

# Urban and Community Gardens in Tampa Bay, Florida: History, Models, and Social Practice



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## Preface: Research Project Aims

The research described in this report, like the gardens and gardening movements described here, grew organically over the course of Spring semester 2009 as a joint class project with the students of Environmental Anthropology (ANG 5937) and with the support and involvement of many people (please see Acknowledgements section for more details). Initially, the idea for the research came from conversations with Ed Johnson and Lorna Alston (East Tampa Redevelopment Office), Bob Brinkmann, Laurel Graham, Laurie Walker, Jenny Friedman, and Elaine Howes (USF Garden Research Group), as well as graduate students in the course. This report represents a report on the very first phase of ongoing efforts of the USF Garden Research Group to document the history, geography, politics, and cultural practice of gardening in Tampa Bay, Florida.

We found a rich tapestry of gardening practices, ideas and discourse about urban and community gardening in the region, demonstrating a wide diversity of approaches to growing and nurturing plants for food, beauty, and a variety of other reasons. In particular, we are interested in documenting the gardening expertise that residents in Tampa Bay demonstrate through their cultivation of “dooryard” (in front yards and backyards, side yards and alleys) gardens focused on food production. Interest in community and urban gardening appears to be on the rise in the Tampa Bay area currently, and so we began documenting the emergence of this local interest as well as capturing the ways individuals in a variety of neighborhoods grow their own food using a wide range of techniques and approaches. Environmental anthropology as a discipline is broadly concerned with sociocultural and biophysical aspects of human-environment relationships. The aim is to carry out research and practice that examines how history, politics, culture, and ecology all come together to create the environments we live in and

continually recreate. As we applied the ideas we discussed in the classroom to local urban and community gardening practices, the goal of this project was to describe the ways people are shaping their immediate environments and creating alternatives for food production, in order to highlight the social dynamics of this process. We found that residents of Tampa Bay are creating urban landscapes by growing food and other useful plants, both individually and in communities, drawing on the past, and imagining new futures for the ways we eat, play, work, and live in Tampa Bay.

## **Introduction**

This project investigates a variety of issues in regards to community gardening in the United States, which we hope will help to inform any future decisions about the feasibility of promoting this practice in Tampa. We begin by discussing the methods employed for this research and a justification of the design implemented for carrying it out. We discuss the singularity of anthropological research methods, and outline the sources for the data gathered in this project.

In the second section, we provide a historical background of community gardening in the United States. We underscore trends in national policies and the different strategies that have been used to manage crisis through gardening. In particular, we emphasize two wars and two economic bust cycles, illustrating the major campaigns as well as the goals and methods of each. This section situates the subsequent themes of this paper within a holistic context, facilitating a more complete understanding of the topic.

In the third section, we examine literature available in academic journals regarding the social functions and challenges of community gardening, in the United States. We summarize the

most general arguments made by these authors, within their particular disciplinary traditions as well as compare and contrast them. This section concludes with reasons to support gardens, and ways to resolve important issues that impede their expansion and maintenance.

The fourth section of this paper underscores the predominant themes in the literature regarding perceived impacts of urban and community gardening activity on health and diet. Some of these perceived impacts include improved nutrition, improved access to food, and increases in physical activity, improved mental health, social health, and community cohesion. This section also explores issues related to community gardening that might provide confounding factors for good health, including physical stress, issues of insecure land tenure and access, bureaucratic resistance, concerns about contamination, lack of direct funding and infrastructure, and disagreements within community gardens themselves.

The fifth section suggests a community gardening model for urban neighborhoods in Tampa and makes conclusions based on information acquired through literature review and interviews conducted with several local gardeners and other participant researchers to understand the local knowledge that was available on gardening. We discuss three of these interviews, the model that the gardeners followed, and the application value of these gardens to Tampa.

The sixth section outlines the results of 12 community garden interviews and discusses themes that emerged throughout the research. The themes included motivations for gardening, models for gardens, types of food grown, potential problems with gardening, and advice for gardeners. The concluding discussion section reviews the overall information presented in this report and offers suggestions for how to feasibly maintain a community garden.

## **Methods and Design**

The purpose of this section is to address the methods used to carry out this research and to describe the manner in which information was collected. In order to accomplish that, this section begins with a discussion of the singularity of anthropological research and the methods that can be used. This then evolves into a discussion of the particular methods used for this project and the reasons why they were chosen. Finally, the sources for the data gathered in this project are delineated.

## **Ethnography and Ethnographic Methods**

Anthropological research is characterized by the use of ethnography. Margaret LeCompte and Jean Schensul define ethnography as a “scientific approach to discovering and investigating social and cultural patterns and meanings in communities, institutions and other social settings” (1999b:1). At the same time, the authors note that ethnography is not comprised of a single or uniform method but rather a combination of various possible techniques, the end purpose of which is to arrive at the social and cultural meanings shared by a designated group. Using ethnography, the researcher intends to elicit information relevant to a particular locale or a given sphere of knowledge. Specifically, this project focused on urban gardening and community gardens in Tampa. The research was conducted to ascertain the local meanings of and reasons for gardening, as well as for community gardens.

As mentioned above, ethnographic research is not exemplified by any strict use of techniques. Nonetheless, the techniques available can be grouped into two broad categories: qualitative and quantitative. This categorical distinction is based on the type of data obtained and is directly connected to underlying assumptions about reliability, quality, or legitimacy. Both of these approaches can produce equally valid data, the usefulness of which is ultimately contingent

on the assiduousness of the researcher and the appropriate design of the research itself. Qualitative and quantitative methods can also be used throughout the research process and do not have a defined place within the development of a study. Furthermore, Lecompte and Schensul (1999b) state, “Both qualitative and quantitative data are vital parts of the ethnographic research endeavour” (4). In the end, this alludes to the fact that the use of any particular method depends on the type of information the researcher is attempting to gather; which is invariably related to the questions driving the research.

### **Quantitative and Qualitative Methods**

Quantitative methods, are characterized by techniques that are exemplified by a concern with quantities (for example, surveys that elicit numerical rankings). By definition, quantitative methods employ the systematic use of numbers to arrive at frequencies (Maanen 1983:9), which are later associated through interpretation (i.e. amount of exercise and lung capacity). It was discussed above that both types of methods can be used throughout the span of a single project, but Lecompte and Schensul (1999a) suggest the use of quantitative methods until after the domains of interest and the factors involved have been defined through the use of qualitative techniques. In this manner, “quantitative measures can be used to verify qualitative findings and to improve generalizability” (18). The working assumption is that the internal validity or the degree to which the data gathered, “authentically represent the reality in which the people studied live” (Lecompte & Schensul 1999b: 275), can be strengthened by demonstrating the frequency of occurrence of a particular phenomenon.

Qualitative methods, on the other hand, “is at best an umbrella term covering an array of techniques which seek to describe, decode, translate, and otherwise come to terms with the meaning [...] of naturally occurring phenomena” (Maanen 1983:9). The definition provided by Maanen (1983) demonstrates that qualitative methods (for example, unstructured interviews) are

more of an attempt to arrive at the behaviours and beliefs a given population might have towards and about a particular topic (i.e. the perceived effects of gardening). Qualitative methods, then, are not trying to uncover the recurrence of a particular pattern but to further shed light on the rich tapestry of *sui generis* understandings and practices that a given population shares in relation to a specific topic. To reiterate, there is no perfect configuration of either category of methods that leads to an ideal ethnographic study, since both of these categories include a variety of different techniques.

### **Qualitative Methods and This Project**

The data gathering for this project relied primarily on techniques to collect information that are commonly referred to as qualitative methods. Specifically, this study relies on the use of participant observation and unstructured interviewing to describe perceptions and practices about local gardening and community gardens. Participant observation is the most common technique in ethnographic research and is defined as the “process of learning through exposure or involvement in the day-to-day routine or activities of participants” (Lecompte & Schensul 1999b:91). Unstructured interviewing can be best described as a guided conversation aimed at “exploring a topic in detail to deepen the interviewer’s knowledge of the topic” (121). Unstructured interviewing can be a misleading term, since the researcher may conduct the interview with guided questions and, thus, an unavoidable set of initial assumptions. However, the participant is asked to talk freely and at length about what they consider relevant to the topic and pertinent for the study.

The reasons for using qualitative techniques to carry out this project are several and will be addressed respectively. First, this was at the heart exploratory research, designed to uncover “domains believed to be important to the study and about which little is known” (Lecompte & Schensul 1999b: 121). Second, the use of qualitative techniques is the best way to include local

participants in the research experience and encourage them to share their views, ultimately shaping the form of the final product. Finally, it is an interest of applied anthropology, which is a focus of the USF anthropology department, to engage with stakeholders and support social change where it is desired.

### **Exploratory Research**

As the name suggests, exploratory research aims to explore, to discover, and ultimately to understand. Exploratory research is conducted under the assumption that the particular issue of interest is at best superficially understood and acknowledged. For example, it is known that people garden in Tampa, but the problem is that we do not necessarily know the reasons why a particular segment of the population chooses to garden, the most common varieties of plants that are planted, or even the extent of the gardening population itself.

Exploratory research is then implemented to determine with some degree of certainty what a social phenomenon looks like and how to study it. To this effect, the researcher attempts to interfere as little as possible with the research setting, with the implicit understanding that the presence of a researcher causes social interactions to change. This is important to keep in mind, because the intention is for the “participant’s perspective on the phenomenon of interest” to “unfold as the participant views it and not as the researcher views it” (Rossman & Rallis 1998:125). Consequently, there is an anticipated success in the use of unstructured interviews in this type of research, precisely because this technique allows the researcher to pursue “topics that the participant brings up” (124). In the end, this limits the intervention of the researcher over the course of the interview. Therefore, it can be assumed that the responses garnered are a manifestation of the participant’s idiosyncratic view on a topic and not the product of suggestive or “leading” questions.

### **Participant Selection and the Inclusion of Local Participants**

The second reason qualitative techniques were used for this project is that it allows for a broad interpretation of the population of interest. Since the actual extent of the vegetable gardening population in Tampa is not well known, it is not possible to create a sample of the participants (Lecompte & Schensul 1999a:124). For this reason, the use of quantitative methods would not be appropriate. This does not mean that qualitative techniques cannot yield statistically significant results (Bernard 2006); simply that statistical significance is not the purview of exploratory research. Consequently, this requires that the population be artificially bounded. That is, arranged according to the assumption that the population interviewed consists of “people who have specific characteristics in common but either do not belong to any identifiable social group or belong to many different groups, none of whose affiliation definitively establishes group boundaries” (Lecompte & Schensul 1999a:117). To this effect, the substantial majority of individuals interviewed for this project either garden or participate in community gardening, and to a minor extent individuals who expressed an interest in gardening were also interviewed.

The matter of inclusion is intimately related to the recognition that anthropological research brings the researcher into contact with a variety of interested parties, all of whom are designated stakeholders in the research process. Stakeholders “are people who have a vested interest in ensuring that the results of the research are used to solve the problem the research is addressing” (Lecompte & Schensul 1999a:14). Furthermore, stakeholders are considered more than just participants. They are acknowledged as prime contributors to the research experience by continually informing the process, and without whom the research itself would be meaningless: “they become the spokespeople and interpreters along with the [researcher], working hand in hand [...] to construct the social and political context of the problem” (14). In

other words, all of the participants interviewed for the purposes of this research project are considered stakeholders. Additionally, it is recognized that these stakeholders are interacting within a network of other stakeholders.

