationwide. The majority of these are based in metropolitan areas (slowfoodusa.org).

Within the Slow Food Movement is an undercurrent of future American foodies: the US Youth Food Movement. A major platform for the USYFM is the renewal of the school lunch program. In March, urban youth got involved when a team of Chicago high schoolers prepared a meal for Congress—for less than $1 per serving. The meal was also designed to exceed the current nutritional standards for the school lunch program. As models for the involvement of youth in making healthier, more sustainable school lunches, these students encouraged lawmakers to rethink the way cost effectiveness and tasty food could interact in a reauthorized Child Nutrition Act (Binder).

The Slow Food Movement’s relentless voice in the food production community has encouraged Americans everywhere to take interest and action in personal consumption. Its steady progress has influenced countless organizations to reexamine the available food in their own communities. The Slow Food Movement is a key force in the urban agriculture movement.

Another major player in the local food movement is the First Lady of the United States, Michelle Obama. In early February, 2010 she announced that her platform would be fighting childhood obesity through the “Let’s Move!” campaign. “Let’s Move!” was conceptualized to bring national attention to the epidemic of childhood obesity within
American society. Through this program, members of the Task Force on Childhood Obesity have listed their objectives:

(a) ensuring access to healthy, affordable food;
(b) increasing physical activity in schools and communities;
(c) providing healthier food in schools; and
(d) empowering parents with information and tools to make good choices for themselves and their families. (Presidential Memorandum, Section 2)

These initiatives within the movement itself highlight the severity of the situation more Americans are facing today. It is increasingly difficult to afford high-quality food to take care of one’s self and family. Higher fuel, grain and meat prices affect the entire market, forcing the cost up for consumers everywhere. In fact, the Consumer Price Index for 2010 listed “the food at home” component as “posting its largest increase since September 2008” (Consumer Price Index). Additionally, it noted that indices “for fruits and vegetables accounted for most of the increase.” All of these factors are forcing the market to move towards cheaper, more highly-processed foods. As a direct result, obesity rates are skyrocketing in all demographic sectors of America and are staying high. A report from the Center for Disease Control (CDC) published in the *Journal of the American Medical Association* cites that at least two-thirds of all adults and nearly a third of all children are overweight (Tanner). Additionally, it says, 34% of adults and 17% of children are obese.

Mrs. Obama’s campaign is targeting the youth of America, and for good reason. “We have a chance to change the fate of the next generation if we get on it,” she said in a recent meeting with the CDC (Tanner). Holding true to the White House’s initiatives to
make fighting obesity a priority, the Obamas made history in 2009 when they planted the first garden on the White House lawn since Eleanor Roosevelt’s Victory Garden in World War II (Burros). The reasoning behind the garden, says the First Lady, is to target kids, because “you can affect children’s behavior so much more easily than you can adults” (‘The Story of the White House Garden’). She added that children will then go on to start that conversation with their parents, with the ultimate goal of making positive eating and diet-related changes as a family. In early 2009, students from Bancroft Middle School in the District of Columbia helped the First Lady and the garden and kitchen staffs plant and prepare the garden. They also returned at the end of the growing season to harvest and cook in the kitchen to model the cycle of growing and the time it takes (‘The Story of the White House Garden’).

The initiative that the White House is taking towards making health and local food priorities is indicative of the changing feelings about food throughout the United States. Within one generation, urban gardening has become trendy, popular, and an essential educational tool amongst city residents. Specifically, programs with youth involvement have stepped into the forefront of these urban models and have enjoyed relative success in changing local sentiment about food. In 1991, The Food Project was started as a Boston-area program to “[engage] young people in personal and social change through sustainable agriculture” (The Food Project). By encouraging teens to take responsibility in meaningful work, The Food Project has been able to give their participants “valuable job experiences and a personal connection to our food system and issues of food justice.” As a national model for other similar institutions, The Food Project cites over 89 organizations nationwide that cite youth initiatives as some faction
of their purpose. For example, in Washington State, the Seattle Youth Garden Works is helping at-risk youth get back on track with community service opportunities and leadership roles in their markets and greenhouses (Fischer and Hart). This specific concentration with at-risk youth is a popular undercurrent in urban agricultural organizations and meshes with the body of research that lauds the positive effects of farming’s presence on a troubled person’s life.

Heifer Project International (HPI), a non-profit whose mission is “to work with communities to end hunger and poverty and to care for the earth,” provides funding to several major urban farming projects throughout the world, including in the United States (Heifer Project International). Two programs in particular, Growing Power and Added Value, have been hailed as champions to the cause of using urban agriculture to reach at-risk youth in needy neighborhoods. In an HPI documentary entitled, “Seeds, Hope, and Concrete” it is easy to see how significant an impact urban farms have on local people and the workers who tend to them. In many ways, these programs are models to urban residents everywhere who are seeking to improve their own communities through the many benefits of urban agriculture and community gardening.

Combining vacant lots, entrepreneurial skill, local business, seeds, and a steady stream of working youth, Added Value in the Red Hook neighborhood of Brooklyn has transformed the way residents eat and shop. With funding from Heifer Project International, urban farms like Added Value are helping “to grow healthy food, promote sustainable enterprises and rebuild the food system from the ground up” (“Seeds, Hope, and Concrete”). Added Value gives teens responsibility within their jobs and gives them opportunities to “expand their knowledge base, develop new skills and positively engage
with their community through the operation of a socially responsible urban farming enterprise” (Armstrong 18). By using a “seed to sale” philosophy, teens are learning valuable lessons that are helping them in more than just business. According to Jose, a former participant and board member,

> When I first started here I was doing really bad in high school. But then after speaking to Mike and him telling me what I should do in school, I started to make up all these classes, I started taking night classes, Saturday classes, and I did all of that then after awhile, I started thinking about college. ("Seeds, Hope, and Concrete")

Ian Marvy, a co-founder of Added Value, has seen incredible change in the area as a direct result of the neighborhood’s involvement in the farm. Tevon, a Youth Leader, was failing high school until he found salvation in the work at Added Value and got support from other leaders. He adds, “The old Red Hook, like back in the eighties, [had] violence and stuff, [now] there are people down here who are trying to build up the community instead of bring in down, like how it was” ("Seeds, Hope, and Concrete").

Growing Power, located in Milwaukee, Wisconsin, is hailed as the teacher to the teachers, a learning center where one can take knowledge from established growers and farmers and take it back to one’s own neighborhood. Will Allen, founder and CEO of Growing Power and recent recipient of the MacArthur Foundation Fellowship has been educating youth about agriculture, the food system, and environmentalism since 1993. Allen’s goal is to “reconnect urban dwellers to the earth while ameliorating the damaging effects of food deserts in large U.S. cities” which have traditionally been left out of supermarket expansion and other economic development (Flisram 15). A visit to
Growing Power encouraged and inspired the owners at Added Value to expand their enterprise and be bold in trying new programs. Growing Power is a national center for education and continues to further the cause for urban agriculture everywhere.

A brief snapshot of today’s urban agricultural movement sheds light on several key aspects of its allure and progress. This new wave of gardeners gives hope to the success of the movement’s future. In the third chapter my research with youth at Tribe One will be reported and linked to greater trends in urban food policy and action.
CHAPTER THREE

TRIBE ONE’S URBAN GARDEN PROGRAM

In the fall of 2009, I was searching for a place to carry out my research, the research that ended up being the foundation for this chapter and the focus of my Senior Study. Through a mutual friend, I was put in contact with Stephanie Davis, current Director of Tribe One, a youth empowerment center on the east side of Knoxville. Tribe One has existed since 1991 as a non-profit. This was where I carried out my research for my study.