Taking the above into consideration, the use of unstructured interviewing allows for a broad description of the problem in question that in great part originates from the stakeholders themselves. In the end, the ability to uncover the problem at hand lies on the willingness of stakeholders to work with the researcher and “help clarify the situation” (Lecompte & Schensul 1999a:33). At the same time, this constitutes an explicit admonition that the researcher might be well informed or trained, but is by no means an expert on the issue at hand and that the researcher’s knowledge base must be supplemented with the equally valid knowledge base of the stakeholders (Neves-Graça 2006). Similarly, it is an express attempt “to validate alternative sources of knowledge” (Rossman & Rallis 1998:7). This in itself stems from a long history of research that has relied on the faculties of “experts and professionals” and which “have not always proven useful” (Lecompte & Schensul 1999a:33). In other words, the participation of stakeholders is integral to the success of any research project that intends to fully understand the conditions that characterize the perceived research problem. Social settings are complex and nuanced and by including a variety of stakeholders, the researcher is more appropriately equipped to gain an understanding of that complexity through the research study.

### **Applied Anthropology and Stakeholders**

This project falls under the field of applied anthropology, an area of inquiry and practice that seeks to inform social policy and action: “applied research informs action and enhances decision making” (Rossman & Rallis 1998:6). To this regard, some scholars argue that qualitative methods are the most appropriate for the elucidation of a research problem since “qualitative researchers try not to impose a rigid a priori framework on the social world; they

want to learn what constitute important questions about the participant's [experiences] from them" (Rossman & Rallis 1998:9). Therefore, the continual involvement of stakeholders in the research process is integral to the research experience. Adhering to this logic, the only way applied anthropological research can yield substantive results is by consciously engaging stakeholders and asking them to express their views and determine what concerns they have.

To this end, unstructured interviewing and participant observation gain legitimacy because they allow for a balanced exchange of ideas through direct participation and sustained conversations, since in the end "talk is essential for understanding how participants view their worlds" (Rossman & Rallis 1998:124). Ultimately, applied research "is judged by its effectiveness in helping policy makers, practitioners, and the participants themselves make decisions and act to improve the human condition" (Rossman & Rallis 1998:6). Therefore qualitative techniques are the best for carrying out research which directly involves the community or group of interest and which is eventually expected to have a beneficial impact.

### **The Data Sources for this Project**

The population for this study was self-selected. This means that the participants interviewed contacted one of the primary investigators (Dr. Rebecca Zarger or Dr. Robert Brinkmann) and expressed their interest in participating in the project. This was accomplished in two ways. First, we distributed fliers at an East Tampa Revitalization Partnership Meeting along with a sign-up sheet (see appendix A). The fliers contained a brief description of the research project, which solicited the participation of individuals that might be interested in offering their expertise and particular experiences on gardening through an unstructured interview. The individuals who signed the form were later contacted for participation. The research project was also featured in a brief newspaper article in which the research project was again described; the article provided Dr. Zarger's contact information and further encouraged the participation of any

interested individuals. Finally, Dr. Zarger and other members of the research team (students in Environmental Anthropology at USF) conducted participant observation at a variety of community meetings in which personal and community gardening were being addressed (see appendix B).

### **Unstructured Interview Protocol**

The unstructured interviews covered three major topical areas (see appendix C). The first part of the interview consisted of a guided tour through the participant's garden (in the instances where the participant had a garden). During the guided tour, the interviewer(s) elicited, from the participant, a description of the plants found in the garden. In this portion of the interview, the interviewer(s) jotted the names of the plants found in the garden along with the particular variety. This was accomplished with the help of a chart (see appendix D), which contained a list of the plants most commonly grown in Tampa. The chart also had an open space where the interviewer(s) could include other plants not listed on the chart. There was also a blank space on this template so the interviewer(s) could sketch a drawing of the layout of the garden. During this part of the interview the participants were asked to share the reasons for selecting the varieties of plants which were being grown, the particular origin of the seedlings, any particular stories that the participant had about the assortment of plants, and also the garden growing habits of the participant along with any notable experiences related to their gardening endeavour.

The second part of the interview was aimed at uncovering the nuances of gardening from the participant's perspective. That is to say, the meaning of gardening for the participants, their reasons for gardening, the impacts gardening had on their lives (i.e. contribution to their food budget or well-being), as well as the challenges that they faced while gardening. The third part of the interview consisted of their views and perspective on community/urban gardening. This part was designed for the participants to share their general knowledge on the subject, the possibility

for interest in it within their own communities, possible locations and participants within the community if there was indeed interest, and to understand the possible impediments or conflicts that might obstruct the creation of a community/urban garden in their neighborhood. Finally, most of the interviews were audio recorded and in some cases this was supplemented with video recordings, photographs, and notes from the interviewer(s). In the cases when the interviews were not recorded, the interviewer(s) supplied detailed notes.

### **Interviews Conducted**

The unstructured interviews were conducted with individuals in and around the Tampa Bay area who initially contacted the primary investigator (Dr. Zarger). A total of twelve interviews were conducted (see appendix E). The interviews took place between February and April of 2009 and were usually carried out in groups of 2-3 interviewers, although in some cases they were conducted by a single interviewer. Finally, the interviews varied in length from a half hour to a little over an hour (see appendix E).

### **Available Literature**

This research project was additionally supplemented with a comprehensive literature review of topics considered to be relevant for this project. The topics addressed include the history of community gardening, social and environmental science literature on urban and community gardening practices in US and Internationally; and an overview of common models and the sociocultural and biophysical structure for urban/community gardens. The specific impacts of community gardening on health, diet, and the perceptions of the “community” are also discussed. This literature review begins by exploring the history of gardening programs in the United States.

## **Gardening for Crisis Management: History of National Programs**

This section provides a historical background to community gardening in the United States. It will highlight trends in national policies and examine different strategies to manage crisis through gardening. Specifically, two wars and two economic recessions will be discussed, illustrating the major campaigns to promote gardening as well as the goals and methods of each. By doing so gardening practices will be situated in a holistic picture, facilitating a more complete understanding of the topic.

Community gardening rose to a national movement for the first time in the 1890's when a strain on resources resulted from urban overcrowding and a lagging economy. This was the era of progressivism in philanthropic sentiments regarding aid and relief, where widespread notions of "self-help" approaches were championed. Many thought that direct giving created content for the disenfranchised, prolonging their idleness. Stemming from this, it was reasoned that self-respect would likewise decline; adding to potentially increased societal ills. Guidance and encouragement characterized the efforts to assist those affected by poverty while stressing personal action and responsibility as the sure way to get back on top.

The socialist reformist Mayor Pingree of Detroit introduced gardening in 1894 to generate food and income for those willing to work (Lawson 2005:24). This initiative proved to be a controversial alternative to charity as it operated under the assumption that land and supplies would be donated on large scales, and many thought this was an inappropriate time for experimentation. "Pingree's Patches," as these plots were called, generated \$14,000 worth of produce, silencing critics and legitimizing the program to the point that aid could not be received unless an individual gardened (Lawson 2005:25).

The success of this experiment made national news and caught the attention of prominent New York attorney Boltan Hall. He brought community gardening to New York City in 1895, which in turn inspired residents in Philadelphia to start one of the most successful cultivation associations to date. These programs were attractive because of their connection to the notion of self-help noted above, but also because of the relatively low start up costs and exponential potential for returns. For example, it was estimated that in 1903 Philadelphia grew \$9 worth of produce for every dollar invested (Lawson 2005:31). In many cases, the practice of transferring costs found in all these cities began to generate income for the state or city.

The cost of maintaining a garden went down each season with increased knowledge and supplies. Dues were paid at rising levels per year so that gardeners active for 4-5 years paid back their initial start-up money. Since many gardeners exceeded this time frame, the programs were widely successful. Problems existed with transportation, as many of the gardens were located on the periphery of cities. Unsuccessful gardeners generally attributed this as a reason for failure as well as limited technical knowledge. Also limiting the reach of gardening initiatives of this period was the general distrust of charity, a lack of managerial ability, and land speculation, which made establishing plots an uncertain venture (Lawson 2005:49). It has also been noted that financial returns could have been higher if the lag time between gaining support and planting had not been so long. This resulted in a shorter growing season and general lack of seasonal preparedness.

A “bottom up” approach characterized this first wave of gardening for relief from economic crisis, where influential individuals gave back to the community by providing supplies and land to those willing to work. The success of the programs caused widespread city, state,

and national support once they were in place and prompted adoption of such initiatives in nearly every US city in the last decade of the 19<sup>th</sup> century.

It is important to note that in this incarnation of the gardening movement, personal benefit was stressed through home consumption and generating sales. It was also hoped that the skills learned would allow people to leave the cities for rural areas and pursue subsistence farming to alleviate urban strain. This philosophy, as well as economic benefits was responsible for establishing gardens at hospitals, sanitariums, and prisons where these skills may dissuade people from resettling in slums upon their release. Support for gardening waned once the economy rebounded and land was sought after for development. Community gardening was largely abandoned as a relief effort and its advocates switched focus to other social benefits. School garden campaigns became popular until WWI shifted efforts to other areas.

When the United States entered World War I in 1917, food became a national concern causing the second gardening craze in the nation. Production and distribution of food was important to the war effort domestically and at the war front. U.S. crops were shipped overseas to supply Europe, whose agricultural sector was adversely affected by severe weather, abandoned farms, and scorched earth strategies. At home, the war effort was being drained by the burden placed on the transportation infrastructure resulting from our dispersed food system. In 1916, it was estimated that one million railroad cars were needed for the year to cover the nation's food sector (Lawson 2005:119).

For these reasons, the national war garden campaign could be seen as originating from a “top down” approach, as active crisis management as opposed to a philanthropic response as in the previous economic recession. The domestic war campaign included food security as a top priority and identified the need to improve farmers' markets and truck farms, as well as

efficiently managing production and distribution. Specifically, the National War Garden Campaign targeted all unused land including playgrounds, railroad right of ways, vacant lots, and backyards. Despite the need for food, however, a balance was needed to increase production but not drain other resources. Gardening was emphasized as a leisure activity to participate in without becoming a burden. Through gardening, citizens could assist in the war effort while simultaneously maintaining their own comfort levels. Gardening was advocated and managed by a number of federal offices that were responsible for achieving these goals.

The Food Administration was created to protect against stockpiling and monopolies by running the infrastructure and setting prices. This office was also responsible for the management, production, and conservation of food, including what gardeners grew. In 1917, the National Emergency Food Garden Commission was created as the propaganda and information distributor and to coordinate strategy. The informational materials produced by this office were sent en masse to pre-existing organizations. Women in particular were a target population, as they were responsible for 90% of the country's food consumption. The Women's Committee of the National Defense Council was established to link civic organizations to national management (Lawson 2005:122).

Resurgence in the school garden campaign prompted the government to start the US School Garden Army. This initiative expanded school gardening and sent 14 year old boys to rural areas as farm hands, and children under this age were active in local gardens (Lawson 2005:125). The program was begun by several agencies and ended up as an extension of the Bureau of Education's Office of School and Home Gardening. It was reasoned that not only would these programs assist in food production, but also teach valuable life lessons such as thrift, industry, service, patriotism, and responsibility. To foster enthusiasm these "mini gardeners"

swore oaths and were organized in military companies with rank and service bars. By 1917, the US Garden Army had 1.5 million children responsible for 20 thousand acres of cultivated land (Lawson 2005:126).