Tribe One offers several amenities that are unique to the typical inner-city youth center. It boasts a recording studio, a library, after school men’s and women’s group meetings, and a screen-printing business, which helps finance the non-profit. The founders, City Councilmen Chris Woodhull and Danny Mayfield, had a vision for creating a system of support for young men. They started Man Up! which remains a group for young men. It is a place to fellowship, talk, find support, share a meal, and deal with important issues. The women’s group, Harambee! (a Kiswahili word that means “all come together”) serves much the same function. These two programs service many students every week at Tribe One and are instrumental in supporting the teens and helping them find solutions to issues that are important to them.
Tribe One moved into its current location, 2112 East Magnolia Avenue, Knoxville, in 2004. It has plenty of room for its screen printing business, which prints hundreds of shirts every year for area schools and churches. An additional bonus to the East Magnolia location is its full recording studio and sound equipment. This, combined with the graphic/t-shirt design of the screen-printing business, makes Tribe One a local outlet for artistic expression. Tribe One’s motto is “Making Hope Real.” In their own words:

Tribe One prepares youth for active citizenship in their city through spiritual mentoring, literacy and work experience, all within a supportive community. Activities focus on a comprehensive and holistic approach toward spiritual formation, skill building, and civic engagement. We see these as the most effective avenues through which we can elevate, educate and activate young people toward their own strength and success. (“Tribe One”)

Tribe One is a faith-based initiative that pulls inspiration from Biblical scripture. On its website, Tribe One also pays homage to the late poet Langston Hughes. Linking messages from both, Tribe One declares that force flourishes with direction, and that people with direction will be successful. By providing the young men and women of east Knoxville with the support, resources and outlet for change, it stands to reason that they will do great things for themselves and for their community.

A quick overview of Tribe One is a powerful reminder that creativity, drive, and resources can make an enormous difference. Adding an urban garden program, Ms. Davis and I both realized, would provide an element of wellness and well-roundedness to the
repertoire of Tribe One’s offerings. We talked about the opportunities something like this would foster and we knew that our needs had matched; I could create a study that would fulfill my needs as a researcher, and Ms. Davis would be able to reach an even larger segment of the community by expanding the options for Tribe One’s students. An urban gardening program would make Tribe One unique in the field and potentially be the foothold for increased funding and opportunities for the non-profit. It was clear that this was a project idea that was welcome and needed. With my research and background with the topic and the network of existing resources and stellar reputation that Tribe One had to offer, Ms. Davis and I began to solicit funding and make a timeline for groundbreaking, my research schedule, and planning for the future of a garden at Tribe One.

From September 2009 on, I visited Tribe One, applied for grants, and completed the prior two chapters of this study. I was able to secure a sum of $600 from a generous foundation that allocates funding for environmental initiatives of Maryville College, its students and faculty. This money helped purchase the seeds, tools, lumber, and other miscellaneous costs of starting the garden. The original research plan outlined a six-week study with high school aged students to take place in March and April of 2010. This idea had to be abandoned, however, when it became apparent that the time and resources available to get the project off the ground were inadequate for what the original plan had outlined. Additionally, there was a challenge in the fact that the season of the intended research plan was not ideal. Though it would have been best for me personally to have completed the research in the spring semester of my senior year, waiting a few months to begin research in the summertime was a better alternative. I was able to plan more
thoroughly and plant a garden that would be a better learning tool for the students. I continued to plan, design, and start the garden through the spring of 2010 and plant in April and May, preparing for research to begin in June.

Because of the adjusted time frame, the research plan needed to be amended. It was not guaranteed that high school students, the original intended sample, were going to be available for six consecutive weeks in the summer. However, Tribe One’s summer was scheduled to host a six week program that perfectly suited the needs of the research plan. In the summer of 2010, from June 21 until July 30, Tribe One was a host site for the Children’s Defense Fund Freedom Schools® Program. The program is a literacy-based curriculum that encourages children to “fall in love with reading, [increase] their self-esteem, and generate more positive attitudes toward learning” (“The Children’s Defense Fund”). The Tribe One site hosted about 50 youth, grades 3 through 8. In terms of the Freedom Schools® model, this included Levels II and III. Each level is a grouping of three to four traditional grade levels in classrooms of ten scholars. Each classroom is led by a servant leader intern, who has completed at least one year of college or is a recent college graduate.

The modern Freedom Schools® Program is modeled after the Freedom Summer of 1964, during which college students from across the country spent the summer registering African Americans in Mississippi to vote. During the course of the summer, they realized that literacy and an understanding of culturally relevant history was a significant component to the success of the demographic they were serving. As a side project to the voter registration drive, a “Freedom School” was set up to address the inequity in the black and white school systems of Mississippi. An estimate 3,500
students, old and young, were taught confidence, voter literacy, and political organization skills as well as academic skills. Today, this idea is reflected in the Freedom Schools® Program adapted by Marian Wright Edelman, a civil rights activist and the founder of the Children’s Defense Fund. She resurrected the Freedom School of 1964 and opened the first CDF Freedom School in 1991 in Marlboro County, South Carolina.

Each of the six weeks of Freedom School has a theme that is reflected in the book for that day or week. The themes are, “I can make a difference in my self, my family, my community, my county, and my world, through hope, action, and education.” (“The Children’s Defense Fund”). I was a servant leader intern for the Tribe One Freedom School and taught these themes to nine children over the course of the summer. The curriculum encourages reading out loud, reading in pairs and small groups, and to oneself. The small group allowed the scholars to explore a sense of pride in their work and intellect and grow in curiosity about reading and learning. Through this position I was able to build rapport with the subjects and teach the other scholars who were not a part of the research to learn and love reading and gardening. My position at the Tribe One Freedom School blended two of my passions, learning and gardening, to create positive change in children that need affirmation, an outlet for expression and exploration, and encouragement to make the changes they wish to make in themselves and in their community.

To begin my new research plan, in March of 2010 I attended two parents’ meetings and spoke briefly about the research and passed out consent forms. Copies of the pre-test and post-test questions were made available. From these meetings, I received 20 signed consent forms. (Three students either did not begin or did not complete
Freedom School, so my sample was eventually reduced to 17.) My research question was broad; I was seeking to discover whether there was a correlation between an exposure to/work in an urban garden and a change towards better eating habits as a result of such exposure. I used a pre-test and post-test model to measure my results. As a servant leader intern in the Freedom Schools model, I was the sole adult in charge of the garden program, and thus in charge of how and what the scholars learned in the garden program. This was spread over five sessions, or one for each Monday of Freedom School (one Monday fell on the Fourth of July holiday weekend and there was no Freedom School, and therefore no garden program that day). The topics for the five sessions ranged from a tour of the garden, compost, organic vs. conventionally grown tomatoes, the parts of a plant, and preparation for the finale. The final two sessions prepared the scholars to talk about their experiences in the garden and plan for the graduation ceremony, at which they would speak about important facts they wanted to share and what they had learned.

I encountered two problems with my research that may have affected my results. First, the structure of the Freedom School did not create equal exposure to the garden program and curriculum for all of the subjects. The subjects’ parents elected to have their child either participate in the research or not. The subjects were dispersed unevenly throughout the five classrooms of Freedom School. The garden sessions were held each Monday during which two classes would attend for one hour each. It would stand to reason that each classroom had two, one hour sessions in the garden. However, this was not the case. The schedule of classes was not created uniformly, so some classes (and, therefore, subjects) had three exposures to the curriculum, while others only had one. In addition, the aforementioned Finale altered the schedule. In weeks five and six of
Freedom School, set groups of scholars met with a Servant Leader Intern in place of the regular classroom groups. This further altered the exposure the subjects had to the garden curriculum. The distribution was as follows: five scholars had one exposure to the gardening curriculum, eleven scholars had two exposures, one scholar had three exposures, and one scholar had four exposures.

The second issue was a structural issue with the pre-test and post-test questions. Since the original plan was to use high school students as subjects, the questions that were used for the Freedom School scholars needed to be altered so that they could be easily understood by someone as young at seven or eight. Unfortunately, even after changing them, some of the questions were unclear to that age range or asked something that they were unable to answer fully. For example, one question asked about the highest level of education one’s primary caretaker had achieved. This proved to be difficult to answer, as many did not know. Also, questions regarding food purchasing were hard to answer, as a child that age often is not aware of those habits.