When the war ended, the National War Garden Campaign plots were renamed victory gardens and were envisioned as food providers for Europe over the next 5-10 years. Like the previous gardening campaign, this period relied heavily on donation of land and the organization of civic associations, the emphasis however shifted from personal consumption and income to personal responsibility and sacrifice.

The Great Depression of the 1930's also brought with it crisis management through gardening. Goals were similar to the 1890's movement such as food consumption, economy, aid, and self-respect through avoiding idleness. Several marked changes existed however. This round of gardening was characterized by large-scale work farms that were not volunteer-based, and subsistence plots. These were again citizen initiatives because no national advocacy groups or governmental organizations came forward. However, state and city level officials mandated the programs once established, and the federal government funded initiatives from 1934-35. Work relief farms were created that exhibited similarities to Soviet collective farms where employment could be found to grow food for aid, not for sale or personal consumption. In 1934, these farms accounted for 36% of the nation's produce and provided income to millions of families (Lawson 2005:145).

Subsistence gardens were in urban settings and again relied on philanthropy. Aid organizations donated seeds and technical assistance for home gardening along with a host of other groups and individuals. In the spirit of benevolent assistance, many of the corporations affected by the economy began gardens for employees who were laid off or were experiencing

lost hours and wages. After 1937, food stamp programs for distributing farm surplus withdrew federal involvement from all gardening programs. However, city and state agencies promoted the practice for the duration. The challenges to the success of these gardens revolved around issues of security due to the general lack of resources at the time. This required many gardeners to wear badges and carry identification cards, camp onsite, or hire guards.

Barely out of the depression, The United States found itself in a second European war. This time, however, technology had improved agricultural practices, and food scarcity was not as much of a concern. When the National Defense Gardening Conference met 12 days after Pearl Harbor, gardening was considered an inefficient way to produce food, therefore wasting resources (Lawson 2005:174). For example, rations on fertilizer caused a need to develop low cost diluted “victory garden fertilizer” for home and community garden use. The focus was placed instead on large-scale management through growing the right thing, in the right amount, in the right location.

These policies were supplemented by rigid production selection, price controls, and rationing. Though it was considered unnecessary to garden for the WWII war effort, so much public rigor was exerted that the government promoted it as a symbolic gesture. This public support and willingness, however, is arguably, what allowed otherwise controversial rationing programs to be met (Citations?). This made gardening a valuable tool as a token gesture to maintain support. The Secretary of Agriculture set rudimentary goals for the number of desired gardens in a given year and prizes were distributed. Despite growing 7.5 billion pounds of food in the first two years, the emphasis was on personal use and satisfaction not as a means to benefit the nation.

This historical account shows that support for gardening gains and dwindles during crisis, and is heavily supported through donation and civic organizations. While differences existed in management and organization, commonalities include the temporary nature of land use and the ways programs were structured. This is both a strength and weakness as it allows gardens to be cultivated quickly, but rising values of land after crises always limits permanence.

Furthermore, these programs were never considered the sole means to alleviate pressure on resources, but simply a cost effective way to assist at a local and personal level. Community gardening still exists today; however, no sweeping national initiatives have been witnessed since the ones outlined above. Instead, recent history of social movements to expand urban and community gardens tend to be community-driven organizations as opposed to programs mandated from a federal level. This history illustrates the capacity for food generation in this country, which is relevant to our current time. The following quote from Harry Truman captures this, reminding us that access to food should not confront us only during crisis:

The United States and other countries have moved food into war torn countries in record amounts, but there has been a constantly widening gap between essential minimum needs and available supplies. The threat of starvation in many parts of the world and the urgent need for food from this country emphasizes the importance of continued efforts to add to our total food supply this year. A continuing program of gardening will be of a great benefit to our people (Washington, DC: GPO, 1946).

## Social Functions and Challenges of Community Gardens Today

This section examines some of the literature available in academic journals in regards to the social functions and challenges of community gardening in the United States. We briefly summarize the most general arguments within particular disciplinary traditions and compare and contrast them. We conclude with some social equity-based reasons to support gardens, and ways to resolve important issues that impede their expansion and maintenance.

As explained by Lawson, according to Borrelli (2007), community gardens are “a neighborhood garden in which individuals have their own plots yet share in the garden’s overall management” (273). This definition includes “neighborhood community gardens, children’s gardens, horticultural therapy gardens, and entrepreneurial job-training gardens” (273). As stated above, community gardens have been popular in the United States since the 1890s, and at the point that Borrelli’s article was published, in 2007, there were about 18,000 community gardens in the United States and Canada (274).

The academic literature available on community gardens is varied, and it reflects the many different functions that urban gardens fulfill. Some of the disciplines that researchers studying this practice draw from include geography, environmental law, leisure studies, education, sociology, housing and community development, social movements, etc. The earliest record we found on the subject is an article from an educational publication in 1908, called *The Elementary School Teacher*, where Miller explains that, “Interest in gardening is cumulative. There is a vital touch about it, which nothing else seems to supply. Fresh air, sunshine, exercise, contact with the soil, the wonderful mysteries of nature, afford a strength and poise which may be helpful in physical, moral, intellectual, and spiritual development” (580). In Miller’s context,

gardening was also utilized as an educational therapy for troubled and delinquent children who needed to be “normalized” into society. All the assets of gardening described by this author, and more, are part of the repertoire of benefits that gardeners and communities in general discuss as potential benefits from the activity today. Gardening continues to provide an important social, cultural, and economic opportunity for many people living in urban areas.

### **Gardens Are a Source of Food and Economic Resources**

Gardens are an important source of food and economic resources for many populations in urban areas. For example, Airriess and Clawson (1994) describe the gardening practices of Vietnamese immigrants in the New Orleans metropolitan area, before hurricane Katrina nearly destroyed the city. In these gardens, older generations of Vietnamese Americans worked the land in order to maintain their preferred dietary habits, to increase their economic satisfaction, sense of economic self-worth, and emotional wellbeing. They gardened mostly for household consumption, but some also sold their surplus harvest in the ethnic markets (20).

In a different context, Flanagan and Varma explain that The Women, Infants and Children (WIC) program in Albuquerque, New Mexico, a federal government program “that provides supplemental food and nutrition education to low-income (below 185% of the federal poverty level) pregnant and breastfeeding women and their infants and children under five years of age” (2005:69) began a community garden project in 1999 with the notion that gardens would promote the consumption of vegetables among low-income women and their children (2005:69), and therefore improve their health. Flanagan and Varma explain that nutrition educators in the program failed to encourage women to garden, but that if the issue could be addressed, more women would participate in the activity (2005:73). We shall return to the health benefits of gardening in a subsequent section.

### **Gardens Promote Democratic Values and Connection with Nature**

In addition to providing food and a certain level of economic independence for low-income populations, community gardens are also perceived to promote “civic values,” teach the importance of subsistence activities, connect people with the natural environment, and invite them to care for each other as well as for other species. In this sense, Adelman and Sandiford (2007), for example, created “The Community Garden,” at the College of DuPage, in Illinois, in 2003. Their garden has been a source of healthy food for a local food pantry for several years; and they teach their community college students agricultural production, and community service through gardening (Adelman and Sandiford 2007:5).

...Students learn about the extent of poverty and hunger in their own communities. They also learn that organic agriculture is possible and that food security issues can be addressed on a local, grassroots level. By working in our garden, students become involved in a growing national alternative agricultural movement based upon local decision-making, civic action, and increasing freedom from the corporate food industry (2007:7).

Hence, for these authors, as well as others, community gardens perform an important function in social cohesion and resistance. Glover et al. note that, “...leisure-oriented activities such as community gardening, are often major social spaces for the development and maintenance of social relationships” (2006:86), and cooperation is a fundamental characteristic of community gardens (2006:79). As a freely formed activity and organization, community gardening promotes democratic values because participants can use their network and structure to work together and advocate for social justice and change (Glover et al. 2006:77), with resulting empowerment and improved lives. In a multi-purpose study of gardens in St. Louis, Missouri it was noted that,

Community gardens are grassroots initiatives aimed to revitalize low-to-moderate income neighborhoods in urban settings... By converting decaying urban spaces into ornamental or vegetable gardens or both, residents transform neighborhood liabilities, namely abandoned, dilapidated lots into tangible (e.g., fresh produce, beautification, sitting gardens, for recreation) and intangible neighborhood assets. In general, these ‘assets’ reflect a collective effort for positive neighborhood change (Parry et al. 2005:179-180).

The benefits of gardening identified by these authors include positive aesthetic changes, cost savings from growing food and safe open spaces; at the same time, gardens invest disenfranchised individuals with opportunities to join a group effort. In their view, community gardens often are “more about community than about gardening” (180). However, Parry et al. also remind us that community gardens reflect other characteristics of general social organizations, such as exclusion and homogeneity. Schmelzkopf (1995) illustrates this point in her study of the Loisaida gardens in New York City,

Gardeners often complain about interactions in some of the gardens, which they call garden politics. The practice includes anything from the not-uncommon power struggles and backbiting of any organization or family structure, to disturbing conflicts about different ethnic and gender backgrounds—who should grow what, why certain behaviors are preferred over others, who belongs, and who does not (376).

### **Gender and Age Are Important in the Constitution of Gardens**

Gender relationships also appear as an important aspect of community gardening. For example, many authors find that women are most prominent in community garden associations, and usually act as their leaders. In this sense, Parry et al. confirm the results of previous studies, which explained that women are empowered in community gardens (2005:180), and Schmelzkopf exemplifies this observation in her description of the Loisaida gardens. In Loisaida, Hispanic men have their own gardens (the casita-based gardens that evoke Puerto Rico’s countryside), which are run by them, and are used primarily as gathering places, “where men

drink beer, play dominos, socialize and sometimes even sleep” (Gonzalez 1990 in Schmelzkopf YEAR:367). However, females account for at least 70 percent of all gardeners in the area (373). In addition, Wilhem Jr., in his depiction of dooryard and gardening practices in the black community of Brushy, Texas, explains that “the woman usually makes most, if not all, gardening decisions and performs the instrumental role. The man in the household has the expressive or supportive role, usually emphasized in plowing, fertilizing, and planting the garden” (1975:92).

In contrast, gender did not seem a defining factor in the social composition of the New Orleans Vietnamese gardens studied by Airriess and Clawson (1994). Instead, age appeared more determinant of their constitution. Other studies seem to hint that most participants are mature adults, but further research is necessary to confirm this observation.

### **Community Gardens as Contested Geographical Spaces**

One other fundamental aspect of community gardens, as reflected in the literature, is their general condition as contested geographical spaces. Although gardens are perceived by many residents in the U.S. to be aesthetically pleasing and enhance sociability; they also: supply food; are inexpensive to maintain; promote social cohesion; increase self-esteem; provide opportunities for leisure, therapy, and neighborhood and community improvement. However, they are also constantly under the threat of urban development. This lack of security in land rights impedes their continuity and expansion, as Schmelzkopf (1995) states,

The practice [of community gardening in the U.S.] has been common in most periods of crisis since the late nineteenth century. It has often been subsidized by local and federal governments, so that residents can produce foodstuffs for themselves. The typical scenario has been for gardens to be established on land that is considered to have little market value... Then support is withdrawn [when the economy improves]... Several of the large gardens have become politically contested spaces, and conflicting community needs have led to a dilemma of whether to develop the land for low-income and market-rate housing or to preserve the gardens (364).