Demographic information for the sample is thus: ten were male (59%), seven were female (41%). Fifteen identified as either “African American” or “Black” (88%). Two identified as “Mixed Black and White” (12%). The median age was 10 years old. The youngest was 8, the oldest was 13. The median grade in school (entering in the fall of 2010) was 6th grade. The lowest grade was 3rd grade, the highest grade was 8th grade. Gathering accurate information on the highest level of education a parent or guardian had achieved was difficult. Ten were able to answer (59%). Of those ten, four (24%) listed one of their parents (all four named their mothers, specifically) as having completed college. Only one subject had two parents who had completed college (6%). The
remaining five (29%) either listed that their parent or guardian had completed some college or was currently enrolled.

Except for two, the rest of the questions for both the pre-test and post-test were open-ended questions. This is where the subjects were able to talk about their likes, dislikes, and ideas about food and gardening. I asked them about their favorite foods, a typical meal at home, and approximately how many times a week he or she ate vegetables. With these questions I was not necessarily searching for specific trends or patterns but used these to help get them in the mindset of talking about food and their typical or preferred intake. After these questions I asked, “When I say the word ‘garden,’ what do you think of?” Each subject (100%) responded cheerily with images of vegetable plants and flowers, planting, and growing. Some went on to list the different kinds of plants they would grow or the names of vegetables that they knew. I observed that all of the subjects had a positive attitude or were at the very least inquisitive towards the idea of gardens. This was interesting to me, as I later learned that most of them did not have access to a garden at home. That question was slightly more complex: “Do you have access to a garden where you live?” Eleven (65%) responded that they did not (the other six subjects (35%) who answered “yes” listed at least two to six different vegetables they were growing at home). Next, I asked those eleven subjects who answered “no”, “Do you think your eating habits or nutrition would improve if you did have a garden at home?” Some of the responses were surprising. All eleven (100%) believed that having a garden where he or she lived would make them healthier, stronger, help them lose weight, and/or feel good. Two (12%) mentioned that growing their own food would help their family save money at the grocery store, and one (6%) said it would give him a personal
responsibility. Three (18%) mentioned specifically that they do not have the space or that they live in an apartment or a building with no yard. Statistics like these show that there is a general understanding of the benefits, health and otherwise, that accompany growing food for personal use. Being able to identify such benefits without being involved in this kind of activity highlights the fact that these urban children were interested in eating healthily and being involved in gardening, but lacked the resources.

Discovering this was encouraging to me as a researcher because I was taking a chance with my assumptions. Personally, I do not come from a similar background to these subjects. I was hoping that they would be interested at the very least, or perhaps curious, so I could show them what I thought was “important” to know. Much to my surprise, I discovered during my pre-test that these students not only were interested, but either had a little bit of experience or knowledge themselves. This summer I was intent on showing them that they were right about all of the things they thought about gardens—that they are beneficial to wellness and can be a responsibility but a lot of fun, too. I treated it as an honor to be able to provide an outlet for gardening and outdoor learning to these scholars and family. It was a surprising but wonderful discovery to first feel somewhat removed from the population of the study (because of differences between my background and their backgrounds), but then understand that a love of food and growing and learning and eating well united us.

This point was made evident on small tours of the garden held at parent meetings. Many of them voiced their happiness that their children would be able to see their food grow, learn about healthy eating, and be exposed to a small part of the natural world. Several shared their own stories about growing up on a grandparent’s farm, an old family
recipe for something they saw growing, or having gardens themselves. As the parents and guardians of the Freedom School scholars frankly conversed and asked questions, I thought about another study I would like to pursue. In Chapter One I described a phenomenon that describes the gradual human move away from food and food sources. I think it would be interesting to study modern urban families and try to track down exactly how many generations “removed” from their food sources they are. A study like that could prove interesting for sociologists, or scientists looking for trends in food consumption.

The next question I asked in the pre-test was very broad and allowed each subject to use his or her imagination in placing him or herself directly in the Tribe One garden. I asked “What are you most looking forward to about the Tribe One Garden Program?” Responses varied. Some of the most insightful all began with the word “learning.” Seven (39%) of subjects wanted to learn! They wanted to learn about seeds, learn about plants, learn about carrots, learn about celery, learn about watering, and learn about how plants grow! Three subjects (17%) mentioned “trying new things” as their priority for the summer. As the adult in charge of the garden and their curriculum, I immediately felt a sense of responsibility to teach these students worthwhile information and make sure they had fun. I was not expecting them to be so enthusiastic about gardens and vegetables! None of them had any major worries about being in the garden over the summer, except for worms and bugs.

During the six weeks of Freedom School, the subjects ate their breakfasts and lunches outside of the building under an overhang that sat adjacent to the garden. When they were done with their meals it was common to see the kids cautiously walking
through the beds, crouching next to plants, and exploring the changing sights. It was clear that every day they became more familiar with being around the garden. They seemed to enjoy the responsibility of taking care of the plants, making sure they were watered, and pointing out the changes they had seen. I was hoping that they would take ownership of the garden, and they did. When the garden curriculum covered the topic of compost, the scholars began to police one another’s habits. There were a few who really took it upon themselves to make sure that everyone was respecting the rules of the compost bin and not putting anything there that did not belong. Though the subjects were not evenly exposed to the garden curriculum, seeing the garden everyday, twice a day served to show the complexities of growing and caring for a garden. I think that this unstructured learning environment also helped shape their views. In Week Six as Freedom School began to wrap up, I completed the post-tests.

As I mentioned before, I would have been happy with a slight interest from the students, and I was blown away by their curiosity and enthusiasm. Though I was unsure about how effective the research and curriculum had actually been, I was again surprised by the subjects’ responses to my questions. For example, an overwhelming majority of the subjects reported that they really were inspired by what they did in the garden program. Every subject (100%) mentioned something specific that they learned or would be interested in taking back with them to their families or communities to implement. Sixteen subjects (94%) said they would try to eat more fruits and vegetables after their experience in the Tribe One Garden. Several students mentioned their astonishment over the garden and its contents. Said Student F, “That was my first time going to a garden. I thought it wasn't going to be very fun, but then it was fun.” Student P said, “I thought the
garden was going to be small, but it's so big! Huge. Really huge.” Ten subjects (59%) mentioned his or her favorite part as tasting the vegetables or fruits, or seeing how they change as they grow. One subject noted in her Finale speech: “The tomatoes changed from green to yellow, orange, or red or purple. The okra started out as only a few inches tall, but is now taller than we are! The watermelon started as just a small vine, but now it has fruit the size of my head!”

The research question sought to find a positive correlation between exposure to an urban garden and improved eating habits. I was surprised to learn that in the short amount of time the subjects were exposed to the garden, eight (47%) had mentioned that they had already changed their eating habits and were consuming more apples, raspberries, cantaloupe, tomatoes, herbs (basil and parsley), and carrots, specifically. The final question in the post-test sought to find out whether the garden program had touched the subjects enough that they would continue their learning with gardens. I used this as a measure of effectiveness for the study. I was pleased to find that 65% (eleven subjects) said that they wanted to share what they were going to learn with someone outside of their family, like their teacher or principal. The remaining six subjects (35%) wanted to either keep it to themselves and build on their body of knowledge or share it with a family member. “I want to teach my little sister and plant together,” Student F said. “I want to keep my knowledge in my head and do garden stuff at home,” said Student P. One subject surprised me by saying “I want to go to college and study gardens and be a garden person!” Every subject (100%) was able to name something specific that he or she wanted to do with their interest and new knowledge of gardening. They learned that an
activity that may have initially been foreign to them can turn into an interest and can grow from there.