This kind of struggle to maintain community gardens is illustrated by the political confrontations in New York City in the 1990s, as well as the South Central Farm (also known as the South Los Angeles Community Garden), in California. “In the winter of 1998-1999, the City of New York put 114 community gardens [located on public land] on the auction block... Shortly after... community gardeners and an array of social and environmental activists began to formulate strategies for preventing the auction.”? In doing so, garden advocates confronted a neo-liberalization of urban space (Peck & Tickell 2002; Smith & Kurtz 2003:193) under the administration of Giuliani. Through a strategic reframing of the struggle at different times, and at different geographical scales, the advocates were eventually able to stop the auction, and many gardens were saved. The South Central Farm in Los Angeles, however, did not suffer the same fate as the New York gardens. The Farm, established in 1993, “was a 14-acre community garden that provided 350 primarily Latino households with space to garden” (Lawson 2007:611). However, the plot on which the Farm was established was enmeshed in an eminent domain struggle between the City and the previous owners and, eventually, the original owners were able to repurchase the land; the gardeners (not without angry and organized protest) were evicted in 2006 (612-613).

One of the important aspects illustrated in the cases exposed above is that community gardens are, according to Lawson, as Borrelli (2007) explains, “rarely... considered permanent (280).” The problem, according to Lawson?, is that neither private nor public land law arrangements offer a solution to the problem of permanence. Because the law lacks an “adequate context within which to evaluate gardens” (296), a more radical solution is needed in order to change the terms in which gardens are defined. That is an “ethics of place,” defined by Mick Smith (Borrelli 2007:272), which reframes the way human beings relate to the environment.

“The values that Americans assign to land greatly contribute to environmental inequalities such as discrimination in land use and ownership. Such values include economic status, independence, and a superior quality of life (276).” The ethics of place “create an awareness of context and force us to understand where things come from and how they connect with each other” (198). They help to bridge the gap between natural and cultural environments, while eliminating the idea of humans owning, colonizing and appropriating nature (299).

Instead of allowing political decision making to rely so heavily on science and economics, we must force values to surface as “the explicit subject of politics and the conscious starting point for all policies.” (FN182). Otherwise, development will almost always take priority over community gardens and open spaces (296).

Although gardens are highly valued by gardeners and the communities where they are located, their (monetary) value is often overlooked by lawmakers, businesspeople, and the U.S. public, in general. These actors do not understand or ignore the importance that some people place on the use of land for reasons other than accumulation of capital. Until the framework shift that Borrelli calls for occurs, it will be difficult for the garden movement to grow and expand. A change of attitude is necessary not only to save community gardens, but, more generally, and with urgency, to avoid the destruction of our habitats, as well as the extinction of many species. Gardens can also be a way to strengthen the ethics of place, once established, bridging the gap between people and nature. They “...allow urban residents to reconnect with nature in a very practical and simple way—right in their own neighborhoods” (Borrelli 2007:279).

### **Final Thoughts**

The benefits of community gardens as explored in this section are numerous, and their maintenance should be a priority in the planning and development of cities if policies are to promote healthy societies and amenable living spaces. Gardens can support equitability in access

to resources, help lower-income families to keep a healthy diet, and provide places for recreation. Gardens also help cities resist vandalism and crime, and promote integration of different groups of people. In sum, community gardens may strengthen social structure and, therefore, deserve an important space in urban planning agendas.

## **Perceived Impacts of Community gardening on Health and Diet**

The importance of fruits and vegetables to proper nutrition and diet has been demonstrated in hundreds of scientific studies over the last several decades. Diets such as the raw food movement (which aims for a diet consisting of 75-100% raw fruits and vegetables) and the five-a day fruit and vegetable campaign are among just a few of the examples (USDHHS & USDA 2005:viii). This discussion of the significance of fresh fruits and vegetables in our diets extends to community gardens and their produce, in that gardens relate directly to the health status of individuals and the entire community. During World War II, the US Department of Agriculture announced that, “national health and personal well-being were dependent on the consumption of fresh vegetables” (Murphy 1991:1). This in part led to the conception of the Victory Gardens program, as explained in a previous section of this report, which ultimately produced about 40% of the fresh vegetables consumed in the U.S. from an estimated 20 million gardens (Armstrong 2000: 319).

Predominant themes in the literature on the perceived impacts of community gardening activity—such as health, diet, and sense of community—are largely based upon anecdotal stories from community garden participants. There are fewer empirical studies documenting health outcomes from gardening. Perceived impacts include improved nutrition, improved access to food, increases in physical activity, improved mental health, social health, and community cohesion. To a lesser degree, researchers discuss issues related to community gardening that might provide confounding factors for good health. These include physical stress that can be experienced from gardening activities, issues of insecure land tenure and access, bureaucratic resistance, concerns about contamination, lack of direct funding and infrastructure, and

disagreements within participants in community gardens, which can incite stress within participants. These themes will be explored in the following sections.

### **Perceptions of Improved Nutrition**

Participation in community garden programs has been linked with higher consumption of fruits and vegetables (Twiss et al. 2003; Irvine et al. 1999; Patel 1991). One study conducted to determine the association between household participation in a community garden and fruit and vegetable consumption among Michigan urban adults found that adults with a household member who participated in a community garden consumed fruits and vegetables 1.4 times more per day than those who did not participate in a garden. These same households were also 3.5 times more likely to consume fruits and vegetables at least 5 times daily (Alaimo et al. 2008:94).

Another study explored the effect a school gardening program combined with nutrition and physical activity education had on Californian youth. This project was created in response to a request made by the California Healthy Cities and Communities (CHCC) initiative for proposals to improve community nutrition and physical activity or in some way to enhance food security. It was found that this school program increased consumption of fruits and vegetables by 10% from 3.44 servings/day to 3.78 servings/day (Twiss et al. 2003:1436).

This possible link between community and school gardens and increased consumption of fruits and vegetables is significant in regards to human health and nutrition because higher consumption of fruits and vegetables has been associated with reduced risk for cardiovascular disease, cancer, and ischemic stroke, which are three leading causes of death in the U.S. (Alaimo et al. 2008:95).

An additional perception among community members is that by growing one's own food and having control over how the produce is grown there is a possibility of reducing exposure chemicals such as herbicides and insecticides (Wakefield et al. 2007:97). A survey of

community gardens in upstate New York revealed that 60% of the area's programs prohibited the use of chemicals. Of the programs that allowed chemical use, 60% of programs in rural locations compared with 33% of urban locations allowed the use of herbicides and insecticides (Armstrong 2000:321). In Tampa, for example, the Seminole Heights Community Garden has agreed to prohibit the use of pesticides and ask that all members use only organic seeds, plants, soil, and fertilizers for individual and communal plots.

### **Perceptions of Improved Access to Food**

Hunger has reemerged as an important social issue in the United States during the last two decades. Economic recessions have resulted in a growing number of Americans living in poverty. At risk groups, reporting experiences with some type of hunger, include families with children, the elderly, unskilled and unemployed youth, the mentally ill, the homeless, and minorities (Brown 1992; Nestle & Guttmacher 1992). Food insecurity has been defined as "limited or uncertain access to nutritionally adequate and safe foods" (Himmelgreen et al. 2000:334).

In this context, community gardens are seen as addressing issues of food security. It is difficult for individuals with limited incomes to attain the recommended fruit and vegetable servings (Power 2005: S37), and growing one's own food is often perceived as cost-effective. One project estimated savings between \$50 and \$250 savings per season in food costs for community gardeners (Hlubik et al. 1994:60). These gardens can be utilized in a way that fills gaps in the diet of individuals who are not able to afford fresh produce. Although some participants in our study explained that they did not find that they saved money through gardening, often initial investments are high and individuals can see "returns" over a period of years for that investment. Importantly, this is was typically not one of the most significant

reasons that interviewees for the Tampa project wished to participate in individual or community gardening.

Additionally, community gardens are perceived to be a technique for immigrants to gain access to “cultural foods” that they may not currently be able to find in the markets and stores of their current place of residency (Patel 1991:8). This type of research is described in more detail in a subsequent section, and is a promising and important area for future research in the Tampa Bay area, which has a long history of diverse immigrant neighborhoods and communities.

### **Perceptions of Physical Activity**

Gardening has been cited as one of the most common exercise activities in the U.S. (Crespo et al. 1996; Yusuf et al. 1996). It is a recommended form of exercise (Pate et al. 1995:402), and ranked as “moderate to heavy physical activity” (Ford et al. 1991:1246). One survey (between 1988-1991) found that 59% of men and 42% of women in the US reported gardening as a source of leisure time exercise (Crespo et al. 1996:93). Despite its classification as a leisure time activity, gardeners on average spend a greater time per week gardening than other activities?. Caspersen et al. (1991) noted that gardeners spend an average of 225 minutes per week gardening compared to other popular activities such as walking (160 minutes/week) and bicycling (170 minutes/week) (1078). The level of physical activity associated with gardening has been linked with significant change in total cholesterol, HDL cholesterol, and systolic blood pressure (Casperen et al. 1991:1078). Significant interest has been paid to senior gardeners. Park and Shoemaker (2009) noted that active gardeners over the age of 62 exhibited greater hand strength, pinch force, and bone mineral density than non-gardeners (32).

However, gardening can also be a source for physical bodily stress. Again, much of this research has focused on this stress exhibited in older adults. Positions like squatting places maximal bending of the knee joints and hip joints. This stress has been associated with lower

back pain. Stooping is another common position that gardeners find themselves in when weeding. Stooping can overburden the spine and cause more than normal blood flow to the brain. Additionally, kneeling can place pressure on kneecaps and knee joints. The flexing of the knees caused pain in some gardeners (Park & Shoemaker 2009:31). The biomechanical aspects of gardening are something that can be studied to a greater degree in order to understand the connection of gardens to human health.

### **Perception of Improved Mental Health**

Gardeners tend to perceive “nature”—which many gardeners link to the activity itself—as relaxing and calming. This seems to be especially important for individuals living in urban settings. Community gardens provide participants with an opportunity to experience nature and furthermore, actually participate in nature. Gardens are viewed as a change of pace from daily life and movement away from the office and TV watching sessions (Wakefield et al. 2007:97).

Gardeners also reported feelings of empowerment and self-esteem through gardening and skills associated with its practice (97). In addition to community gardens, several organizations have combined gardening activities with other programs that have aimed at such issues as local food systems, providing job skills training, and local employment opportunities. These types of programs attempt to explicitly link gardening with improved mental health and success in life (Armstrong 2000:325-6).

### **Perceived Concerns Relating to Health and Stress**

The commonly recurring themes within the literature connecting health and community gardens explore their positive impacts on human health, but this picture is tempered by perceived concerns identified by participants of community gardens. For some individuals these concerns might weaken the positive health impacts previously explored. Additionally, participants report feelings of stress associated with negative issues surrounding their gardens. The human body

responds to psychosocial, environmental, and physical stressors through biological adjustments—stress being one of these adjustments (McEwen & Seeman 1999:1). The body's natural reaction to stress is to produce stress mediators such as catecholamines and cortisol. Cortisol, also known as the “stress hormone”, naturally increases blood pressure and blood sugar, and reduces immune response (Kuzawa & Sweet 2009:4). A lifetime of high stress levels has been associated with cardiovascular disease, and short-term stress can affect eating and sleeping patterns as well as mental health (2).

Common challenges facing community gardens include insecure land tenure and access because most gardens are located on lands not owned by the participants. The attachment that growers feel as they work in their gardens juxtaposed against this lack of permanence increases feelings of stress and lack of control by the participants (Wakefield 2007:98). Issues of access can also be as simple as access to a basic need for successful gardening, like water. Directly related to this issue is lack of direct funding and infrastructure. This lack of funding is not only a barrier to purchasing one's land, but also makes buying basic gardening tools difficult. This especially acts as a barrier for low-income gardeners who may not be able to commit financial resources to the gardening process (Wakefield 2007:99-100).

Despite a possible increase in awareness regarding the use of chemicals in the growing process of an individual's garden, soil contamination is commonly discussed as another stressor for gardeners. Due to the lack of ability for community gardeners to purchase land, community gardens are often grown on abandoned lots. Participants worry about herbicide, insecticide, and pesticide residue. Some gardens are located on “brownfields,” which are abandoned industrial sites that either contain low-levels of contamination or perceived contamination and are consequently available (or abandoned) for re-use. A group of geography students at USF

conducted a community listening session regarding brownfields and health, underscoring the importance of this issue for East Tampa residents in particular (Brinkman & class 2009).

Lack of understanding, awareness, appreciation, and even resistance from the community and bureaucratic system are also identified as challenges to community gardens, thus creating stress for participants. According to garden participants, this lack of support translates into a lack of political will towards the gardens. Additionally, litter and vandalism are often viewed to be signs of the community's lack of appreciation for the garden itself (Wakefield 2007:99). As we will see later in this report, these concerns were also voiced by some Tampa residents as challenges to the success of a community garden and potential reasons for it not being a feasible option at this point in time.

Gardeners are not homogenous in their goals regarding their goals for community gardens. Disagreements can cause a great amount of stress for individuals and the community gardens they work within. *The Garden* is a documentary that recounts the complicated events surrounding the end of the South Central Los Angeles community garden. Scott Hamilton (2008), the movie's director and producer notes the disagreements among the gardeners regarding whether or not the produce from individual plots could be sold for profit. Disagreements culminated in several participants losing their plots and one person getting attacked by an axe. While this is an extreme example, the differences in motivations and viewpoints surrounding gardening is an important theme and may serve as a major source of stress.

### **Thoughts Regarding the Implications of Health and Community Gardens**

The themes discussed in this section are predominant perceptions held amongst community gardeners, and few of these health linkages have been explicitly explored. The prevalence of the perceived positive health impacts of community gardens, however, emphasize

the role that community gardens play in the lives of gardeners and the communities in which they live. This connection is important and possibly provides a tangible forum for public health efforts and organized community centered activities that link different disciplines and aspects of human health and environment.

## **Models for Community Gardens in the Tampa Bay Area**

The objective of this section is to suggest a community gardening model for that may be applicable to neighborhoods in the urban core of Tampa, which fall within the “Community Redevelopment Area” established through special taxation, such as Belmont Heights, Francis Villa, and other areas of East Tampa and Southeast Seminole Heights. The conclusions are based on information acquired through literature review and interviews conducted with several local gardeners, which helped our team to understand the knowledge that was available locally on gardening. Here, three of these interviews are discussed as well as the models that the gardeners followed for vegetable cultivation. Each of these three interviewees have been involved in very different types of gardening efforts, and represent a range of the varieties of gardening practices found in Tampa Bay. Bob Heath, Kip Curtis and Phaynam Soundara, participated in interviews, and each created gardens with distinct characteristics. The potential application of their gardens to other urban areas in Tampa will be evaluated.

To understand community gardening we first need to recognize how this initiative first developed. Hardesty notes that a preference over the past several decades developed among consumers for locally grown produce (2008:1289). A popular outlet to purchase local produce is the farmers market. In 1994, there were 1,755 farmers markets across the US; the current number is approximately 4,700 (USDA 2009), demonstrating the growing popularity of farmers markets. However, these markets aren’t always the easiest outlets for the farmer (Hardesty 2008:1289). Reasons include reduced space for vendors and relatively high costs to participate. Both farmers and consumers have begun to look for alternatives, which include community-supported agriculture (CSA), and development-supported agriculture (DSA).

CSA was initially developed in Europe and Japan as a way for the community to support an organic farm, by purchasing a plot and/or volunteering their time (Cone & Myhre 2000:187). This was largely a reaction to the industrial agricultural model where huge tracts of land were taken up and application of herbicides, pesticides and fertilizer were routine; and where environmental degradation was justified for short-term price reductions (2008:188). CSA's are now very common throughout the U. S., and several have formed in the region. Much like CSA, DSA are small-scale agricultural farms that are established in development areas such as the Community Redevelopment Area (CRA) in East Tampa (Katz 1993:163). DSA is not so much a reaction to create food networks, but a way to preserve land and create green space in development areas.

Industrial agriculture consumes fossil fuels and natural resources at an unsustainable rate (Horrigan et al. 2002:445). In order to address these issues, Horrigan et al. suggest that production practices need to be changed and that a shift from the industrial model to a more sustainable model is needed (2002:454). This includes expanding both CSA and DSA, and requires individual and collective action at the local level. The benefits to the community in this study were shared objectives, food security and nutritional benefits.

### **Individual and Dooryard Gardens**

One significant way that local residents garden is by planting their front, back, and side yards with edible fruits, herbs, vegetables, and fruit producing trees, representing a wide variety of flora that can be successfully grown in the sub-tropical climate of Tampa Bay. One local garden interview focused on a residential property in South Tampa, owned by Bob Heath, who has been gardening for 50 years and has been in the Rare Fruit Society for 30 years. Bob lives on two lots that he has completely planted over with a range of fruits and plants from all over the tropics. These plants include grapefruit, star fruit, pumellos, oranges, tangerines, berries, and much more.

When asked how he would classify his garden he said, “it’s my garden, not someone else’s... but I do give fruit to anyone that wants it. Let me get you some fruit.” He proceeded to give me a bag full of tangerines and, while he was generously giving us some citrus, we asked about what garden organizations he has belonged to over the years.

Mr. Heath told us that he never belonged to one of these “group gardens” but that he likes the idea “of people growing their own food and buying local.” When asked why he gardens he says it is relaxing and it keeps him busy, and he loves to eat fruit so growing it just made sense. He shares his knowledge with other members in the Rare Fruit Society and they trade plants and meet the second Sunday of every month. We inquired about other members’ gardens and he said his was by far the largest and that he believes he devotes more time to it than others. Mr. Heath seemed especially proud of his garden. The role of the garden in his life seems to have evolved from being a mundane hobby to something that he enjoys and spends hours managing. The garden is more than a garden; it holds memories for this individual.

Mr. Heath’s garden is located in the middle of a residential block in South Tampa. While community residents don’t walk through his property, we did notice several people stop and look while walking around the block. This type of garden might serve solely as an ornamental feature for neighbors, but it also serves as a food resource for Mr. Heath. A garden of this model would serve the community if a market were available where Mr. Heath could take his fruits to sell or even give away. At this time, there is no such resource for Mr. Heath. He appears to only give fruit when people ask for it, and there is no advertisement of such services.

Similar interactions between neighbors who garden on their own land were described by other individuals we interviewed. One woman, a resident of Seminole Heights, explained that she and three of her neighbors all garden together in each others’ yards, and see their efforts as a

“kind of community garden.” Residents explained that they often share their fruits and vegetables with neighbors and friends, but gardening is itself a communal activity by the fact that it’s a public activity, engaged in while outside the home, where neighbors can have conversations and help one another with the labor involved. One resident of Temple Terrace, a mother of two children, explained that her garden serves as a space for neighborhood children to gather, help with gardening tasks, and learn about the plants and how to grow them successfully. She saw her own individual garden as another form of “community garden” in the way it brings people together in a way that might not happen if the yard were simply turf and landscaping. Individual gardens vary widely in form, content, and purpose, but there are common themes that arise from conversation with individual gardeners, which are expanded upon in the findings section of this report.

### **Schoolyard Garden**

Another model to conceptualize urban gardening is the schoolyard garden at Lakewood Elementary in St. Petersburg. Two members of our research team first heard of this garden while attending a special showing of ‘The Garden’, a documentary film about a community garden in South Central Los Angeles at Eckerd College. Dr. Kip Curtis from Eckerd College introduced himself to the crowd and showed a video of a school garden he had started at Lakewood Elementary. We contacted Dr. Curtis and set up an interview at Lakewood where we talked about his garden and how he got it started.

Dr. Curtis said that the purpose of the garden “was to show kids where food comes from.” However, this garden has become incorporated into school curriculum, as Dr. Curtis states, “the art teacher has kids making plaster markers for carrots, tomatoes and other things but the science teacher also has the kids learning about earth worms and how plants grow.” When we asked Dr. Curtis how the garden began we weren’t surprised to find out that he had asked the

principal for two years, and only when he offered to take ‘troubled’ kids out of the classroom and have them help did he finally get the ‘ok’ to move forward. Dr. Curtis then put out a call to students at Eckerd College and formed a class that would offer an educational and hands on experience for those interested. This action shows that Horringan et al.’s (2002) suggestion is correct, that successful gardens need to start from the ground up, initiated by local people.

Dr. Curtis is personally invested in this particular elementary school since his children attend it, but he is also personally invested in public education because he could have sent his kids to private school. When we inquired about some of his own (college) students, he explained that gardening is a learning process for them as well; they had little knowledge of gardening, but had done a lot of research before they started the one at Lakewood. Some of his students intend to carry on with their love for gardening and have begun a blog called “the Edible Schoolyard” (see bibliography for link). Dr. Curtis intends to create overlap with incoming and graduating students, to build institutional memory to maintain the project at the school over time. Furthermore, it is hoped that other gardens will be created throughout the school district and that his students might be able to assist in these as well.

### **Highland Grove Neighborhood**

St. Petersburg and Pinellas County contains several urban gardening efforts, such as Bartlett Park, and the school garden project described above. There is an additional element of gardening practices in the county that could be informative to interests in gardening across the bridge in Tampa. The neighborhood of Highland Grove is comprised largely of Vietnamese, Laotian and Cambodian immigrants. As noted in the literature, immigrants often create garden space and grow foods that they may not have access to otherwise and furthermore gardens serve as tools to preserve cultural practices centered around particular food varieties (Twiss et al., 2003:1434; Airriess & Clawson 1994). In the case of this neighborhood, many of the residents

have gardens, and fairly large ones, in their backyards. When we asked one resident, Phaynam Soundara, what they use their gardens for we were told, “we usually just eat it (the produce) but we also take it to the market to sell.” We were also told that many of the residents “grow fruits and vegetables and take it to the market to sell as well.” The market that is referenced here is a small, local neighborhood market no larger than a convenient store.

Being familiar with St. Petersburg, we knew that the market was actually part of another neighborhood organization. It is important to note that St. Petersburg planners delineated organizations along geographic lines. What separates the formally recognized neighborhood from the market are railroad tracks. So to understand further how the residents saw the boundaries of their neighborhood, we asked them to “draw me a map of your neighborhood.” What was produced was a map similar to the neighborhood boundaries established by the city, but the railroad tracks were not part of this boundary, and thus the market was also included. We thought this was an opportune time to ask about why they think this difference exists. They told us that many immigrants came here and, “had no other choice but to form a community.” Furthermore, they said that, “the neighborhood would be fine without the City just as long as our trash got picked up.”