I have high hopes for the future of the Tribe One Urban Garden Program. I am incredibly proud of the progress the program made in the lives of fifty summer school participants, and I am confident that it can be a catalyst for so much more change in the Magnolia community. In one season, the garden grew blueberries, raspberries, sunflowers, four kinds of beans, two kinds of peas, two kinds of okra, six kinds of tomatoes, cabbage, collard greens, brussel sprouts, spinach, four kinds of lettuce, basil, parsley, three kinds of carrots, squash, zucchini, potatoes, two kinds of watermelon, cantaloupe, cucumbers, and onions. The scholars of Tribe One’s Freedom Schools Program learned that a small plot of land can have a huge impact!

The design of this research was a field study experiment without a control group. Due to the structure of the Freedom School, there was no way to isolate a group of scholars to make a comparison group. All scholars, regardless of involvement in the research, were exposed to the garden curriculum. An important note to the research is that the questions that were asked in the pre-test were not asked again in the post-test. This mostly refers to the questions regarding personal food preference. For example, in the pre-test I asked their favorite food and typical meal. I did not believe that this information was going to change much, or at all. In order to find whether there was a true change in the subjects’ eating habits towards more vegetable intake, I asked them specifically what changed for them from their experience in the Tribe One Urban Garden. From these responses I deduced that the study had indeed been a success and that there was a genuine
interest in gardening after exposure to the garden and the corresponding curriculum. The impression I received from these post-tests was that there was definitely an increase in the amount of vegetables and fruits the subjects were consuming.

In the fall of 2010, Tribe One will accept an AmeriCorps volunteer who will be in charge of maintaining and further developing the garden program. Eventually, I would like the program to expand to reach the high school students that come to Tribe One during the school year. Long term plans for the garden would be an expansion into other Tribe One property, installing a rainwater catchment system, and developing a business plan that could employ the high school students and provide fresh vegetables to the community through a farmer’s market and agreements with local restaurants. With more time, space and resources, I am confident that Tribe One’s garden can become a model for urban empowerment and renewal through the food system.
CHAPTER IV

CHALLENGES AND THE FUTURE

Urban agriculture has undergone several revolutions in modern history and has secured a niche in the American food system. The future holds challenges to the practice as well as opportunities for the field to expand and gain further legitimacy with the public, government and urban developers. This chapter will explore policy implications and the next steps for the future of urban agriculture.

Growing urban populations increase the demand daily for fresh and healthy fare. This demand is what will provide advocates with the support they need to move forward on the policy and infrastructural support urban agriculture needs and deserves. Farmers need access and legitimate avenues of acquiring land and resources, including necessities such as clean water and legal access to land. The latter is emerging as a common issue across the board because most city lots are protected or claimed by a city, developer, or private owner that has yet to build or use it. Locals often claim squatters’ rights and end up gardening illegally. Sometimes these disputes can result in legal battles. In order to make sufficient progress towards eliminating this barrier, cities need to remove restrictions on vacant city lots. This includes communication between zoning entities, commercial developers, and private owners. At the same time officials must develop a
comprehensive way to exchange ownership so that urban gardens can legally exist with
the city’s support. A system like this would encourage a healthier and safer city. Cities
could take it a step further and develop their own programs of urban agriculture in
greenways and available green spaces, creating jobs and being proactive about the need
and benefits of agriculture in the urban community. In addition, ensuring that farmers
have the appropriate infrastructure, tools, and technology will create a lasting urban food
system. Providing resources and removing legal barriers are the best things a government
can do to aid the development of their urban farm market.

In addition, urban farmers deserve the protection and resources that are made
available to traditional rural farmers from either state or federal government. This
includes access to financial support, such as loans and insurance. On a more local level,
partnerships with local food and public health entities, such as food kitchens and farmers
markets could provide further economic security for urban farmers. Unfortunately, few
programs that support urban agriculture currently exist. When state and national
governments begin to recognize urban agriculture as a viable means of improving urban
health, availability of financial services will follow. This will provide an immeasurable
level of security and support to urban agriculture.