### **Further Thoughts**

The purpose of this research was to explore community garden models and make suggestions for which model might work best for urban Tampa residents, neighborhoods such as those falling within East Tampa, Ybor Heights, Tampa Heights, Seminole Heights, and West Tampa. Many of the gardens that were explored have elements of the formal CSA models, but there were also aspects of DSA. We also found that the models are adapted to the specific contexts in which they were implemented. There is no standard definition for CSA and DSA other than a conceptual one, because of the difficulty in applying a definition that can include all

the different varieties. The variation includes aspects of education, historical significance, and gardens for nutrition, but also for cultural traditions. In Hillsborough County, Sweetwater Organic Farm is the primary example of organic community-supported agriculture (CSA), where suburban and urban residents buy seasonal shares into the produce grown on the farm, and shares may be reduced if individuals choose to donate work to the farm in exchange for fresh produce. Sweetwater also serves as a community center and the owner, Rick Martinez, has been supportive with other emerging gardening organizations; sharing ideas, lessons learned, and resources to promote gardening of all types in the county.

The variety and scale of community gardens that are described here serve as potential models for other urban areas in the Tampa Bay area. This research provided an opportunity to further explore gardening practices and document the expertise of local gardeners, which was of interest to residents and community leaders in several sectors of Hillsborough and Pinellas Counties. When initially considering which models of community gardening might be a good fit for different neighborhoods in Tampa, DSA seemed provide a possibility. For example brownfields in East Tampa have the potential to serve as areas where a community a garden could be located. In response to residents' interests in bringing economic development to the area, gardens have the potential to contribute to such development increasing the aesthetic appeal and thus improving land value. This possibility is reflected in the successful urban gardens in New York City. These were vacant lots taken over by local residents, and as explained in a previous section of this report, when the land value increased, the City of New York came in against community outcry and sold several of these gardens, although many were also saved given the strong opposition by gardeners and activists across the nation.

In many ways, the CSA model may in fact be more appropriate, considering that a recurrent theme in the interviews were the problems and challenges to shared gardening, often perceived to be caused by bureaucracy and legal hurdles. Hence, a CSA model that involves residents using their backyard space and forming partnerships with locally owned businesses may be the most appropriate model for urban areas of Tampa. The success of the Highland Grove neighborhood in individually growing produce and selling at small market within walking distance could serve as the basis for this model.

Such a model draws on the resources that are already available, and strengthens the community by creating sustainable independent economic growth. The infrastructure and partnerships are already there. While attending an East Tampa community meeting, concern was expressed by a local resident and business owner in regards to funds for locally owned businesses, versus businesses owned by those that reside outside the community. Such a comment might be overlooked; however, its significance is great. Discussions on locally owned businesses and the role they can play in development of the community garden appear to be a concern, and this model would allow existing infrastructure to be strengthened, while encouraging only those individuals with an interest in gardening to participate. In this way, the expertise of gardeners in various neighborhoods could be called upon, while scarce resources could be allocated to other community concerns in addition to workshops, agricultural extension training, and marketing strategies for those individuals interested in pursuing a model similar to Highland Grove.

## Results and Findings

### Reasons for Creating a Community Garden

Throughout the Tampa Bay area, community gardens appear to be gaining in popularity. Not only have many residents already scouted out potential sites and water sources, but several neighborhoods are in the process of incorporating gardening plans into neighborhood grants and, in some cases, are in the beginning stages of actually planting. In our interviews, reasons for this growing interest in community gardens ranged by age, socio-economic background, and location. According to the majority of our participants, community gardens provide people with fresh food, education, leisure and a greater sense of community.

According to one of our informants, “It tastes way better than what you can get at the store. Once you grow your own vegetables, you’ll want your own vegetables from then on<sup>i</sup>” For most people, the prospect of eating freshly grown produce is reason enough to have a community garden. One woman told us a story about bringing home tomatoes that smelled so badly of pesticides she had to return them to the store where she purchased them. While this chemical overload was abnormal for that particular store, she claimed, “It really is out of your hands. As a consumer, you just never know for sure what you are going to get.” Most of our participants did not use their garden as a prime source of food; however, the knowledge that they were consuming a large portion of fruits, vegetables, or herbs that were grown under their control (and in most cases without pesticides) was very comforting. One woman from Seminole Heights said:

*"Almost everything we plant is either medicinal or edible...it was a fascinating thing to me...I realized it was this miracle, and I believe if you're going to plant something and put all the time and effort and nourishment into it, you should get something back from it."*

One participant, who had lived the majority of her life in Washington D.C., talked about the benefits of community gardens for people without access to land. Being confined to an apartment, she and her husband loved having their own small plot of land where they could grow whatever they desired. She said, “We used to have so many vegetables we could sometimes go the whole summer without having to buy any fresh produce from the store.” For many people living in condominiums or apartment complexes in South Florida, community gardens are their only means of growing fresh produce.

Several people also brought up the nutritional benefit of community gardens within schools particularly. One woman said, “I think every school should have one so the children can eat what they grow in the cafeteria.” By allowing children to eat their own food, they gain a taste and appreciation for freshly grown fruit and vegetables that will ideally transfer into their everyday lives. “Most people don’t really care about where their food comes from or what’s been put on it. By showing kids that it is possible to grow their own food, and that it actually tastes better, we are providing them with a valuable service.”

Community gardens within schools also serve an educational purpose. When asked about the impetus for a school-based garden, the leader of the project said:

*“I thought that maybe my staying here as a community member might afford them [his children] some community resources that this school might not otherwise have access to—this project has grown out of me envisioning myself as a community member here. These kids don’t know about growing vegetables and now they are going to know about that.”*

Over the past few years, he has made a great effort to incorporate knowledge from the garden into the class curriculum. The science teacher, for example, is teaching the children about

the plant growth cycle while the art teacher has them making vegetable-decorated plaques and nameplates for various sections within garden. This participant said, “We’re now trying to obtain funding to provide a workshop during the summer that will help us communicate to the teachers about how they can incorporate this into their classrooms.” He is also excited about the idea of involving the children in the whole cycle:

*We’ve talked about producing enough so that we can give back to the community, but the other option would be to get the produce into the school cafeterias so that the kids can think about the entire cycle-- from the compost that comes from the cafeteria food to the vegetables and fruits that grow out of the soil.”*

Despite the romantic notion of “living off the land,” most people we spoke to did not feel as though gardening saved them money. One woman made reference to William Alexander’s book “\$64 Dollar Tomato,” claiming, “I don’t think we’ve spent *that* much yet, but it definitely is a big investment, especially in the beginning.” According to another resident, community gardens are ideal because they actually offset the amount of money individuals put into planting. In most cases, community members either share the cost of the structure, or they receive money from neighborhood grants. Individuals also often save money on seedlings and other necessary items because they are bought in bulk.

Leisure (for all age groups) was cited as another reason to consider putting together a community garden. At the school-based plot, the kids love the time they get to spend outside with the plants and (maybe especially) the worm-ridden compost piles. A middle-aged woman talked about gardening as a favorite hobby that she was excited to share with her younger daughter. She said, “If anything, it makes me a happier wife and mother.” Older, retired participants talked about spending hours in their gardens now that they didn’t have to worry

about the daily hustle and bustle of jobs and kids. One man said, “Before I retired, my wife was the only gardener of the family. Now I’ve completely taken over the yard.”

The final and perhaps biggest reason for participating in gardening practices, including a community garden, is that it brings together members of a community. One woman said, “I really like the social aspect of it; I really like talking about it. If someone I know is into it, it’s just a lot more fun.” Many participants shared this idea of community, claiming that a shared garden has a way of uniting people who wouldn’t otherwise seek each other out. By collaborating on a project that is mutually beneficial, people come away with a unique sense of togetherness. Another informant said, “I believe that gardens are sort of revolutionary. They bring people together around something that is healthy.”

### **Models for Community Gardens**

As noted elsewhere in this report, there are many different models for community gardens. In the Tampa Bay area, we visited two different types: the first was a community-based garden created on a lot donated by a neighborhood resident and the second was a collaborative school-based garden run by a local elementary school and university. In both cases, the gardens consisted of some kind of “raised bed,” had a leader or organizer, and an established schedule or plan for both planting and maintaining the garden.

In the first example listed, during the course of the semester-long research project, beginning in January 2009, residents of Seminole Heights created an organization, the Seminole Heights Community Gardens (SHCG) with over 100 members, considered different options for shared gardening and decided to create 50 plots with plastic swimming pools. According to the coordinator, the residents chose to use the pools primarily because they were inexpensive and mobile. The portable quality of the plots was very important to this particular group because the land that they are currently using is being leased to them for only a two-year period. Regardless

of a community's land situation, these types of plots are very useful because they can be moved to make room for new plots, or disposed of if necessary. The pools were the idea of a master gardener in South Tampa; an example of the ways experts residing in urban communities are more than willing to share their knowledge so that novices can begin to learn from their practical experiences and skills. The pools are constructed from layers of mulch and oak leaves, which rest in the bottom to serve as reservoirs for water. Topsoil and compost were added in a top layer which is the primary planting medium. In addition, the garden is relying on rainfed rainbarrel water collection and donations from members and neighbors for a water sources.

The plots at SHCG are organic, and the organization established rules, hosted a rainbarrel workshop with an extension officer, and has plans for children's educational programming, community outreach to disabled residents, and providing a source for organic food to local area chefs and restaurants. The organization communicates through a social networking website established in March 2009. The coordinator of the garden is a Tampa resident who is very passionate about the concept of community gardening. While she has been leading people through the initial stages of setting up the soil and planting, all the individual plots (in this case, pools) are "owned" by members who pay a yearly fee of \$35, while communal plots are a \$20 donation to the organization, with any member contributing to their upkeep. This is a model that they hope will lead to a sense of both individual and community ownership over the project. According to the coordinator, gardening is a "holistic approach," meaning, "the feeding of people, community, and mentality." The organization has plans to expand to other properties in the neighborhood pending available land, resources, and interest on behalf of residents.

The school-based garden, built by university students from a local university between late 2008 and early 2009, is an organic garden that consists of a series of raised wooden beds.

According to our informants (both in and outside of the school), these raised wooden beds are very efficient because they can be built anywhere, they confine the activity within the garden making it more difficult for the infiltration of weeds, and they don't retain moisture. According to a local resident, "The dirt here is horrible, nothing grows—but by building a raised box, you can quickly create an area where the soil is just right." The wooden boxes can be easily created with basic (untreated) plywood and nails (or screws) at little expense to the owner. Gardeners, however, should consider if the wood has been chemically treated, as the chemicals can leach into the soil.

Over the past year, the director of the school-based garden, Dr. Curtis, and his students at Eckerd college, have worked to integrate the garden into the school curriculum, teaching children about the environment, self sufficiency, where food comes from, and responsibility in a way that can meet FCAT testing objectives. The goal of the project is to set a standard for experiential education for both the elementary school children and the local college students. Because the garden is built at a school that already has a set schedule for classes, it has been much easier for them to establish a timetable for planting and maintaining the garden. The professor explained, "If nothing else comes in my life, I would like to see the same thing be implemented in all the schools in Pinellas County. I really want it to become part of the [elementary] school culture."

### **Types of Plants Grown in Area Gardens**

In our interviews with local gardeners, we were shown a wide variety of fruits, vegetables, and herbs. The numbers and varieties of plants being grown also reflects the variations in the Florida growing season. These interviews were carried out between February and April 2009—the end of the long growing season and among the driest months of the year. This is also the time when many gardeners are planting seedlings and starts for the wetter,

summer growing season, which limits the number of species and the plants available for our sample during this time. Many gardeners remarked that their gardens looked so wonderful a few months ago, but now are pretty bare as they prepare for the next growing season and harvest. Perhaps one of the most significant challenges of gardening in Florida is that many residents have not lived in the area very long and do not have years of experience gardening in a climate which varies distinctly from the rest of the mainland U. S., with a nearly-tropical weather pattern of wet and dry seasons, the times for planting and harvesting are quite different than what residents who grew up gardening further north are used to, and this can create frustration and a failure or two. Creating fora for long-time Florida residents to share insights and skills with newcomers would be a valuable way to build upon expertise in gardening that does exist in all the neighborhoods we visited for this project.

Because soil is different depending on the specific land a person is utilizing and the amount of sun the plants are receiving, most people talked about the need to approach gardening as a series of trials and errors. One informant said, “It’s possible that if you come back in 3 months, all of this will be dead. We’ve just decided to plant a bunch of different things and see what grows and what doesn’t.” While our sample size was not large enough to provide solid conclusions about the types of fruits and vegetables that generally grow well in the Tampa area, we have compiled a chart with some of the most common plants (see Table 1).

Table 1. Sample of plants and varieties currently being grown in urban gardens in Tampa Bay Florida (February-April 2009).

<b>Examples of Plants Grown in Gardens</b>		
Asian long beans	Lima Beans	Squash
Banana	Lime	String Bean
Blackberry	Mango	Sugar Apple
Cantaloupe	Mulberry	Sweet Peppers
Carambola (starfruit)	Orange	Tangelo
Eggplant	Papaya	Tangerine

Fig	Passion fruit	Tomato
Hot Pepper	Pea	Tomatoes
Jack Fruit	Pineapple	Watermelon
Jalapeño	Puerto Rican Pigeon Peas	
Lettuce	Raspberry	

### Personal Advice about Gardening

Many of the individuals we interviewed were eager to share their gardening experiences in trial-and-error. One theme that emerged from several interviews is how to deal creatively with pests, particularly if you are concerned about limiting or eliminating the use of toxic pesticides and herbicides. One couple claimed that the “bug problem” could be solved to some extent by planting certain vegetables in different locations. The man said, “for example, you’re not supposed to put cantaloupe or watermelon near yellow squash plants because they attract a lot of pests—particularly the dreaded stink bug.” As a result, he planted the squash in its own area away from the rest of the house. Insects are not the only pests that will destroy a garden—animals like rabbits and gophers also enjoy fresh vegetables and will gladly engage if given the opportunity. According to one informant, flowers such as marigolds can be very helpful at keeping some of these warm-blooded pests out of the garden territory. An informant also suggested spreading wood ash around the base of fruit trees to keep ants and other animals away.

Most of our informants offered little pieces of information about gardening that they had learned in the process of gardening. This information can be greatly beneficial for novice or experienced gardeners, and include the following advice: 1) you can prolong the growing season of the more tender plants by growing them between taller plants that will shade them; 2) if you do not germinate seeds before planting they will rot or become more susceptible to fungus; 3) rotating crops is important in order to have a constant flow of vegetables ready for consumption; 4) be aware not to cross-germinate plants that are similar (like sweet and hot peppers) because then you can end up with hot, sweet peppers instead of two varieties; and 5) while it may be

heartbreaking, it is very important to thin out the plants as they come up so that a gardener can make room for others.

For the most part, our informants suggested consulting books, magazine subscriptions, and/or looking on the Internet for advice about gardening, especially with regard to what plants grow well in Florida. One resident said, “pretty much everything I know about gardening came from a book my children got me for Christmas.” Nurseries are also a very good source for information because the people who run them have often heard other gardener’s stories and have themselves experimented with various varieties of fruits in vegetables within the local area. Some interviewees explained that their interests in gardening arose when they were children and gardened with their parents, while others explained they came to gardening as adults, but gained information about how to do it from a variety of sources. It may be surprising to note that the majority of gardening knowledge is gained from books and other printed materials as opposed to an individuals’ parents or neighbors. This likely reflects the transience of Florida residents, but also the ways individuals seek out this type of information with the depth and breadth of sources available to them.

### **Obstacles and Challenges**

Throughout the course of our interviews, several people discussed obstacles and challenges involved in the creation and maintenance of both personal and community gardens. While some were very personal to their own gardens and experiences, we feel the majority of shared difficulties are worth sharing with future gardeners. Some of these include: challenges finding an appropriate space for the garden, cooperating with other growers, finding a usable water source, maintaining the garden, dealing with the extremes of Florida weather, and confronting aggressive insects.

In all of the community meetings we attended, finding an appropriate space for a community garden appeared to be the most difficult and contentious issue. A community interested in starting a garden has to either find a private donor who is willing to give up his or her land, or find a local group or organization that is willing to lease a plot at an affordable price. Presently, some residents are considering the idea of using former brownfields as community garden sites; however, the issue of contamination remains problematic. While school property is a perfect location for planting, school-based gardens have the added challenge of convincing the principal and faculty to partake in the project, and the fact that they are not open to the entire community, only school-attending children, parents, and teachers. The university professor in charge of the local elementary school garden said:

*“There was an original hump that we had to get over to originally introduce this project into the schools...I asked the principle and she was like ‘No’ and I asked her again and she gave me this 4 x 4 plot and she didn’t see the value of it, but then we said that the ‘trouble kids’ would be at the core of this project and she was like ‘its all yours.’ Having the principal trust me and be like oh-okay he is not doing some-fly-by night operation—he is really committed—was what made this project work.”*

In a joint project like a community garden, strong personalities and differing perspectives pose an additional challenge. One of our informants talked about the different approaches she and her neighbor take to maintaining their plants: “Everything I grow is organic—I would never dream about using pesticides like that neighbor over there. I imagine if we were to have a community garden there would be a conflict over what method to use.” Other concerns brought up by various people included deciding on hours of access and a schedule for maintenance. For a community garden to be successful, some kind of consensus needs to be made between community members with regard to method and shared rules.

Finding an appropriate water source is another major barrier to starting a community garden, especially with the new water regulations that have recently gone into effect within the Tampa Bay area. In Seminole Heights, many of the plots they initially looked at had no water or limited or uncertain time allotted. Because they did not want to invest in municipal water infrastructure, they had a very difficult time finding an appropriate piece of land. Eventually, they decided on a different technique. The organizer said:

*“We have to be imaginative about water sources. This has never been developed and there is no water source... so we are going to be using rain barrels for water catchments. That’s one of the biggest things we want to show people—that you can do water catchments on your own. Rain barrels are going to be a good example of how to water your garden without using tap water.”*

Maintaining a community garden was another big issue brought up by our informants. In a discussion about his own personal garden, one man discussed how easy it is for gardens to get out of control. He said, “I have been away from home with my daughter and you can tell that I have not been around to take care of the plants. My pathways are a mess and things are really overgrown. Normally I work outside in my yard for four to six hours a day, but lately I just haven’t been able to do that.” Because community gardens are located away from residents’ homes, it is even easier to forget about tending to the plants or addressing the various issues that present themselves throughout the growing period.

While Florida is generally admired for its warm, amenable weather, growers still face challenges whenever the temperature moves into “Florida extremes.” This past year, the air dropped below freezing for more than 8 hours, destroying many tropical plants. One informant claimed, “We’re lucky because we don’t really get the hard ground freezes, but we still do get freezes, so you really have to pay attention and cover your plants during those times.” Other

informants claimed it was the summer heat that poses the biggest obstacle. Another resident said, “I think the major challenge is the sun—when it gets to be a few months from now it will just bake anything and everything.”

The final major issue people discussed was insects. One woman said, “My friend, she said that her husband was outside for hours just stomping these bugs. Apparently they just swooped in and within hours their crop was gone.” While this was an extreme case, aggressive insects pose a major challenge for many gardeners, especially those who are attempting to grow organically. Throughout the course of our interviews, many people shared various frustrations associated with the endless battles of “growing organic.”

### **Broader Social and Structural Concerns**

In addition to challenges associated with climate, cost, pests, and access to land, there are also larger social and structural challenges that should be considered when planning an urban and/or community garden. These challenges include overall perceptions of safety in a community, the amount of crime in a specific area, and drug-related activities in the neighborhood. One East Tampa resident and neighborhood crime watch organizer expressed concerns over potential vandalism of a community garden.

“Any [garden] you put out there you're gonna have to fence in because of the drug boys. You'd have to get the police to patrol it at night because if we got out there and did all the work and they find out the crime watch supported it, the drug boys will come in at night and tear it all up. You'd be wastin' your time...” This resident's concerns were juxtaposed to her insistence that older community members would enjoy a community garden:

*“I know our seniors would love a garden...but they're afraid of what might happen if you put one in because of what's goin' on in the neighborhood.”*

During our interview and discussion about East Tampa, this participant offered suggestions about how to effectively create a community garden that circumvents the larger social problem of crime and drug use. In addition to suggesting a fenced-in location, police patrols, and a streetlight near the garden, this participant recommended that a community garden be placed near the home of one of the crime watch members because other residents do not always call the police when witnessing a crime. Placing a garden near the home of a crime watch resident may not always be feasible as crime watch residents may move or discontinue involvement with the organization, thus there is a need for local government officials to demonstrate support of community garden initiatives by mitigating fears associated with large structural problems such as crime and drug use.

## **Discussion and Recommendations**

While community gardens can benefit people who do not have access to land and in some cases improve the appeal of local landscapes by using vacant lots and brownfields areas, there are a great deal of factors to consider before planning a community garden. Throughout the course of this research, we have discussed the history of community garden practices, explored different models for individual and community gardening, highlighted social and health benefits, and discussed how local gardeners conceptualize community gardens and gardening practices. Additionally through our interviews, we have explored motivations for gardening. One of the large community gardens in Hillsborough County is Sweetwater Farms, which currently has a waiting list of people eager to obtain a plot of land for growing their own produce.

A variety of themes have emerged from personal narratives that underscore why people feel compelled to grow their own produce, including a desire to practice sustainable agriculture, educate children about gardening, improve nutrition, strengthen local social networks, and avoid exposure to pesticides. Based on these elements we are prepared to offer the following suggestions for the successful implementation of Community Gardens.

### **Gardens as a Community-Driven Endeavour**

This research indicates that a successful community garden requires strong support from community members who are dedicated to maintaining the garden. As the names implies, a community garden must be organized from the ground up by a specific community. If outside agencies attempt to develop a community garden where there is no local support for one, it will not be successful. Local interest is paramount because many of our research participants have mentioned that support can sometimes waver, and thus a large base of people is required to maintain the garden. Ultimately, if local community support is absent, a community garden will

not be successful, thus it is important to assess the desire for community gardens prior to implementing one. In order to determine if residents in a particular neighborhood are interested in a community garden, we suggest conducting a survey fashioned similarly to a needs assessment, using sampling methods that can capture the opinions of multiple residents. In recognizing community gardens as a community-driven process, it is also necessary to acknowledge the diversity of reasons for why people chose to grow their own produce.