For some advocates of urban agriculture, the “guerrilla” style of farming on
vacant lots and in the nooks and crannies of neighborhoods does not provide the stability
or structure that they claim the future will demand. They propose a different look to the
future of the urban farm. In 1999, Columbia University professor Dickson Despommier
designed “The Vertical Farm” to solve the issue of growing demand and diminishing
urban space (“The Vertical Farm”). Since the first designs, many architects have added
their own touches to the concept. They include space for growing, harnessing solar energy, recycling water, and producing large quantities of safe and healthy food for a growing urban population. Designs include skyscraper buildings that look like verdant candy canes with open walls and beds that wrap around like strands of DNA. The buildings, which have yet to come to prototype, offer a radically new way of looking at how we grow our food. The Vertical Farm offers a new level of food security and safety, as it can operate year-round and be independent of otherwise unpredictable weather and damaging pesticides and fertilizers. (Despommier demands that all Vertical Farms be made to produce organically) (“The Vertical Farm”). While this model has yet to be tested on a large scale, it stands as an example of the urgent nature of the global food system and the ability to creatively implement a solution. While Vertical Farms alone will not likely solve a nation’s food crisis, they have the ability to amend a city’s nutritional and food security deficits and possibly provide a safer future as the world’s cities expand.

Urban agriculture, while providing many benefits and possibilities for the urban scene, does encounter a few challenges. Research has indicated that farmers need to direct special attention to two main issues, soil quality and use of fertilizers. First, soil is an especially pertinent issue because many gardens are created on lots that were rundown buildings or were vacated lots. Sometimes garbage has been sitting on the lots, which leads to soil contamination, lead-poisoning, and heavy metal exposure for those who eventually eat the food that is grown there. Different vegetables absorb the metals contained in soil better than others, and therefore some pose greater health risks than others (Hough et al. 216). Research has indicated that vegetable plants can offer the
positive effects of phytoremediation, which has the ability to remove harmful metals such as lead, chromium and other harmful substances from the soil (Brown and Jameton 31). However, the resulting crops must be properly destroyed and are not intended for human use. Aquaculture and hydroponics, or the practice of growing plants in nutrient-rich water without soil in conjunction with a protein-rich fish (tilapia is the most common), is offered by some as a safe and healthy alternative to the soil issue. In addition, a fish tank supplies the market with a protein-rich source and also emits valuable heat in a greenhouse during cold winter months. A common criticism is that the start-up costs are significantly higher than starting a garden grown in soil, even if one has to import soil to grow safely (Flisram 18). Also, comprehensive use of a hydroponics system requires knowledge beyond regular growing techniques, which may require the farmer to invest additional funds in learning how to operate the system. Regardless of the style of garden, soil testing is an important first step and can help a gardener avoid future issues with soil-related health.

A second issue associated with urban farming is the use of pesticides, fertilizers, herbicides, and fungicides. When farming is conducted in a compact area, one must pay close attention to the additives used in cultivation. Petroleum-based fertilizers and pesticides, for example, are much more likely to transfer to people in an urban setting than a rural one. In addition, it is more of a health hazard when fertilizers travel by air or water because of the increased population density. Because of these potential risks, many urban gardeners are opting to produce organically. This not only significantly reduces the health risks, but also has the potential to earn the farmer more money. Organic produce can be sold at higher prices because typically, fresh, organic produce is difficult to come
by in metropolitan areas. Because of these reasons, growing organically is a very popular way to raise an urban garden.

While there are some pertinent health and legal issues associated with the current form of urban agriculture that exists in America, it remains a practice that is a wonderful solution to the growing food crisis domestically and across the world. It has engaged a captive audience that attracts people from all stages in life, from all professions, from all backgrounds, who care about their communities and what they put in their bodies. The research I conducted even in a small sample of young Knoxvillians encourages us to continue to work for more and better opportunities for those who desire to become a part of the movement.

Urban agriculture can make our nation healthier and more prosperous. With the progress that is forthcoming in the near future, urban agriculture will move towards permanency and legitimacy. Urban agriculture holds the potential to change the way Americans understand their food and connect with their diets. The dedicated urban farmers who work each day towards bettering their communities help determine the politics and food culture that will one day revolutionize the American food system as we know it.
APPENDIX
WORKS CITED


King, Adam. “Mississippian Period: Overview.”