### **Oversight**

In addition to being community driven, community gardens require a great deal of organization and leadership. Our research participants have strongly suggested that community gardens include a specific association with an overseer who can provide organizational structure. An overseer can manage official communications between gardeners and local authorities, negotiate plot use, process membership, and provide overall leadership for the group that utilizes the space. An overseer can include a group of people or one specific person, depending on the size of the garden and the number of people utilizing plots.

### **Recognizing and Building off of Local Expertise**

Novice and experienced gardeners alike may encounter similar problems when gardening and we have discussed how research participants have addressed ways to overcome hindrances such as pests, poor soil, and difficulty growing plants during the summer season. This local knowledge can be used to help prepare people to better understand the types of investments required when engaging in community gardening. For example, one couple interviewed mentioned that there is a significant learning curve when attempting to grow food. This learning curve can be economically taxing, as a great deal of investment must be made in purchasing the appropriate soil and seeds, and mistakes can yield failed crops.

Successful community gardens thus build from existing local knowledge in order to ensure successful crops. Sharing knowledge with gardeners is an essential component to developing a community garden and can also play a role in establishing social networks. The continuous process of sharing knowledge can be achieved through a community garden website or blog, and/or through paper newsletters for those without access to a computer. Community garden email listservs can also be useful, as well as hosting biweekly, monthly, or bimonthly community garden meetings.

### **Local Government Support**

Although community gardens must be community driven, there is also a need for local government support. Some community members have discussed a desire to see government officials demonstrate an interest in protecting or sustaining gardeners' efforts in various ways, such as through grants, access to public lands, and information sharing. This might also translate into addressing some of the fears of crime in certain areas, and demonstrating police support by including the garden location on patrol rounds. Other demonstrations of support would include installing streetlights near the garden so residents feel the location is safe, working with parks and recreation departments to increase access to cultivatable land that is also served by needed infrastructure and receives protection from theft, vandalism, and other challenges to success.

### **Location and Accessibility**

When considering where to place a community garden it is important to be cognizant of the residents who will utilize the space. While redeveloping a brownfield parcel or vacant lot into a community garden, for example, is an attractive idea, it is important to consider whether or not residents can access the space. Planners should thus be mindful of residents reliant on public transportation and consider the overall walk-ability of the area in which a community garden is

placed. Utilization of community gardens may not be very strong if they are placed in areas that are not accessible to residents.

### **Collaboration**

Since maintaining a community garden requires a great deal of effort and energy expended, gardeners run a risk of burning out and losing interest in the garden. Developing collaborative relationships with local schools, neighborhood associations, and religiously affiliated organizations can help expand a garden's membership base and assist with achieving some of the goals participants listed. As many participants in this study listed educating children about food as an advantage of community gardens, a collaborative relationship with a school could facilitate this goal. Furthermore, collaboration with schools, religiously affiliated organizations, and neighborhood associations can further assist with increasing social bonds among residents.

### **Reinforcing Legitimacy and Emphasizing Gardening Efforts**

Another way to mitigate potential gardener "burnout" is to emphasize gardening endeavors and increase a sense of legitimacy to community gardening by promoting community gardens through newspapers, government websites, in local supermarkets or restaurant bulletin boards, and through government channels. This effectively grants a sense of authenticity for the placement and existence of the garden and emphasizes the efforts of the gardeners. This type of community garden advertisement may also provide an avenue for others with an interest in gardening to explore community garden membership or expansion. Local examples of these sorts of initiatives were documented for this research project, such as the "Garden Summit" organized by a representative from City council at Sweetwater Organic Farm, EarthFest, which was also hosted by Sweetwater, Tampa Street Market, St. Petersburg's downtown market and other "Earth Day" events where individuals and organizations with interests in gardening,

growing food, and creating more sustainable communities gather to exchange information and build social networks.

## Conclusion

The feasibility of a community garden in any area of Tampa must consider a multitude of factors. There must be community interest in creating a garden, and residents must not feel as though their efforts will be wasted due to forces beyond their control, such as neighborhood crime. It is thus necessary for local officials to demonstrate government support through the methods suggested. Moreover, successful community gardens often exist around a community garden organization of some type, led by an overseeing board or leader to handle official communications and organization of the garden. An overseer or caretaker can also manage the dissemination of local knowledge, which is imperative as it prevents gardeners from repeatedly making similar mistakes, and contributes to fostering development of social networks.

Establishing collaborative partnerships with schools, neighborhood associations, and religiously affiliated organizations further assist increasing social networking and increase membership base. In choosing a location for a community garden, accessibility to residents dependant on public transportation and walk-ability must be considered, and if possible, local news sources, grocery stores, restaurants and government agencies, should be encouraged to highlight gardens and gardeners to further legitimize community gardening.

Community gardens provide a wealth of social, educational, economic, and physical resources to members and participants, but the benefits of community gardening cannot be realized until all factors that play a role in establishing a successful garden are thoroughly examined. The success of a community garden is thus contingent on multiple factors that require several levels of support. Finally, as our research has shown, the limited number of community

gardens in Hillsborough and Pinellas Counties is not due to a paucity of experience or interest, but could instead be due to other challenges that have yet to be identified.

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**Appendices:**

## Appendix A: Project Flyer

University of South Florida  
Garden Research Group



Do you have a vegetable garden?  
Do you know anyone who gardens?  
Do you want to learn more about gardening?

The USF Garden Research Group is starting a research project focused on how people garden in the Tampa area. We hope that the information we collect will help us better understand what makes a successful garden in the area. We also hope to identify community garden experts through this process.

We want to visit your garden to learn more about how you garden and what you grow.



Participants may elect to have photographs of their garden as part of our garden website. No garden is too small!

If you are interested, please contact:

Dr. Becky Zarger at  
Email: rzarger@cas.usf.edu  
Phone: 974-2416

Or

Dr. Bob Brinkmann  
Email: rbrinkmn@cas.usf.edu  
Phone: 974-4939

### USF Garden Research Group

Robert Brinkmann-USF Geography  
Jennifer Friedman-USF Sociology  
Laurel Graham-USF Sociology  
Elaine Howes-USF College of Education  
Laurie Walker-USF Botanical Gardens  
Becky Zarger-USF Anthropology

Additional Data Producing Initiatives	Date
Sweetwater Farms Community Gardens Summit	02.21.09
Earth Fest at Sweetwater Farms	04.18.09
Meeting with Dr. Rebecca Zarger, Council Woman Mary Mulhern, Lorna Alston, and Ed Johnson of the East Tampa Redevelopment Office	01.21.09
East Tampa Revitalization Partnership Monthly Meeting	01.28.09
East Tampa Brown Fields Workshop at the Ragan Center	02.18.09
Seminole Heights initial community garden public meeting	02.04.09
Two Seminole Heights community garden planning committee meetings	February/March
Workday at Seminole Heights Community Garden	04.11.09

## Appendix B: Community Meetings

## Appendix C: Interview Guide

Interview Guide for Study: “Gardening Practices in Hillsborough County, Florida”

### I. Informed Consent:

Explain the aims of the study and read/explain the *informed consent script* (attached to the IRB application). If participant agrees, assign number to interview. Document whether participants wish to be memorialized for their gardening activities, with their name being recorded, or whether they would prefer to remain anonymous without any identifying information recorded with their responses to the interview questions.

### II. Informal, unstructured interview questions\*:

1. Thanks so much for agreeing to talk with us/me about your garden and your interests in gardening. We/(I) are/(am) really interested in learning more about what people are growing at home, and how you see gardening activities.
2. Can you tell us/(me) a little bit about what you have growing around your house? (Ask for a “guided tour” of the dooryard garden and area around the house with plants being cultivated, including food, ornamental, and other plants being protected or tended to in some way).
3. Home garden/Dooryard garden inventory: RECORD A LIST OF NAMES AND USES FOR EACH PLANT PARTICIPANT DESCRIBES TO YOU. (Participant may share stories or meanings of particular species, or types of plants being cultivated, this is great information to record).
4. During the tour:
  - What kinds of plants are you growing right now?
  - How did you choose these varieties?
  - Where (or Who) do you get plants or seedlings from?
  - Are there vegetables or other plants that you have growing at other times of the year?
5. After the “tour,” perhaps seated or back in the house:
  - Can you tell us about what gardening means to you?
  - Why do you grow your fruit, vegetables, or other plants?

- Do you think having a garden affects your family (household) in any way? If it does, in what ways?

Follow up questions:

- Does having a garden change the way you grocery shop, or how much food you have to buy when you are growing it yourself?
  - Do you save money by gardening? How much?
  - What do your kids or grandkids think about gardening?
  - If they are interested, do they help out with it?
- Do any of your neighbors garden? Do you talk them about gardening? Would any of them be willing to talk with us?
  - What challenges do you face in keeping up a garden in your yard? What do you do to solve these problems?
  - Have you heard about “Community gardens” or “urban gardens” where residents have a shared plot of land that they plant vegetables on?

Follow up questions:

- What have you heard about these types of gardens?
  - Do you think residents would be interested in getting involved in a community garden? Why or why not?
  - If there is interest in it, where might be a good location to have residents in the neighborhood garden in a shared space?
  - How would this work the best in your neighborhood? Where would it be and who should be involved?
  - If you think a community garden is not a good idea for your neighborhood, can you tell me more about why not? What conflicts might happen with a community garden?
  - Are there other issues that are important to you that need action?
- Do you have anything else you’d like to share with us? Do you have any questions about the project, or what we will do with this information?

6. Thank you so much for participating in the project, we/(I) really enjoyed speaking with you and hearing about your experiences with gardening. We will be handing out copies of a short report and other products from this project, would you like to receive a copy of it? If there are other developments related to this study on gardening in Tampa, would you like to receive more information about it in the future?

\*The order and exact wording of these questions may change in order to convey ideas in the most accessible and informal manner possible to study participants.

## Appendix D: Garden Survey

### Garden Survey

For the following list of crops, please indicate more specific type of crop where applicable (example: writing “Navel” under “Orange”) and indicate roughly amount of crop being grown.

Crop Type	AMT	Crop Type	AMT	Crop Type	AMT
Avacado		Cauliflower		Lime	
Bell Pepper		Celery		Longan	
Blueberry		Cucumber		Lychee	
Broccoli		Eggplant		Mango	
Cabbage		Grapefruit		Mushroom	
Cantaloupe		Grape		Onion	
Carambola		Guava		Orange	
Carrot		Lettuce		Papaya	
Passion Fruit		Radish		Squash	
Peanut		Snap Bean		Strawberry	
Potato		Spinach		Sweet Corn	
Tangerine		Tomato		Watermelon	

*If you are growing crops which were not listed above, please list them below and roughly estimate amount being grown:*


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*Please sketch farm layout below:*

## Appendix E: Short Documentary Film From Research Interviews

A short film produced by members of the course that includes video footage from interviews for this project can be accessed on the web on YouTube at:

<http://www.youtube.com/watch?v=2X1q3eneaXo>

The “user name” for this film is “Tampagardens” so you can also find the film through a search for this keyword on the YouTube site.

The short film (10 minutes) was produced by Nolan Kline, Lauren Harris, and Mabel Sabogal from materials collected for this project.

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